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Reliability and Validity of the Turkish Version of the Health Anxiety Inventory

Sağlık Anksiyetesi Ölçeği'nin Türkçe için Güvenilirlik ve Geçerlilik Çalışması

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ABSTRACT

Introduction: Health anxiety is seen in the clinical presentation of both somatoform disorders, especially hypochondriasis and anxiety disorders. In this study, we aimed to perform the reliability and validity analyses of the Turkish version of the Health Anxiety Inventory which is used in the assessment of health anxiety.

Method: Translation and back-translation of the Health Anxiety Inventory was done. Study groups consisted of in- or out-patients with somatoform disorder (n=65), panic disorder (n=55), major depressive disorder (n=22), and healthy volunteers (n=114). In the assessment, beside the Health Anxiety Inventory, the Hamilton Rating Scale for Depression, Somatosensory Amplification Scale and the Trait Anxiety Inventory were used.

Results: In reliability analyses, Cronbach's alpha internal consistency coefficient was 0.918 and item-total score correlation coefficients were between 0.405 and 0.769. Test-retest correlation coefficient was r=0.572. In construct validity, two factors that representing 54.5 percent of the total variance were obtained and they represented sensitivity to somatic symptoms and anxiety towards organic diseases. In concurrent validity, it had moderate to good correlation with the other study scales. In the comparison of study groups, the groups of somatoform disorder and anxiety disorder had significantly higher level of health anxiety than the groups with major depressive disorder and of healthy controls.

Conclusion: The Turkish version of the Health Anxiety Inventory can be reliably and validly used both in clinical practice and in research. *(Archives of Neuropsychiatry 2013; 50: 325-331)*

Key words: Health Anxiety İnventory, reliability, validity

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ÖZET

Giriş: Sağlık anksiyetesi gerek başta hipokondriyazis olmak üzere somatoform bozuklukların gerekse anksiyete bozukluklarının belirti örüntüsünde bulunmaktadır. Bu çalışmada sağlık anksiyetesi değerlendirmede kullanılan Sağlık Anksiyetesi Ölçeği'nin Türkçe sürümünün güvenilirliği ve geçerliliğinin çalışılması amaçlanmıştır.

Yöntem: Sağlık Anksiyetesi Ölçeği'nin çevirisi ve geri çevirisi yapılıp ölçek hazırlanmıştır. Araştırma grupları psikiyatri kliniklerinde ayaktan veya yatarak tedavi gören ve somatoform bozukluk tanısı konan 65, panik bozukluğu tanısı konan 55, majör depresif bozukluk tanısı konan 22 hasta ile üniversite öğrencilerinden oluşan 114 sağlıklı gönüllülerden oluşmaktadır. Değerlendirmede Sağlık Anksiyetesi Ölçeği yanı sıra Hamilton Depresyonu Derecelendirme Ölçeği, Bedensel Belirtileri Abartma Ölçeği ve Sürekli Kaygı Envanteri kullanılmıştır.

Bulgular: Güvenilirlik analizlerinde Cronbach alfa iç tutarlılık katsayısı 0,918 ve madde - toplam puan bağıntı katsayıları 0,405 ile 0,769 arasında saptanmıştır. Test - yeniden test bağıntı katsayısı r=0,572 olarak hesaplanmıştır. Yapı geçerliliğinde varyansın %54,5'ini açıklayan iki faktör elde edilmiştir ve faktörler bedensel belirtilere aşırı duyarlılık ve bedensel hastalıkla ilgili kaygı boyutlarını temsil etmektedir. Birlikte geçerlilikte tüm araştırma ölçekleriyle orta - iyi düzeyde bağıntı göstermiştir. Araştırma gruplarının karşılaştırılmasında, somatoform bozukluk ve anksiyete bozukluğu grupları majör depresif bozukluk ve kontrol gruplarından anlamlı olarak daha yüksek sağlık anksiyetesi göstermişlerdir.

Sonuç: Sağlık Anksiyetesi Ölçeği'nin Türkçe sürümü hem klinik uygulamada hem araştırmalarda güvenilir ve geçerli biçimde kullanılabilir. *(Nöropsikiyatri Arşivi 2013; 50: 325-331)*

Anahtar kelimeler: Sağlık Anksiyetesi Ölçeği, güvenilirlik, geçerlilik

Çıkar çatışması: Yazarlar bu makale ile ilgili olarak herhangi bir çıkar çatışması bildirmemişlerdir.

Introduction

Health anxiety is occurrence of exaggerated negative interpretation of ordinary physical senses despite absence of any physical disease. Health anxiety has two main components: presence of perception related with a severe disease and perception that this severe disease leads to negative outcomes (1). The main psychiatric disorder in which health anxiety is observed is hypochondriasis and it is even thought that these two conditions are a continuity following each other (2). It is thought that health

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anxiety is found with a high rate also in other somatoform disorders.

Health anxiety is also present in occurrence of anxiety disorders and forms the clinical picture as one of the components (3). Health anxiety has a special role especially in panic disorder and is effective in forming the complications of panic disorder. In addition, excessive occupation with physical symptoms and senses observed in social phobia and obsessive compulsive disorder develops as a result of health anxiety (3).

It is important to examine health anxiety in order to better understand somatoform disorders and anxiety disorders. The Exaggeration of Physical Senses Scale which is used in our country explores how patients experience their physical symptoms rather than demonstrating healthy anxiety experienced by patients (4). Whiteley scale which is another scale used in this area has disadvantages in terms of usage, because both its item structure and factor structure are problematic (5). Salkovskis et al. (6) developed the Health Anxiety Scale in order to evaluate health anxiety. The Health Anxiety Scale is a self-report scale composed of 18 items. Fourteen items of the scale is composed of expressions containing quartet serial responses questioning the psychological status of patients. The remaining 4 questions ask patients to give an opinion about how their psychological status would be with the assumption of having a serious disease and questioning is performed accordingly. The scoring of the scale is between 0 and 3 for each item and a high score indicates a high level of health anxiety. The Health Anxiety Scale has a high reliability coefficient. In validity analyses, the factor structure of the long form includes dimensions including belief that one has a disease, search for reassurance about one's disease, having anxiety about the negative outcomes of one's disease, belief that one has a tendency to disease, excessive sensiticity to physical senses and fear. The factor structure of the short form is composed of two dimensions. The factor structure of the short form has been named as body dimension and additional dimension related with negative outcomes of diseases. The body dimension includes the first 14 items which constitute the basis of the scale. The additional dimension includes additional 4 questions related with negative outcomes of diseases. The validity and reliability study of the Turkish version of the Health Anxiety Scale in patients with panic disorder was performed by Karaer et al. (7). The internal consistency coefficient of the scale was calculated to be 0.91 and it was found to differentiate patients with panic disorder and healthy controls.

Considering that somatic symptoms and anxiety are observed with a high rate not only in somatoform disorders and anxiety disorders, but also major depressive disorder in our country (8), the necessity of evaluation of health anxiety both in understanding and follow-up of psychological disorders is understood better. This scale is very useful in terms of demonstrating this dimension in all disease groups with health anxiety (6). The Health Anxiety Scale provides formulation of somatoform disorders in accordance with the cognitive-behavioral theory (9) and is used for investigating health anxiety in patients with medical diseases presenting to clinics other than psychiatry (10). The validity and reliability study of the health Anxiety scale was performed by Karaer et al (7) in the panic disorder group and factor analysis was not performed in structure validity. Factor analysis shows if the structure of a scale is appropriate for the target language, population and disease group and should be absolutely included in scale studies.

In this study, it was aimed to adapt the Health Anxiety Scale by translating to Turkish and show its validity and reliability both in somatoform disorder and panic disorder groups.

Method

Translation Procedure

Translation of the scale was done by three psychiatrists. After this translation was checked and transformed into an understandable text, it was translated back to English by a linguistic scientist. This translation was compared with the original of the scale and checked if it met the concepts included. After the necessary approval was given, the scale text was constituted (Additional part).

Sample Group

The sample group of the study was composed of inpatients and outpatients in Celal Bayar University and Atatürk University Hospital Psychiatry clinics and healthy volunteers. As diagnosis groups, patients who met the diagnostic criteria of somatoform disorder, panic disorder and major depressive disorder according to DSM-IV constituted the study groups. As observed in exclusion criteria below, patients with additional diagnoses were not included in the study. The diagnoses of the patient group were made using structured Clinical Interview for DSM-IV (11). In addition, healthy control volunteers were also included in the study. Study inclusion criteris included being in the age interval of 18-65 years, meeting one of the diagnostic criteria of any somatoform disorder or panic disorder or major depressive disorder and having the mental capacity to fill in the scaleand follow the instructions of the study. Study exclusion criteria included meeting diagnostic criteria of any psychological disorder according to DSM-IV criteria including alcohol-substance abuse excluding study disorders and having a physical or neurological disease requiring continuous treatment. The control group was composed of healthy volunteers who had no psychological or physical disease. The control group was composed of students of Celal Bayar University Medical Faculty and Health Academy.

The ethics committee approval for the stıdy was given by Celal Bayar University, Medical Faculty Clinical Research Evaluation Committee.

Measurement Tools

Among Assessment tools, Hamilton Depression Rating Scale, Spielberger State and Trait Anxiety Inventory and Exaggeration of Physical Senses Scale were used in addition to the Health Anxiety Scale.

The Hamilton Depression Rating Scale is a scale composed of 17 items which is evaluated by the interviewer. The Hamilton Depression Rating Scale is composed of three and five Likert type items providing an assessment between 0 and 2 and between 0 and 4. It includes psychological and physical anxiety symptoms in addition to depression symptoms. The validity abd reliability study of the Turkish version of the scale was performed by Akdemir et al. (12). The 17th item of the scale questions hypochondriasis and overlaps with health anxiety.

The Spielberger State and Trait Anxiety Inventory is a self-report scale including 20 items. It provides a four-point Likert

type assessment. A high score indicates a high level of anxiety. The cognitive and emotional symptoms of anxiety are prioritized compared to physical symptoms. The Turkish validity and reliability study of the scale was performed by Öner and Le Compte (13).

The Exaggeration of Physical Senses Scale is a self-report scale composed of 10 items. This scale provides a five-point Likert type assessment and a high score indicates a high level of physical sense. It is an assessment tool which measures how patients experience physical symptoms and their tendencies to somatization. The validity and reliability study of the Turkish version of this scale was performed by Güleç et al. (4).

Statistical Assessment

In statistical analysis, one-way analysis of variance test was applied to numerical variables and chi-square test was applied to categorical variables for comparison of study groups in terms of sociodemographic and clinical properties. In one-way ANOVA analysis, Scheffe Test was used to find the source of difference in post-hoc analysis.

In reliability analyses, Cronbach alpha internal consistency analyses were performed. In addition, the reliability of the scale was demonstrated with item-total score and subdimension-total score correlation coefficients. In practice, the health Anxiety scale was applied to 50 volunteers from the control group 2 weeks after the first application and test-re-test reliability was found by calculating the correlation coefficient between the two applications.

Exploratory factor analysis was performed using the data of all study groups for structure validity of the scale. Exploratory factor analysis was performed applying varimax rotation according to main components method and factors with a self-value of 1 and above were evaluated. In factor structures, items with factor loadings of 0.4 and above were evaluated. Exploratory factor structure aims to reach the original two-dimension structure of the scale. In addition, correlation between the health Anxiety scale and other strucy scales was investigated in terms of co-validity. It is expected to show lower correlation with the stain and Train Anxiety Inventory and higher correlation with Hamilton Depression Rating Scale and Exaggeration of Physical Senses Scale. Mean scale scores were compared between the somatoform disorder group, other study groups and healthy control group in order to determine the discriminative validity of the Health Anxiety Scale.

Results

The study was conducted with 65 patients who presented to Celal Bayar University and Atatürk University Hospital Psychiatry clinics and diagnosed with somatoform disorder (24 hastada somatizasyon bozukluğu, 12 hastada farklılaşmamış somatoform bozukluk ve 29 hastada hipokondriyazis), 22 patients who were diagnosed with major depressive disorder, 55 patients who were diagnosed with panic disorder and 114 healthy volunteers. The sociodemographic and clinical properties of the study groups are given in (Table 1).

Reliability Analyses

In reliability analyses of the health Anxiety scale, Cronbach alpha internal consistency coefficient was found to be 0.918. Cronbach alpha coefficient for each item is shown in (Table 2). Item-total score correlation coefficients were found to range between 0.405 and 0.769 (Table 2). In test-re-test application, the data of 38 volunteers were compatible with asessement and the correlation coefficient between two-week applications was found to be r=0.572 (p<0.0001).

Validity Analyses

Exploratory factor analysis was applied to the Health Anxiety Scale in order to demonstrate structure validity. The coefficient in Kaiser-Meyer-Olkin analysis which was performed to evaluate if the sample group was appropriate for exploratory factor analysis was found to be 0.930. In Bartlett Test, chi-square was calculated to be 2.359 (p<0.0001). This showed that the sample group was appropriate for factor analysis. In factor analysis, two factors with a self-value above 1 were obtained (Table 2). The self-value of the first

Table 1. Sociodemographic and clinical properties of the study groups

	Somatoform Disorders n=65 n=65		Panic Disorder n=55 n=55		Major Depressive Disorder n=22		Kontrol n=114	
Age	36.6±1.2		34.2±1.2		32.9±1.2			
Gender								
Male	21	%32.3	24	%43.6	4	%18.2	29	%25.7
Female	44	%67.7	31	%56.4	18	%81.8	84	%74.3
Education level								
Primary school	38	%58.4	22	%40.0	9	%41.0	0	%0.0
High	15	%23.1	15	%27.3	7	%31.8	0	%0.0
School University	12	%18.5	18	%32.7	6	%27.2	114	%100.0
Disease duration (years)	8.6±7.2		7.2±1.0		4.7±5.2			
Health Anxiety Scale*	24.8±1.3		23.9±1.0		14.3±7.9		16.6±6.7	
Hamliton Depression Rating Scale	14.0±8.0		14.9±8.0		17.5±3.8			
Exaggeration of Physical Symptoms Scale	31.2±7.5		32.4±8.0		30.3±6.8			
Trait and Staet Anxiety Inventory	54.5±8.7		53.5±1.1		59.1±1.0			

*sb ve pb > mdb ve k (post-hoc Scheffe çözümlemesi)

factor was 8.189 and explained 45.4% of the total variance. The first factor includes the first 14 items of the scale and is named as the body dimension which represents excessive sensitivity to physical symptoms and anxiety dimension. The self-value of the second factor was 1.647 and explained 9.1% of the total variance. The second factor includes the last 4 items of the scale and is named as the dimension related with negative outcomes of morbidity.

In concurrent validity analyses of the Health Anxiety Scale performed with other scales, the correlation coefficient with the Hamilton Depression Rating Scale was found to be r=0.397 (p<0.0001), the correlation coefficient with the Trait and State anxiety Inventory was found to be r=0.371 (p<0.0001), the correlation coefficient with the Exaggeration of Physical Senses Scale was found to be r=0.433 (p<0.0001) and the correlation coefficient with the 14th item of the Hamilton Depression Rating Scale (hypochondriasis) r=0.541 (p<0.0001).

When the study groups were compared according to the total score of the Health Anxiety Scale, a statistically significant difference was found between the groups (f=14.467, p<0.0001). When post-hoc analysis was performed using Scheffe Test, no statistically significant difference was observed between the somatoform disorder group and the panic disorder group (p=0.973), while it was found to be siginificantly higher compared to the major depressive disorder group (p=0.002) and the healthy control group (p=0.001) (Table 1). In addition, separate inter-group comparisons were performed for body dimension (total health anxiety) and negative expectations related with morbidity dimension which are the subdimensions of the scale and no difference was found between the groups in terms of total helath anxiety score (f=16.630, p<0.0001). In post-hoc evaluation, no statistically significant difference was found between the somatoform disorder group and the panic disorder group (p=0.918), while it was found to be significantly higher compared to the major depressive disorder group (p=0.001and the healthy control group (p<0.0001). Negative expectations related with morbidities dimension also shows difference between the groups (F=2.787, p=0.041), but this difference was not found in post-hoc evaluation.

Table 2. Item-total score coefficients. Cronbach alpha coefficients, test-re-test coıefficients and factor loadins of the Health Anxiety Scale

	Item - total coefficients	Cronbach alpha score	Factor 1	Factor 2
HAS#1	0.699	0.911	0.745	
HAS#2	0.572	0.914	0.647	
HAS#3	0.508	0.916	0.635	
HAS#4	0.728	0.911	0.696	
HAS#5	0.714	0.911	0.781	
HAS#6	0.696	0.911	0.788	
HAS#7	0.769	0.909	0.791	
HAS#8	0.638	0.913	0.660	
HAS#9	0.526	0.915	0.475	
HAS#10	0.492	0.917	0.557	
HAS#11	0.624	0.913	0.721	
HAS#12	0.716	0.911	0.706	
HAS#13	0.647	0.912	0.667	
HAS#14	0.572	0.914	0.660	
HAS#15	0.509	0.916		0.767
HAS#16	0.423	0.918		0.797
HAS#17	0.513	0.916		0.751
HAS#18	0.405	0.918		0.687
Self-value			8.189	1.647
Variance (%)			45.5	9.1

Discussion

In this study, the validity and reliability study oft he Turkish version of the Health Anxiety Scale which was developed to measure health anxiety which is involved in the cognitive explanation of both somatoform disorders and anxiety disorders. Considering that somatization and health anxiety are involved in many psychological disorders as a dimension both in our country and in international practice (14,15), it can be predicted that this scale will be used widely.

Reliability Analyses

In scale reliability analyses, Cronbach alpha internal consistency coefficient was obtained with a very good level. In the original study in which the scale was developed, a similarly high internal consistency of 0.95 was observed (6). In the reliability study related with the Health Anxiety Inventory performed in our country, the internal consistency coefficient was found to be 0.91 (7). Again, item-total score correlation coefficients are considerably high. In test-re-test application, the correlation coefficient between two applications was found tob e moderate and sinificant, but slightly lower than expected. In the original study, the tes-re-test correlation was found to be 0.76. The fact that the correlation coefficient was partially lower than expected may be related with the fact that the test-re-test application was performed in the healthy volunteer group. Since the internal consistency coefficient in the healthy volunteer group was lower compared to the general group in our study (0.813), in the original study (0.71) and in the other study (0.81) conducted by Karaer et al. (7) in our country, the difference in the healthy group between the two applications is an explainable outcome. Conclusively, the reliability analysis results of the Health Anxiety Scale are at an acceptable level.

Validity Analyses

Exploratory factor analysis applied in structure validity gave a two-dimensional structure and represented a considerably good portion oft he variance. In the original scale study, a two-dimensional structure was obtained and the structures were represented with the same items. In the original study, the two structures obtained in factor analysis were named as body dimension and additional dimension related with negative outcomes of morbidities. The Health Anxiety Scale evaluates the areas of hypersensitivity to physical symptoms and anxiety and fear of morbidity. Confirmatory factor analysis was not preferred, since this was not a dimension predicted in the development of the scale and it would be erroneous to use the dimensions obtained in the exploratory factor analysis in the confirmatory factor analysis.

In validity analyses, the Health Anxiety scale showed a moderate-high correlation with other similar related scales and all were statistically significant. As expected, a lower correlation was found with the State and Trait Anxiety Inventory which is focused on cognitive symptoms of anxiety rather than physical symptoms. The higest correlation was found with the 14th item of the Hamilton Depression Rating Scale which directly evaluates hypochondriasis. With these results it may be proposed that the scale is more sensitive to the physical symptoms it aims to measure compared to other symptoms. According to other scales used also in the original study of the scale, the Health Anxiety Scale was found to be more specific in evaluating hypochondriasis (6). In the study conducted by Karaer et al. (7), a moderate correlation was found between the Health Anxiety Scale and Hamilton Depression Rating Scale in the panic disorder group.

The total score of the Health Anxiety Scale was found to be higher in the somatoform disorder groups and panis disorder group compared to the major depressive disorder group and healthy control group. It is an expected situation that health anxiety is high in patients with somatoform disorders. On the other hand, it has been shown that health anxiety predominates also in panic disorder in various studies performed both in our country and in other countries (7,16,17). Therefore, the Health Anxiety Scale could not differentiate somatoform disorder and panic disorder sufficiently. Since the Health Anxiety Scale is sensitive to the phenomenon of health anxiety rather than somatoform disorders, it shows a high score in conditions where health anxiety is high. However, it has been shown to differentiate the group with somatoform disorders both from the major depressive disorder group and from the healthy volunteers. When the result were examined in terms of the dimensions of the scale, it was found to differentiate total health anxiety research groups very well, but it could not differentiate negative expectations related with morbidities sufficiently. This indicates that all groups who carry a negative expectation could have high scores. Conclusively, it was shown that the Health Anxiety Scale could be used validly.

Limitations and Advantages of the Study

The most important limitation of this study was the fact that the patient groups were composed of relatively low numbers. However, numbers enabling all analyses could be provided. Another limitation of the study was the fact the control group was composed of students who were receiving health education, because students who rceive health education cannot be completely unbiased in the subject of morbidity (18). The advantages of the study included the facts that all diagnoses were made by structured interviews, patients with co-diagnoses were excluded, the somatoform disorder group and major depressive disorder group were added in this study (7), while the patient group in previous studies was composed only of patients with panic disorder and a scale related with physical symptoms was also used for concurrent validity.

Health anxiety is an important component which is involved both in clinical picture and cognitive explanation of hypochondriasis and anxiety disorders. The Health Anxiety Scale is a reliable and valid assessment tool in assessment of health anxiety and will be useful both in clinical practice and in researches.

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Additional Part 1.

HEALTH ANXIETY INVENTORY (SHORT VERSION)

Each question in this part includes four different expressions. Please read each expression carefully and select the one which represents your emotions in the last 6 months most appropriately. Mark the sentence you have chosen by circling the letter beside, for example, if yopu think that the sentence (a) is correct, mark (a); if you think multiple expressions are appropriate for you, mark all expressions which are appropriate.

1. (a) I have no concern about my health.
   (b) I rarely have concern about my helath.
   (c) I frequently have concern about my health.
   (d) I almost always have concern about my health.
2. (a) I feel less pain/ache compared to my peers
   (b) I feel equal pain/ache as my peers
   (c) I feel more pain/ache compared to my peers
   (d) I always feel pain/ache in my body.
3. (a) I am usually aware of the senses and changes in my body.
   (b) I am sometimes aware of the senses ans changes in my body.
   (c) I am frequently aware of the senses and changes in my body. (d) I am continuously aware of the senses ans changes in my body.
4. (a) I have never had difficulty in resisting against thoughts related with morbidity.
   (b) I can usually resist against thoughts related with morbidity.
   (c) I try to resist against thoughts related with morbidity, but I am usually unsuccessful.
   (d) My thought related with morbidity are so strong, I do not try to resist them any more.
5. (a) I generally do not have a fear of having a serious disease.
   (b) I sometimse have a fear of having a serious disease.
   (c) I frequently have a fear of having a serious disease.
   (d) I always have a fear of having a serious disease.
6. (a) I do not imagine myself as a sick person.
   (b) I rarely have imaginations that I am sick.
   (c) I frequently have imaginations that I am sick.
   (d) I always have imaginations that I am sick.
7. (a) I do not have difficulty in distracting the thoughts related with my health from my mind.
   (b) I sometimes have difficulty in distracting the thoughts related with my health from my mind.
   (c) I frequently have difficulty in distracting the thoughts related with my health from my mind.
   (d) Nothing can distract the the thoughts related with my health from my mind.
8. (a) I feel completely relieved when my physician tells me that I have nothing bad.
   (b) I feel relieved at the beginning, but I sometimes get anxious again.
   (c) I feel relieved at the beginning, but I always get anxious again.
   (d) I cannot feel relieved even if my physician tells me that I have nothing bad.
9. (a) When people talk about a disease, I never think that I have that disease.
   (b) When people talk about a disease, I sometimes think that I have that disease.
   (c) When people talk about a disease, I frequently think that I have that disease.
   (d) When people talk about a disease, I always think that I have that disease.
10. (a) I rarely wonder about what happens, when I feel a sense or change in my body.
    (b) I frequently wonder about what happens, when I feel a sense or change in my body.
    (c) I always wonder about what happens, when I feel a sense or change in my body.
    (d) I absolutely would like to know what happens when I feel a sense or change in my body.

"Additional part"

Ek Bölüm

11. (a) I usually think that my risk of having a serious diseases is very low."
"(b) I generally think that my risk of having a serious disease is substantially low.
(c) I generally think that my risk of having a serious disease is moderate. (d) I generally think that my risk of having a serious disease is high."

"12. (a) I never think that I have a serioud disease"
"(b) I sometimes think that I have a serious disease."
"(c) I frequently think that I have a serious disease. (d) I generally think that I have a serious disease."

"13. (a) I do not have difficulty in thinking other things if I realize a physical perception which cannot be explained."
"(b) I sometimes have difficulty in thinking other things if I realize a physical perception which cannot be explained."
"(c) I frequently have difficulty in thinking other things if I realize a physical perception which cannot be explained. (d) I always have difficulty in thinking other things if I realize a physical perception which cannot be explained."

"14. (a) My family and friends state that I do not take care of my health adequately."
"(b) My family and friends state that I take care of my health at a normal level. (c) My family and friends state that I am excessively concerned about my health."
"(d) My family and friends state that I am a hypochondriac."

"When answering the following questions think about how it would be if you had a disease which specifically bothered you (cardiac disease, cancer, Multiple Sclerosis)". You cannot know exactly how it would be, but try to make a good prediction based on the information you have about yourself and a serious disease."

"15. (a) Even if I had a serious disease, I would still enjoy the things in my life to a considerable extent.
(b) Even if I had a serious disease, I would still enjoy the things in my life to some extent."
"(c) If I had a serious disease, I could almost never enjoy the things in my life. (d) If I had a serious disease, I could never enjoy the things in my life."

"16. (a) If I had a serious disease, modern medicine would have a high chance to heal me."
"(b) If I had a serious disease, modern medicine would have a moderate chance to heal me. (c) If I had a serious disease, modern medicine would have a very low chance to heal me."
"(d) If I had a serious disease, modern medicine would have no chance to heal me."

"17. (a) A serious disease would disrupt some areas of my life. (b) A serious disease would disrupt many areas of my life."
"(c) A serious disease would disrupt almost each area of my life. (d) A serious disease would ruin my life."

"18. (a) If I had a serious disease, I would not feel dishonoured."
"(b) If I had a serious disease, I would feel a little dishonoured."
"(c) If I had a serious disease, I would feel dishonoured to a considerable extent."
"(d) If I had a serious disease, I would feel completely dishonoured."