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Somatization among persons with Turkish origin: Results of the pretest of the German National Cohort Study

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ABSTRACT

Objective: Despite the emerging need to examine mental health of immigrants, there are no investigations designed to analyze representative samples in Germany. The aim of the present study was to explore the severity of somatic symptoms/somatization among a sample of considerable size consisting of persons with Turkish origin. We studied whether somatization was associated with sociodemographic and migration-related characteristics.

Methods: This examination was part of a pretest for a large national epidemiological cohort study in Germany. We applied the somatization (PHQ-15) and the depression module (PHQ-9) from the Patient Health Questionnaire in a subsample of 335 Turkish immigrants. We analyzed the distribution of the sum score. Differences in degree of somatization in relation to relevant socio-demographic (gender) and migrant-related characteristics (generation of immigration) were tested with analysis of covariance (ANCOVA), controlling for age. A multiple linear regression analysis was also conducted.

Results: Women had significantly higher age-adjusted mean scores than men ($M = 10.4$, $SD = 6.3$ vs. $M = 8.1$, $SD = 6.3$; $F = 10.467$, $p = 0.001$), a significant effect of age was also found ($F = 4.853$, $p = 0.028$). First generation immigrants had a higher age-adjusted mean number of symptoms in relation to the second generation immigrants ($M = 10.0$, $SD = 6.5$ vs. $M = 7.4$, $SD = 7.0$; $F = 6.042$, $p = 0.014$), the effect of age was not significant ($F = 0.466$, $p = 0.495$). Multiple regression analysis revealed that lower severity of somatization was associated with lower numbers of diagnosed physical illnesses ($\beta = 0.271$, $p < 0.001$) and better language proficiency ($\beta = 0.197$, $p = 0.003$, explained variance: 15.6%).

Conclusions: The degree of somatization among Turkish immigrants in Germany is associated with gender and generation of immigration.

1. Introduction

Many western countries have large proportions of immigrant populations [1,2]. Thus, knowledge regarding the influence of migration, culture, and religion on mental health presents a substantial issue for research in the context of public health care. In Germany, immigrants of Turkish origin constitute the largest ethnic group with almost three million individuals [2]. In some other countries of Western Europe, Turkish immigrants also belong to the largest immigrant collectives [1].

In contrast to the USA, in Germany population based data about mental health of immigrants are largely missing [3]. One reason is their underrepresentation in common epidemiological studies and generally low participation rates among immigrants [4]. Furthermore, it is often not possible to determine migration status properly in administrative data [5]. The results of the few published studies are heterogenous and are mostly restricted to studies with clinical samples [6] or retrospective re-analyses of representative surveys [7,8]. An exception presents a recent study of Beutel et al. [9], a prospective, single-center cohort study in Mid-Germany (Gutenberg Health Study, GHS) assessing mental health characteristics in a population based sample including persons with a migration background. Population based investigations designed primarily to investigate the mental health of immigrants do not exist in Germany. To the best of our knowledge, this study is the

Abbreviations: ANCOVA, analysis of covariance; CI, Confidence Interval; DSM-IV, the fourth edition of the diagnostic and statistical manual of mental disorders; GHS, Gutenberg Health Study; M, mean; PHQ, Patient Health Questionnaire; PHQ-9, Patient Health Questionnaire depressive symptom severity scale; PHQ-15, Patient Health Questionnaire somatic symptom severity scale; SD, standard deviation.

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first large scale study with data from the general Turkish immigrant population in Germany.

Somatic symptoms are one of the most common reasons for health care utilization and often remain medically unexplained. Somatoform disorders are among the most prevalent mental disorders seen in the general medical setting and are present in 10 to 15% of primary care patients [10]. Somatization is defined as a tendency to experience and manifest psychological distress in the form of bodily symptoms and seek medical attention for them [11]. It is a ubiquitous phenomenon although there are major differences according to its frequency and type across ethnic groups [12,13]. A review on cross-cultural aspects of somatization [14] found "feeling of heat", "peppery and crawling sensations" and "numbness" as common symptoms in Africa, while "burning hands and feet" and "hot, peppery sensations in the head" have been reported as frequent symptoms in India. In western countries symptoms can imitate immunological disorders [13].

The functional impairment associated with somatoform disorders is substantial [15]. Moreover, somatization leads to excessive health care utilization and high health care costs [16]. General practitioners often express frustration in dealing with patients with somatoform disorders [17]. In a study on Turkish outpatients, somatization disorders were identified as the most frequent diagnosis with a prevalence of 41.2%, followed by a single episode of major depression (37.3%), and posttraumatic stress disorder (31.4%) [18]. A high comorbidity proportion of 80.4% was found; for example, 85.7% of patients with a somatoform disorder also fulfilled the diagnostic criteria for an affective disorder [18]. In an inpatient therapy setting focusing on occupational reintegration, the diagnosis of a somatoform disorder (62%) and chronic somatoform pain disorder (26%), were the most prevalent [19].

Previous research on somatic complaints in different immigrant collectives in Germany and other European countries demonstrated higher frequency and symptom severity among immigrants in comparison with non-immigrants [8,20–22]. Studies in different health care utilization groups and non-clinical samples have also detected a higher frequency and higher levels of somatoform symptoms among Turkish immigrants in Germany, compared to the German general population: for example, in general practitioner practices [23,24], in outpatient psychiatric facilities [6], in a university gynecological hospital [25], in a psychosomatic outpatient clinic [26] and in a non-clinical sample [26,27]. However, some studies did not observe significant differences between Turkish immigrants and a German reference group [7,18].

Women are more frequently somatizers than men [28,29] and often show higher levels of somatoform complaints [24]. Socio-demographic risk factors for somatization in immigrants are: higher age [29], being divorced or widowed [30], and having a low socio-economic status [31]. The ethnic background also moderates the somatization rates – for example, the likelihood of somatization tends to be higher in South Americans [28,32] and some Africans [32] than in other ethnic groups. However, not only the cultural background but the immigration status itself, as well as the associated acculturative stress and adaptation process to the new culture, can influence somatic complaints [33].

There are different explanations for the cultural differences in somatic complaints. The so-called classical "somatization hypothesis" attributes the higher somatization prevalence of immigrants to the greater tendency of some cultures to express psychological distress as somatic sensations [33]. The culture influences somatic perception and amplification, its meaning, and knowledge of bodily functioning [33], as well as illness-specific beliefs (e.g. causal and control attributions) [34]. Members of some cultures, especially the collectivistic ones, are assumed to present emotional distress through the body [12]. Another cultural explanation for the tendency to somatize versus psychologize the emotional distress is that emotional regulation could mediate the link between emotion and somatic processes. Cultural differences in terms of levels of negative emotions such as anxiety and depression may therefore be due to these emotions mediating the expression of somatic symptoms [35].

The central objective of the present study was to analyze variations in the degrees of somatization according to important socio-demographic (gender) and migration-related characteristics (generation of immigration). The second objective was to investigate the influence of socio-demographic and migration-related variables on the severity of somatization. The third objective was to explore the frequency of single somatic symptoms.

Based on previous research, we hypothesized higher degrees of somatization among women of Turkish origin and first generation immigrants.

2. Materials and methods

2.1. Sample description and procedure

Participants were recruited in the city of Essen (North Rhine Westphalia) between December 2011 and August 2012 using two recruitment methods: a community-orientated and a register-based strategy [4]. 22,494 persons with Turkish or both Turkish and German citizenship were living in Essen in 2012 [36]. The community-orientated approach started with a focus group discussion with representatives of the Turkish community (e.g. academic institutions, medical practices, religious institutions) how to recruit persons of Turkish origin for a health-related study. These representatives also supported the recruitment as key persons. The social networks of Turkish immigrants were contacted for recruitment such as mosques, Turkish speaking general practitioners and doctors of other medical professions, Turkish parents' and teachers' associations, as well as other associations, Workers' Welfare Organization, neighbors or relatives of the participants. Furthermore, the study was widely promoted in the Turkish community of Essen by word-of-mouth recommendation. Persons interested in participation in the study contacted the study center by phone. 319 persons of Turkish origin participated in the study as a result of the community-orientated recruitment.

Within the register-based approach, a random sample of 1498 potential participants with Turkish citizenship from the Essen population registry was extracted and potential participants were sent a written invitation for the study in both Turkish and German. In the case of no response within approximately two weeks a second invitation letter, after further two weeks a third letter were sent. 286 participants were recruited by the register-based method. The response rate for the register-based approach was 19.4%. We performed a non-responder-analysis showing the non-respondents from the population registry ($N = 1197$) to be significantly younger than the participants recruited with the register-based strategy (39.0 years, $SD = 13.1$ vs. 40.9 years, $SD = 11.7$; $p = 0.034$), and less frequently women (46.2% vs. 57.0%; $p = 0.008$).

Inclusion criteria for the study were: age between 20 and 69 years, agreement to participate in the study, the status of a person of (Turkish) migration background according to the definition applied in epidemiological research in Germany [2], that is, having either immigrated themselves (=first generation immigrants) or having at least one parent who immigrated (=second generation immigrants), and principal residence in Essen.

The examination comprised different medical examinations and a set of self-report questionnaire including a self-administered questionnaire on mental health issues. Questionnaires were available in Turkish and German language. Participants were asked to complete the mental health module at home and send it back to the examination office. For further details see Reiss et al. [4]. If there was no response to the questionnaires of the mental health module within the designated time period the participants were contacted by phone.

A total of 605 mental health questionnaires were distributed (319 in the network-sample and 286 in the registry based sample). Of those, 395 questionnaires were completed and sent back to us. Ten participants did not fulfill the inclusion criteria, and 50 respondents had too