

Czech University Students' Perception of Alternative Medicine

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ABSTRACT In this study, it is aimed to describe pre-service teachers's perceptions of CAM (Complementary and Alternative Medicine). The gender, the age, the trust in doctor, the number of suffered diseases and the number of CAM techniques were determined as the variables in the study. The participants of the research were 315 students from the education faculty of an university in Czech Republic. A measuring device that the researchers developed by using two scales were used as the data collection device. According to the findings of the research, CAM perceptions were generally positive, that besides woman participants's perceptions were more positive comparing with man, and that perceptions of CAM grew in positive direction with the decrease in the trust in doctors. It was concluded that perceptions towards CAM grew in positive directions with the increase in the number of CAM and the number of suffered disease had no influence on perceptions of CAM.

INTRODUCTION

Nowadays are a time, when the huge development of science and technique, the patients have got still higher and higher chance on the cure of different diseases. The stress, inappropriate diet, sedentary lifestyle and influences of polluted environment had got different effects on out health. There is still many and many patients with civilization diseases like high blood pressure, diabetes mellitus etc. This situation is caused with modern lifestyle. And the doctor care is focused on the cure, but not on the prevention. People used, as the reaction on the activity of doctors, were starting to use nature methods of cure. These new methods are used as the seeking of the balance, which is missing in modern lifestyle. This situation can be caused by relatively passive role of patients in the relationship toward doctor. Next factors could be negative side effect of pharmaceuticals, testing of pharmaceuticals on animals and increasing of finances on the healthcare. As the effect of these factors is, the people are turning to on the ways of cure, which are missing in the classic medicine. These cure forms are trying to back into traditional, natural methods, which are emphasizing the importance of holistic conception of health. This conception of cure is called alternative medicine.

The problematic of alternative medicine is causing among laic and also among experts big

controversy. Someone have got positive perception of alternative medicine and someone have negative feelings about this kind of medicine. But the reason, why the alternative medicine is more and more seeking by the people is still shrouded in secrecy. Maybe it can be caused by the teachers and they influenced pupils and students. So the main aim of the study is to find out the perception of alternative medicine by university students.

Theoretical Background

Complementary and alternative medicine (CAM) covers a heterogeneous spectrum of ancient to new-age approaches that purport to prevent or treat disease. By definition, CAM practices are not part of conventional medicine because there is insufficient proof that they are safe and effective (Barnes and Bloom 2008). Persons who choose CAM approaches are seeking ways to improve their health and well-being or to relieve symptoms associated with chronic, even terminal, illnesses or the side effects of conventional treatments for them (Humpel and Jones 2006; Wolsko et al. 2002). There is many different articles and studies about CAM, but the strict definition does not exist. About this fact the many authors stated (for example, Coulter and Willis 2004).

The research studies regarding to problematic of alternative medicine used in mostly cases

quantitative approach and the most examined respondents are pharmaceutical and medical students. For example Pokladnikova and Lie (2008) found out Czech pharmaceutical students had got positive information about alternative medicine. The similar results were also found out in other countries (for example, Freymann et al. 2006; Jamshed et al. 2014; Koh et al. 2003; Kunnoor et al. 2015; Loh et al. 2012; Peltzer and Pengpid 2015). It is also possible to find studies with qualitative approach and also with respondents, which are not students. For example, Bahall and Edwards (2015) found out cardiac patients reported that alternative medicine improved the quality of life, overcame the limitations of conventional medicine, satisfied their increased expectation for comprehensive care, and prevented or counteracted adverse effects caused by conventional medicine. The similar situation is possible to find in the study of Pooya et al. (2014) among patients with epilepsy. In this study authors examined positive perception of alternative medicine without influence of level of education of epilepsy patients.

The most frequently used alternatives to conventional medicine were relaxation techniques, chiropractic, and massage. Although educated, middleclass white persons between the ages of 25 and 49 years were the most likely ones to use alternative medicine, use was not confined to any particular segment of the population (Eisenberg et al. 1993).

Survey method was used in the research of Sewitch et al. (2008). The authors did research among health care professions. The physicians had got more negative attitudes toward alternative medicine in comparison with other health care professions.

Aims and Research Questions

The main aim was to find out perception of the alternative medicine by university students. Next, the partial aim was to find out the influence of selected factors (gender, age, trust to doctor, number of diseases, length of disease; number of used alternative techniques) on the perception of the alternative medicine.

The research questions were formulated from the above presented research aims:

1. What is the perception of alternative medicine by university students?
2. Is there influence of selected factors (gender, age, trust to doctor, number of diseases, length of disease; number of used al-

ternative techniques) on the perception of the alternative medicine?

MATERIAL AND METHODS

Participants

The university students created sample size. The total amount of 315 students was sample for the research. The researcher addressed the requirement about voluntary participation on the research at lectures. The participants had not got any advantages, any credits, any plus point, any financial reward for the participation at research. The respondents were from Faculty of Education, all were future teachers. The average age of respondents was 23.20. The number of women was 265 and number of boys was 50. The next criterion was number of diseases (we think different diseases, for example, if respondent had got 5 times for a life flu, it means one disease). There were three groups: 1. respondents without disease (n = 163); 2. respondents with 1 – 2 diseases (n = 121); 3. respondents with 3 and more diseases (n = 31). The last criterion was number of used alternative techniques. The respondents were divided into three groups: 1. respondents without experience with alternative technique (n = 47); 2. respondents with 1 – 2 used alternative technique (n = 131); 3. respondents with 3 and more used alternative techniques (n = 137).

Research Tool

The questionnaire was used as a research tool. We combined two existing research tools, from authors Astin (1998) and Patterson and Artur (2009). The items regarding to trust to doctor, items about health condition and items regarding to used alternative techniques were from the study of Astin (1998) and items regarding to perception of alternative medicine were from the study of Patterson and Artur (2009). The questionnaire included on its beginning information about gender and age of respondents. The next part included 29 questions:

1. three items were 5-point Likert type and were regarding to trust to doctor
2. five items were binary and were focused on the behavior by the visiting at doctor
3. one item regarding to number of diseases
4. one open-ended item, where respondents should write how many days were ill during last day

5. one item regarding to perception of health condition (excellent – very good – good – sufficient – bad)
6. one item, where respondent should mark one possibility regarding to level of pain (no pain–slight pain–tolerable pain – strong pain–excruciating pain)
7. one item, where respondents should choose, with which alternative techniques they had got an experience
8. sixteen 5-point Likert type items focused on the perception of alternative medicine (5 were in negative and 11 were in positive meaning)

The questionnaires were checked by doctors, because of the correct form of items before their distribution among respondents. The items were stylistically revised on the basis of the doctors' comments.

The questionnaires were distributed among respondents through electronic form. Students had got time one semester for the filling of questionnaires. The time for the filling of questionnaires was not limited. The students were assured about anonymity of research.

Analysis of Data

After obtaining of data, they were coded the form appropriate for statistical analysis. The items in positive meaning regarding to perception of alternative medicine were coded following (1 – strongly disagree; 2 – slightly disagree; 3 – neither agree nor disagree; 4 – slightly agree; 5 – strongly agree). The items in negative meaning were coded in reverse order. The positive perception of alternative medicine indicated score higher than 3.25, the negative perception indicated score lower than 2.75 and if the score was between <2.75; 3.25> it is possible to say about neutral meaning.

The factor analysis with Varimax rotation was applied on the coded data. Before application of factor analysis the KMO test and Bartlett test of sphericity were applied. The values of KMO (0.88) and Bartlett test ($\chi^2 = 1364.34$; $p < 0.001$) allowed to use factor analysis. The sixteen items regarding to perception of alternative medicine were divided into 3 factors with eigenvalue higher than 1.00. The results of factor analysis are presented in the Table 1. The items were distributed into three dimensions: 1. Influence of alterna-

Table 1: Results of factor analysis

	<i>I</i>	<i>II</i>	<i>III</i>
<i>I. Influence of Alternative Medicine</i>			
6. Complementary medicine builds up the body's own defenses, so leading to a permanent cure	0.54	0.37	0.28
9. CAM involves natural plant formulas which are more healthy than taking drugs given by the medical doctor	0.55	0.33	0.40
10. I would be more likely to use CAM if there were more CAM clinics	0.66	0.26	0.32
11. Parent(s) and family can influence a my CAM use by exposing them to it	0.45	-0.36	-0.23
12. I am more likely to use CAM if mine friends are using it	0.70	-0.16	0.04
13. I believe in the physical, mental and spiritual aspects of health are more likely to use CAM	0.51	0.10	0.04
14. When I have got fear the discomfort of treatments from medical doctors I more likely to use CAM	0.60	0.24	0.27
<i>II. Approach to Cure</i>			
1. Complementary medicine should be subject to more scientific testing before it can be accepted by conventional doctors	-0.09	0.65	0.12
2. Complementary medicine can be dangerous in that it may prevent people getting proper treatment	0.18	0.71	0.11
3. Complementary medicine should only be used as a last resort when conventional medicine has nothing to offer	0.33	0.71	0.06
4. It is worthwhile trying complementary medicine before going to the doctor	0.39	0.56	0.24
5. Complementary medicine should only be used in minor ailments and not in the treatment of more serious illness	0.32	0.60	-0.15
16. The more knowledge I have about CAM, the more likely I am to use it	-0.03	0.48	0.18
<i>III. Effects of Alternative Medicine</i>			
7. Complementary Alternative medicine (CAM) providers give good information on maintaining a healthy lifestyle	0.14	-0.04	0.76
8. There are less side effects when taking natural remedies	0.42	0.13	0.56
15. I believe that taking CAM therapies is not harmful	0.05	0.22	0.68
<i>Eigenvalue</i>	4.95	1.71	1.20
<i>% of variance</i>	30.95	10.67	7.52

tive medicine (7 items); 2. Approach to cure (6 items); 3. Effects of alternative medicine (3 items).

The reliability of research tool was high ($\alpha = 0.82$) and values of reliability for the dimension were in the range from 0.59 to 0.73. The analysis of variance (ANOVA) and Pearson product moment was used for the data analysis. The demographic variables were as independent variables and mean score for the part of questionnaire regarding to perception of alternative medicine was used as a dependent variable.

RESULTS

The first of all it is possible to say, the perception of university students toward alternative medicine is relatively positive ($x = 3.29$; $SE = 0.03$). When we look at the score for the factors, it is possible to see the highest score was for factor "Effects of alternative medicine" and lowest one was for factor "Approach to cure" (Table 2).

Table 2: The mean score for factors

<i>Factors</i>	<i>Mean score</i>	<i>Standard error</i>
Influence of alternative medicine	3.47	0.07
Approach to cure	2.99	0.06
Effects of alternative medicine	3.48	0.06

The first examined variable is gender of respondents. The difference in score was statistically significant ($F = 20.59$; $p < 0.001$). The women had got positive perception of alternative medicine ($x = 3.35$; $SE = 0.03$). The men achieved score $x = 3.00$ ($SE = 0.07$), what signalized relatively neutral perception of alternative medicine. The statistically significant differences were also observed in the factors (1. factor – $F = 22.36$; $p < 0.001$; 2. factor – $F = 10.65$; $p < 0.01$; 3. factor – $F = 4.02$; $p < 0.05$). In all factors women achieved higher score in comparison with men (Table 3).

Table 3: The score for factors with respect to gender

	<i>Influence of alternative medicine – mean score</i>	<i>Approach to cure – mean score</i>	<i>Effects of alternative medicine – mean score</i>	<i>Influence of alternative medicine – standard error</i>	<i>Approach to cure – standard error</i>	<i>Effects of alternative medicine – standard error</i>
Men	3.13	2.69	3.33	0.08	0.10	0.08
Women	3.54	3.04	3.51	0.03	0.04	0.04

The influence of age was examined by the using of Pearson product moment. The relationship was relatively weak, but statistically significant ($r = 0.16$; $p < 0.05$). The statistically significant relationship was also observed between age and factor "Approach to cure" ($r = 0.19$; $p < 0.05$). The relationship between age and other two dimensions was not significant.

The next examined variable was trust toward doctor. The relationship was relatively low, but statistically significant ($r = -0.20$). The relationship between other factor and trust toward doctor was in two cases statistically significant "Influences of alternative medicine" and "Approach to cure" ($r = -0.18$ resp. $r = -0.17$; $p < 0.05$).

The next variable was number of diseases. The influence of this variable on the perception of alternative medicine was not significant ($F = 1.70$; $p = 0.18$). The influence of the dimension was statistically significant only by the dimension "Effects of alternative medicine". The respondents with 1 and 2 diseases had got the most positive perception on alternative medicine and the respondents with 3 and more had got the lowest perception of alternative medicine. The length of the disease for last year had not got influence on the perception of alternative medicine.

The number of used alternative techniques had got the influence on the perception of alternative medicine ($F = 24.26$; $p < 0.001$). The respondents with the higher number of used alternative techniques had got achieved higher score in comparison with respondents with lower amount of used alternative techniques. The similar situation is possible to see in factors "Influences to alternative medicine" and "Approach to cure" ($F = 20.64$ resp. $F = 17.86$). On the factor "Effects to alternative medicine" was the influence of variable insignificant (Table 4).

DISCUSSION

The purpose of this study is to examine the perceptions of student-teachers' about CAM. The overall perceptions of the student-teachers are positive. The similar result was found in the

Table 4: The mean score and score for factors with respect to used alternative techniques

	<i>Influence of alternative medicine – mean score</i>	<i>Approach to cure – mean score</i>	<i>Effects of alternative medicine – mean score</i>	<i>Influence of alternative medicine – standard error</i>	<i>Approach to cure – standard error</i>	<i>Effects of alternative medicine – standard error</i>
0	3.43	2.98	3.41	0.04	0.05	0.05
1 - 2	3.56	3.00	3.61	0.05	0.06	0.05
3 and more	3.39	2.95	3.37	0.10	0.13	0.11

study of Bahall and Edward (2015), their participants reported that CAM provided holistic care, improved the quality of life, overcame the limitations of conventional medicine, satisfied their increased expectation for comprehensive care, and prevented or counteracted adverse effects caused by conventional medicine. Also Jahan et al. (2015) described positive perception of alternative medicine among medicine students. Evaluating according to sub-dimensions, it is found that “approach to cure” has the highest score while “effects of alternative medicine” has the lowest score. Gender, age, thrust to doctors, the number of diseases and the number of alternative medicine techniques that applied are the independent variables that have been explored in relation with CAM. Women believe in alternative medicine techniques with the score of $x = 3.35$ whereas men’s score is $x = 3.00$, indicating that they have neutral beliefs about it. Additionally, women participants’ average score is higher than men participants average score in all three sub-dimensions. A study conducted by Ergin et al. (2011) showed that there is no significant difference between women and men medicine school students regarding their perceptions about subsidiary and alternative medicine whereas another study conducted by Featherstone et al. (2003) reported that women patients in primary service have higher positive perceptions about alternative medicine than men patients in primary service. Also Jaiswal et al. (2015) reported more positive attitudes toward alternative medicine in comparison with men.

There is a weak positive relation between age and alternative medicine and there is a positive relation between age and “approach to cure” sub-dimension”. Furthermore, a weak negative relation between thrust doctor and perception of alternative medicine is found. It means students-teachers’ perceptions of alternative medicine raises while their thrust to doctors decreases. The insignificant relationship between age and attitudes to alternative medicine was

not detected in the other research studies (see Al-momani and Al-tawalbeh 2015).

There is no relation found between the number of diseases and the perception of alternative medicine. The only significant relation is found in the effect of alternative medicine dimension and participants with 1 or 2 diseases have higher positive perception compare to participants with 3 or more diseases. Additionally, no relation found between the perception of alternative medicine and the status of the participants experiencing a disease in the last year. Gyasi et al. (2015) stated also the positive perception of alternative medicine among respondents, their explanation is scaffolded by bas approach to traditional medicine. So, there is a possibility to predict the more positive attitudes toward alternative medicine if patients suffered any illness, because the price for traditional medicine were to high.

The number of the alternative medicine techniques that are being used has a positive effect on the perception of the alternative medicine. The more alternative medicine techniques are being used, the higher score of alternative medicine the participants have. The same situation occurs for the influence to alternative medicine and approach to cure dimensions. The same relation does not occurs for the effects of alternative medicine dimension. Patterson and Arthur (2009) was found that people that used CAM more than the average tend to use CAM again and they have a positive belief towards CAM whereas the people that used CAM less than average tends not to use CAM again and they have a negative belief towards CAM. This study’s findings are parallel to the results of this study. Also the relationship between using of CAM and the attitudes toward CAM was mentioned in the study of Mohammed et al. (2015), where respondents with more used methods wanted to know more about CAM, it means, that these respondents had got more positive attitudes toward CAM.

CONCLUSION

The Czech Republic has got in its curricular documents included part regarding to educational field called “Man and health”. According this field pupils should have basic concepts about health and also should protect own health and health of other people. Pupils should know risks and danger threatening health of people. Pupils should learn responsibility for own health, they should acquire hygienic, work, eating and other habits. This educational field brings only general information about classic medicine. But, on the other side, the pupils, students get information about other forms of medicine like alternative. In many cases teachers have got experiences with alternative medicine and they talk about it during teaching hours in school. They probably describe positive effects of the alternative medicine.

RECOMMENDATIONS

The researchers suggestion is to try include information about alternative medicine, not only positive, but also negative sides of this concept. If this concept (alternative medicine) is not presented in the curriculum documents, teachers have got “free hands”, which kinds of information will be presented through teachers to pupils and students. As it is seen in our research, the perception of alternative medicine by future teachers is relatively positive, so it could have effect on the presentation of positive information about alternative medicine in their future job (as a teachers). And there is a big risk, the presented information could be incorrect and it can lead to health threatening behavior.

LIMITATIONS

The researchers realize, that their research has got some limitations. They focused on the future teachers and their perception of alternative medicine, because they have got a very strong influence on the pupils and students. Many pupils have got an idol in their teacher, so they can follow the teacher in the behavior patterns. Maybe, the comparison of perception of alternative medicine among future teachers, pharmacists, future doctors and other groups could be interesting. Other form, how to shift the re-

search in this area is the application of more forms, for example interview. However, to imply all possible variables and try all methods is impossible, so we choose quantitative approach toward obtaining and analysis of data and we hope, that at least minimally we fill the gap in this problematic.

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