

VU Research Portal

The CIDI as an instrument for diagnosing depression in older Turkish and Moroccan labour migrants: an exploratory study into equivalence

Smits, C.H.M.; de Vries, M.W.; Beekman, A.T.F.

published in

International Journal of Geriatric Psychiatry
2005

DOI (link to publisher)

[10.1002/gps.1303](https://doi.org/10.1002/gps.1303)

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Smits, C. H. M., de Vries, M. W., & Beekman, A. T. F. (2005). The CIDI as an instrument for diagnosing depression in older Turkish and Moroccan labour migrants: an exploratory study into equivalence. *International Journal of Geriatric Psychiatry*, 20(5), 436-445. <https://doi.org/10.1002/gps.1303>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

The CIDI as an instrument for diagnosing depression in older Turkish and Moroccan labour migrants: an exploratory study into equivalence

Carolien H. M. Smits^{1*}, Wilma M. de Vries¹ and Aartjan T. F. Beekman^{2,3}

¹*Trimbos-instituut, Netherlands Institute of Mental Health and Addiction, Utrecht, The Netherlands*

²*Department of Psychiatry, Free University of Amsterdam, The Netherlands*

³*Institute for Research in Extramural Medicine (EMGO), Amsterdam, The Netherlands*

SUMMARY

Objective The number of elderly migrants from Turkey and Morocco in Western Europe will increase sharply in the coming decades. Many of these migrants seem to have mental health problems. As mental health care programs are based on DSM criteria, there is a need for diagnostic instruments with good psychometric properties. This exploratory study examines the presence of construct bias, method bias and item bias in the Composite International Diagnostic Interview (CIDI) Basis Life time version 2.1 in elderly Turkish and Moroccan men and women.

Method From a community based health survey four groups of migrants aged 55–74 were selected for semi-structured interviews including the CIDI depression section. Data included interview transcriptions and observations of 11 respondents in each group (Turkish men, Turkish women, Moroccan men, and Moroccan women). The data were analysed using qualitative techniques.

Results Construct bias, method bias and item bias of the CIDI was found in all groups. The poor match between the CIDI on the one hand and the taboo on mental health problems and the poor level of education of the respondents can partly explain this bias.

Conclusions The use of the CIDI in elderly migrants of Moroccan and Turkish descent is problematic, due to the presence of construct, method and item bias. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS — psychometric properties; CIDI; depression; ethnic differences; elderly; Turkish; Moroccan; migrants

INTRODUCTION

Turkish and Moroccan labour immigrants arrived in the Netherlands and in other western European countries in the 1960s and 1970s when they were young. Contrary to expectations they stayed and are now ageing in their host country. The majority of these labour

migrants reside in the four largest cities, where 8% of the elderly will be of Turkish or Moroccan descent in the near future (Van Zee *et al.*, 2000). In exploratory studies a high prevalence of mental health problems was found in elderly Turkish and Moroccan migrants (Poort *et al.*, 2001; Van der Wurff *et al.*, 2005). The number of depressive symptoms, as measured with the CES-D (Center for Epidemiologic Studies Depression Scale (CES-D) was much higher than the number reported by Dutch age peers. 61.5% of the Turkish and 37.6 percent of the Moroccan elderly aged 55–74 reported symptoms above the cut-off level. Few of these migrants, however, use the Dutch mental health care services (Polikar *et al.*, 2000). One of the reasons is the unfamiliarity in these migrants with care services (Smits and De Vries, 2003). The numbers of elderly migrants using health care

*Correspondence to: Dr C. H. M. Smits, Trimbos-instituut, Postal Box 725, 3500 AS Utrecht, The Netherlands. Tel: +31 30-2959350. Fax: +31 30-2971111. E-mail: csmits@trimbos.nl

Contract/grant sponsor: The Netherlands Organisation for Health Research and Development; contract/grant number: 1360.0004.

Contract/grant sponsor: VSB Foundation; contract/grant number: 000324.

Contract/grant sponsor: National Fund for the Elderly; contract/grant number: 99L06Zo04.

services is, however, expected to rise in the near future, as increasing effort is put into health education in the migrant population and as professionals are informed of the special needs of migrants (De Vries and Smits, 2003; De Vries and Smits, 2004).

As mental health care programs in The Netherlands are based on the *Diagnostic and Statistical Manual of Mental Disorder* (DSM; American Psychiatric Association, 1987), knowledge of the methodological qualities of DSM-compatible psychiatric diagnostic instruments in specific populations such as older migrants, is of crucial importance. The Composite International Diagnostic Interview (CIDI, WHO, 1990) is a fully standardised interview designed for assessing mental disorders according to the definitions of the Diagnostic Criteria for Research of ICD-10 and DSM-III-R. Although it is a measurement instrument primarily intended for use in epidemiological studies of mental disorders, it is also used extensively for other research purposes and in clinical settings (Wittchen, 1994).

The equivalence, or the absence of bias, of measurement instruments needs to be studied in order to obtain validity of cross-cultural assessment and comparisons (Van de Vijver, 2003). The validity and reliability of the CIDI was shown to be adequate in a number of international multi-center studies (Wittchen, 1994; Kessler, 1999; Barkow *et al.*, 2002). None of these studies included Morocco. Turkey, that is the adult population, was included in some studies. As the age of the respondent was found to affect validity and reliability of the CIDI (Wittchen, 1994; Barkow *et al.*, 2002), the methodological values of the CIDI in older Turkish adults deserves further study. So far, only one epidemiological study on the mental health of Turkish and Moroccan elderly migrants was published (Van der Wurff *et al.*, 2005). We conclude that the validity of the CIDI in older Turkish and Moroccan adults has not been established in their home country, nor in their host countries.

Three sources of bias threaten the equivalence of instruments: construct bias (related to non-equivalence of constructs across cultural groups), method bias (resulting from instrument administration problems) and item bias (often a result of inadequate translations such as incorrect word choice) (Van de Vijver and Leung, 1997).

The presence of bias is usually studied using large samples and statistical techniques such as factor analysis and multitrait-multimethod validation (Reynolds, 2000). These techniques require the presence of a valid instrument as a golden standard, which is lacking for the elderly Turkish and Moroccan

migrant population. Therefore the present study examines the presence of bias of the CIDI in an exploratory way, using qualitative techniques.

The resulting research questions are:

1. Is the Composite International Diagnostic Interview affected by construct, method, and item bias in a sample of Turkish and Moroccan elderly migrants?
2. Are there any differences in this respect between Turkish and Moroccan elderly and between men and women?

METHOD

We studied the presence of bias in the depression section of the CIDI Basis Life time version 2.1 by analysing interviews with 44 Turkish and Moroccan migrants aged 55–75 living in Amsterdam. The interviews were part of a study into the experience of mental health complaints and ageing in Turkish and Moroccan older adults (De Vries and Smits, 2003; Smits and De Vries, 2003). The interviews consisted of two sections. The first semi-structured section focused on the experience of ageing and mental health, and on the need and use of services. The second section consisted of the CIDI Basis Life time version 2.1. As interviewing time was limited only the CIDI depression section was included. This section was chosen because of the high prevalence and serious consequences of depression in older adults (Cole *et al.*, 1999; Penninx *et al.*, 1999; Beekman *et al.*, 2002).

Sample and selection procedure

A subsample was used of Turkish and Moroccan respondents of the Amsterdam Health Monitor (AHM), a survey amongst the Amsterdam general population (Poort *et al.*, 2001; Spijker *et al.*, 2004). All Turkish ($n=330$) and Moroccan ($n=299$) AHM respondents aged 55–74 were asked to participate in a subsequent study into mental health problems. Thirty male and 40 female Moroccans, and 57 Turkish men and 100 Turkish women gave permission to use their names for the selection procedure of the present study.

A theoretical selection principle was used for all four groups included in the present study (Turkish men, Turkish women, Moroccan men, Moroccan women) (Malterud, 2001). In each group a broad representation of various dimensions was aimed for. The main dimension was depressive symptoms, as the presence of depressive symptoms is expected to affect the

experience of mental health. Each group was to consist of respondents with many, medium and few depressive symptoms. Similarly, diversity in the composition was sought after for marital status and household composition. The Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977; Beekman *et al.*, 1997) was used to establish the presence of mental health complaints. This selection resulted in 23 addresses of Turkish men, 36 of Turkish women, 30 of Moroccan men and 28 of Moroccan women.

Interviewing and data analysis was conducted in two rounds (cyclic). After the first five interviews in each group (cycle 1) the semi-structured interview was slightly adapted. After analysis of another six interviews (cycle 2) the data were found to suffice for answering the research questions. A number of addresses were thus left untested when the total number of 44 interviews (11 per group) was obtained. All respondents were aged 55–74. Few AHM respondents refused to participate in the present study. None of the Turkish men refused to participate. Of 36 Turkish women four women refused to participate. Of 30 Moroccan men five refused to participate and of 28 Moroccan women five respondents refused to participate. Almost all non-response was due to the fact that respondents could not be reached due to death, moving to an unknown address, visit to the home country or not being at home.

Interviewing procedure

The interviewers visited every address of the selected AHM respondents three times if necessary to make an interviewing appointment.

As most old Turkish and Moroccan migrants speak poor Dutch the interviews were held in the respondents' native language. For the Turkish respondents this was Turkish. Not all the Moroccan respondents, however, spoke fluent Moroccan-Arabic (the official language of Morocco), but one of the Berber dialects. Interviewers matched respondents in sex and ethnicity in order to let the respondents feel free to express themselves. The interviews were audiotaped if the respondents gave permission. When permission was not granted, the interviewer wrote down the respondents' answers immediately after the interview.

Interviewers, interviewers training and quality control

The interviewers were experienced in interviewing elderly migrants and were bilingual native speakers of Turkish or Moroccan-Arabic. Berber (the language

spoken by the Berber inhabitants of Morocco) was also fairly well understood by the Moroccan interviewers. They were given an introductory training by the authors focusing on the first interview section. Subsequently they were trained at the WHO-CIDI Centre in Amsterdam in the use of the CIDI.

During the data collection period the researchers had regular contact with the interviewers by telephone and, after the first five interviews, in a follow-up training. During these contact moments the interviewing material (interview transcriptions, observation forms) was discussed and instructions were updated.

Instruments

- The semi-structured interview section focused on the experience of the migration to the Netherlands, the experience of ageing and of mental health symptoms, the perceived causes and solutions of these symptoms and use of formal, informal, and alternative care. The questions on mental health were phrased in general terms aiming to elicit the respondent's personal concept and wording of symptoms that are in western countries regarded as related to mental health, stress, and psychiatric symptoms, without using these words. After these general questions, one question listed symptoms (restlessness, sadness, lack of interest, anxiety, forgetfulness, hearing voices or seeing things other people do not see) in order to register any recognition of concrete symptoms.
- The CIDI Base version 2.1 Life time (Composite International Diagnostic Interview, WHO, 1990) followed immediately after the semi-structured interview section. The CIDI is a fully structured diagnostic interview designed for use by well-trained lay interviewers. Turkish and Arabic versions were provided by the WHO-CIDI Training and Reference Centre for the Dutch language area in Amsterdam. For the Turkish version only the 12 months version was available, which was adapted by the translator to a life-time version. For Moroccan respondents a standard Arabic version was available. The interviewer translated the questions to Moroccan Arabic, and where necessary, into Berber. As no computer versions were available for the Turkish and Arabic CIDI interviews, the paper and pencil versions were used. In line with formal WHO instructions all 44 respondents were asked the first two questions of the CIDI and question 34. Only when the first two questions (E1 and E2) were affirmed, the remaining questions were stated. E1 asks: Now

I want to ask you about periods of feeling sad, empty, or depressed. In your lifetime, have you ever had two weeks or longer when nearly every day you felt sad, empty or depressed for most of the day? Question E2 reads: In your lifetime, have you ever had two weeks or longer when you lost interest in most things like work, hobbies, and other things you usually enjoyed?

- Immediately after the interview the interviewer filled in a standardised observation form, including the respondent's general appearance, verbal and behavioural reactions to the questions and interviewing conditions.

Analyses

The audio-taped interviews were literally translated and transcribed into Dutch by qualified translators.

The analyses focused on the translated and transcribed interviews, the observation forms filled in by the interviewers, and their evaluative notes and remarks. The data of the respondents were analysed individually and subsequently for the four groups: Turkish men, Turkish women, Moroccan men, and Moroccan women. For each of the four groups an analysis table was created, based on the international literature on bias in cross-cultural research (Van de Vijver and Leung, 1997; Van de Vijver and Poortinga, 1997). The columns were devoted to the issues relating to construct bias, method bias, and item bias respectively. The rows were filled in with remarks on the individual respondents.

For the analyses on construct bias in the CIDI the presence of any taboo on mental health issues and the correspondence between complaints put forward in a spontaneous situation (the semi-structured interviewing section) and in the CIDI-section is relevant. Thus, the table on construct bias contains a column on taboo-related data, and a column on the correspondence between symptoms put forward in the semi-structured and in the CIDI interviewing section.

For the presence of method bias we studied the limitations of the CIDI relating to the interviewing situation, limited language command, response tendencies such as social desirability and acquiescence. These issues were described in a table containing columns on these issues.

For the presence of item bias all irregularities on individual CIDI items were recorded in a table describing items that are not understood readily, or that require repeating, elaboration of rephrasing or answers that are apparently given with some

uncertainty. In the column 'sensitive questions' items were described that provoked reactions that may be ascribed to embarrassment.

RESULTS

Short and long CIDI-interviews

Many respondents denied feeling moody, empty or depressed (question E1 of the CIDI depression section) or having lost interest for most things (question E2). The number of respondents who were interviewed beyond these questions was therefore limited. For four of the eleven Turkish men the interview continued after E2. In one case the interview stopped abruptly when a son, with whom the respondent had a troublesome relationship, arrived. Seven Turkish women continued with the CIDI after the first questions.

Generally, Moroccan men and women denied having any depressive feelings. Only in two Moroccan men and one Moroccan woman the CIDI was continued after the first two questions.

Turkish women

Construct bias

- Embarrassment and taboo.
Some Turkish women listed several mental health complaints, others none. Generally, however, they showed no strong embarrassment on the subject. Women who denied having complaints when asked straightforwardly would recognise symptoms of the symptom list that was read out to them in the semi-structured interview. For some the issue of suicide seemed to be taboo (see item bias).
- Correspondence between mental health complaints in semi-structured interview and the CIDI.

There was some overlap between the symptoms mentioned in the semi-structured interview and in the CIDI, especially when the symptoms involved sadness and loss of interest. For some women new symptoms were reported in the CIDI (e.g. weight loss, loss of sexual interest, loss of energy, sleeping problems). Some symptoms were 'missed' in the CIDI, particularly forgetfulness, restlessness. One woman reported feeling an insect crawling in her head. Two of the four women who had answered only three CIDI questions reported lack of interest, impatience, demoralisation, irritation, forgetfulness, and worry symptoms in the semi-structured interview. The other two women reported no or few problems in both interviewing parts.

Method bias. Some women felt ill at ease during the interview. Clearly an interviewing situation was fairly new to them. Some women showed distrust, especially at the start of the interview, and refused to have the interview audio-taped. In the course of the interview these women opened up towards the interviewer. A husband, daughter or grandchild was present at nine interviews.

In several cases language command was insufficient to understand long, complex questions. Many questions needed to be repeated and explained before respondents could answer them. The CIDI section took 30 to 60 minutes in those women who were interviewed beyond the first two questions. This caused irritation and complaints of tiredness.

Social desirability and acquiescence were not observed, according to the interviewers.

Item bias. Many items required repetition, especially the long abstract or complex ones. Questions relating to episodes tended to confuse the women. They were uncertain of their answers or asked for an explanation. Sometimes the answer was inappropriate, e.g. when questions on an episode in the past was answered in the present tense. The same applies to the questions that were asked to exclude physical causes of the symptoms. Question 2 is one of the questions that proved difficult to understand, which is of interest as it is one of the questions on which the decision to continue the CIDI is based.

Some items were embarrassing or inappropriate for obvious reasons: this applies to illiterate women when asked if they had lost interest in reading. The question on loss of sexual interest evoked laughter or embarrassment. Some women responded that 'this had not come up for some time' or in the case of a widow, that sex was clearly not an issue without a partner. Suicide is an obvious taboo item for the religious women: 'May Allah keep me from this. Allah is the one who gives and takes life'. 'A believer does not do this'.

Conclusions—Turkish women. The Turkish women seemed to discuss mental health complaints freely, although they did not use this or similar terminology. The correspondence between the semi-structured interview and the CIDI was, however, limited, and several cases may have been missed because of this.

Method bias was clearly present in the Turkish women, as they felt ill at ease during the interview. The presence and interference of their husbands or family may have aggravated this. Language mastery was often insufficient to understand the questions, leading to a prolonged interview and irritation.

We noted bias in several items. Questions on sex and suicide seemed to infer embarrassment. Items referring to episodes were generally difficult to understand.

Turkish men

Construct bias

- Embarrassment and taboo.

The Turkish men readily reported mental health complaints, although they did not describe them as such. Various complaints were reported spontaneously in the semi-structured interview, particularly worrying, restlessness, sadness, and forgetfulness. Some respondents related their mental health complaints to social isolation and boredom, as they were without a job and had little social contact outside their Turkish community, due to financial and language problems: 'I feel as if I am living in an open prison'. Some respondents showed ambiguity on mental health complaints, denying any complaints at some point, whereas describing them at another point in the semi-structured interview.

- Correspondence between mental health complaints in semi-structured interview and the CIDI.

In respondents who completed the CIDI, there was some overlap of complaints reported in the semi-structured and in the CIDI section, notably relating to sadness and restlessness. Some complaints were only reported in the semi-structured interview (e.g. loneliness, irritability, worrying). The CIDI section also resulted in new symptoms, such as sleep, eating problems and loss of energy.

Some respondents who did not complete a full CIDI, seemed to have (had) more or less serious complaints, which were apparently not picked up by the first CIDI questions. In one case a man reflected on a difficult period after arriving in the Netherlands, causing emotional problems and leading to smoking and alcohol use. Another respondent reported a strong fear of going outside on the streets, as he was afraid of collapse. This had once happened to him, probably because of his physical health: 'And I have the fear of my disease, I do not dare to go outside alone. . . . I fear that I may fall, I worry very much about this'. This man also described complaints such as boredom, restlessness, and worrying.

Another respondent reported never having had complaints whereas he described in the semi-structured interview visiting a psychiatrist or neurologist when he had serious complaints relating to his shift work.

Method bias. The Turkish men seemed fairly well at ease during the interview. The communication with the interviewer seemed to be open. In several cases the respondent's wife was present, in one interview a child. The women contributed little to the conversation, but their presence may have affected the results nevertheless.

For the semi-structured interview language command of most respondents was sufficient.

The Turkish men understood most CIDI-questions, with the important exceptions described under item bias. There was one man who did not understand the CIDI questions, according to the interviewer. Another respondent was observed to lack concentration, which may have been due to his problems.

Social desirability and acquiescence was not overt.

The CIDI took in most respondents 20 to 30 minutes. For one Turkish man, whose speech was unclear and who had many complaints, the CIDI lasted 40 minutes. No complaints or remarks were made on the time needed to complete the CIDI-section.

Item bias. Several respondents had difficulty understanding question E2. Problems seemed to concentrate on the first questions and on items referring to earlier episodes. These questions had to be repeated several times, leading to uncertainty in the respondents. Some items were observed to lead to embarrassment. The man who had spontaneously talked about his suicide attempt denied this attempt further on in the interview.

Conclusions—Turkish men. As to construct bias the male Turkish respondents showed little embarrassment in discussing their mental health complaints in the semi-structured interview. They seemed to be embarrassed, however, about describing them as mental health complaints. This may have led to the denial of problems in the first decisive CIDI questions, where the wording includes depression explicitly. Several men denied having had problems, whereas their complaints had seemed fairly serious during the semi-structured interview.

Most Turkish men seemed to feel at ease during the interview and communicated freely with the interviewer. The presence of their partners illustrates however a salient aspect of method bias in this group as the respondents may have felt pressed to give an untroubled impression.

Finally we conclude that several CIDI-items are biased as they reflect a mental health label that does not agree with the men. This may have led to an incorrect halt of the interview after the initial CIDI ques-

tions. Furthermore the first questions and questions relating to the concept of an episode were often not well understood, which aggravated this problem.

Moroccan women

Construct bias. For the Moroccan women mental health complaints appeared to be taboo. Some complaints were described during the semi-structured interview, particularly when responding to the list of complaints. On the whole, however, the women denied any mental health complaints. There appears to be a religious reason for this: 'Allah be praised. We are mentally all right. Allah decides on our health.'

'No, I am not mad and things are all right in my head, because I believe in God'.

'If people are religious, they do not get mental health complaints'.

This taboo seems to have a religious but also a social aspect, as several women mentioned a fear of gossip. One woman worried about her husband who appeared to have serious mental health complaints (hearing voices, restlessness, sadness, and sleeplessness). His general practitioner prescribed medication for this but she would not want him to visit mental health care services:

'No, only mad people go there. If my friends hear about this, they declare him mad.' In both the semi-structured interview and in the CIDI, the Moroccan women mentioned few mental health complaints. In the case of the only woman who affirmed the first two CIDI-questions, some new symptoms were described in the CIDI relating amongst others to sleeplessness, appetite, and concentration.

The interviewer observations suggest in some women differences in what they verbalised and what their body language revealed. Two women appeared to be sad, but for various reasons they did not describe their complaints. In one case the interviewer states that the couple (respondent and husband) were acting as if they were hiding something. In the other case the woman appeared to be tense, nervous and sad. Only when the husband left the room did she describe her worries.

Method bias. The interviewing situation was very new for the Moroccan women and most of them felt uncomfortable. In several cases the interviewer observed a suspicious attitude towards the interview and interviewer. Two women refused to have the interview audio-taped. In other interviews questions on the audio-taping were raised. In some interviews the atmosphere was suspicious and tense and the

interviewer did not succeed in achieving rapport with the respondent. In some cases this was due to the presence of a dominating husband; in other cases the subject of the interview appeared to affect the atmosphere.

In most interviews a husband was present who answered many questions. In one case a daughter was present. When husbands left the room the interviewer sometimes saw a change of attitude as the woman opened up. In one interview the interviewer comments on non-verbal behaviour: 'He is the boss and the woman has no say in matters'. The woman answers to the first questions inquiring about her age: 'I have not studied and I know nothing'. 'I have not learned anything so as to remember anything'.

In some interviews the questions were poorly understood. This seemed to be related to the wording of the questions and the lack of education of the women, but also to the language in which the women were interviewed. The interviewer was not fluent in all Berber languages.

Item bias. The CIDI questions were met with suspicion and irritation in most women, as mental health complaints are thought not to occur in good Muslims.

Conclusions—Moroccan women. Construct bias was apparent in discussing mental health complaints in Moroccan women. This bias is entwined with the taboo on mental health complaints, as good Muslims are believed not to suffer from these complaints. Furthermore, the fear of gossip, the novelty of the interviewing situation and the presence and dominance of the husband made the interviewing situation uncomfortable.

All items referring to mental health complaints in general seem to be sensitive.

Moroccan men

Construct bias. Most of the Moroccan men denied having any mental health complaints. This seemed to be related to the concepts used rather than to actual symptoms: 'No, (I have) no mental health complaints. Of course I am sometimes tense because of my children, but that is due to old age'. Various complaints are recognised and mentioned such as tiredness, tenseness, restlessness, and forgetfulness. Most of the respondents, however, would not call these mental health complaints. In several cases it is clear that embarrassment relating to religious beliefs is an issue here.

'No, why should a man be sad? Everything is in the hands of God. If disaster strikes us, may God protect you and us from it, then this will simply pass'.

'... If a person is religious and in a state of ritual purity and always serves the Lord of the Worlds, he can not be approached by the devil with his whisperings. His mind will stay clear and the Lord of the Worlds will protect him from these whisperings'. One respondent (of whom the interviewer noted that he spoke Dutch very well) observes a taboo in his fellow countrymen: 'people do not like to talk about this (mental health complaints). They become aggressive and have no patience'.

At the same time the construct of mental health complaints (or any concept used in the Moroccan language) was occasionally unfamiliar: The interviewer remarked in one case: 'The man would not recognise mental health complaints even if he had the symptoms'. Various men found it difficult to understand the questions and to give coherent answers. Two men proceeded with the CIDI after the first two questions. One man mentioned several complaints in the first part of the interview and the interviewer noticed that the man looked tormented. The man, however, denied any current mental health problems during the CIDI and elaborated mostly on his problems in the past. The other man who proceeded in the CIDI beyond the first questions had not described any serious complaints during the semi-structured part of the interview. Incongruence of symptom reporting was also noticed in respondents who answered only the first CIDI-questions. One Moroccan man had described various complaints in the semi-structured interview, such as listlessness (wanting to stay in bed), nervousness, anxiety. In fact the respondent was still in bed when the interviewer arrived. During the CIDI, however, the respondent hesitated and subsequently gave a negative answer. Another man had described a visit to a mental health care professional in the past, but did not report this during the CIDI.

We conclude that there is correspondence in some cases between the reports of mental health complaints in the semi-structured interview and the CIDI when complaints are said to be absent. In several other cases, however, the denial of symptoms in the CIDI did not correspond with the symptoms reported in the semi-structured interview and in the interviewers' observations.

Method bias. With most respondents communication with the interviewer appeared to have been open and pleasant. The interviewing situation felt unfamiliar and awkward in some respondents, particularly at the beginning of the interview. Some respondents were shy and hesitant, particularly when respondents

thought that the interview was being done on behalf of the local authorities, or some other government organisation. One man was noted to give polite answers when asked for his opinion. Several respondents were poorly educated and had problems understanding the questions of both the semi-structured interview and the CIDI. Probably for the same reason some respondents found it difficult to verbalise their views.

Item bias. With the exception of the two men who answered more than the first two CIDI questions, the men were reluctant to discuss questions on mental health complaints. One respondent was observed to be particularly suspicious of all questions on mental health complaints and did not seriously answer the questions according to the interviewer. Another (illiterate) man had difficulty remembering details on past problems in the CIDI (question E5).

It is concluded that item bias is particularly relevant for questions on mental health complaints. Poor education is another threat to the quality of the data, as many concepts are too abstract for the respondents.

Conclusions—Moroccan men. Construct bias was found in the interviews with the Moroccan men, due to the taboo on mental health problems. Method bias was noted as the interviewing situation felt clearly awkward to the interviewees and as abstract concepts were difficult to understand for the illiterate respondents.

DISCUSSION

We studied the presence of bias (equivalence) of the Depression section of the CIDI Base Version 2.1 Life time in 44 elderly Turkish and Moroccan migrants. Construct bias, method bias and item bias was noted in Turkish men, Turkish women, Moroccan men, and Moroccan women. We noted some differences in this respect between these four groups.

The analyses point in all groups at construct bias, especially in Moroccan migrants, as mental health problems can not readily be discussed. The subject appears to be taboo, either because these problems are seen as part of life, to be solved by the person himself, or, in the case of serious problems, the result of failing to live as a good Muslim. In any case, mental health problems are a subject of shame for the patient and for his family.

Method bias was also established. The interviewing situation was strange and awkward to all respondents except to the Turkish men. In the case of Turkish and Moroccan women a regular interviewing situation

could not be established due to the presence of husbands, children or grandchildren. Despite adamant instructions by the interviewers, some husbands tended to answer the interviewers' questions. This can be explained by the role distribution in these households, where husbands are responsible for contact with the external world and wives for family life.

Furthermore, a number of questions were poorly understood, reflecting item bias. This applies, particularly in the case of women, to questions on eating and losing weight, and sexuality. Sexual activity may be a sensitive subject in many elderly populations. Suicide appeared to be a difficult topic in all groups. The questions on different time periods also provoked confusion, due to memory failure or poor understanding of abstract concepts. Comprehension problems were noted in all groups, least of all in the Turkish men.

Problems arose in all groups with the two starting questions E1 and E2 due to the embarrassment of discussing mental health problems and the long and abstract wording of the questions. These problems are of crucial importance, as bias in these questions affects the decision to ask the remaining questions.

Earlier cross-national studies led to conclusions on satisfactory validity and reliability of the CIDI which could not be confirmed in the present study (Wittchen, 1994; Andrews and Peters, 1998). An explanation may be found in differences in the populations studied. Most studies have not included poorly educated, illiterate and religious (Muslim) elderly. Furthermore, the situation of ageing migrant populations may be different from elderly populations in their home countries, as ageing has taken place in unique, often socially isolated, contexts. The area of settlement of immigrants has been noted before to shape a particular culture (Salari, 2002).

Our qualitative methodological approach differed from the conventional ways in which validity questions are answered, which may also explain the differences with earlier studies. Qualitative methods are less limited by the unique characteristics of respondents such as cultural values and illiteracy, than quantitative methods. They are more suitable when exploratory questions relating to better insight in the research matter are to be answered (Malterud, 2001). In the present study the qualitative approach proved to be productive in respondents for whom standardised interviewing questions are not suitable.

The problem of bias as a result of failing memory has been noted before. Patten (2003) remarked that recall bias may affect the reported rates of major depression. The older age groups were reported to

be particularly vulnerable to recall bias. Barkow *et al.*, (2002) also noted that older adults showed a lower test-retest reliability of self-reported age at onset of selected psychiatric diagnoses. Wittchen (1994) described some problem areas, which the present study also touched upon. Some CIDI-questions, particularly the probe questions, may be too long and complex for the elderly and for populations with less literacy or in specific cultures. Wittchen suggested the use of synonyms for key symptoms, and cognitive memory search methods to improve the accuracy of rating past episodes and time of onset.

The CIDI was studied in younger groups of Turkish or Moroccan descent (Kusku *et al.*, 1996; Kamperman *et al.*, 2003), but no report was made of the use in Turkish and Moroccan elderly migrants. The study by Kamperman *et al.* (2003) used first generation migrants and encountered serious problems in recruiting respondents due to, amongst others, embarrassment on the subject of mental health. This embarrassment was reaffirmed in the present study.

In selecting respondents from the AGM study we relied on the respondents' CES-D scores. A study on the utility of the CES-D scores in the AHM was recently published (Spijker *et al.*, 2004). Here too, most methodological problems were encountered in the Moroccan population. These problems seem to be related to the embarrassment of Turkish and Moroccan elderly in discussing personal, and particularly mental health problems. This embarrassment is found in other Muslim and Arabic cultures (Salari, 2002). Cultural differences in the threshold for reporting depressive symptoms may be responsible for cross-national prevalence differences, such as between the adult populations of the US, Turkey and the Netherlands (Andrade *et al.*, 2003). Our theoretically based selection of elderly migrants was adequate, as in all four groups respondents were interviewed with no, few or many mental health problems.

The embarrassment of discussing personal problems may also explain why some respondents refused to have the interview audiotaped. The observation forms and reports completed by the interviewers, however, provided ample information.

Our study was hampered by the absence of a Moroccan Arabic and Berber CIDI Questionnaire. The translation of the questions from Standard Arabic into Moroccan Arabic by the interviewers may have been less than perfect. Similarly, the meaning of questions may have been less well understood by those Moroccan respondents who speak one of the three Berber

languages. We recommend the development of a formal CIDI in these languages.

In discussing construct bias we compared the answers given to questions relating to the past (in the semi-structured interview) with answers to the CIDI-life-time questions. It may be argued that answers are therefore difficult to compare, as they refer to different time periods. Question E 27, however, asks if the complaints also apply to the present. The latter was indeed the case according to a number of respondents. Thus, an adequate comparison could be made.

Establishing a DSM-depression diagnosis in representatives of different cultures poses a challenge to both researchers and clinical professionals (Manson, 1995).

The present results suggest that professionals in mental health care dealing with older Turkish and Moroccan women should not base decisions on diagnosis and treatment on the basis of the CIDI alone. Insight must be gained by using open questions, careful observations and information from third parties. Time needs to be invested in establishing a trusting relationship. Clinical professionals should not rigidly rely on the formal prescriptions on the question format. Negative questions on the first CIDI questions may not be taken at face value. The clinical insight that may be gained from continuation of the interview justifies the negating of the formal rules of the interviewing format. Strategies need to be developed for interviewing older women individually.

Similarly, researchers need to be aware of the limitations of the CIDI when used in elderly migrant populations.

So far, this is the first study to report on the equivalence of the CIDI in Turkish and Moroccan elderly migrants in Western Europe. Our findings can be used to design valid surveys in these and similar populations and may inspire methodological studies on standardisation of diagnostic interviewing in older migrant populations. Alternative assessment tools that promote the process of interviewing, field observations and interdisciplinary collaboration may be needed to further inspire research in older migrants (Mezzich *et al.*, 1999).

ACKNOWLEDGMENTS

The study was funded by The Netherlands Organisation for Health Research and Development (grant nr 1360.0004), the VSB foundation (grant nr 000324) and the National Fund for the Elderly (grant nr 99L06Zo04).

The authors wish to thank all those who took part in the study, in particular the interviewees and the Municipal Health Service Amsterdam.

REFERENCES

- Andrade L, Caraveo-Anduaga JJ, Berglund P, *et al.* 2003. The epidemiology of major depressive episodes: results from the International Consortium of Psychiatric Epidemiology (ICPE) Surveys. *Int J Meth Psychiatric Res* **12**: 3–21.
- American Psychiatric Association. 1987. *DSM-III-R. Diagnostic and Statistical Manual of Mental Disorders*, 3rd edn. revised. APA: Washington, DC.
- Andrews G, Peters L. 1998. The psychometric properties of the Composite International Diagnostic Interview. *Soc Psychiatry Psychiatr Epidemiol* **33**: 80–88.
- Barkow K, Heun R, Ustun TB, Gänssle M, Wittchen H, Maier W. 2002. Test-retest reliability of self-reported age at onset of selected psychiatric diagnoses in general health care. *Acta Psychiatr Scand* **106**: 117–125.
- Beekman ATF, Deeg DJH, Van Limbeek J, Braam AW, De Vries MZ, Van Tilburg W. 1997. Criterion validity of the Center for Epidemiologic Studies Depression Scale (CES-D): results from a community-based sample of older adults in the Netherlands. *Psychol Med* **27**: 231–235.
- Beekman ATF, Penninx BWJH, Deeg DJH, De Beurs E, Geerlings SW, Van Tilburg W. 2002. The impact of depression on the well-being, disability and use of service in older adults: a longitudinal perspective. *Acta Psychiatr Scand* **105**: 2–27.
- Cole MG, Bellavance F, Masour A. 1999. Prognosis of elderly community and primary care populations: a systematic review and meta-analysis. *Am J Psychiatry* **156**: 1182–1188.
- Kamperman AM, Komproe IH, Jong JTVM de. 2003. De relatie tussen culturele aanpassing en psychische gezondheid bij eerste generatie Turkse, Marokkaanse en Surinaamse migranten. [The relationship between cultural adaptation and mental health in first generation Turkish, Moroccan and Surinam migrants.] *Gedrag en Gezondheid* **31**: 163–174.
- Kessler RC. 1999. The World Health Organization International Consortium in Psychiatric Epidemiology (ICPE): initial work and future directions—the NAPE Lecture 1998a. *Acta Psychiatr Scand* **99**: 2–9.
- Kusku K, Hazer F, Arzik A. 1996. *Results of the Validation Study* (Internal report). Marmara University. Faculty of Medicine: Istanbul, Turkey.
- Malterud K. 2001. Qualitative research: standards, challenges, and guidelines. *Lancet* **358**: 483–488.
- Manson SM. 1995. Culture and major depression: current challenges in the diagnosis of mood disorders. *Psychiatr Clin North Am* **18**: 487–501.
- Mezzich JE, Kirmayer LJ, Kleinman A, *et al.* 1999. The place of culture in DSM-IV. *J Nerv Mental Disease* **187**: 457–464.
- Patten SB. 2003. Recall bias and major depression lifetime prevalence. *Soc Psychiatr Psychiatr Epidemiol* **38**: 290–296.
- Penninx BWJH, Geerlings SW, Deeg DJH, *et al.* 1999. Minor and major depression and the risk of death in older persons. *Arch Gen Psychiatry* **56**: 889–895.
- Polikar L, Wennink HJ, Hosper K, Smits C. 2000. De allochtone cliënten van de geestelijke gezondheidszorg. [The allochthonous clients of mental health care]. *Tijdschrift voor Sociale Geneeskunde* **78**: 263–265.
- Poort EC, Spijker J, Dijkshoorn H, Verhoeff AP. 2001. *Amsterdamse Gezondheidsmonitor 1999–2000. Turkse en Marokkaanse ouderen in Amsterdam. Gezondheid, zelfredzaamheid en zorggebruik*. [Amsterdam Health Monitor 1999–2000. Turkish and Moroccan elderly in Amsterdam. Health, independence and service use]. GG&GD Amsterdam, cluster EDG: Amsterdam, The Netherlands.
- Radloff LS. 1977. The CES-D scale: a self-report depression scale for research in the general population. *Appl Psych Meas* **1**: 385–401.
- Reynolds CR. 2000. Methods for detecting and evaluating cultural bias in neuropsychological tests. In *Handbook of Cross-Cultural Neuropsychology. Critical Issues in Neuropsychology*, Fletcher-Janzen E, Strickland TL, *et al.* (eds). Kluwer Academic Publishers: Dordrecht, The Netherlands; 249–285.
- Salari S. 2002. Invisible in Aging Research: Arab American, Middle Eastern Immigrants, and Muslims in the United States. *The Gerontologist* **42**: 580–588.
- Smits C, Vries W de. 2003. Een som van misverstanden. De GGZ en psychische klachten van oudere Turken en Marokkanen. [Misunderstandings summed. Mental health care and mental health problems of Turkish and Moroccan older adults.] *Denkbeeld* **15**: 10–13.
- Spijker J, Wurff FB van der, Poort EC, Smits CHM, Verhoeff AP, Beekman ATF. 2004. Depression in first generation labour migrants in Western Europe: the utility of the Center for Epidemiologic Studies Depression Scale (CES-D). *Int J Geriatr Psychiatry* **19**: 538–544.
- Van de Vijver F. 2003. Diagnostisch testgebruik vanuit cross-cultureel perspectief [Diagnostic test use from a cross-cultural perspective]. *Gedrag & Gezondheid* **31**: 187–199.
- Van de Vijver FJR, Leung K. 1997. *Methods and Data Analysis for Cross-Cultural Research*. Sage: Newbury Park, CA.
- Van de Vijver FJR, Poortinga YH. 1997. Towards an integrated analysis of bias in cross-cultural groups. *Eur J Psychol Assessment* **13**: 29–37.
- Van Zee W, Crok S, Hermans C, Van Hinte P, Vermeulen Windsant J. 2000. *Amsterdam in cijfers: Jaarboek 2000*. [Amsterdam in Figures: Yearbook 2000]. O + S, het Amsterdamse Bureau voor Onderzoek en Statistiek, Amsterdam, The Netherlands.
- Vries W de, Smits C. 2003. *Psychische klachten bij Turkse en Marokkaanse ouderen. Een handreiking voor de praktijk*. [Mental Health Complaints in Turkish and Moroccan Older Adults: A Guide to Practice] Netherlands Institute of Mental Health and Addiction: Utrecht, The Netherlands.
- Vries W de, Smits C. 2004. *Geestelijke gezondheid en ouder worden: Informatieve huiskamerbijeenkomsten voor oudere Turkse en Marokkaanse vrouwen*. [Mental Health and Aging: Informative Living Room Meetings for Elderly Turkish and Moroccan women. Manual.] Netherlands Institute of Mental Health and Addiction: Utrecht, The Netherlands.
- Wittchen H. 1994. Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): a critical review. *J Psychiat Res* **28**: 57–84.
- World Health Organisation. 1990. *Composite International Diagnostic Interview (CIDI): a) CIDI-interview (version 1.0), b) CIDI-user manual, c) CIDI-training manual, d) CIDI-computer programs*. World Health Organisation: Geneva.
- Wurff FB van der, Beekman ATF, Dijkshoorn H, *et al.* 2005. Prevalence and Risk-Factors for Depression in Elderly Turkish and Moroccan Immigrants in the Netherlands. *J Affect Disord* **83**: 33–42.