Evaluation of the possibility of using Anderson and Dedrick’s Trust in Physician Scale in Belarusian conditions

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A- Conception and study design; B - Collection of data; C - Data analysis; D - Writing the paper; E- Review article; F - Approval of the final version of the article; G - Other

ABSTRACT

Introduction: A patient that trusts a doctor feels safer and more easily adapts to a doctor’s recommendations.

Aim of the study: To assess the possibility of using the patient’s trust scale by Anderson and Dedrick in Belarusian conditions.

Materials and Methods: The study used the Trust in Physician Scale (TPS) by Anderson and Dedrick. Validation was performed on a group of 251 randomly selected individuals. The validation process consisted of two parts: translation and evaluation of the psychometric properties of the newly translated instrument, and its purpose was to compare the results obtained at the intercultural (international) level and apply the test in Belarus.

Results: Internal consistency of the Russian TPS was high (Cronbach’s alpha = .891). The highest mean scores were for items “My doctor is a real expert in taking care of medical problems like mine” - 3.95±0.77; “I trust my doctor to put my medical needs above all other considerations when treating my medical problems” - 3.83±0.80; “I trust my doctor so much, I always try to follow his/her advice” - 3.64±0.99.

Conclusions: The Russian language scale fulfills all the criteria of psychometric equivalence with the original version of The Trust in Physician Scale.

Keywords: The Trust in Physician Scale, Russian version

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INTRODUCTION

Advances in medicine and technology, influencing changes in the health care system, have made a lot of improvements in the diagnosis and treatment of patients, but also reduced the time and scope of interpersonal contacts [1].

The patient's confidence in the attending physician and patient satisfaction with the services provided are subjective indicators of the effectiveness of therapeutic and caregiver activities [1].

The profession of a doctor is a unique profession of contact with another human being, but what is important, endangered by disease. Contact with a person affected by disease requires many skills and appropriate predispositions [1].

A physician’s contact with a patient or his family is a specific social relationship designed to meet life and health needs. Each side interacts with each other and realizes their own person-specific values. Proper communication between the physician and the patient is important so that the values of both parties are not conflicting, e.g. the patient's health is a value for the physician, but for a patient who does not have the will to live it is not worthwhile [1].

Patients expect respect, individual treatment, interest in their person, feelings, hesitation in the decision-making process, and often also heartfelt greetings, goodbyes, and friendly talk [1].

Trust is such a relationship when a doctor is assessed positively in terms of competence, ability, and intention, when one of the parties needs help and support. A patient who trusts a doctor feels safer and more easily adapts to a doctor's recommendations.

The consequence of not trusting a physician in addition to the emotional effects is frustrated experiences, feelings of dissatisfaction with medical care or growing upset, especially with the patient's behavior. These include:

- change of doctors or treatment facilities
- failure to participate in or abandon studies/examinations
- disseminating unfavorable opinions about the whole health service, which indirectly affects the beliefs and attitudes of other patients and the health of the person concerned.

Trust between the doctor and patient, according to Gilson [2], besides the ability to build lasting relationships, modeling the behavior of both partners, is also of therapeutic value.

The aim of the study was to evaluate the possibility of using the patient's confidence scale by Anderson and Dedrick in Belarusian conditions.

MATERIALS AND METHODS

Consent of the Bioethics Committee of the Medical University of Białystok R-I-002/52/2011 was obtained.

The study used the Anderson and Dedrick Trust in Physician Scale (TIPS), covering 11 statements [3]:

1. I doubt that my doctor really cares about me as a person.
2. My doctor is usually considerate of my needs and puts them first.
3. I trust my doctor so much I always try to follow his/her advice.
4. If my doctor tells me something is so, then it must be true.
5. I sometimes distrust my doctor’s opinion and would like a second one.
6. I trust my doctor’s judgments about my medical care.
7. I feel my doctor does not do everything he/she should for my medical care.
8. I trust my doctor to put my medical needs above all other considerations when treating my medical problems.
9. My doctor is a real expert in taking care of medical problems like mine.
10. I trust my doctor to tell me if a mistake was made about my treatment.
11. I sometimes worry that my doctor may not keep the information we discuss totally private.

The reliability and repeatability of the scale were confirmed by independent studies, in which Cronbach alpha coefficient ranged from 0.85 to 0.90.

Respondents chose replies on a five-point scale [3]:

- 1 – Strongly Disagree,
- 2 – Disagree,
- 3 – Neutral (neither disagree or agree),
- 4 – Agree,
- 5 – Strongly Agree.

The authors of the questionnaire have developed a method for calculating the degree of patient trust in doctors (the scores for each question are calculated and the mean is calculated) [3].

According to this method, the highest possible score for each question is 5 points. Exceptions are questions 1, 5, 7, and 11, as they have a maximum rating of 1 point. As a result, these questions are reversed in turn and then added to the answers of the remaining questions [3].

The procedure of adapting the scale to Russian conditions was carried out with the permission of the author of the Robert F. Dedrick scale, Department of Educational and Psychological Studies, EDU 105, University of South Florida, Tampa.
The study included 251 subjects. 88% of the respondents came from the city and 12% from the village. A total of 10% of the respondents were aged 20-25, 61% were 26-50 years old, and 29% 51-60 years old. 75% of respondents were married, and 25% alone lived. Respondents had a vocational (26%), secondary (34%), incomplete higher (22%), and higher (38%) education. A total of 68% of the respondents were white collar workers and the remaining 32% were physical workers.

Stages of the adaptation process

The validation process consisted of two parts: translation and evaluation of the psychometric properties of the newly translated instrument, and its purpose was to compare the obtained results at the intercultural (international) level and apply the test in Russian [4].

An important factor of validation is cultural adaptation for intercultural comparison (the ability to compare the results of the questionnaire at an intercultural level) and practical use of the questionnaire in Russian [5].

Equivalence of the adopted tools with the original version is measured in five categories of equivalence [4]:

- facade (e.g., test graphic, instruction)
- psychometric (correlation between versions)
- functional (relevance to the same purpose)
- translations (degree of difficulty of wording)
- reconstruction (methods for checking reliability and relevancy, types of norms).

The validation process consisted of the following steps:

- obtaining permission to use the scale (contact with the authors of the questionnaire)
- preparing the Russian language version of the scale
- applying the Russian language version of the scale
- assessing the psychometric properties of the scale.

During cultural adaptation, all the principles of equivalence of the scale to the original version were tried.

In the first stage of validation ("forward translations"), efforts were made to preserve, through transcription and translation, the fidelity of the translation of the questionnaire into Russian [6].

The original version of the research tool was translated by two independent translators whose mother tongue was Russian; they were graduates of English philology and involved in translation and teaching of English at the higher education level daily.

In the next stage, a preliminary version of the Russian language questionnaire was created based on the two translations. The scale was retransmitted, i.e. the newly acquired scale was retranslated into the original language by a translator whose native language is English, but has lived in Russia for many years and is fluent in that language [5,7].

The next stage of the scale validation process, according to the literature recommendations [5], the principle of facade equivalence of the questionnaire consisted in graphical compliance, quantity and method of question formulation, as well as the form of answers to the questions asked, instructions on how to conduct the research, and selection of the research group. Thanks to such precise rules, it was possible to achieve a high degree of facade equivalence with the original scale version. During the preparation of the Russian version, an identical graphical form of the scale was used, as prepared by the authors of the original version.

The next step of validation, according to the literature recommendations [4,5], was to preserve the faithfulness of the reconstruction, which relates to the different stages of scale construction, methods of assessing its relevance and reliability, the similarity of groups, and the types of standards used. Because the Russian version was created on the basis of the already existing scale, some elements of this principle were omitted, and the focus was on the execution of studies similar to those used by the authors of the original version.

Statistical methods such as Cronbach's alpha coefficient, correlations between the accumulated data on the individual questions and the whole scale were used to determine the relevance and reliability of the scale.

Performance evaluations were done in accordance with the manual developed by the authors of the questionnaire by calculating the interest values and the mean scores obtained from the responses to the individual scale questions.

The last element of validation was evaluation of the psychometric equivalence of both questionnaires. According to the literature requirements [7], the research process analyzed elements similar to those in the original version. Internal cohesion was assessed using the Cronbach alpha coefficient tests and the discriminatory power of the items.

RESULTS

The remaining results are shown in Table 1. The reliability of the Cronbach coefficient of this scale was 0.982. Results are shown in Table 2.
Table 1. Respondents' responses to scale issues

<table>
<thead>
<tr>
<th>Issue number / issue</th>
<th>Scale point response (n=251)</th>
<th>Average points ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I doubt that my doctor really cares about me as a person</td>
<td>35 102 66 48 0</td>
<td>13.9% 40.6% 26.3% 19.1% 0%</td>
</tr>
<tr>
<td>2. My doctor is usually considerate of my needs and puts them first</td>
<td>14 35 71 115 16</td>
<td>5.6% 13.9% 28.3% 45.8% 6.4%</td>
</tr>
<tr>
<td>3. I trust my doctor so much I always try to follow his/her advice</td>
<td>8 21 72 102 48</td>
<td>3.2% 8.4% 28.7% 40.6% 19.1%</td>
</tr>
<tr>
<td>4. If my doctor tells me something is so, then it must be true</td>
<td>34 76 115 26 0</td>
<td>13.5% 30.3% 45.8% 10.4% 14.8%</td>
</tr>
<tr>
<td>5. I sometimes distrust my doctor’s opinion and would like a second one</td>
<td>17 103 85 46 0</td>
<td>33.3% 41.0% 33.9% 18.3% 0%</td>
</tr>
<tr>
<td>6. I trust my doctor’s judgments about my medical care</td>
<td>0 24 82 101 44</td>
<td>0 9.56% 32.7% 40.2% 17.5%</td>
</tr>
<tr>
<td>7. I feel my doctor does not do everything he/she should for my medical care</td>
<td>0 9.56% 32.7% 40.2% 17.5%</td>
<td>10.4% 36.3% 18.3% 21.5% 13.5%</td>
</tr>
<tr>
<td>8. I trust my doctor to put my medical needs above all other considerations when treating my medical problems</td>
<td>0 22 39 148 42</td>
<td>0 5.6% 15.5% 58.9% 16.7%</td>
</tr>
<tr>
<td>9. My doctor is a real expert in taking care of medical problems like mine</td>
<td>0 14 39 144 54</td>
<td>0 5.6% 15.5% 57.4% 21.5%</td>
</tr>
<tr>
<td>10. I trust my doctor to tell me if a mistake was made about my treatment</td>
<td>0 34 79 116 22</td>
<td>0 13.5% 31.5% 46.2% 8.8%</td>
</tr>
<tr>
<td>11. I sometimes worry that my doctor may not keep the information we discuss totally private</td>
<td>46 99 50 42 14</td>
<td>18.3% 39.4% 19.9% 16.7% 5.6%</td>
</tr>
</tbody>
</table>

Total 3.18 ±1.09

Table 2. Comprehensive statistics summary scale Patient-patient trust and scale reliability

<table>
<thead>
<tr>
<th>Issue number / issue</th>
<th>Average points</th>
<th>SD</th>
<th>Item-scale correlation</th>
<th>Cronbach’s alpha measured without the question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I doubt that my doctor really cares about me as a person</td>
<td>2.51</td>
<td>0.95</td>
<td>0.946</td>
<td>0.983</td>
</tr>
<tr>
<td>2. My doctor is usually considerate of my needs and puts them first</td>
<td>3.33</td>
<td>0.98</td>
<td>0.927</td>
<td>0.984</td>
</tr>
<tr>
<td>3. I trust my doctor so much I always try to follow his/her advice</td>
<td>3.64</td>
<td>0.99</td>
<td>0.951</td>
<td>0.983</td>
</tr>
<tr>
<td>4. If my doctor tells me something is so, then it must be true</td>
<td>2.52</td>
<td>0.85</td>
<td>0.943</td>
<td>0.984</td>
</tr>
<tr>
<td>5. I sometimes distrust my doctor’s opinion and would like a second one</td>
<td>2.63</td>
<td>0.86</td>
<td>0.946</td>
<td>0.984</td>
</tr>
<tr>
<td>6. I trust my doctor’s judgments about my medical care</td>
<td>3.66</td>
<td>0.88</td>
<td>0.958</td>
<td>0.983</td>
</tr>
<tr>
<td>7. I feel my doctor does not do everything he/she should for my medical care</td>
<td>2.92</td>
<td>1.24</td>
<td>0.943</td>
<td>0.985</td>
</tr>
<tr>
<td>8. I trust my doctor to put my medical needs above all other considerations when treating</td>
<td>3.83</td>
<td>0.80</td>
<td>0.897</td>
<td>0.985</td>
</tr>
<tr>
<td>9. My doctor is a real expert in taking care of medical problems like mine</td>
<td>3.95</td>
<td>0.77</td>
<td>0.898</td>
<td>0.985</td>
</tr>
<tr>
<td>10. I trust my doctor to tell me if a mistake was made about my treatment</td>
<td>3.5</td>
<td>0.83</td>
<td>0.939</td>
<td>0.984</td>
</tr>
<tr>
<td>11. I sometimes worry that my doctor may not keep the information we discuss totally private</td>
<td>2.52</td>
<td>1.13</td>
<td>0.921</td>
<td>0.985</td>
</tr>
</tbody>
</table>

Total 3.18 ±1.09
The highest mean scores were for items:

- “My doctor is a real expert in taking care of medical problems like mine” - 3.95±0.77;
- “I trust my doctor to put my medical needs above all other considerations when treating my medical problems” - 3.83±0.80;
- “I trust my doctor’s judgments about my medical care” - 3.66±0.88; and “I trust my doctor so much, I always try to follow his/her advice” - 3.64±0.99.

DISCUSSION

In health care, trust can be considered: interpersonal - for specific people (e.g. trusting the doctor we are most likely to consult) and social - for certain groups of people, institutions, systems as a whole, involving different institutions and their relationships, legal solutions, etc. [8,9,10].

In the literature of the subject, there is a division of trust into [11,12]:

- Knowledge-based trust - comes from a firm belief in the future direction of the partner's behavior based on past experiences. No opportunistic behavior is expected, unless confidence is destroyed.
- Calculus-based trust - is based on the assumption that the relationship partner is predictable on the basis of the cost-benefit calculation of such behavior in opposition to an alternative path. Behavior will be predictable as long as the relationship partners perceive the cost of changing the behavior higher than the benefit of the resulting change. This type of trust is therefore empowered in its own interest.
- Institutional - Organizations that want to maintain a high reputation respect the standards and established standards. The weight of this kind of trust increases with the degree of professionalism of the organization, which in the context of health care is of great importance.
- Identity-based trust - has its roots in internalizing the needs and intentions of transaction partners. Under such circumstances, the parties understand, accept, and support their needs.

Hollender and Szasz [13], for example, created a model of three basic types of relationships between a physician and a patient, which takes into account their clinical applications:

- activity - passivity (e.g. in a coma)
- targeting - cooperation (in infectious diseases)
- participation (most chronic diseases).

In the professional literature [13,14,15], these also include:

- consumers (where the doctor is dealing with the consumer and as a health care professional performs the role of a seller of medical products, subject to the same free market rules as other services.)
- contractual (where the contract is concluded, the patient negotiates with his or her physician specialists in the presence of lawyers, while some watch over the cost-effectiveness of the system for the patient and others for the doctor).
- discussion (not only about health, but also moral values)
- legalistic (in which one side is a physician; the other is the client)
- negotiation (where the relationship between doctor and patient is limited to negotiation).

Emanuel and Emanuel [14] proposed the following model: paternalistic - the doctor decides about the patient's health; informative - the doctor is a professional and provides the patient with relevant information, which he uses to make a decision; interpretive - the doctor provides the necessary information, including the risks and benefits of the treatment, and the patient makes a competent decision; joint dialogue - a friendly atmosphere in which to choose the best treatment.

Trusting the provider and satisfaction with the provided services, according to Cook et al., are associated with each other, because a patient who does not trust a doctor will exhibit a low level of satisfaction with care, will avoid subsequent visits, and will comply with recommendations to a lesser extent [16].

The patient's confidence in the received treatment is the basis of the patient's medical relationship [10,17], very important in providing effective medical care.

According to Potriadis et al. [18] and Thorn et al. [19], elderly patients, particularly those older than 65, are more likely to trust doctors; and according to Denise et al. [20], older patients are less confident in relation to young physicians.

The results of the European Trusted Brands study show that in Russia, 51% of the respondents trusted doctors [21].

In a qualitative study by Bachmann et al. [22], 24 chronically ill native Germans and 25 chronically ill Russian-speaking immigrants were recruited via notices through their primary care physicians and by word of mouth, and underwent a semi-structured interview in their mother tongue (German or Russian) about their experiences with their primary care physicians. The immigrants were less satisfied with their primary care physicians than the native Germans. This manifested itself in a weaker patient-physician connection and frequent changes of physician due to dissatisfaction with
treatment. Both groups considered themselves inadequately informed about matters of health, but they gave differing reasons for this. The participants in both groups had practically the same general expectations from their primary care physicians. However, detailed analysis revealed cultural differences [22].

Suvorova et al. [23] conducted a cross-sectional study with 418 HIV-positive patients receiving care at the St. Petersburg AIDS Center or at District Infectious Disease Departments (centralized and decentralized models, respectively). Face-to-face interviews included questions about psychosocial characteristics, the patient's satisfaction with care, and clinic-related patient experience. Abstraction of medical records provided information on the patients' viral load. To compare centralized and decentralized models of care delivery, the authors performed bivariate and multivariate analyses. Clients of District Infectious Disease Departments spent less time in lines and traveling to reach the clinic, and they had stronger relationships with their doctor. The overall satisfaction with care was high, with 86% of the sample reporting a high level of satisfaction. Nevertheless, satisfaction with care was strongly and positively associated with a decentralized model of care and the Patient-Doctor Relationship Score. Patient experience elements such as waiting time, travel time, and number of services used were not significant factors related to satisfaction. Given the positive association of satisfaction with decentralized service delivery, it is worth exploring decentralization as one way of improving health care services for people living with HIV/AIDS [23].

Banerjee et al. [37] aimed to study the determinants of core dimensions, such as concordance, trust, and enablement in a doctor-patient relationship; (b) to explore associations, if any, among these core dimensions. A cross-sectional study design with both quantitative and qualitative methods was employed. One hundred and ninety-eight outpatients were interviewed as part of the quantitative study. Three dimensions of the doctor-patient relationship - that is, physician patient concordance, trust in the physician, and patient enablement - were assessed using validated tools. Focus group interviews, using an open-ended format among several physicians, were carried out as part of the qualitative study. In the quantitative analysis, most of the sociocultural factors did not show any significant association with the doctor-patient relationship. However, sex was significantly and strongly associated with trust in the physician. Female patients showed a much lower trust in the physician (50%) as compared with male patients (75%) (OR = 0.33, 95% CI 0.17 - 0.64, Chi Sq = 12.86, P = 0.0003).

A qualitative study revealed language and culture, alternative medicines, commercialization of medicine, and crowding at specialist and super-specialist clinics as barriers to a good doctor-patient relationship. Better concordance was associated with improved trust in the doctor (OR = 5.30, 95% CI 2.06 - 13.98, Chi Sq = 14.46, P = 0.0001), which in turn was associated with improved patient enablement (OR = 3.89, 95% CI = 1.60 - 9.64, Chi Sq = 10.15, P = 0.001). Good doctor-patient concordance (agreement) leads to better trust in the physician, which in turn leads to better patient enablement, irrespective of the sociocultural determinants [37].

**CONCLUSION**

The Russian version of the scale fulfills all the criteria of psychometric, faceted and functional equivalence with the original version of The Trust in Physician Scale.

The authors of the paper would like to thank Prof. Elżbieta Krajewska-Kulak for agreeing to help with the adaptation of the Anderson Dedrick scale to Belarusian conditions. Prof. Elżbieta Krajewska-Kulak asked Robert F. Dedrick, Department of Educational and Psychological Studies, University of South Florida, Tampa, USA, to agree to validate this scale in Belarus.

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Evaluation the patient's trust scale in Belarusian conditions

English version of the scale

The Trust in Physician Scale (Anderson & Dedrick, 1990)

Instructions:
Each item below is a statement with which you may agree or disagree. Beside each statement is a scale that ranges from strongly agree to strongly disagree. For each item please circle the number that represents the extent to which you agree or disagree with the statement. Please make sure that you answer every item and that you circle only one number per item. It is important that you answer according to what you actually believe and not according to how you feel you should believe or how you think we may want you to respond.

1 = Strongly Disagree
2 = Disagree
3 = Neutral (neither disagree or agree)
4 = Agree
5 = Strongly Agree

1. I doubt that my doctor really cares about me as a person. *
2. My doctor is usually considerate of my needs and puts them first.
3. I trust my doctor so much I always try to follow his/her advice.
4. If my doctor tells me something is so then it must be true.
5. I sometimes distrust my doctor’s opinion and would like a second one. *
6. I trust my doctor’s judgments about my medical care.
7. I feel my doctor does not do everything he/she should for my medical care. *
8. I trust my doctor to put my medical needs above all other considerations when treating my medical problems.
9. My doctor is a real expert in taking care of medical problems like mine.
10. I trust my doctor to tell me if a mistake was made about my treatment.
11. I sometimes worry that my doctor may not keep the information we discuss totally private. *

* NOTE. The TPS is scored by reverse scoring items 1, 5, 7, and 11 and summing all items for the total score. Higher scores reflect more of the construct (trust).
Russian version of the scale

Шкала доверия «пациент – врач» Аддерсона и Дедрика (1990)

1 = Я категорически не согласен
2 = Я не согласен
3 = ни «за», ни «против»
4 = Согласен
5 = Я полностью согласен

1. Я сомневаюсь, что мой врач действительно заботится обо мне как о человеке и личности *
2. Мой врач обычно относится к моим потребностям понимающе и ставит их первое место.
3. Я очень доверяю своему врачу, поэтому всегда придерживаясь его советов.
4. Если мой врач что-то говорит, то это всегда правда.
5. Иногда я не доверяю своему доктору.*
6. Доверяю суждениям и мнению моего врача.
7. Я чувствую, что мой врач делает не все необходимое для оказания мне медицинской помощи. *
8. Я полностью доверяю своему врачу, что касается методики лечения меня.
9. Мой врач - настоящий специалист в лечении заболеваний.
10. Я могу подсказать моему врачу, если он допустит ошибку.
11. Иногда мне кажется, что мой врач что-то от меня скрывает.*

* Примечание. В шкале пункты 1, 5, 7 и 11 записаны в обратном порядке, а общий балл - это сумма всех пунктов. Более высокие результаты отражают большую конструктивность (доверие).