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ORIGINAL ARTICLE

Attitude Analysis Against Traditional and Complementary Medicine: An Application Specific to Covid-19

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ABSTRACT

Background: In the ages when modern medicine did not exist yet, people developed some methods to treat their diseases with their own efforts. These treatment methods consist of empirical applications based on experience and knowledge developed in the light of centuries of experience and transferred from generation to generation. Although it lost its old effect and wide application area with the development of modern medicine, folk medicine still exists today**.**

Aim: Examining the attitudes and behaviors of people towards modern and traditional medicine practices by taking demographic and individual differences as reference during the Covid-19 epidemic. The data set of this study was obtained through a questionnaire applied on 396 individuals living in Erzurum city center in 2021. Reliability Analysis and Confirmatory Factor Analysis (RACFA), Chi-square test, independent sample t test and ANOVA test were used within the scope of the study.

Results: As the access to modern medicine increases and the learning styles of generations differ, the application dimension of traditional and complementary medicine (TCM) weakens. On the other hand, the level of satisfaction with modern medicine also changes in parallel with expectations. The significant relationships between the variables in the study findings focus on questions related to modern medicine. A significant relationship was found between the intellectual perspective to traditional and complementary medicine sub-dimension and the presence of people who had Covid-19 in the close circle of the participants.

Conclusion: It has been determined that individuals see traditional and complementary medicine as complementary rather than an alternative to modern medicine, and although they have above-average theoretical knowledge, their application aspects are weak**.**

Keywords: Traditional and Complementary Medicine, Folk Medicine, Covid-19, Attitude Analysis

INTRODUCTION

Since the earliest times of human existence, human beings have resorted to various rational or religious or magical-based treatment methods within the framework their cultural structure in order to be healthy, not to get sick, to be treated or to survive. This empirical knowledge, which has been obtained through trial and error for many years, has been passed down orally from generation to generation. This field, which is commonly called folk medicine in folklore, has taken its place in the literature with various terms such as traditional and complementary treatment practices,[1] traditional and complementary medicine,[1-2] alternative medicine,[4] functional medicine,[5] integrative medicine,[6] and folk medicine.[7] While some of the practices in this field among the public are rational, some of them may be religious-magical. In this study, only the rational applications of traditional medicine are focused.

The World Health Organization defines traditional medicine as: “Traditional medicine has a long history. It is the sum total of the knowledge, skill, and practices based on the theories, beliefs, and experiences indigenous to di erent cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness”.[8] Scientific evaluations of the methods used in TCM around the world continue to be made within the scope of ethnobotanical studies. Turkey has a very rich ethnobotanical accumulation. In the Turkish Ethnobotanical Database prepared by Elmira Ospankulova, Erzurum is among the 12 provinces that are best known in terms of ethnobotany.[9] The fact that the region has a rich traditional medicine heritage has been effective in determining the research area of this study as Erzurum.

Traditional medicine supplied the basic health needs of the people in the times when modern medicine has not yet emerged. Some of this knowledge, which has been transferred from generation to generation, has developed and continued according to the needs of the age, and some has disappeared. Traditional medicine continues to be applied for various reasons even after modern medicine has become widespread. Studies have shown that traditional medicine is still so widespread among the people, that scientific medicine approaches the patient more physically, modern medicine cannot produce solutions for some diseases, patients are not satisfied with health services, modern medicine treatment methods cannot achieve sufficient success in chronic diseases, medicines are expensive compared to traditional medicine applications. As a result of this, the reasons such as the search for treatment methods by the patients themselves and the preference of the natural one over the medical treatment methods were determined among the people.[10]

TCM practices, supported by WHO, have become a part of health policies in Turkey, and in this direction, the "Traditional, Complementary and Functional Medicine Practices Department" unit has been activated within the Ministry of Health of the Republic of Turkey. Physicians who have received the certificates to be given by this unit can perform phytotherapy, acupuncture, cupping therapy, leech therapy, hypnosis, ozone therapy, mesotherapy, apitherapy, prolotherapy, orteopathy, reflexology, homeopathy, chiropractic, larval practice and music therapy, some of which are of Far East origin.[11]

Throughout history, humanity has struggled with a wide variety of epidemics, including smallpox, plague, dengue fever, AIDS, influenza, SARS, West Nile disease, tuberculosis.[12] One of them is Covid-19, which first appeared in Wuhan city of China's Hubei province in December 2019 and turned into a pandemic in a short time and affected the whole world. From the first days of the disease until today, a wide variety of opinions have been expressed in all media, among health professionals and the public, about the disease and the ways to prevent it. As Melike Kaplan stated, suggestions given by modern medical doctors to strengthen immunity in written, visual and digital media followed a parallel course with medicinal plants, mixtures, vitamins and nutritional recommendations.[13]

During the period when modern medicine could not provide a solution for the treatment or prevention of the spread of Covid-19, many practices were put into practice in order to protect against the virus, to be treated or to support the treatment. In fact, individuals who resisted the treatment protocol recommended by modern medicine among those who had the disease tried to overcome the disease completely with TCM methods. At this point, it is extremely important to investigate the reasons for these trends in society and to measure people's attitudes towards traditional practices during the Covid-19 global epidemic period.

Within the scope of this study, it was aimed to examine the attitudes and behaviors of individuals living in Erzurum during the Covid-19 epidemic, by taking demographic and individual differences as reference. “Attitude is the disposition attributed to an individual that regularly forms his thoughts, feelings, and behaviors about the psychological object”.[14] Attitudes are not observable phenomena, but they are tendencies that explain the behaviors that emerge. In order to explain the behaviors of people to modern medicine and traditional medicine during the Covid-19 period, it is necessary to determine their attitudes on this issue.

MATERIAL AND METHODS

The data set of this study was obtained through a questionnaire applied on 396 individuals living in Erzurum city center in 2021. While the first two parts of the questionnaire consist of statements showing the demographic characteristics and individual differences of the participants, the third part consists of traditional and complementary medicine (TCM) scale questions. The original TCM Attitude Scale used in the study was developed by McFadden et al. in 2010. Turkish validity and reliability were done by Köse[15] et al. The scale, which consists of 27 items, was designed as a 7-point Likert scale. The scale consists of three sub-dimensions: Intellectual Perspective on Complementary Medicine Dissatisfaction with Modern Medicine , and Holistic View of Health. Within the scope of the scale, the participant was asked to give points from 1 to 7 for each item. “1” is “Strongly Disagree”and “7” is “Strongly Agree”. 22 of the scale items are positive (2nd, 3rd, 5th, 6th, 7th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21th, 22th, 23th, 24th, 25th, 27th items), 5 of them are negative (1st, 4th, 8th, 9th, 26th items). Items with negative statements are scored in reverse (7-6-5-4-3-2-1) when analyzing. The 1st, 4th, 8th, 9th and 26th propositions are reverse scored in the scale. The scale does not have a cutoff value, and as the score increases, people show a positive attitude towards TCM. Within the scope of the study, after the reliability analysis and confirmatory factor analysis (CFA), Chi-square test was used to compare categorical data, independent sample t-test was used to compare normally distributed continuous variables between two groups, and ANOVA test was used to compare the situation of normally distributed continuous variables in more than two groups. The significance value of the study was accepted as $p<0.05$. SPSS and LISREL package programs were used in the analysis.

RESULTS

48.2% of the participants are men and 51.8% are women. The average income is 2934.38 Turkish liras. The average of age is 33.27, the youngest is 18, and the oldest is 73. The average level of knowledge of Covid-19 is 5.21, the average of general health assessment is 5.46, the average of knowledge level of TCM is 4.36, and the average of evaluation of the possibility of infection with the virus is 5.33. 8.6% of the participants are literate, 25% of participants are primary/secondary education, 8.6% of participants are associate degree, 40.4% of participants are undergraduate, 7.8% of participants are graduate and 9.6 of participants are doctoral graduate. 10.9% of the participants are academicians, 9.1% are civil servants, 11.6% are teachers, 10.9% are self-employed, 12.6% are housewives, 28% are students and 16.9% are in other professions. While 16.7% of individuals have a chronic disease, 83.3% do not have any chronic disease. While 44.9% of the participants had Covid-19, 55.1% did not. While 87.1% of the participants have Covid-19 in their close circle, 12.9% do not have Covid-19 in their close circle. While 41.9% of the individuals have some people who died because of Covid-19 in their close circle, 58.1% of them do not have anyone who died because of Covid-19 in their close circle.

Participants' information sources on TCM were asked very preferentially. 69,4% of the 396 participants stated that they obtained information from the internet, 50,50% from health personnel, 49,7% from television, 44,7% from their environment, 40,15% from family and relatives, 12,6% from books, 11,1% from transfers, 6,3% from newspapers and magazines, 5% from school and 2,7% from other sources. Participants were asked open-ended questions about which traditional and complementary products and foods they used to protect themselves from diseases during the Covid-19 epidemic. Responses of the participants mostly focused around honey, ginger, pekmez, turmeric, lemon, mint, garlic, onion and herbal teas (linden, sage, thyme and winter tea).

Reliability analysis was performed for the scale used in the study and the Cronbach Alpha value was found to be 0.662. A Cronbach Alpha value above 0.60 indicates that the scale is reliable.[16] Before the confirmatory factor analysis, skewness values were examined to test whether the data conformed to the normal distribution. Confirmatory factor analysis was performed with the maximum likelihood method for the variables conforming to the normal

distribution. Results of confirmatory factor analysis and acceptance values of fit indices are given after Figure 1, respectively:

As a result of confirmatory factor analysis, it was seen that the variables exhibited acceptable fit. Standardized factor loads are given in Figure 1.

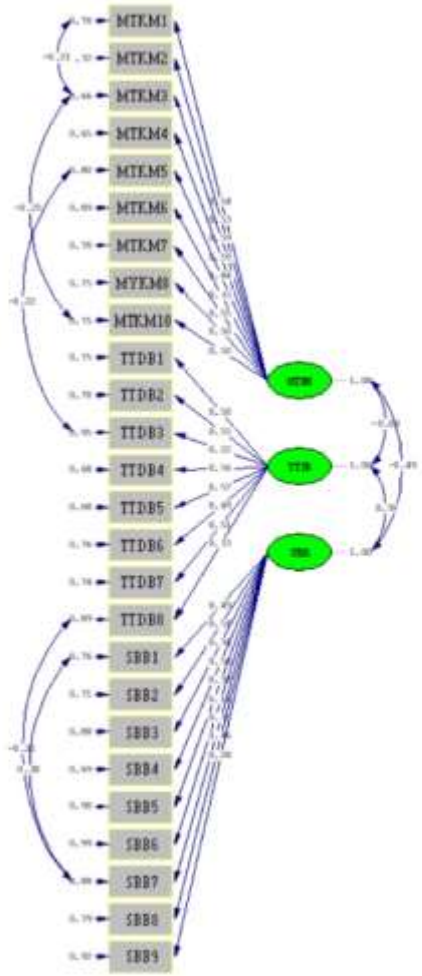

Figure 1: Standardized Loads for the Items of the Traditional and Complementary Medicine Attitude Scale Sub-Dimensions

According to Figure 1, no statements regarding the Intellectual Perspective on Complementary Medicine and Holistic View of Health were excluded from the scale. On the other hand, as a result of the guidance of the LISREL program, only the 9th statement was removed from the Dissatisfaction with Modern Medicine sub-dimension because it disrupted the harmony. In addition, DMM1-DMM3, DMM3-DMM10, DMM-IPCM3, IPCM8-HVH7 and HVH1-HVH7 expressions were connected as per the direction of the LISREL program. When the fit indices were examined, it was observed that $\chi 2$=890,49, (sd)=291, $\chi 2$/sd=3.060, CFI=0.86, NNFI=0.85, IFI=0.86 and RMSEA= 0.070. This shows that even if it is not a perfect fit, it is in an acceptable fit index.[17-18]

According to Table 1 and Post Hoc comparison results, in the DMM sub-dimension, literate individuals have higher levels of dissatisfaction than associate, undergraduate, graduate and doctoral graduates, and associate degree graduates compared to postgraduate and doctoral graduates. In the DMM sub-dimension, those with an income of 8.001TL and above are less dissatisfied than those with a lower income. To put it more clearly, those with an income of 8.001 TL or more are more satisfied with Modern Medicine. In the DMM sub-dimension; self-employed are more dissatisfied than other occupational groups In the IPCM sub-dimension, all relationships are meaningless. In the HVH sub-dimension, the average of the teachers is higher than the others. In addition, although there was a significant difference in income in the HVH sub-dimension, it could not be determined from which group.

A negative and significant relationship was found between the Covid-19 knowledge level and the DMM sub-dimension at the 5% significance level ($\chi 2$=60.509; p=0.001). No significant relationship was found between the knowledge level of TCM and its sub-dimensions. No significant relationship was found between the general health status evaluations of the participants and the sub-dimensions. A positive and significant relationship was found between the participants' assessment of the possibility of being infected with the virus and the DMM sub-dimension at the 5% significance level ($\chi 2$=250.500; p=0.000). A negative and significant relationship was found between the holistic view of health sub-dimension and the degree of evaluation of the possibility of infection by individuals ($\chi 2$=50.134; p=0.047).

When Table 2 is examined, the highest number of significant relationships emerged in the DMM **s**ub-dimension. In this sub-dimension, women have significantly higher dissatisfaction than men, those who have had COVID-19 compared to those who have not had a chronic illness, and those who have no chronic disease. In the IPCM sub-dimension, those who had COVID-19 only in their close circle had a significantly higher mean than those who did not. In the HVH sub-dimension, men have a significantly higher mean than women.

Table 1: Statistics on Variables, Anova Analysis

Dep.	Independent	N	Av.	S.D.	F	P
DMM	Literate	34	3,89	0,78	7,29	0,000**
	Primary education	99	3,57	0,89		
	Associate degree	34	3,65	0,89		
	Undergraduate	160	3,23	1,11		
	Postgraduate	31	2,76	1,06		
	Doctor's degree	38	2,91	1,22		
IPCM	Literate	34	4,33	0,61	0,80	0,553
	Primary education	99	4,46	0,82		
	Associate degree	34	4,39	0,66		

	Undergraduate	160	4,26	1,08		
	Postgraduate	31	4,19	0,99		
	Doctor's degree	38	4,23	0,99		
HVH	Literate	34	4,73	0,56	3,48	0,004**
	Primary education	99	4,85	0,77		
	Associate degree	34	4,66	0,76		
	Undergraduate	160	5,04	0,89		
	Postgraduate	31	5,29	0,66		
	Doctor's degree	38	5,10	0,90		
DMM	0-1.000	171	3,38	1,05	2,950	0,03**
	1.001-2.000	15	3,24	0,95		
	2.001-3.000	37	3,73	0,97		
	3.001-4.000	35	3,59	1,00		
	4.001-5.000	46	3,37	1,03		
	5.001-6.000	30	3,27	1,11		
	6.001-7.000	7	3,73	1,35		
	7.001-8.000	17	2,80	0,97		
	8.001 and above	38	2,80	1,13		
IPCM	0-1.000	171	4,24	0,90	1,30	0,243
	1.001-2.000	15	4,39	0,93		
	2.001-3.000	37	4,46	0,84		
	3.001-4.000	35	4,11	0,90		
	4.001-5.000	46	4,39	0,88		
	5.001-6.000	30	4,67	1,08		
	6.001-7.000	7	4,70	1,58		
	7.001-8.000	17	4,12	0,92		
	8.001 and above	38	4,36	1,02		
HVH	0-1.000	171	4,90	0,79	1,47	0,166
	1.001-2.000	15	5,01	0,75		
	2.001-3.000	37	4,78	0,83		
	3.001-4.000	35	4,77	0,78		
	4.001-5.000	46	5,08	0,97		
	5.001-6.000	30	5,21	0,69		
	6.001-7.000	7	5,40	1,37		
	7.001-8.000	17	5,18	0,57		
	8.001 and above	38	5,01	0,83		
DMM	Academician	43	2,75	1,20	5,03	0,000**
	Civil servant	36	3,38	1,07		
	Teacher	46	3,20	1,09		
	Self-employed	43	3,81	0,71		
	Housewife	50	3,49	0,84		
	Student	111	3,22	1,12		
	Others	67	3,60	1,02		
IPCM	Academician	43	4,15	1,04	1,78	0,101
	Civil servant	36	4,24	0,90		
	Teacher	46	4,57	1,00		
	Self-employed	43	4,46	0,68		
	Housewife	50	4,49	0,68		
	Student	111	4,17	0,98		
	Others	67	4,34	1,03		
HVH	Academician	43	5,04	0,85	4,12	0,001**
	Civil servant	36	4,87	0,86		
	Teacher	46	5,43	0,71		
	Self-employed	43	4,83	0,60		
	Housewife	50	4,89	0,70		
	Student	111	4,99	0,80		
	Others	67	4,72	0,96		

Significant at p<0.01 level *: Significant at p<0.05 level.

Table 2: Statistics on Variables, T-Tests

Sub-dimension	Differentness	N	Average	Standard Error	t	P(sig.)
DMM	Female	205	3,48	1,02	2,55	0.011*
	Male	191	3,21	1,09		
IPCM	Female	205	4,30	0,89	0,242	0.809
	Male	191	4,33	0,97		
HVH	Female	205	4,84	0,84	2,75	0.006**
	Male	191	5,06	0,78		
DMM	He/she had COVID-19.	178	3,46	0,95	2,00	.042**
	He/she didn't infected by COVID-19.	218	3,24	1,14		
IPCM	He/she had COVID-19.	178	4,41	0,80	1,74	0.074
	He/she didn't infected by COVID-19	218	4,24	1,02		
HVH	He/she had COVID-19.	178	4,95	0,81	0,20	0.835
	He/she didn't infected by COVID-19	218	4,96	0,82		
DMM	There is a death due to COVID-19 in the close circle.	166	3,42	1,10	1,36	0,175
	There is no death due to COVID-19 in the close circle.	230	3,28	1,03		
IPCM	There is a death due to COVID-19 in the close circle.	166	4,39	0,86	1,32	0,187
	There is no death due to COVID-19 in the close circle.	230	4,26	0,98		

HVH	There is a death due to COVID-19 in the close circle. There is no death due to COVID-19 in the close circle.	166 230	4,94 4,96	0,80 0,83	0,28	0,776
DMM	There is someone who had COVID-19 in close circle There is no one who had COVID-19 in close circle.	345 51	3,34 3,32	1,06 1,06	0,09	0,926
IPCM	There is someone who had COVID-19 in close circle. There is no one who had COVID-19 in close circle.	345 51	4,35 4,06	0,93 0,91	2,08	0,037*
HVH	There is someone who had COVID-19 in close circle. There is no one who had COVID-19 in close circle.	345 51	4,98 4,81	0,83 0,67	1,35	0,115
DMM	He/she has a chronic disease He/she has no chronic disease	66 330	3,66 3,27	0,97 1,07	2,73	0,005**
IPCM	He/she has a chronic disease He/she has no chronic disease	66 330	4,25 4,33	0,90 0,94	0,582	0,561
HVH	He/she has a chronic disease He/she has no chronic disease	66 330	4,85 4,98	0,86 0,81	1,151	0,250
DMM	He/she is taking vitamin/supplement He/she is not taking vitamin/supplement	139 257	3,46 3,27	0,99 1,09	1,75	0,081
IPCM	He/she is taking vitamin/supplement He/she is not taking vitamin/supplement	139 257	4,36 4,29	0,80 0,99	0,652	0,515
HVH	He/she is taking vitamin/supplement He/she is not taking vitamin/supplement	139 257	4,98 4,94	0,78 0,84	0,435	0,664

Significant at p<0.01 level *: Significant at p<0.05 level.

DISCUSSION

Today, the idea that TCM is no longer an alternative to modern medicine and is a complement to it is accepted. The fact that 75.8% of the participants gave positive answers to the question about the necessity of looking at health with a holistic understanding is an indicator of this situation. Erzurum province is a region where TCM applications are carried from generation to generation. The knowledge level of the participants about TCM is above the average with a value of 4.36. Although this indicates the existence of theoretical knowledge, other findings of the study show that the application dimension is weak. In the frequency analysis of the study on the basis of questions, distribution of the answers given to the questions “feeling relaxed after TCM applications”, “belief in taking control of one's own health”, “thinking that TCM is more effective than modern medical treatments” and “setting the suggestions and applications of TCM close and natural” more than 50% positive. These findings are indicative of the fact that the participants have an intellectually positive perspective towards TCM. Some findings within the scope of the study lead us to the conclusion that the application dimension of TCM has weakened as a result of the increase in access to modern medicine and the differentiation of the learning styles of the generations. On the other hand, dissatisfaction with modern medicine also changes in parallel with expectations. As the level of education increases, the expectation increases, and increasing and unmet expectations increase dissatisfaction. A similar situation was observed in the participants who stated that they had a chronic illness. The significant relationships between the variables in the study findings focus on questions related to modern medicine. A significant relationship was found between TCM and the presence of people who had Covid-19 in the close circle of the participants. Although the environment ranks 4th with 44.7% among the participants' information sources on TCM, the impact of the environment on the participants is felt much more intensely. It is thought that the high coverage of news and content about Covid-19 in traditional and digital media tools during the pandemic period is effective in shaping this ranking. Again in this period, the recommendations of the health personnel regarding modern and traditional medicine in the relevant media have affected the ranking of these information sources. It is thought that traditional and digital media contents that are not subject to control and regulation may create a distrust on individuals in terms of TCM awareness and development.

CONCLUSION

In order to transform the existing theoretical awareness about traditional and complementary medicine into practice, it is necessary to develop interfaces that can use these applications in a holistic way with modern medicine. Theoretical and applied knowledge transferred from generation to generation must be recorded and classified so that it is not lost and transferred to future generations. It is thought that interfaces will play an active role in the protection of existing information and the reliability of information sources.

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