

Awareness and Prevalence of Traditional and Complementary Medicine in Patients' Application to Orthopedics and Traumatology Outpatient Clinic

Ortopedi ve Travmatoloji Polikliniğine Başvuran Hastalarda Geleneksel ve Tamamlayıcı Tıp Farkındalığı ve Uygulama Prevalansı

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ÖZ

Amaç: Çalışmamızın amacı ortopedi ayaktan hasta polikliniğine başvuran hastalar arasındaki geleneksel ve tamamlayıcı tedavi uygulamaları farkındalığı ve uygulanma prevalansını ortaya koymaktır.

Araçlar ve Yöntem: Üniversite hastanesi, ortopedi ve travmatoloji ayaktan hasta polikliniğine 1 mart-1 ağustos tarihleri arasında başvuran hastalar arasındaki gönüllüler çalışmaya alınmıştır. Anket 637 gönüllüye uygulanmıştır. Ankette 8 farklı yöntem ile ilgili 16 soru yer almaktadır. Anketin düzenlenme amacı katılımcıların farkındalığını ve uygulama prevalansını ortaya koymaktır. Anketler gönüllüler ile profesyonel sağlık hizmeti sağlayıcıları arasında yüz yüze yapılmıştır. Sonuçlar kayıt altına alınmış olup istatistiksel analiz uygulanmıştır.

Bulgular: Gönüllülerin %54.7'si erkek %45.3.2 ü ise kadın katılımcıdır. Katılımcıların yaş ortalaması 41.52±16.349 bulundu. Cinsiyet (p=0.3) ve eğitim düzeyinin (p=0.207) geleneksel tedavi ile ilgili farkındalık üzerine etki etmediği saptandı. Bununla birlikte yaşam alanının geleneksel tedavi farkındalığına etki ettiği belirlendi (p=0.008).

Sonuç: Geleneksel tedavi yöntem ve uygulamalarının popülaritesi her geçen gün artmaktadır. Buna rağmen ortopedi polikliniğine başvuran hastalarda farkındalığın düşük olduğu görülmüştür. Halkın bu tür tedavi yaklaşımlarına ulaşabilmesi ve farkındalığı artırabilmesi için daha profesyonel sağlık hizmeti sunucularının eğitilmesine ihtiyaç vardır.

Anahtar Kelimeler: geleneksel tedavi; kesitsel çalışma; kupa tedavisi; tamamlayıcı tedavi

ABSTRACT

Purpose: The objective of this study was to assess the awareness of complementary and alternative medicine practices and the frequency of their utilization among patients attending an orthopedic outpatient clinic.

Materials and Methods: Patients who presented to the orthopedics outpatient clinic of the University Hospital between November 15 and December 30, 2022, were invited to participate in this study. A questionnaire containing 16 questions about eight different traditional and complementary approaches, designed to determine patients' knowledge of and attitudes toward each of these practices, was administered by the responsible physician through face-to-face interviews. The questionnaires were administered to 637 volunteers. The results were recorded, and statistical analysis was applied.

Results: The volunteers were % 54.7 male and 45.3.2% female participants. The mean age of the participants was 41.52±16.349. It was determined that gender (p=0.3) and education level (p=0.207) did not affect awareness of traditional treatment. However, it was determined that the settlement area affected the awareness of traditional treatment (p<0.05).

Conclusions: The popularity of traditional treatment methods and practices is steadily increasing. The public needs more professional health service providers to reach such treatment approaches and raise awareness. Despite this, it was observed that awareness was low among patients who applied to the orthopedics outpatient clinic. There is a need to educate professional health service providers to facilitate public access to these treatment approaches and to enhance social awareness.

Keywords: complementary therapy; cross-sectional study; cupping; traditional medicine

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INTRODUCTION

The popularity of traditional and complementary (T & CM) therapy in treating musculoskeletal disorders is increasing daily. Traditional and complementary treatment methods can be preferred if patients reach well-equipped hospital facilities.¹ As a result of a study conducted in Turkey, the frequency of applying T & CM was found to be 60%.² T & CM medical treatment procedures were integrated into the health system by the World Health Organization in 2013, and it has been recommended to be applied safely and appropriately.³ T & CM medical practice departments have served in hospitals affiliated with the Ministry of Health in Turkey since 2011. In 2014, regulations regarding T & CM medical practices were made, and a guide containing specific standards was published.⁴ There are 16 applications in this guide. Among these, seven treatment modalities, which are frequently used in orthopedic disorders and chronic pain related to the musculoskeletal system, were selected for the study. It aimed to investigate these modalities' awareness and practice experiences among the patients who applied to the orthopedics and traumatology outpatient clinic. For this purpose, apitherapy,⁵ acupuncture,⁶ hirudotherapy,⁷ chiropractic,⁸ cupping,⁹ wet cupping therapy,¹⁰ and mesotherapy¹¹ were selected among these applications. In order to reveal the awareness of the selected treatment modalities, a questionnaire was created based on the definitions made in the guideline. Data on application prevalence will be collected.

MATERIALS and METHODS

The study is a cross-sectional, descriptive study. Approval for this study was obtained from Kırşehir Ahi Evran University Clinical Research Ethics Committee (dated 03.01.2023 and numbered 2023-01/03). The study was conducted among 637 volunteers who applied to the outpatient clinic of Orthopedics and Traumatology outpatient clinic between 15.10.2022 and 30.11.2022. The criteria for inclusion in the study include being able to read and write Turkish, volunteering, and being over 18. Patients who did not volunteer or who could not read, write and understand Turkish were excluded from the study. The definitions of traditional medicine and treatment practices to be investigated in the study were based on the guide

published in 2014. Seven types of treatment methods have been investigated. The surveys were planned anonymously. The statistically significant effect of age, gender, education level, and living in a rural area or a City will be investigated. Again, in the patient group with awareness, it was planned to investigate the source of information. Previous traditional treatment experience will be searched among the respondents. It will be questioned where they received the treatment and by whom.

Statistical Analysis

The chi-square test was used for the analysis of categorical data. Quantitative data were expressed as mean±standard deviation (SD), median, minimum, and maximum; Categorical data were expressed as frequency (n) and percentage (%). $p < 0.05$ was considered statistically significant. All analyzes were performed with SPSS 21.0 package program (IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp.).

RESULTS

There were 637 participants in the study. The study participant's mean age and median age were 41.52 ± 16.349 and 40 [18-88], respectively. 54.7% (n=349) of the participants were male, 36.5% (n=230) were university graduates, and 81.3% (n=517) were living in the City (Table 1). According to the data obtained from the study, the rate of those who received traditional treatment before was calculated as 30.1%. It was determined that 91.6% (n=175) of those who received conventional treatment received it from a non-health institution (Table 1). It was determined that gender ($p=0.3$) and education level ($p=0.207$) did not affect general awareness. However, it was determined that the living environment affected the awareness of traditional treatment ($p=0.008$). While 74.9% of those who had traditional treatment before lived in the City, 25.1% of those who had treatment lived in rural areas. It was determined that 43.2% (n=83) of the traditional treatment recipients had been treated with wet cupping, 30.7% (n=59) had hirudotherapy, and 27.6% (n=53) were cupping therapy. When the participants' awareness about traditional treatment methods was examined, it was seen that the highest awareness was the

wet cupping method, with 44.1%, followed by hirudotherapy (34.5%) and cupping (34.2%) treatment methods. On the other hand, the lowest level of awareness was apitherapy (7.9%) and mesotherapy (8.6%). In general, it was determined that there needed to be an idea about the methods of apitherapy (11.6%) and mesotherapy (12.7%) according to the percentage of questions regarding each method.

Table 1. Demographic characteristics of the patients.

Age (year)	41.52 ± 16.349	
	n	%
Gender		
Male	348	54.7
Female	289	45.3
Level of Education		
University	236	36.5
High School	200	31.7
Primary School	201	31.9
Living Environment		
Rural Area	119	18.7
City	518	81.3
Had any previous T & CM treatment		
Yes	191	30.1
No	446	69.9
Where did you experienced		
Health professional	16	8.4
Non- health professional	175	91.6

Table 2. Relationship between level of education and knowledge about T & CM.

T & CM	Level Of Education	True	False	Blank	p
Acupuncture	University	102 (59)	10 (35.7)	118 (27.4)	<0.001
	High School	42 (24.3)	11 (39.3)	147 (34.2)	
	Primary School	29 (16.7)	7 (25)	165 (38.4)	
Apitherapy	University	45 (60.8)	17 (53.1)	168 (32)	<0.001
	High School	19 (25.7)	8 (25)	173 (33)	
	Primary school	10 (13.5)	7 (21.9)	184 (35)	
Hirudo therapy	University	98 (45)	7 (29.2)	125 (32.1)	0.008
	High School	61 (28)	5 (20.8)	134 (34.4)	
	Primary school	59 (27.1)	12 (50)	130 (33.4)	
Chiropractic	University	105 (52)	8 (34.8)	117 (28.8)	<0.001
	High School	57 (28.2)	8 (34.8)	135 (33.3)	
	Primary school	40 (19.8)	7 (30.4)	154 (37.9)	
Cupping	University	101 (46.8)	8 (36.4)	121 (30.8)	<0.001
	High School	55 (25.5)	12 (54.5)	133 (33.8)	
	Primary school	60 (27.8)	2 (9.1)	139 (35.4)	
Wet cupping	University	118 (42.4)	10 (19.2)	102 (33.9)	0.007
	High School	73 (26.3)	20 (38.5)	107 (35.5)	
	Primary school	87 (31.3)	22 (42.5)	92 (30.6)	
Mesotherapy	University	55 (68.8)	15 (48.4)	160 (30.8)	<0.001
	High School	13 (16.3)	10 (32.3)	177 (34)	
	Primary school	12 (15)	6 (19.4)	183 (35.2)	

As with the education level, in all traditional treatment methods, the awareness level of those living in the City is significantly higher than those living in rural areas (p<0.05) (Table 3).

In all traditional treatment methods, the level of awareness of those aged 21-30 was significantly higher than those of other age groups (p<0.05 for all) (Table 4). The highest

More than half of the information source for each type of traditional treatment subject to the study was the "family, close friends, relatives" option by the participants. However, an essential part of the information source of awareness of the wet cupping method comes from the environment. None of the aware participants chose the option of a professional health worker as the source of information.

Awareness of the chiropractic method in men is significantly higher than that of women (p=0.034), while men are more ignorant of the acupuncture method than women (men=57.8% – women=42.2%) (p=0.026). The level of awareness in men and women was similar in other treatment modalities (p>0.05 for all).

In all traditional treatment methods, the awareness level of university graduates was significantly higher than the other levels (p<0.05) (Table 2).

awareness belongs to the participants between the ages of 21-30 for all methods (Table 4). 56% of the participants stated they knew at least one of these methods. However, 44% (n=281) of the participants did not know about any of the methods. It was determined that only 3.8% (n=20) of the participants knew all methods.

Table 3. Relationship between living environment and knowledge about T & CM.

T & CM	Living Environment	True	False	Blank	p
Acupuncture	Rural Area	13 (7.6)	4 (14.3)	102 (23.4)	<0.001
	City	159 (92.4)	24 (85.7)	334 (76.6)	
Apitherapy	Rural Area	6 (8.1)	5 (16.1)	108 (20.3)	0.038
	City	68 (91.9)	26 (83.9)	423 (79.7)	
Hirudo therapy	Rural Area	29 (132)	7 (29.2)	83 (21.1)	0.023
	City	190 (86.8)	17 (70.8)	310 (78.9)	
Chiropractic	Rural Area	23 (11.4)	5 (21.7)	91 (22.1)	0.005
	City	179 (88.6)	18 (78.3)	320 (77.9)	
Cupping	Rural Area	27 (12.5)	2 (9.1)	90 (22.6)	0.005
	City	189 (87.5)	20 (90.9)	308 (77.4)	
Wet cupping	Rural Area	43 (15.3)	10 (19.2)	66 (21.8)	0.133
	City	238 (84.7)	42 (80.8)	237 (78.2)	
Mesotherapy	Rural Area	6 (7.4)	6 (19.4)	107 (20.4)	0.02
	City	75 (92.6)	25 (80.6)	417 (79.6)	

Table 4. Relationship between age and knowledge about T & CM.

T & CM	Age Groups	True	False	Blanc	p
Acupuncture	<20	2 (1.1)	3 (10.7)	26 (6)	<0.001
	21-30	56 (32.2)	12 (42.9)	106 (24.3)	
	31-40	41 (23.6)	6 (21.4)	72 (16.5)	
	41-50	46 (26.4)	2 (7.1)	96 (22)	
	51-64	24 (13.8)	3 (10.7)	85 (19.5)	
	≥65	5 (2.9)	2 (7.1)	51 (11.7)	
Apitherapy	<20	5 (6.8)	1 (3.1)	25 (4.7)	0.245
	21-30	22 (29.7)	13 (40.6)	139 (26.1)	
	31-40	18 (24.3)	5 (15.6)	96 (18)	
	41-50	15 (20.3)	6 (18.8)	123 (23.1)	
	51-64	13 (17.6)	6 (18.8)	93 (17.5)	
	≥65	1 (1.4)	1 (3.1)	56 (10.5)	
Hirudo therapy	<20	8 (3.6)	0 (0)	23 (5.8)	0.003
	21-30	58 (26.4)	8 (33.3)	108 (27.4)	
	31-40	51 (23.2)	0 (0)	68 (17.3)	
	41-50	54 (24.5)	4 (16.7)	86 (21.8)	
	51-64	40 (18.2)	6 (25)	66 (16.8)	
	≥65	9 (4.1)	6 (25)	43 (10.9)	
Chiropractic	<20	9 (4.4)	1 (4.3)	21 (5.1)	<0.001
	21-30	76 (37.4)	9 (39.1)	89 (21.6)	
	31-40	51 (25.1)	4 (17.4)	64 (15.5)	
	41-50	39 (19.2)	5 (21.7)	100 (24.3)	
	51-64	21 (10.3)	4 (17.4)	87 (21.1)	
	≥65	7 (3.4)	0 (0)	51 (12.4)	
Cupping	<20	11 (5.1)	0 (0)	20 (5)	0.006
	21-30	66 (30.4)	5 (22.7)	103 (25.8)	
	31-40	51 (23.5)	8 (36.4)	60 (15)	
	41-50	47 (21.7)	4 (18.2)	93 (23.3)	
	51-64	34 (15.7)	4 (18.2)	74 (18.5)	
	≥65	8 (3.7)	1 (4.5)	49 (12.3)	
Wet cupping	<20	10 (3.6)	2 (3.8)	19 (6.2)	0.086
	21-30	83 (29.5)	11 (1.2)	80 (26.2)	
	31-40	58 (20.6)	10 (19.2)	51 (16.7)	
	41-50	60 (21.4)	10 (19.2)	74 (24.3)	
	51-64	55 (19.6)	12 (23.1)	45 (14.8)	
	≥65	15 (5.3)	7 (13.5)	36 (11.8)	
Mesotherapy	<20	5 (6.2)	1 (3.2)	40 (7.6)	<0.001
	21-30	26 (32.1)	16 (51.6)	117 (22.2)	
	31-40	24 (29.6)	5 (16.1)	90 (17.1)	
	41-50	16 (19.8)	4 (12.9)	124 (23.6)	
	51-64	8 (9.9)	5 (16.1)	91 (17.3)	
	≥65	2 (2.5)	0 (0)	64 (12.2)	

DISCUSSION

T & CM medical treatments are widely used in our country.² It is used as a complementary treatment for complaints related to the musculoskeletal system. In other countries, 70% of the people in the Far East experience T & CM medical treatment at least once a year.¹² This rate reaches 40% in the western Pleiades.³ When we look at the previous studies, this rate varies between 30-42% in our country.¹³ In our study, this rate was 30.1%. This may be because the study was planned for patients who applied to the orthopedics and traumatology clinic in a tertiary hospital and was cross-sectional.

However, another reason is that T & CM medical treatments are not recommended or administered by professional healthcare providers, and the success rates are low due to the application of such treatments by uncertified people. As a result of another study conducted in Turkey, it has been revealed that these treatments are commonly practiced by uncertified and uneducated people.¹⁴

In our study, most of those who received T & CM received this treatment outside the health institution. As a result of another study, it was seen that professional healthcare providers need more knowledge about T & CM treatment methods.¹⁵ Therefore, awareness cannot be created in patients. When we look at the literature, it has been seen that middle age and low education levels positively affect T & CM treatment choices and awareness in Riyadh Region, Saudi Arabia.¹⁶ The possible reason for the high awareness and treatment preference was interpreted as the high prevalence of the practice in this region and the difficulty of accessing professional health services.

In our study, general awareness was higher in the young adult age group between 20-30. This result is because the young adult group interacts more with their environment to access information. In the literature, awareness was found to be high in young adults and middle-aged populations.^{4,17-19} Considering the gender and awareness

of the participants, while the male gender was superior in chiropractic awareness, female gender predominance was observed in apitherapy awareness.

When the applications of chiropractic are examined in the literature, it has been observed that the complaints related to the musculoskeletal system are high in the male gender.²⁰ In the remaining T & CM methods, we see that awareness is not correlated with gender. Previous studies have shown that the female gender is superior in awareness.²¹ When we examine how knowledge is acquired, the environment and family members take first place. Similar results were also found in the literature.^{2,9} A similar result was obtained in our study. 38% of those with awareness obtained this correct information from their environment.

In order to increase proper awareness, it is considered necessary to train professional health service providers. In a cross-sectional study conducted in Germany, most patients who applied to the orthopedic outpatient clinic thought doctors should know about T & CM therapies.¹⁷ Another result of the out study is the low prevalence of T & CM therapy awareness and practice among people living in rural areas. As a result of previous studies, the prevalence of T & CM treatment application in rural areas was found to be high.^{22,23} This difference includes more accessible access to professional health services and socio-cultural and economic reasons in our country. It was observed that there was a correlation between education level and awareness of T & CM and that awareness was high among university graduates. In the literature, studies show that increasing the level of education has positive effects on T & CM awareness.⁴

As a result of our study, it has been revealed that cupping, hirudotherapy, and wet cupping have a higher level of awareness compared to other treatments. This rate was low in apitherapy, acupuncture, and mesotherapy treatments. This effect is due to the significant effect of education on awareness in T & CM methods such as apitherapy, acupuncture, and mesotherapy. The popularity of these applications are increasing worldwide.⁹ As we stated as a result of our study, the correct awareness of the applications is low. One of the leading reasons for low social awareness is the low level of knowledge of

healthcare providers working in hospitals where professional health services are provided about T & CM therapy. The need for more time and the minimal literature on this subject can be counted among the reasons for the low awareness of healthcare professionals due to studies conducted on this subject.²⁴ One of the limitations of our study is that it is a single-centered cross-sectional study. If the study had been conducted in a multi-center or high-population province, the results might have varied. Another limitation of the study is that the surveyed population was made only in patients who applied to the orthopedic outpatient clinic. We think that conducting a survey among patients who apply to the hospital will affect the results.

Conclusion

The popularity of GTT treatment methods and applications is increasing day by day. Despite this, it was observed that awareness was low among patients who applied to the orthopedics outpatient clinic. Considering those who received GTT methods as treatment, most of them received treatment in a center other than a health institution. The public needs more professional health service providers to reach such treatment approaches and raise awareness. Considering the higher awareness of young patients and those living in the cities, the importance of interaction with the methods used to access information becomes apparent.

Conflict of Interest

The authors declare that there is not any conflict of interest regarding the publication of this manuscript.

Ethics Committee Permission

Approval for this study was obtained from Kırşehir Ahi Evran University Clinical Research Ethics Committee (dated 03.01.2023 and numbered 2023-01/03).

Authors' Contributions

Concept/Design: LH. Data Collection and/or Processing: MFÇ, LH. Data analysis and interpretation: MF, LH. Literature Search: LH. Drafting manuscript: LH. Critical revision of manuscript: MFÇ, LH.

REFERENCES

1. Alrowais NA, Alyousefi NA. The prevalence extent of Complementary and Alternative Medicine (CAM) use among Saudis. *Saudi Pharm J.* 2017;25(3):306-318.
2. Öztürk FG, Şencan İ, Özkara A, Yapar A, Engin EE, Öztürk R. Knowledge and experiences of complementary and alternative medical practices among patients presenting to an orthopedic clinic: A cross-sectional study. *Eur. J. Integr. Med.* 2022;51:102117.
3. Organization WH. WHO traditional medicine strategy: 2014-2023. World Health Organization; 2013.
4. Kaya BB, Şahin M. Public knowledge about traditional and complementary medicine. *Eur. Respir. J.* 2019;5(5):861-867.
5. Won C-H, Hong S-S, Kim CM, et al. Efficacy of apitox (bee venom) for osteoarthritis: A randomized active-controlled trial. *J Am Apither Soc.* 2000;7(3):53-60.
6. Molsberger AF, Mau J, Pawelec DB, Winkler J. Does acupuncture improve the orthopedic management of chronic low back pain—a randomized, blinded, controlled trial with 3 months follow up. *Pain.* 2002;99(3):579-587.
7. Michalsen A, Moebus S, Spahn G, Esch T, Langhorst J, Dobos GJ. Leech therapy for symptomatic treatment of knee osteoarthritis: results and implications of a pilot study. *Leech.* 2002;84(1):88.
8. Roecker CB, Long CR, Vining RD, Lawrence DJ. Attitudes toward evidence-based clinical practice among doctors of chiropractic with diplomate-level training in orthopedics. *Chiropr. Man. Ther.* 2013;21(1):1-7.
9. Aboushanab TS, AlSanad S. Cupping therapy: an overview from a modern medicine perspective. *J Acupunct Meridian Stud.* 2018;11(3):83-87.
10. AlBedah A, Khalil M, Elolemy A, et al. The use of wet cupping for persistent nonspecific low back pain: randomized controlled clinical trial. *J Altern Complement Med.* 2015;21(8):504-508.
11. EL-Mallah R, Elattar EA. Extracorporeal shockwave therapy versus musculoskeletal mesotherapy for Achilles tendinopathy in athlete. *Egypt. Rheumatol.* 2020;47(1):1-10.
12. Park M, Park J, Kwon S. Evidenced-based Complementary and Alternative Medicine. 2014.
13. Şimşek B, Aksoy DY, Basaran NC, Taş D, Albasan D, Kalaycı MZ. Mapping traditional and complementary medicine in Turkey. *Eur. J. Integr. Med.* 2017;15:68-72.
14. Kavadar G, Demir SE, Aytekin E, Akbal Y. Use of traditional and complementary medicine for musculoskeletal diseases. *Turk. J. Med. Sci.* 2019;49(3):809-814.
15. Bjerså K, Stener Victorin E, Fagevik Olsén M. Knowledge about complementary, alternative and integrative medicine (CAM) among registered health care providers in Swedish surgical care: a national survey among university hospitals. *BMC Complement Altern. Med.* 2012;12(1):1-10.
16. Elolemy AT, AlBedah AM. Public knowledge, attitude and practice of complementary and alternative medicine in Riyadh region, Saudi Arabia. *Oman Med J.* 2012;27(1):20.
17. Kilper A, Müller A, Huber R, Reimers N, Schütz L, Lederer A-K. Complementary medicine in orthopaedic and trauma surgery: a cross-sectional survey on usage and needs. *BMJ open.* 2020;10(9):e037192.
18. Lederer A-K, Baginski A, Raab L, et al. Complementary medicine in Germany: a multi-centre cross-sectional survey on the usage by and the needs

- of patients hospitalized in university medical centers. *BMC Complement Altern Med.* 2021;21(1):1-10.
19. Silvanathan S, Low BS. Current public awareness on the safety of traditional and complementary medicines (T&CM) in Malaysia. *Eur. J. Integr. Med.* 2015;7(2):184-189.
 20. Adams J, Peng W, Cramer H, et al. The prevalence, patterns, and predictors of chiropractic use among US adults. *Spine.* 2017;42(23):1810-1816.
 21. Judson PL, Abdallah R, Xiong Y, Ebbert J, Lancaster JM. Complementary and alternative medicine use in individuals presenting for care at a comprehensive cancer center. *Integr Cancer Ther.* 2017;16(1):96-103.
 22. Wilkinson JM, Simpson MD. High use of complementary therapies in a New South Wales rural community. *Aust. J. Rural. Health.* 2001;9(4):166-171.
 23. Wardle J, Lui CW, Adams J. Complementary and alternative medicine in rural communities: current research and future directions. *J. Rural Health.* 2012;28(1):101-112.
 24. Hirschhorn KA, Bourgeault IL. Conceptualizing mainstream health care providers' behaviours in relation to complementary and alternative medicine. *Soc. Sci. Med.* 2005;61(1):157-170.