Personality and relational determinants of following physicians’ instructions in patients with mixed diabetic foot syndrome

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Abstract

Introduction. The aim of study was to verify of the connection between personality and relational factors, and obeying physicians’ orders by the patients with diabetic foot syndrome (DFS).

Material and methods. The impact of the following factors was assessed: therapeutic alliance between the physician and the patient, health locus of control, stress coping style, image of one’s disease, and demographic data. The study involved thirty (30) type 2 diabetes patients, treated in outpatients clinics, threatened with limb amputation due to the concurrent mixed diabetic foot syndrome.

Results. The statistical analysis revealed a correlation between following physicians’ instructions and the strength of the therapeutic alliance and the task-oriented stress coping style.

Conclusions. The obtained research results may be the basis for any subsequent modification of treatment modalities of the diabetic foot syndrome.

Key words: diabetic foot syndrome, following physician’s orders/instructions, doctor-patient relationship

Introduction

Diabetes has been given the dishonourable name of a civilisation disease and is generally considered to be a serious problem. Diabetes occurrences have been more and more numerous, affecting younger and younger people, it is often genetically conditioned, and hard to prevent and treat. People asked if they have diabetes often reply: “Not yet”.

In accordance with the classical approach to the doctor-patient relationship, a medical consultation in the case of type 2 diabetes complicated with diabetic foot syndrome is a conversation of a specialist and a layman. The physician’s task is to interview the patient, diagnose the disease and provide the patient with appropriate instructions and recommendations which should be followed by the patient. In this model, there are discrete disproportions in the area of decision-making and taking over the responsibility. It is the physician who makes the decision and tries to persuade the patient to follow his or her advice, while the patient is expected to take responsibility and be consistent in its implementation. This regards not only simple instructions such as regular taking of medicine, but also more complicated recommendations such as changing the lifestyle (e.g. radical modification of the diet, regular physical exercises). As a decision on being obedient and following the physician’s instructions depends on numerous factors, it is hard to anticipate which patient will take them in and implement effectively.

It is known that patients are more eager to follow physicians’ orders when they assess their illness as...
a serious one, they know it may recur, observe its ag-
gravation and when they are convinced of the treatment
efficacy [1]. Other decisive factors include the patient’s
sense of personal responsibility for own health and
his or her conviction that they participate in making
decisions on the treatment process. This is because
a possibility of making a decision leads to a conviction of
exerting control over the illness, which is particularly
important in the case of chronic diseases such as dia-
abetes. Moreover, a patient must pay heed to possible
and very serious complications that include large blood
vessels and heart diseases, and cerebral stroke. Other
complications regard small blood vessels which, if
untreated, may lead to damaging nerves (neuropathy),
eyes (retinopathy) and kidneys (nephropathy). Sensory
nerves damage may result in a dangerous condition:
diabetic foot syndrome. When any injury goes unno-
ticed and its healing is impeded, the wounds may be so
serious that amputation becomes necessary [2].

The research studies done so far have indicated that
20% of type 2 diabetics did not control their blood
glucose levels, and 70% of them did not do the recom-
manded physical exercises [3]. Other research studies
have shown that patients tended to keep check-up ap-
pointments and (equally often) followed the recommen-
dations regarding diet and medicines; however, they
least often followed advice on changing the lifestyle [4].
It was also found out that the general percentage of
following simple as well as complex instructions given
by physicians was quite low for diabetics and ranged
from 50 to 10% [5]. Besides, the percentage is hard
to estimate, as patients often conceal the truth, and
physicians prefer to believe in such reassuring though
distorted information provided by patients, as this helps
reinforce the doctors’ conviction on their persuasive-
ness. However, another research study proves that fol-
lowing physicians’ instructions responsibly has a better
effect than changing the diabetes treatment plan [6].

In this process, positive relations between the patient
and the physician are of particular importance. They
may be modelled on the psychotherapeutic relations
established by psychologists and their patients, based on
cooperation, partnership and trust. It has been shown
that close relations with the specialist have a positive
impact on the course and effects of treatment, and
that patients who are dissatisfied with those relations
follow the physicians’ orders less diligently or don’t follow them at all [7].

Material and methods

The purpose of the research study was verification
of the correlation between following physicians’ instruc-
tions and selected personality factors (i.e. stress coping
style, health locus of control, image of one’s disease) and
the relational factors (patient-physician relation), i.e. the
quality of the therapeutic alliance established by both
parties to the alliance. The study involved research tools
that enable measurement of specified factors, namely:

- **Rating scale for following physicians’ instruc-
tions** — the list of 12 requirements to be met by
diabetics so as to prevent complications. The scale
was developed in 2001 by Agnieszka Makar and
extended to include one more question;

- **Therapeutic Alliance Questionnaire** — devel-
oped by Horvath (1981) [8] and adapted to the
Polish conditions by Cierpiatkowska and Kubik (2009) [9], applied to measure the alliance between
the physician and the patient or between a patient
and a psychotherapist;

- **Disease-Related Appraisals Scale** — developed
by Steud and Janowski (2002) [10] and applied
to measure subjective perception of the disease
situation. It includes 47 questions and is divided
into 7 subscales: “Threat”, “Injustice”, “Benefit”,
“Obstacle”, “Challenge”, “Value” and “Meaning”;

- **Coping Inventory for Stressful Situations (CISS)** — developed by Szczepaniak, Strelau and
Wrzesniewski (1996) [11]. It consists of 48 state-
ments referring to behaviours shown by people in
difficult situations (e.g. in case of a serious disease).
The answers help identify 3 coping styles: Task-ori-
ented (TO), Emotion-oriented (EO) and Avoid-
ance-oriented (AO), while AO includes Distraction
(DI) and Social Diversion (SD);

- **Multidimensional Health Locus of Control
(MHLC)** — adapted by Juczynski (2001) [12],
and developed by Wallston, Wallston and DeVellis
(1978) [13]. The scale consists of 18 statements
comprising 3 subscales: Internal health locus of
control (Int.), External health locus of control (Ext.),
Fate, luck or chance (FLC).

The study involved 30 patients (23 men and 7 wo-
men) with type 2 diabetes, threatened with limb
amputation due to the concurrent mixed diabetic
foot syndrome. Additionally, demographic data were
recorded, on the basis of which it was found that the
subjects of the study were from 52 to 79 years old, and
the average age was 65 years. As for education, the
largest group (11 persons) had completed secondary
education, 2 patients — primary education, 3 — tech-
nical, 8 — vocational and 6 — tertiary education. Five
patients lived in villages, 4 — in towns with populations
of under 10 K, 8 — in towns with 10–50 K inhabitants,
and 13 — in a city with a population exceeding 50 K
inhabitants. Two subjects were diagnosed with the
disease when they were in the 20–29 age group, five —
in the 30–39 age group, seven — in the 40–49 age
group, nine — in the 50–59 age group, six — in the 60–69 age group and one in the 70–79 age group. Nine patients had been ill for a period from 1 to 9 years, 11 — from 10 to 19 years, 7 — from 20 to 29 years, and single patients from 30 to 39, from 40 to 49 and from 50 to 59 years.

Results

In general, the subjects of the study highly rated their therapeutic alliance with the attending physician and equally highly — their following his or her instructions (Table 1). They usually perceived their illness as a threat and an obstacle. They recognised that their coping style was task-oriented and that their health locus of control was mainly internal.

The statistical analysis showed significant correlations between following physicians’ instructions and the quality of the therapeutic alliance and the task-oriented stress coping style. The obtained positive correlations mean that type 2 diabetes patients, threatened with limb amputation due to the concurrent mixed diabetic foot syndrome, follow the physicians’ instructions when they apply the task-oriented stress coping style (Table 2) and when they experience a strong therapeutic alliance with the physicians (Table 3). However, no correlation was found between following the physicians’ instruc-

Table 1. Results of statistical descriptive analysis (N = 30)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Subscales</th>
<th>Mean</th>
<th>Median</th>
<th>Standard deviation</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rating scale for following physicians’ instructions</td>
<td>None</td>
<td>37.97</td>
<td>39</td>
<td>6.911</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>Therapeutic Alliance Questionnaire</td>
<td>None</td>
<td>69.07</td>
<td>68.5</td>
<td>12.202</td>
<td>43</td>
<td>84</td>
</tr>
<tr>
<td>Disease-Related Appraisals Scale</td>
<td>Threat</td>
<td>33.63</td>
<td>36</td>
<td>7.43</td>
<td>14</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Injustice</td>
<td>21.93</td>
<td>21.5</td>
<td>7.865</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Benefit</td>
<td>18.1</td>
<td>18</td>
<td>5.454</td>
<td>9</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Obstacle</td>
<td>26.87</td>
<td>28</td>
<td>9.73</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Challenge</td>
<td>23.8</td>
<td>24</td>
<td>5.061</td>
<td>11</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Value</td>
<td>18.47</td>
<td>19</td>
<td>5.532</td>
<td>8</td>
<td>28</td>
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<tr>
<td></td>
<td>Meaning</td>
<td>19.9</td>
<td>21</td>
<td>4.992</td>
<td>5</td>
<td>25</td>
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<tr>
<td>CISS</td>
<td>TO</td>
<td>57</td>
<td>39.5</td>
<td>9.329</td>
<td>35</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>EO</td>
<td>46.1</td>
<td>46</td>
<td>11.333</td>
<td>25</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>AO</td>
<td>46.53</td>
<td>45.5</td>
<td>9.376</td>
<td>28</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>DI</td>
<td>19.3</td>
<td>18.5</td>
<td>5.528</td>
<td>11</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>SD</td>
<td>18.3</td>
<td>18</td>
<td>3.554</td>
<td>12</td>
<td>25</td>
</tr>
<tr>
<td>MHLC</td>
<td>Int.</td>
<td>28.47</td>
<td>28</td>
<td>3.98</td>
<td>22</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>Ext.</td>
<td>25.77</td>
<td>26.5</td>
<td>6.055</td>
<td>14</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>FLC</td>
<td>19.67</td>
<td>17</td>
<td>8.049</td>
<td>7</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 2. Correlation between following the physicians’ instructions and stress coping style

<table>
<thead>
<tr>
<th>Variables</th>
<th>TO</th>
<th>EO</th>
<th>AO</th>
<th>DI</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following the instructions</td>
<td>Pearson correlation coefficient</td>
<td>0.492*</td>
<td>−0.104</td>
<td>0.018</td>
<td>−0.193</td>
</tr>
<tr>
<td>Significance (2-tailed)</td>
<td>0.006</td>
<td>0.583</td>
<td>0.925</td>
<td>0.308</td>
<td>0.129</td>
</tr>
</tbody>
</table>

N = 30

Table 3. Correlation between following the physicians’ instructions and quality of therapeutic alliance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Alliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Following the instructions</td>
<td>Pearson correlation coefficient</td>
</tr>
<tr>
<td>Significance (2-tailed)</td>
<td>0.008</td>
</tr>
<tr>
<td>N</td>
<td>30</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2-tailed)
tions and health locus of control, image of one’s disease and demographic data.

Discussion

The research study was aimed at verifying the correlation between following the physicians’ instructions and selected personality and relational factors such as: stress coping style, health locus of control, image of one’s disease. Additionally, the correlation with demographic data was verified. The statistical analysis confirmed existence of two correlations. The first one is a correlation between following the physicians’ instructions and the quality of therapeutic alliance, which means that the more positively the patients perceive the relations with the physician, the more willingly they follow the physician’s instructions. This finding confirms the earlier conclusions from the quoted studies, and also indicates the high importance of the relational aspect in the process of type 2 diabetes and diabetic foot treatment. Especially in the case of patients with a concurrent risk of limb amputation due to the diabetic foot syndrome, it is vital that they follow the physician’s instructions in a responsible and consistent manner.

The other finding regards the correlation between following the physicians’ instructions and stress coping style. It turned out that this requirement was met by the task-oriented style (TO). Not only the specialist literature, but also common sense and experience tell us that being affected by a disease is usually perceived as a stressful situation which must be overcome in the most effective way. If a patient perceives treatment as an implementation of a vital task leading to health improvement, he or she gains enormous motivation to act, and thus he or she follows their physician’s orders willingly and responsibly.

Conclusions

The presented research results may be applied in streamlining treatment of diabetic foot patients, as they have shown a strong correlation between the relational factor and patients’ following their physicians’ instructions. Therefore, it is advisable to establish positive, friendly and trust-based relations between a patient and a physician — especially in the case of patients threatened with limb amputation due to the concurrent mixed diabetic foot syndrome.

References