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Individual Differences in Cancer Patients’ Willingness to Use Complementary and Alternative Medicine

Różnice indywidualne w skłonności do stosowania niekonwencjonalnych metod leczenia wśród chorych na nowotwory

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Abstract

Background. Cancer patients very often combine conventional methods of treatment with complementary and alternative medicine (CAM). It is not clear why some cancer patients are inclined to use CAM, whereas others are not.

Objectives. The aim of the study was to find predictors of cancer patients’ willingness to use CAM. The study investigated whether personality traits, cognitive preferences and paranormal beliefs are determinants of these patients’ willingness to use CAM.

Material and Methods. The study participants were 49 cancer patients. The Polish version of the NEO Five-Factor Inventory was used in the study to assess personality traits; cognitive preferences were measured with Nosalt’s Mind Types checklist (CTU-96); an Inexplicable Phenomena scale was used to examine paranormal beliefs; and willingness to use CAM was assessed with a Decision-Making Choices Questionnaire (DMCQ).

Results. Among the studied personality traits, extraversion, neuroticism and a lower level of openness to experience were significant predictors of cancer patients’ willingness to use CAM, along with emotionality and rationality as cognitive preferences.

Conclusions. Further research is required to verify the hypothesis of different roles of individual predispositions in making decisions about the use of CAM, depending on the subject’s health condition (Adv Clin Exp Med 2013, 22, 6, 855–860).

Key words: cancer patients, Complementary and Alternative Medicine, personality traits, cognitive preferences, paranormal beliefs.

Streszczenie

Wprowadzenie. Chorzy na nowotwory bardzo często obok leczenia konwencjonalnego stosują niekonwencjonalne metody leczenia, najczęściej nazywane w literaturze światowej: Complementary and Alternative Medicine (CAM). Nie jest jasne, dlaczego niektórzy pacjenci stosują CAM, inni zaś nie.

Cel pracy. Celem badania była znalezienie predyktorów skłonności do stosowania CAM wśród chorych na nowotwory. Badanie sprawdziło, czy cechy osobowości, preferencje poznawcze oraz przekonania o istnieniu zjawisk paranormalnych determinują skłonność u chorych na nowotwory do zastosowania CAM.

Materiały i metody. W badaniu uczestniczyło 49 chorych na nowotwory. Cechy osobowości badano polską wersją NEO Five-Factor Inventory; preferencje poznawcze – skalą Typy Umysłu (CTU-96); przekonania o istnieniu zjawisk paranormalnych – skalą Niewyjaśnione Zjawiska; gotowość do stosowania CAM – Kwestionariuszem Wyborów Decyzyjnych.

 Wyniki. Sporządzone badania cech osobowości istotnymi predyktorami skłonności do stosowania CAM u chorych na nowotwory były: ekstroversja, neurotyczność i mała otwartość na doświadczanie. Gotowość do stosowania CAM u chorych na nowotwory była związana także z emocjonalnością i racjonalnością jako preferencjami poznawczymi.


Słowa kluczowe: pacjenci chorzy na nowotwory, medycyna komplementarna i alternatywna, cechy osobowości, preferencje poznawcze, przekonania o istnieniu zjawisk paranormalnych.
Cancer patients very often combine conventional methods of treatment with complementary and alternative medicine (CAM) [1]. In surveys conducted in 13 countries, the prevalence of CAM use by cancer patients ranges from 7% to 64% [2]. Although the prevalence of CAM use is difficult to establish due to varying definitions of CAM and the manner in which it is assessed [3], a number of studies indicate that the majority of cancer patients assert that they use some form of CAM.

It seems that one of the key factors increasing patients’ willingness to use CAM is their individual outlook. Jeswani and Furnham [4] found that people with paranormal beliefs (defined as beliefs that stand in obvious contradiction to the principles of contemporary science [5]) are more likely to believe in the efficacy of CAM and that positive attitudes to science were associated with increased skepticism toward CAM. In a cross-sectional study on 712 randomly selected adults in a Belgian sample, Van den Bulck and Custers obtained similar results [6], which confirmed a positive correlation between paranormal beliefs and openness to CAM. Whether or not paranormal phenomena exist, many people strongly believe in them.

Only few studies have addressed the relationships between dispositional personality factors and attitudes toward CAM. The most widely accepted and widely used model of the personality is the Big Five: openness to experience (intellectual curiosity, imaginativeness, willingness to experiment), extraversion (sociability, assertiveness, activity), conscientiousness (persistence, goal-directedness, self-discipline), agreeableness (trust in others, sincerity, non-confrontational attitude) and neuroticism (strong negative emotions, stress sensitivity) [7]. Sirosi and Purc-Stephenson, who examined the use of CAM currently and in the past among CAM clients found a correlation between agreeableness and the breadth and frequency of CAM consultations [8]. Furthermore, a relationship between openness to experience and the use of CAM has been substantiated by some researchers [8–9]. However, in Furnham’s study personality traits were not related to CAM usage and beliefs about CAM [10]. It is worth noting that these studies were based on heterogeneous samples in terms of sick and healthy people, and researchers used different methods to measure the participants’ attitudes toward CAM.

It is likely that an individual’s attitude toward CAM is linked to the domain of cognitive preferences. A cognitive preference is an information processing strategy that characterizes a person’s typical style of perceiving, remembering, thinking and problem solving. Information that is received must be assessed and systematized, and individuals use various evaluation criteria to sort out the information they receive. A cognitive preference is an inclination to use a certain criterion frequently. Cognitive preferences are not only decisive factors in how particular information will be processed, but also determine the final outcome, i.e. the conclusions reached by an individual. For instance, the fact that somebody feels better after having used acupuncture may be sufficient evidence of the efficacy of this method for one person and insufficient for another. There are no systematic studies on the relationship between cognitive preferences and CAM usage. This study is an attempt to establish whether any of the cognitive preferences distinguished by Nosal [11] (Table 1) and a person’s willingness to use CAM are linked.

The decision to use CAM is rarely just a one-off event. People tend to display certain patterns of health-related behavior. It seems that for some individuals CAM usage belongs to their repertoire of health-related behavior, and they decide to use CAM more frequently and willingly. Individual predisposition may influence a person’s willingness to use CAM. The aim of this study was to find predictors of cancer patients’ willingness to use CAM. The study examined whether personality traits, cognitive preferences and paranormal beliefs determine these patients’ willingness to use CAM.

Material and Methods

Willingness to Use CAM

Willingness to use CAM was assessed with a Decision-Making Choices Questionnaire (DMCQ) constructed by the author of this article. The questionnaire uses so-called choice dilemmas [12]: Respondents are presented with some hypothetical situations in which they might find themselves and are requested to state what they would do if they were in those particular situations. The DMCQ consists of 13 decision-making situations. First, the respondents are asked to picture themselves in the given situation. After reading a description of the situation and the definition of the form of CAM in question, the participants decide whether they would use that form of CAM or not. All of the situations outlined in the DMCQ refer to various health dysfunctions and suggest various forms of CAM. Particular health dysfunctions have been matched with particular forms of CAM, based on an analysis of the popularity of various forms of CAM in Poland. The respondents indicated their decisions on a five-point Likert-type scale with response options ranging from 1 (“I will certainly not decide on this therapy”) to 5 (“I will
Paranormal Beliefs

The most frequently used scale to survey paranormal beliefs is the Paranormal Beliefs Scale (PBS) developed by Tobacyk and Milford [5]. Its items form seven subscales: superstition, spiritualism, extraordinary life forms, psi, witchcraft, precognition and traditional religious beliefs. Due to cultural differences it was impossible to apply the original PBS in the current study, so the author of the current article developed the Inexplicable Phenomena scale (IP), which reflects paranormal beliefs that are popular among Poles. The scale contains items that represent the same factors defined by the authors of the PBS, with the exception of traditional religious beliefs, which were not incorporated in the IP scale because in Poland these beliefs are very common. Participants were presented with 30 statements and asked to rate their agreement with each statement on a five-point scale from 1 to 5. The scale was prepared in accordance with the standards of scale construction [14] and validated on a Polish population [13]. The Confirmatory Factor Analysis showed that the 30 items were loaded on a single factor: paranormal beliefs. According to Cronbach’s alpha the internal consistency was 0.91.

Cognitive Preferences

Cognitive preferences were measured using the self-descriptive Mind Types checklist (CTU-96) developed by Nosal [11, 15]. This is a 120-item instrument consisting of adjectives describing cognitive preferences. Respondents assess the extent to which a given adjective relates to their own minds. The degree of agreement with each statement is scored on a 7-point Likert-type scale. The higher the score for a given preference, the more frequently a person uses the criteria represented by this particular preference. Table 1 provides a description of the 5 cognitive preferences with their Cronbach’s reliability in the current study.

Personality Traits

Personality traits were assessed with the Polish version of the NEO Five-Factor Inventory (NEO-FFI), which measures the five fundamental dimensions of personality [7]. In the current sample alpha reliabilities were 0.83 for neuroticism, 0.78 for conscientiousness, 0.74 for extraversion, 0.69 for openness to experience and 0.68 for agreeableness.

Table 1. Description of the Scale for Cognitive Preferences (CTU-96). Dimensions and Cronbach’s Reliabilities

<table>
<thead>
<tr>
<th>Description (Opis)</th>
<th>Cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotionality (Emocjonalność)</td>
<td>0.86</td>
</tr>
<tr>
<td>Preference for judgment based on emotions, moods and personal feelings, and for subjective comprehension of facts and events</td>
<td></td>
</tr>
<tr>
<td>Rationality (Racionalność)</td>
<td>0.88</td>
</tr>
<tr>
<td>Preference for analytical, logical, insightful, practical, explorative processing of incoming information</td>
<td></td>
</tr>
<tr>
<td>Creativity (Twórczość)</td>
<td>0.81</td>
</tr>
<tr>
<td>Preference for innovative, open and original evaluation of information and problems</td>
<td></td>
</tr>
<tr>
<td>Intuition (Intuicja)</td>
<td>0.70</td>
</tr>
<tr>
<td>Preference for global and comprehensive evaluation; detection and judgment based on relating facts from various and previously unconnected sources</td>
<td></td>
</tr>
<tr>
<td>Typicality (Typowość)</td>
<td>0.73</td>
</tr>
<tr>
<td>Preference for simplistic, stereotypical and superficial evaluation of problems and issues</td>
<td></td>
</tr>
</tbody>
</table>
The Participants

Forty-nine cancer patients (36 female and 13 male) at the Lower Silesia Oncology Center took part in the study. The inpatients were awaiting medical procedures or further diagnostic examinations. The group was heterogeneous in terms of the type of cancer, duration and the severity of the disease. The eligibility criteria were as follows: (a) a diagnosis of cancer, (b) awareness of the diagnosis, (c) age over 18 years, (d) literacy and (e) no history of serious mental disorder. The mean age of the participants was 48 years (SD = 11.83). Their educational levels were: primary 6.1%; vocational 28.6%, upper secondary 51% and university 14.3%. This population has been described elsewhere [13].

Statistical Analysis

The statistical analysis was performed using SPSS statistical software, version 18 (SPSS Inc., PASW Statistics for Windows, Chicago, USA). Pearson’s correlation coefficient was used to analyze the association between willingness to use CAM and individual traits, with the exception of dichotomies and ordinal variables, for which the correlation ratio eta was calculated. Descriptive statistics were generated, including frequency data for the sample characteristics and means with standard deviations for continuous variables. Cronbach’s alpha coefficients were calculated to examine the internal consistency of the DMCQ, IP, CTU-96 and NEO-FFI. P values < 0.05 were considered statistically significant.

Results

The following variables were entered in the regression model: age, gender, education, personality traits, cognitive preferences and paranormal beliefs. The model turned out to be well adjusted to the variables (F (14.34) = 3.033; p = 0.004). Overall, the variables accounted for 37% of the variation in the cancer patients’ willingness to use CAM.

As Table 2 shows, the influence of demographic variables in the sample was not significant. Among the studied personality traits, extraversion, neuroticism and a lower level of openness to experience were significant predictors of willingness to use CAM. Willingness to use CAM also increases in those cancer patients who were more likely
to use cognitive preferences, such as emotionality and rationality. Paranormal beliefs made a marginally significant contribution to the variation in the cancer patients’ willingness to use CAM.

**Discussion**

The study was intended to find factors determining cancer patients’ willingness to use CAM. The results indicate that such personality traits as neuroticism, extraversion and a low degree of openness to experience, as well as emotionality and rationality as cognitive preferences, are significant predictors in this sample.

In the study, the cancer patients scoring high in neuroticism displayed a stronger tendency to use CAM. These findings are consistent with a study by Maskarinec et al. involving 1.168 cancer patients, among whom those with lower emotional functioning were more likely to use CAM [16]. Individuals scoring high in neuroticism are more likely than the average to experience such feelings as anxiety and/or depressed moods; they have an ongoing tendency to experience negative emotional states, respond more poorly to environmental stress and are more likely to interpret ordinary situations as threatening. The incidence of such characteristics among cancer patients is one of the predictors of a willingness to use CAM.

This study shows that extraversion as a personality trait increases cancer patients’ willingness to use CAM. Extraversion is a personality trait characterizing the quality and quantity of social interactions, as well as the degree of activity and energy. Therefore, those cancer patients who do not tend to hide emotions or to prefer solitude (as introverts do), but are rather active and like to share problems with others, display a stronger willingness to use CAM. An investigation among patients with self-reported chronic back pain in a survey carried out in Canada also found that being more active and more involved in social life is correlated with using CAM [17].

Surprisingly, an inverse relationship was found between openness to experience and in cancer patients’ willingness to use CAM. Previous studies found no association of openness to experience with CAM use [10] or showed a positive relationship [8–9]. However, those studies were conducted on different populations. For instance, Honda and Jacobson’s survey [9] was carried out on a large (3,032) representative sample of the US population. Most of the respondents in such samples enjoy good physical health. It is therefore possible that there are other reasons why both physically healthy and seriously ill people share a positive attitude towards CAM. Perhaps healthy individuals are inclined to use CAM due to cognitive curiosity and willingness to experiment, whereas cancer patients are driven by more pragmatic, down-to-earth reasons rooted in reality. This is an aspect which requires verification in a further study.

In studies carried out on the general population, beliefs in favor of CAM were associated with paranormal beliefs [5, 18]. In the current study, the relationship between paranormal beliefs and willingness to use CAM was only marginally significant. On the basis of the results, it can be hypothesized that different factors determine positive attitudes towards CAM in healthy people in and cancer patients. Perhaps healthy individuals’ willingness to use CAM is more associated with their outlook, whereas in seriously ill patients other variables could come into play when deciding to resort to CAM. This hypothesis requires further verification.

In cancer patients, a preference for judgments based on emotions, moods and personal feelings contributes to willingness to use CAM. The likelihood of using CAM also increases in those patients who use analytical, logical and insightful processing of incoming information. The patients who base their processing of information on the criteria of rationality probably conclude that using CAM increases their chances of recovery. Even though some CAM are not scientifically proved, a willingness to employ all possible methods of therapy when suffering from a serious illness may imply the pragmatism typical of rationality as a cognitive preference.

The current study had several limitations. Firstly, it looked at the participants’ willingness to use CAM and not their actual use of CAM. It is well known that actual behavior may differ from assertions of how one would behave in given situations. Secondly, the results are based on a small convenience sample. In the future, it would be advisable to confirm the findings on a larger, more representative sample of cancer patients. Finally, in this study the stage of the patients’ disease was not taken into account. Future studies should be designed to enable assessment of the extent to which the course of cancer may affect the obtained results.

The study identified a profile of a cancer patient who is inclined to use CAM: He/She is a down-to-earth person, susceptible to negative emotions, who actively deals with problems, is sociable, and processes information analytically, pragmatically and according to the emotional charge. It would be worthwhile to carry out research on various sample groups in order to verify the hypothesis of different roles of individual predispositions in making decisions about the use of CAM, depending on the health condition.
References


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