

## **Illness perceptions and their association with quality of life among Turkish migrants in Germany**

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### ***Abstract:***

**Introduction:** Turkish migrants are one of the largest migrant groups in Germany. They often have poorer health care outcomes than the majority population. One reason could be that illness perceptions of this population are not sufficiently considered in health care. The aim of the present exploratory study was to examine illness perceptions of Turkish migrants in tertiary prevention using the self-regulatory model as the underlying research framework. Furthermore, the study aimed to provide insights into the relationship of illness perceptions and health-related quality of life (HRQOL).

**Methods:** Overall 73 patients with diabetes, cardiovascular or other diseases were surveyed by means of a quantitative questionnaire during their hospital stay. For the assessment of illness perceptions the Brief Illness Perception Questionnaire was used. In order to get a better insight into beliefs about causal attributions, the third part of the Revised Illness Perception Questionnaire was applied.

**Results:** Patients with diabetes or cardiovascular diseases had slightly stronger beliefs that their disease was caused by aging or the will of God as compared to those with other diseases. Quality of life was associated with several illness representations. Amongst others persons less concerned about their disease and those with lower beliefs about consequences had a higher (HRQOL).

**Conclusions:** The study showed that perceptions of supernatural causes have to be considered as relevant attributions in health care services for Turkish migrants. Assessing and addressing these beliefs in health care provision may improve health care outcomes and can be regarded an important component of culture-sensitive health care.

**Key words:** Illness perceptions, culture, causal attributions, Turkish migrant.

## I. INTRODUCTION

Almost 20% of the population in Germany has a migration background. These individuals either migrated themselves or are descendants of migrants and either have or have not a German citizenship. Persons from Turkey form one of the largest ethnic minority groups in Germany, roughly comprising 3 million individuals (1).

Turkish migrants differ from the majority population in different health aspects. They have other disease patterns and differ in their health behavior as well as in the way they utilize health care. As regards tertiary preventive care services, different studies report lower rates of attendance among Turkish migrants. For those who do attend, a lower effectiveness of this health service was observed (2;3). Given the role tertiary prevention which aims to mitigate disease and disability, this is highly critical. Various studies suggest that the lower utilization and effectiveness of tertiary prevention in Turkish migrants is not the result of the socio-demographic structure and health characteristics of this population alone. Instead, also factors going beyond these aspects seem to play an important role (2;4).

In this respect, research in health psychology highlights the role of illness perceptions. They are an important component of illness self-regulation and are conceptualized using the self-regulatory model of illness (SRM) (5;6). The SRM suggests that individuals contracting illness develop particular perceptions that have an impact on the choice and appraisal of coping strategies and finally on the outcome and emotional impact of the illness. Research has identified six relevant cognitive dimensions of these perceptions: identity (perceptions about symptoms and illness labels), consequences (beliefs about possible illness effects), timeline (expectations about the duration of illness), cause (beliefs about what led to the illness), cure/control (beliefs about controllability and curability of the illness), coherence (degree to which the individual considers his or her disease as comprehensive and clear). These cognitive processes are accompanied by the development of emotional representations such as fear of illness severity.

Empirical research has shown that illness perceptions may influence health behavior, coping with disease as well as the patient-provider relationship, in this way having an impact on quality of care and disease outcomes (7). Congruent illness beliefs between patients and health professionals were shown to be crucial for optimal disease management and coping with disease and studies demonstrated that differing illness perceptions contribute to problems in coping with disease among cultural minorities (8-11). Knowledge about patients' illness perceptions is essential to adjust current therapies and services to patients' objective and subjective needs.

Different studies highlighted challenges for the health care of Turkish migrants in Germany and other countries emerging from cultural belief systems. However, not much is known about their illness perceptions. As individual explanatory frameworks for diseases and disease development highly differ with culture (12), illness perceptions of Turkish migrants might be different from those of German patients and could lead to problems in the health care process when not taken into account by health care providers. Little is known on the illness perceptions of Turkish migrants in tertiary prevention. The aim of the present exploratory study was to examine illness perceptions of Turkish migrants in tertiary prevention using the SRM as the underlying research framework. In addition the study aimed to contribute to previous research on the relationship of illness perceptions and quality of life.

## II. METHODS

Overall 84 patients were approached, of which 73 gave their consent to participation in this cross-sectional study. Patients were surveyed by means of a quantitative questionnaire during their hospital stay. Questionnaires were either self- or interviewer-administered depending on respondents' preferences. For the assessment of illness perceptions the Brief Illness Perception Questionnaire (Brief IPQ) was used. The Brief IPQ is a 9-item version of the IPQ-R applying a single item approach to assess the dimensions of consequences, timeline, personal control, treatment control, identity, concern, emotions and illness comprehensibility on an 11-point linear scale. The Brief IPQ was validated in patients of six illness groups and showed good overall psychometric properties (13). Due to its brevity the Brief IPQ allows a fast but still highly valid and reliable assessment of illness perceptions following the self-regulatory model. Since many Turkish migrants have limited knowledge of the German language, the Brief IPQ, for the present study, was translated into Turkish using a forward and backward translation following published guidelines (14;15).

In order to get a better insight into beliefs about causal attributions, the third part of the Revised Illness Perception Questionnaire (IPQ-R) (16) was applied in addition to the Brief IPQ. This part of the IPQ-R consists of a list of different causes patients are asked to rate as possible causes of their disease using a 5-point Likert response format ("strongly agree" to "strongly disagree"). The instrument was validated for different diseases and applied in different population groups. For the current study, Turkish version translated and validated by Kocaman, Özkan, Armay, & Özkan (17) amended by the additional causal attributions "will of God" and "evil eye".

An instrument based on the Medical Outcome Short Form Health Survey 12 (SF-12) was used as a measure of health-related quality of life (HRQoL) (18-20).

Aside from illness perceptions and quality of life the research instrument assessed basic socio-demographic information such as age, sex and duration of residence in Germany.

### *Statistical analysis*

To stay conservative, the non-parametric Mann-Whitney-U- and Kruskal-Wallis-H-test were carried out to analyze differences in quasi-metric variables between groups. Spearman rank correlations were used to examine the relationship between Brief IPQ items and health-related quality of life physical composite score (PCS) and mental composite score (MCS). All statistical tests were two-sided with a significance level set to 0.05. Tests for multiple comparisons were Bonferroni-corrected.

The statistical analysis was performed with Stata version 13.

## III. RESULTS

Tab. 1 shows basic characteristics of the study sample stratified by sex and illness group. Overall 73 patients participated in the study, of which 53.4% were female. On average, patients were 53.4 years old and resided in Germany for 28.7 years. 57.5% of patients filled in questions on their own, while others were surveyed by means of standardized interviews. Patients with diabetes/chronic heart disease had a slightly lower score on the physical domain of health-related quality of life. No differences were found between men and women.

Tab. 1: Basic characteristics of the sample, stratified by sex and illness group

	Sex		Illness		Total (n=73)
	Male (n=34)	Female (n=39)	Diabetes/chronic heart disease (n=40)	Other physical (n=33)	
<b>Age</b> (mean; s)	55.6; 11.0	51.6; 12.1	58.1; 8.6	47.8; 12.6	53.4; 11.7
<b>Disease</b>					
Diabetes/chronic heart disease	57.5%	42.5%			54.8%
Other physical disease	33.3%	66.7%			45.2%
<b>Type of questionnaire administration</b>					
Self-administered	58.8%	56.4%	47.5%	69.7%	57.5%
Interviewer-administered	41.2%	43.6%	52.5%	30.3%	42.5%
<b>Duration of residence in Germany</b>	28.1; 14.4	29.2; 8.5	32.5; 9.2	25.3; 12.1	28.7; 11.2
<b>Health related quality of life</b>					
Physical component measure (mean; s)	36.9; 11.5	34.7; 7.3	32.6; 6.9	39.8; 10.9	35.7; 9.5
Mental component measure (mean; s)	44.9; 9.4	38.2; 11.4	41.2; 12.4	41.6; 8.9	41.4; 10.9

Tab. 2 also shows illness perceptions of respondents as assessed by the Brief IPQ and the IPQ-R part III, stratified by disease. Patients with diabetes or cardiovascular diseases had slightly stronger beliefs that their disease was caused by aging or the will of God. Aside from that, no differences between illness groups were observed. Being asked which causes they regarded as being most relevant for their disease, respondents most often answered with God's will, chance or fate followed by natural causes such as stress, heredity and aging.

Tab. 2 Cognitive and emotional representations of respondents by disease

	Illness				Total (n=73)	
	Diabetes/chronic heart disease (n=40)		Other physical (n=33)			
	mean	s	mean	s	mean	s
<b>Brief IPQ</b>						
1. Consequences	6.8	3.0	6.6	3.1	6.7	3.0
2. Timeline	7.3	3.1	7.6	2.7	7.4	2.9
3. Personal control	5.5	3.3	6.2	3.1	5.8	3.2
4. Treatment control	6.9	2.4	6.7	2.5	6.8	2.4
5. Identity	7.3	2.4	6.2	3.1	6.8	2.8
6. Concern	7.6	2.7	6.5	3.1	7.1	2.9
7. Coherence	6.8	3.2	6.7	3.5	6.8	3.3
8. Emotions	6.7	3.0	6.3	3.6	6.6	3.2
<b>IPQ-R part III</b>						
1. Stress or worry	3.4	1.5	3.3	1.6	3.3	1.5
2. Heredity	2.7	1.7	3.0	1.4	2.8	1.6
3. A germ or a virus	1.7	1.1	2.1	1.0	1.8	1.1
4. Diet or eating habits	2.4	1.4	2.3	1.2	2.4	1.3
5. Chance or bad luck	2.5	1.3	2.9	1.4	2.6	1.3
6. Poor medical care in the past	2.3	1.3	2.7	1.4	2.5	1.4
7. Pollution in the environment	2.5	1.2	2.5	1.4	2.5	1.3
8. My own behavior	2.7	1.3	2.8	1.3	2.8	1.3
9. My mental attitude, e.g. thinking about life negatively	2.7	1.4	2.8	1.3	2.8	1.4
10. Family problems	2.9	1.6	2.6	1.4	2.8	1.5
11. Overwork	3.1	1.5	2.9	1.4	3.0	1.5

12. My emotional state, e.g. feeling down lonely, anxious, empty	2.7	1.5	2.4	1.5	2.6	1.5
13. Aging	3.3	1.5	2.6	1.4	3.0	1.5
14. God's will	4.0	1.2	3.3	1.6	3.7	1.4
15. Smoking or Alcohol	2.4	1.5	1.9	1.1	2.2	1.4
16. Accident or injury	1.8	1.1	1.9	1.3	1.8	1.2
17. My personality	2.2	1.3	2.4	1.4	2.3	1.3
18. Altered immunity	3.1	1.5	3.2	1.4	3.1	1.5
19. Evil eye	2.5	1.5	2.3	1.4	2.4	1.4

Quality of life was associated with several illness representations (Tab. 4). Persons less concerned about their disease ( $r=-0.49$ ), those with lower beliefs about consequences ( $r=-0.46$ ) and with a lower identity ( $r=-0.52$ ) and those being less emotionally affected by their disease ( $r=-0.39$ ) had a higher health-related quality of life. In addition, there was a weak positive association between treatment control and the physical dimension of health-related quality of life ( $r=-0.27$ ).

Tab. 3: Relationship between illness perceptions and health-related quality of life (correlation coefficients).

Brief IPQ	Physical component measure	Mental component measure
1. Consequences	<b>-0.46</b>	<b>-0.51</b>
2. Timeline	-0.05	<b>-0.27</b>
3. Personal control	0.12	-0.10
4. Treatment control	0.19	0.10
5. Identity	<b>-0.52</b>	<b>-0.31</b>
6. Concern	<b>-0.49</b>	<b>-0.53</b>
7. Coherence	0.07	0.04
8. Emotions	<b>-0.39</b>	<b>-0.40</b>

#### IV. CONCLUSIONS

In Turkish migrants residing in Germany both a lower utilization and effectiveness of tertiary prevention have been reported. Aside from limited access to and quality of health care services, this might be the result of cultural differences in the perception of illness. Knowledge about the illness perceptions of this population group allows health care providers to target these cognitions throughout the health care process.

The aim of this study was to examine illness perceptions of Turkish migrants undergoing tertiary prevention in Germany as well as their association with health-related quality of life. To the best of the author's knowledge, this is the first study to examine illness perceptions of this population group in a tertiary preventive health care setting. Also, it is one of the very few studies that examined illness perceptions among Turkish migrants using the self-regulatory model of illness as the research framework. The study provides an understanding of the representations this population group holds about their clinical conditions and that health care providers need to take into account in order to provide adequate health care services.

In the present sample of Turkish migrants, the SRM dimensions identity, emotional representations and consequences were inversely associated with health-related quality of life, meaning that individuals with negative illness perceptions had a lower quality of life. This is in line with other studies across dif-

ferent illness and population groups (7;21), stressing that both psychological constructs are similarly related across different cultural groups. Individuals with negative illness perceptions might be at a greater risk for sub-optimal coping and poor adjustment to tertiary preventive therapy. Addressing these negative illness perceptions in the health care process by measures of counseling and patient education might assist patients to cope with their disease and improve tertiary preventive outcomes. This is supported by empirical research suggesting that interventions utilizing the SRM framework and targeting illness perceptions can significantly improve coping strategies and disease outcomes of patients in different settings (11;22).

The results show that supernatural causes such as fate and the will of God play a role as underlying explanatory frameworks about diseases in Turkish migrants. This is in line with earlier studies on Turks living in Turkey (23) as well as on Turkish migrants residing in other countries such as Australia (24). The findings suggest that supernatural causes as a reflection of strong external control beliefs are relevant representations that need to be taken into account in health care provision for this population group. Similar results were found in qualitative studies in this setting conducting expert interviews with health professionals and focus group discussions with Turkish migrants (4). In qualitative and quantitative studies on the majority population of Germany these causal notions did not emerge as relevant attributions. The findings also stress that it might be not wise to exclude supernatural domains when studying causal beliefs of this population groups as was done in some studies in the past (25;26). Instead, research instruments on illness perceptions adapted to this population group need to account for these domains adequately.

A strength of study is the application of a theoretical framework and research instruments well-tested in prior research. Furthermore, the response rate was reasonably high. However, different weaknesses of the study have to be mentioned as well. The sample size was rather small and heterogeneous as regards the underlying chronic diseases. The study should therefore only be considered an exploratory investigation that should be followed by confirmatory research.

In conclusion, considering perceptions in the health care setting may help to improve health care outcomes of Turkish migrants in a similar way that has been reported for other population groups. The study showed that perceptions of supernatural causes have to be considered as relevant attributions in health care services for Turkish migrants. Patients holding these beliefs might be more prone to poor compliance and suboptimal therapeutic outcomes. Assessing and addressing these beliefs in health care provision may improve health care outcomes and can be regarded an important component of culture-sensitive health care.

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