

Migrant Mental Health: A Model for Indicators of Mental Health and Health Care Consumption

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Objective: This study explores the relationship between mental health and health care consumption among migrants in the Netherlands. **Design:** Samples of the Turkish ($n = 648$), Moroccan ($n = 102$), and Surinamese ($n = 311$) populations in Amsterdam were examined. The study tested a hypothesized model of risk factors for psychiatric morbidity, indicators of well-being, and indicators of health care consumption. The model was specified on the basis of information from earlier research on the sample and literature on the topic. The model was tested and refined using structural equation modeling. **Main outcome measures:** Psychiatric morbidity and well-being measures were assessed with the CIDI 1.1 and MOS-sf-36 subscales, respectively. Health care consumption was assessed by the question “Have you ever consulted one or more of these professionals or health care facilities with respect to mental health problems or problems related to alcohol or drugs usage?” **Results:** The primary result of this study was the confirmation that health care consumption among migrants is predicted by need and predisposition factors, such as health condition and sociodemographic characteristics. In addition, mental health care consumption of migrants is predicted by acculturation characteristics. This result suggests an effect of cultural and migrant-specific factors in help-seeking behavior and barriers to mental health care facilities. **Conclusions:** Findings confirm the existence of migrant-specific mechanisms in health care consumption. Mental health care professionals should be aware of these. However, ignoring common ground for interventions unnecessarily creates distance between migrant groups and between migrant and indigenous Dutch groups.

Keywords: (im)migrants, health care consumption, mental health, modeling, culture

The relationship between mental health condition and mental health care consumption among migrants in the Netherlands is unclear (de Jong, 1996; Struijs & Wennink, 2000; Uniken-Venema & Wierdsma, 1993). Migrant populations differ with respect to their use of different facilities for mental health care. Turkish and Moroccan migrants tend to present themselves in outpatient care facilities, whereas Surinamese migrants more often present themselves in residential care facilities. Overall, the mental health care consumption of the migrant population is lower in comparison with the indigenous Dutch population (Dekker, Peen, Heijnen, Kwakman, & Sanders, 1996; Dieperink, van Dijk, & Wierdsma, 2002; Uniken-Venema & Wierdsma, 1993). Although reliable prevalence figures on psychiatric morbidity among migrant populations are absent, several researchers are of the opinion that differences in health care consumption cannot be fully explained by differences in psychiatric prevalence figures. In the Netherlands, there is a tendency to relate differences in mental health care consumption between ethnic groups to differences in cultural or migrant-specific characteristics. In this respect, several authors refer to cultural differences in help-seeking behavior and barriers to mental health care facilities (Boomstra, 2001; de Jong, 1996;

Messing, 2003; Struijs & Wennink, 2000). In doing so, however, knowledge on common mechanisms of mental health care consumption is ignored.

The literature demonstrates that mental health care consumption is related to several factors. Andersen and Newman (Andersen, 1995; Andersen & Newman, 1973) group these factors into three categories: predisposition, enabling, and need factors. Predisposition factors consist of sociodemographic and individual characteristics, such as coping resources, social network, and social interaction, and assumptions, attitudes, and knowledge on mental health issues. The second category consists of factors facilitating care consumption (i.e., the availability of mental health care institutions, waiting lists, insurance system, health care personnel and their knowledge). The third category of factors, need factors, comprises both objective health factors (i.e., type and severity of a mental health disturbance) and subjective health factors (i.e., experienced disability and subjective well-being). In this article, we focus on the first and third categories, the predisposition and need factors. The most prominent predisposition and need factors in understanding the mechanisms of mental health care consumption are addressed in more detail in the following paragraphs.

With respect to the effects of predisposition factors on health care consumption, information is available on several sociodemographic characteristics, notably sex, age, marital status, educational level, and source of income. The literature shows that women seek 1.5 times more help for mental problems than do men. This sex difference has been found in both (African) American populations (Neighbors & Howard, 1987; Rickwood & Braith-

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waite, 1994) and an indigenous Dutch population (Verhaak, 1995). When type and severity of mental health problems were taken into account, this sex difference continued to exist (Neighbors & Howard, 1987). Furthermore, women, on the one hand, are more likely to seek help for mental health problems when divorced or widowed. Men, on the other hand, are more likely to seek help when unemployed (Vázquez-Barquero, Wilkinson, Williams, Diez-Manrique, & Pena, 1990; Verhaak, 1995). Young people and people with higher educational levels are less likely to visit a general practitioner when confronted with mental health problems (Verhaak, 1995). Research on health care consumption associated with mental health problems among migrants supports these findings on the effects of sex and marital status (Kamperman, Komproe, & de Jong, 2001).

Another predisposition factor affecting health care consumption is a person's social network. A large social network is a potential source for social support, thereby reducing the need for professional support and care (Sherbourne, 1988). A study on health care consumption among migrants with mental health problems in the Netherlands, however, revealed no direct effects of social support (Kamperman et al., 2001). A closer look at the effect of social network shows an interaction effect between the network characteristics and the shared health beliefs within the network. In a large network, one is less likely to seek professional help when the health beliefs of the lay network do not match the health beliefs of the mental health professionals. In contrast, when one's social network is limited or scattered and the health beliefs do match those of the professional caregivers, people are more likely to seek professional mental help (Rogler & Cortes, 1993). These effects of social network correspond with the finding that stigma or collective feelings of shame with respect to psychotherapeutic treatment form prominent barriers to seeking professional mental help (Takeuchi, Leaf, & Kuo, 1988).

Apart from collectively shared norms about mental health problems and psychotherapeutic help, individual norms and personality are predisposition factors that have an effect on health care consumption as well. Persons with low self-esteem and persons who are unwilling to disclose their problems are less likely to seek professional help and enter the professional mental health care system at a later stage (Rickwood & Braithwaite, 1994; Takeuchi et al., 1988). In addition, coping factors and locus of control play an indirect role in the pathway to care. External attribution may impede the disclosure of personal feelings (Tijhuis, Peters, & Foets, 1990). This finding was replicated among migrants in the Netherlands, showing that avoidant coping behavior is related to lower consumption of professional mental health care (Kamperman et al., 2001).

Several studies have focused on the effects of need factors on health care consumption. These studies have explored the mechanisms between mental health and mental health care consumption. People who are more vulnerable to develop mental health problems are also more likely to present themselves in care (Vázquez-Barquero et al., 1990; Verhaak, 1995). In addition, research among migrants revealed that somatic morbidity, next to psychiatric morbidity, increased the consumption of professional mental health care (Kamperman et al., 2001).

Recent findings, however, show the importance of subjective mental health measures in understanding the relationship between mental health and health care consumption (Narrow, Rae, Robins,

& Regier, 2002). When prevalence rates of psychiatric morbidity in community samples were adjusted for experienced disability and help-seeking behavior, more reliable predictions could be made on subsequent health care consumption. The findings of Narrow et al. (2002) are of particular interest when studying the health care consumption of migrants because the relationship between psychiatric morbidity and disability and well-being differs between migrant populations (Kamperman, Komproe, & de Jong, 2005). Among the Surinamese population, psychiatric morbidity resulted in emotional disability and deterioration of mental well-being. In the Turkish population and, to a lesser extent, the Moroccan population, the relationship between psychiatric morbidity and emotional disability and mental well-being was weak. Furthermore, relationships between psychiatric morbidity and physical well-being were present in all migrant populations. As a consequence, relationships between mental health and health care consumption may differ between migrant populations.

Although not specified in Anderson and Newman's (1973) model, interrelation exists between the predisposition and need factors. Earlier research on mental health of migrants in the Netherlands identified several determinants of psychiatric morbidity and well-being. With respect to psychiatric morbidity, source of income, level of acculturation (especially, cultural traditionalism and feelings of loss), somatic morbidity, and active coping behaviors are important determinants. Despite the fact that these variables explain a considerable part of the differences in prevalence of psychiatric disorders between migrant populations, not all between-group variance could be explained (Kamperman, Komproe, & de Jong, 2003b). With respect to well-being, it was found that social integration and the acquisition of practical skills as characteristics of the acculturation process contributed to higher levels of well-being in the migrant population (Kamperman, Komproe, & de Jong, 2003a).

There is a lack of clarity on the effects of ethnicity on the general mechanisms of mental health care consumption among migrants. The combination of knowledge about general mechanisms of health care consumption with knowledge on indicators of mental illness and health care consumption among migrants is an innovative approach that can reveal the mechanisms of migrant health care consumption.

On the basis of the studies mentioned above, we defined a model of health care consumption among migrants. The core assumption is that health care consumption should be explored within the context of mental health and well-being. We therefore specified associations between risk factors for psychiatric morbidity, indicators of mental and physical well-being, and indicators of health care consumption. The model was tested within a sample of Turkish, Moroccan, and Surinamese migrants in the Netherlands.

Method

The data used for this study were collected as part of a cross-sectional survey on mental health and help-seeking behavior of Surinamese, Turkish, and Moroccan inhabitants of Amsterdam. Group membership is defined by country of birth of the respondent or one of the respondents' parents. Data were collected by random and multi-entry snowball sampling over the period spanning 1998–1999. The study was approved by the Medical Ethical Commission of the Vrije Universiteit, Amsterdam, the Netherlands.

A random sample of names and addresses per group (age = 18–65 years) was obtained from the Amsterdam population register. The sample

was stratified for sex and district. First, the study was announced by sending the respondents a bilingual letter, along with a recommendation from an eminent member of the migrant group concerned. Subsequently, wherever possible, recipients were approached by interviewers matched to them in gender, ethnicity, and language. The interviewers approached the respondents by visiting them on five occasions at different times during the day and week. After written informed consent, the interview took place at respondents' homes or in a neutral interviewing room, as preferred by the respondent. The respondents received a gift voucher (~\$15.00) for their participation. Simultaneously with the data collection, publicity was given to the study through local media, community centers, community health centers, local shops, tea houses, mosques, and religious and migrant societies.

Specific subpopulations turned out to be very hard to reach (i.e., Turkish women, Creole Surinamese men). For this reason, it was decided to make use of multi-entry snowball sampling, alongside the random sampling method, especially to involve those less accessible subpopulations (Kaplan, Korf, & Sterk, 1987). The entries for this type of sampling were contact persons within the tea houses, community centers, migrant associations, mosques, and churches, for example. These contact persons were asked to name three persons as candidates for the study. One of these was randomly picked to approach for an interview appointment. When this person turned out to be inaccessible or refused to cooperate, another candidate was approached. The new snowball interviewee was again asked to name three possible candidates, and so forth. Over 200 entries were used in multi-entry snowball sampling. Seventy-two percent of the participants in this study were approached by means of snowball sampling; 34% of the randomly sampled respondents participated in the study. Reasons for not participating were that the respondent was untraceable, "no time—not interested," "research has no value," "fear of stigmatization," and passive refusals, which means repeatedly cancelled interview appointments (Kamperman et al., 2003b).

Participants

A total of 311 Surinamese, 648 Turkish, and 102 Moroccan respondents participated in the study. Twenty-six percent of the respondents had used professional care for mental health problems at one time in their lives.

The mean age of the Surinamese sample was 39 years ($SD = 12$). Most of the Surinamese respondents were female (80%). Their marital status was married–engaged (24%), single (57%), or widowed–divorced (19%). Mean educational level ranged from senior secondary vocational education to university preparatory education. Their employment status was employed (54%), unemployed (34%), student (7%), and no income (5%). The mean age of the Turkish sample was 32 years ($SD = 11$). Of the Turkish sample, 57% were male and 43% were female. Most Turkish respondents were married (71%); 23% were single, and 6% were divorced or widowed. Mean educational level was preparatory vocational education to junior general secondary education. Fifty-seven percent of Turkish sample were employed; 33% were unemployed, 8% were students, and 2% had no income. The mean age of the Moroccan sample was 29 years ($SD = 11$). Of the Moroccan sample, 63% were male and 37% were female. Most were single (65%); 30% were married, and 5% were divorced or widowed. Mean educational level was senior secondary vocational education to university preparatory education. The employment status of the Moroccan sample was employed (55%), unemployed (14%), student (26%), and no income (5%).

Surinamese men were underrepresented in the sample. As for gender, age, and marital status, the Turkish respondents were representative for the Turkish population living in Amsterdam. As for gender, Moroccan respondents were representative for the Moroccan population living in Amsterdam. Older and married Moroccans were underrepresented in the sample.

Measures

The following variables were assessed in the interview.

Sociodemographic characteristics. The following sociodemographic characteristics were assessed: sex, age, source of income, and involvement in a long-term relationship. Sex was coded as 1 = female and 2 = male. Source of income was coded as 1 = employed, 2 = social benefit allowance, 3 = college grant, and 4 = no income–alimentation. Long-term relationship was coded as 0 = no long-term relationship and 1 = involvement in a long-term relationship.

Somatic morbidity. Somatic morbidity was assessed by means of a questionnaire. The questionnaire consisted of a list of 31 somatic disorders. The respondent was asked whether he or she suffered from one (or more) of these disorders over the past 12 months. The variable was coded as 0 = no somatic disorder and 1 = one or more somatic disorders.

Coping behaviors. Two types of coping behaviors were assessed using the Utrecht Coping List (Scheurs, van de Willige, Tellegen, & Brosschot, 1993): active coping behaviors and avoidance and palliative coping behaviors. This questionnaire is aimed at state aspects of coping behavior. The respondent is asked to indicate whether he or she displays these behaviors very frequently, frequently, sometimes, or seldom as a reaction to a stressful event. Total scores of the subscales are used for analysis. High scores on the subscales correspond with more frequent use of the assessed coping behavior. Internal consistencies were comparable between the (Surinamese) Dutch, Turkish, and Arabic instrument versions (Cronbach's α s vary between .62 and .76).

Level of acculturation. The Lowlands Acculturation Scale (Kamperman et al., 2003a; Mooren, Knipscheer, Kamperman, Kleber, & Komproe, 2001) was used to assess several psychological domains of acculturation. The Lowlands Acculturation Scale is a structured questionnaire consisting of propositions to be answered by means of a 6-point Likert scale. Four subscales of the instrument are used: Loss, Practical Life Skills, Traditions, and Social Integration. The sum scores were calculated over the subscales. High scores on the subscales refer to low acculturation levels. Internal consistencies were comparable between the (Surinamese) Dutch, Turkish, and Arabic instrument versions (Cronbach's α s vary between .64 and .85).

Mental health. The 12-month prevalence of psychiatric disorders was determined by the Composite International Diagnostic Interview, Version 1.1 (Wittchen, 1994). This is a structured interview and determines Axis I disorders according to *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed., rev.; American Psychiatric Association, 1987) criteria. As opposed to more recent versions, Version 1.1 was tested for cultural validity in a large number of languages and cultures (Wittchen, 1994), including Turkish (Kuscu, Hazer, & Arzik, 1996) and Surinam–Dutch (Bogers, 1996). The variable was coded as 0 = no psychiatric disorder and 1 = one or more psychiatric disorders.

Mental and physical well-being of the respondents was assessed with the Medical Outcome Study–Short Form Health Survey (MOS SF-36; Ware & Sherbourne, 1992). This instrument is based on the definition of health used by the World Health Organization. Within this definition, health is divided into three domains: physical, mental, and social health. In addition to these three domains, the MOS SF-36 provides a measure for general health experience, pain, change in health, and vitality. Mental well-being is calculated by adding the sum scores of the mental well-being subscales. Physical well-being is calculated by adding the sum scores of the physical well-being subscales and the sum scores of the Bodily Pain and Energy–Vitality subscales (Cronbach's α s vary between .53 and .81). Translations of the MOS SF-36 can be mutually compared (Wagner et al., 1998). A high score on the subscale corresponds with a high level of well-being.

Health care consumption. Health care consumption was assessed by the question, "Have you ever consulted one or more of these professionals or health care facilities with respect to mental health problems or problems related to alcohol or drugs usage?" Fifteen different health care professionals and health care institutions were listed, ranging from medical specialists to traditional healers. The variable was coded as 0 = none and 1 = one or more health care professionals or institutions.

Instrument and translation. The interview was made available in Dutch, Turkish, Moroccan–Arabic, and Surinamese–Dutch. These different versions were made using a four-step translation method. The first step was to find out whether translations of the questionnaires were already available. If not, then the questionnaire was translated by means of back-and-forth translation (Brislin, 1986). Next, these translations were checked and adapted for content and linguistic similarity in consensus groups. These groups consisted of bilingual mental health experts and psychologists. The last step was to evaluate the translated versions in a pilot phase (Kamperman et al., 2003b).

Statistical Analyses

The three ethnic groups were tested on differences in sociodemographic characteristics. Testing was done using analyses of variance (ANOVAs) for continuous variables (age) and chi-square tests for comparing categories (sex, marital status, educational level, and source of income).

Figure 1 shows the hypothesized model. We defined this model as our basic model for the study and evaluated its validity within the total sample. The hypothesized model was evaluated using structural equation modeling with the LISREL 8.54 program (Jöreskog & Sörbom, 1993, 2003). Goodness-of-fit measures used in this study were as follows: (a) the chi-square test as a measure of the discrepancy between variance–covariance matrices of the variables used in the model and the variance–covariance matrix derived from the specified relationships in the model (a nonsignificant chi-square refers to the validity of the specified relationships in a model and interpretations of the variances–covariances in the data matrix) and (b) the root-mean-square error of approximation (RMSEA). The RMSEA refers to the difference between the data variance–covariance

matrix and the model-based matrix fit to the data, per degree of freedom. This estimate should be less than .05 to indicate close fit (Browne & Cudeck, 1993). Confidence intervals (90%) of RMSEA are provided.

On the basis of the modification indexes provided by LISREL, we specified a sequential hierarchically nested model and evaluated the model by means of goodness-of-fit measures. In this new improved model, we only specified relationships that were (indirectly) supported by references in the literature, improved the chi-square value of the model with at least 10 units (e.g., modification index > 10), and were nonirrational. The final model (see Figure 2) only contained standardized estimated paths with t values > 2.00, thus only paths with a significance of $p < .05$. In addition, the most likely best-fitting model and its specified relationships, obtained from the total data set, was checked on its validity for the three separate migrant samples. Both estimates of specified relationships and the model goodness-of-fit measures were compared with those from the total data set.

Results

The three migrant samples differed on sex, mean age, educational level, marital status, and source of income ($p < .05$).

The Hypothesized Model

On the basis of earlier analyses and literature on the subject, a hypothesized model specified 17 relationships between several domains of variables: sociodemographic characteristics, somatic morbidity, coping behaviors, level of acculturation, mental health measures, and health care consumption. The hypothesized model

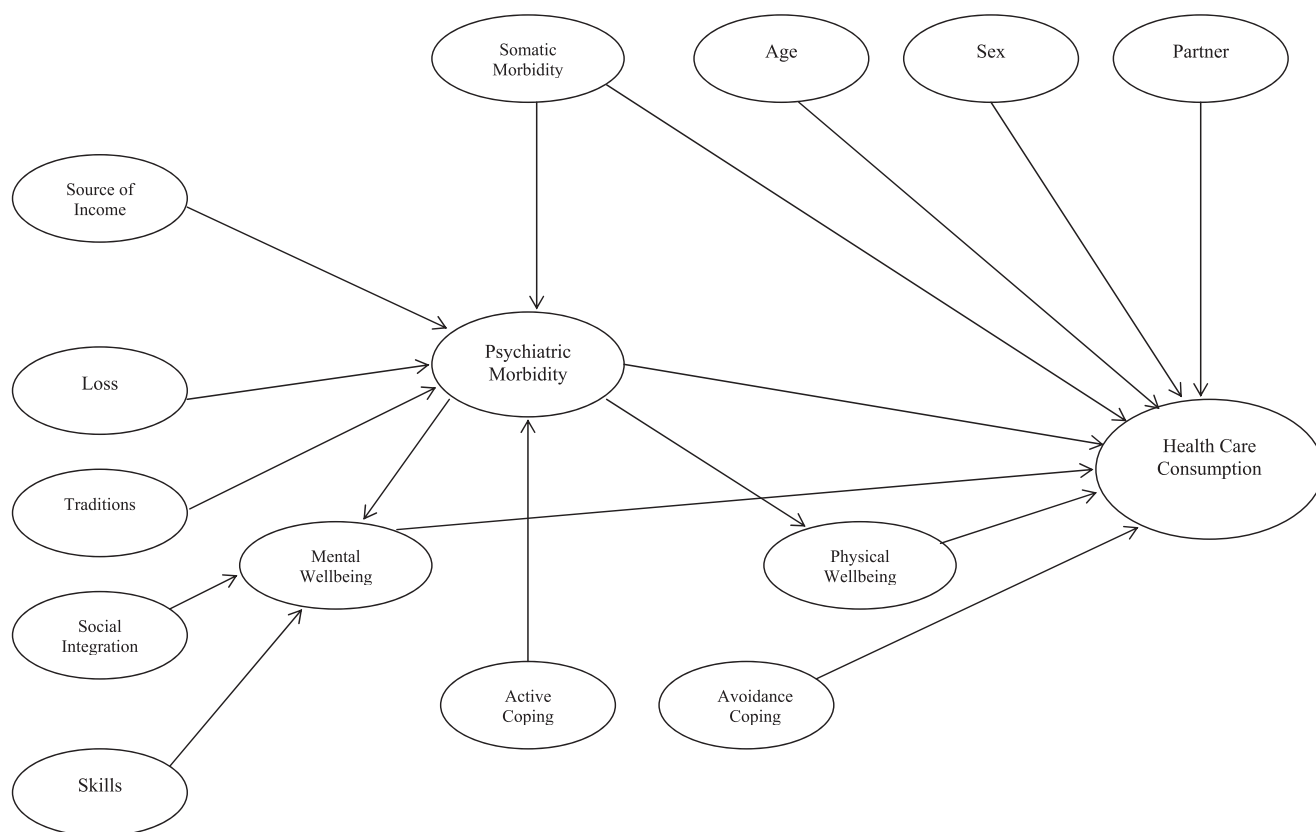


Figure 1. Hypothesized model of relationships between indicators of psychiatric morbidity, well-being, and health care consumption.

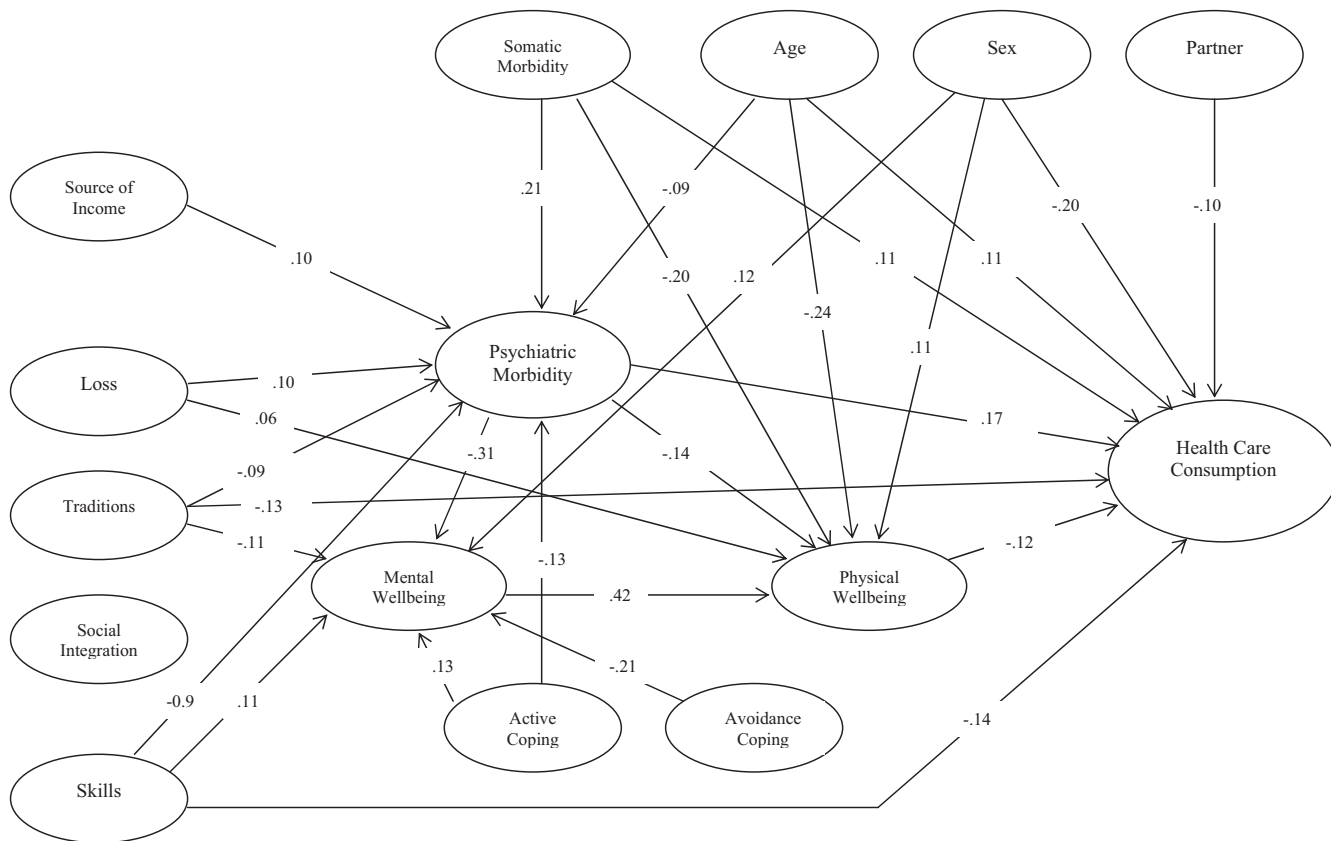


Figure 2. Structural equation model of relationships between indicators of psychiatric morbidity, well-being, and health care consumption.

is presented in Figure 1. Absence of an arrow between variables implies no hypothesized relationship on the basis of previous research findings.

In the hypothesized model, the sociodemographic variables of sex, age, and relationship status are directly related to mental health care consumption: Women, single individuals, and older persons are more likely to visit a health care professional. Migrants dependent on social benefit allowance have increased risks of psychiatric morbidity. Somatic morbidity is related to the presence of psychiatric morbidity and health care consumption. The use of active coping behaviors is related to a decrease of psychiatric morbidity. The use of avoidance coping behaviors is related to a decrease of health care consumption. The acculturation characteristics, social integration, and practical skills are related to mental well-being: higher levels of social integration and practical skills for Dutch society result in higher levels of mental well-being. Acculturation characteristics, experience of loss, and traditional conservatism are related to psychiatric morbidity. Experiences of loss increase the chances of psychiatric morbidity, whereas cultural traditionalism is related to an absence of psychiatric morbidity. The presence of psychiatric morbidity affects both mental and physical well-being. Psychiatric morbidity and low levels of mental and physical well-being result in higher levels of health care consumption.

The analyses were performed on 1,061 participants. Fourteen cases were removed from the analysis because of missing values.

These cases did not differ on available variables from the cases that were used in the analyses. The hypothesized model showed no acceptable fit with the variance–covariance matrix of the data. On the basis of modification indexes, 13 paths were added and three paths were deleted. The final model fit the data well, $\chi^2(19) = 28.67, p = .07, RSMEA = 0.022, 90\% \text{ confidence interval} = 0.00–0.04$.

The Final Model

The final model is shown in Figure 2. In the final model, there were no significant relationships between mental well-being and health care consumption or between avoidance coping behavior and health care consumption. Furthermore, there was no significant relationship between social integration and mental well-being. Next to the hypothesized relationships (described above), the following relationships were established. Health care consumption was affected by two acculturation characteristics: Higher levels of Dutch practical skills and lower levels of cultural traditionalism were related to an increased use of mental health care facilities. Physical well-being was affected by mental well-being. This means that higher levels of mental well-being resulted in higher levels of physical well-being. Furthermore, physical well-being was affected by sex, age, somatic morbidity, and experiences of loss. Lower levels of physical well-being were reported by women, older people, people with somatic morbidity, and people who

experience more feelings of loss with respect to their country of birth and family. Sex, active coping behavior, avoidance and palliative coping, and preservation of traditions affected mental well-being. This means that lower levels of mental well-being were reported by women, people who do not engage in active coping behaviors, people who do engage in avoidance coping behaviors, and people with high levels of cultural traditionalism. Psychiatric morbidity was affected by age and level of Dutch practical skills. Lower level of Dutch practical skills and older age were related to a decrease of psychiatric morbidity.

Adequateness of the Model in the Surinamese Data Sample

The final model did not fit the Surinamese data, $\chi^2(19) = 32.93$, $p = .02$, RSMEA = 0.049, 90% confidence interval = 0.00–0.08. This indicates an interaction of the Surinamese ethnic background with some of the variables specified in the model. Sixteen specified relationships were not significant in the Surinamese data sample. Health care consumption was not affected by age, relationship status, physical well-being, cultural traditionalism, or level of Dutch practical skills. Physical well-being in the Surinamese sample was not affected by psychiatric morbidity or experiences of loss. Mental well-being was not affected by sex, cultural traditionalism, or level of Dutch practical skills. Finally, psychiatric morbidity was not affected by age, source of income, active coping behavior, experiences of loss, cultural traditionalism, or level of Dutch practical skills.

Adequateness of the Model in the Turkish Data Sample

The final model fit the Turkish data well, $\chi^2(19) = 15.13$, $p = .71$, RSMEA = 0.00, 90% confidence interval = 0.00–0.03. Eight relationships were not significant in the Turkish data sample. Health care consumption was not affected by age, relationship status, somatic morbidity, or level of Dutch practical skills. Physical well-being was not affected by experiences of loss. Psychiatric morbidity was not affected by age, cultural traditionalism, or level of Dutch practical skills.

Adequateness of the Model in the Moroccan Data Sample

The final model fit the Moroccan data well, $\chi^2(19) = 28.34$, $p = .44$, RSMEA = 0.014, 90% confidence interval = 0.00–0.09. Twenty-one relationships were not significant. Health care consumption was not affected by sex, age, psychiatric morbidity, relationship status, somatic morbidity, cultural traditionalism, or level of Dutch practical skills. Physical well-being was not affected by sex, psychiatric morbidity, or experiences of loss. Mental well-being was not affected by sex, active coping behavior, avoidance and palliative coping behavior, cultural traditionalism, or level of Dutch practical skills. Finally, psychiatric morbidity was not affected by age, source of income, experiences of loss, cultural traditionalism, or level of Dutch practical skills.

Discussion

This study tested a model of risk factors for psychiatric morbidity, indicators of mental and physical well-being, and indicators of health care consumption related to mental health problems in a

sample of Turkish, Moroccan, and Surinamese migrants to explore the relationship between mental health and health care consumption among migrants in the Netherlands.

The primary finding of this study was the confirmation that health care consumption among migrants is predicted by common need and predisposition factors, such as health condition (both mental and physical health) and sociodemographic characteristics. In addition, mental health care consumption in migrants is predicted by acculturation characteristics. This finding suggests an effect of cultural and migrant-specific factors in help-seeking behavior and barriers to mental health care facilities (e.g., Boomstra, 2001; de Jong, 1996; Hall & Tucker, 1985; Lin, Inui, Kleinman, & Womack, 1982; Messing, 2003; Neighbors & Howard, 1987; Struijs & Wennink, 2002; Takeuchi et al., 1988).

With respect to the relationship between need factors and mental health care consumption, our study shows that health care consumption is affected by both psychiatric morbidity and physical well-being but not by mental well-being. However, the relationship between mental well-being and physical well-being suggests an indirect effect of well-being on health care consumption: Physical well-being mediates the effect of mental well-being on health care consumption. In addition, both physical and mental well-being are affected by psychiatric morbidity; this means that psychiatric morbidity affects health care consumption both directly and indirectly. These findings are in line with the conclusion of Narrow et al. (2002) that more reliable predictions of mental health care consumption are made when both psychiatric morbidity and subjective mental health measures are taken into account. The indirect effects of psychiatric morbidity, that is the effect on care consumption mediated by both mental and physical well-being, may be interpreted as the indistinctness of the relationship between morbidity and health care consumption. Both domains of well-being are affected by (other) personal and contextual variables than morbidity (also found in the model).

The findings of this study also offer an interesting perspective on the role of physical health aspects in mental health care consumption. Somatic morbidity affects health care consumption directly and indirectly through psychiatric morbidity and physical well-being. The indirect effects of somatic morbidity on care consumption and the mediating role of physical well-being on the effects of both psychiatric morbidity and mental well-being on health care consumption can be interpreted as the mechanism of somatization of complaints attributed to migrants. This finding corresponds with the findings of Knipscheer (2000a; Knipscheer & Kleber, 2001). He found a somatic expression of mental distress in Dutch mental health care by Surinamese clients, especially Surinamese–Hindustani clients, and Turkish and Moroccan clients.

In addition to these need factors, predisposition factors, such as sociodemographic characteristics and acculturation dimensions, directly affect health care consumption. Independent of their health condition, women, elderly persons, and single individuals are more likely to use professional health care. These results are in line with earlier findings among indigenous Dutch and American migrant populations (Neighbors & Howard, 1987; Rickwood & Braithwaite, 1994; Vázquez-Barquero et al., 1990; Verhaak, 1995). Migrants with more Dutch practical skills, such as language skills and knowledge of the health care system, are more likely to use professional help. More traditionally oriented migrants tend to use less professional help. These findings are supported by the findings

of Knipscheer (2000b; Knipscheer & Kleber, 2001) in his research among migrants in Dutch mental health care. Educational level is an important factor in this mechanism (Kamperman et al., 2003a; Knipscheer, 2000b). The neglect of these relationships may be an explanation for the assumed lack of clarity in the relationship between mental health and health care consumption among migrants in the Netherlands.

The effect of several acculturation dimensions on health care consumption encompasses the ethnic and cultural effects often attributed to ethnic differences in health care consumption. Culture-specific taboos or stigmas associated with mental health problems and psychotherapeutic help as well as insufficient knowledge of Dutch society and health care systems coincide, thereby creating a significant hindrance for mental health care consumption. The opposite effects of cultural traditionalism on mental health measures support this suggestion. Among migrants, low mental well-being outcomes are not translated into psychiatric disorders. The fact that specific migrant populations form tightly knit communities within Dutch society (Böcker, 2000; Nelissen & Buijs, 2000) gives Takeuchi et al.'s (1988) conclusion with respect to the effect on health care consumption of feelings of shame within large social networks meaning.

Coping behaviors show no direct effects on health care consumption. Effects of coping behaviors on health care consumption are mediated by psychiatric morbidity and mental well-being.

The model adequately describes the relationships between mental health and mental health care consumption among Moroccan and Turkish migrants. Among the Surinamese migrants, the model is not adequate. This indicates an interaction of the Surinamese ethnic background with some of the variables specified in the model. Low admission rates in outpatient care for the Surinamese population (Dieperink et al., 2002) can therefore not be explained within this model. Especially for this population, barriers in the interaction between the health care system and patient as well as the effects of complementary and alternative healing systems need further investigation. To our knowledge, this is the first time the relationship between health care consumption and morbidity has been approached by conducting analyses in which, on the one hand, both mental health and health care consumption indicators are taken into account, and, on the other hand, both common factors and migrant-specific factors are considered. The results question common epidemiological assumptions about the relationship between mental health and health care consumption. Furthermore, this study integrates migrant mental health mechanisms with common knowledge on health care consumption.

Migrant health care consumption is only to a limited extent predicted by actual psychiatric morbidity. This has implications for one of the assumptions of epidemiological research on mental health: Prevalence rates of psychiatric disorders do not result in reliable predictions of mental health care consumption. Even when other health-related variables are taken into account, like mental and physical well-being, disability, and somatic morbidity, predictions of mental health care consumption will be unsatisfactory. Therefore, the epidemiological approach of evaluating health care consumption mechanisms in terms of (un)met needs has serious limitations. Assessing predisposition factors and enabling factors (Andersen, 1995; Andersen & Newman, 1973) provides necessary information for adequately determining health care consumption mechanisms.

Most of the assumed relationships were relevant for describing mental health consumption mechanisms. However, additions with respect to acculturation characteristics and well-being measures were enriching. Acculturation characteristics were directly related to health care consumption. In addition, avoidance coping had no direct effect on health care consumption. Furthermore, the initial assumption that mental and physical well-being should be distinguished with respect to mental health care consumption was valuable. Physical well-being and psychiatric morbidity turned out to be strongly interrelated health measures. Apart from a relationship with sex and mental well-being, psychiatric morbidity and physical well-being shared the same indicators. Mental well-being, in contrast, was, alongside psychiatric morbidity, related to acculturative characteristics, coping characteristics, and sex. As a result, mental well-being was a strongly individual and migrant-specific affected variable.

The study has several limitations worth noting. Data on health and mental health care consumption is acquired by means of self-reporting questionnaires. This may have caused response biases. Ideally, research on help-seeking behavior is carried out in a longitudinal design. Related to the cross-sectional design, there may have been a retrospective bias. Because of recall, underreporting of mental health symptoms and care consumption may have occurred. Furthermore, because of small samples of Surinamese and Moroccan populations and the number of estimated associations, the power of the model is insufficient. This could have led to unstable goodness-of-fit estimates of the health care consumption model of these groups. Finally, with respect to the Surinamese and Moroccan populations, the data are not representative because of nonresponse. However, van Loon, Tijhuis, Picavet, Surtees, and Ormel (2003) have shown that problems of representativeness and nonresponse may not need to have consequences for the adequateness of association measures between the variables.

These findings have implications for the current design of the mental health care system in the Netherlands. To overcome the resistance toward mental health care institutions among migrants, investments should be made in these institutions' outreach activities (cf. de Jong & van Ommeren, 2005). Moreover, special efforts should be made to increase knowledge of mental health issues among specific groups of migrants. In the mental health care practice of migrants, one can expect a somatic expression of mental distress. Finally, the results suggest there is no reason to overly "culturalize" differences in mental health care consumption. Ignoring common ground for intervention unnecessarily creates distance between migrant groups and between migrant and indigenous Dutch groups.

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