

The State of Practicing Traditional Methods and Their Effects on Individuals With Cutaneous Leishmaniasis in Turkey

Kutanöz Leishmania (Şark Çıbanı) Hastalığına Sahip Bireylerin Geleneksel Yöntem Kullanma Durumu ve Etkileri, Türkiye

Sena MACİT¹ , Selma KAHRAMAN² 

¹İbni Sina Hospital, Ankara, TÜRKİYE

²Harran University, Health Sciences Faculty, Public Health Nursing, Şanlıurfa, TÜRKİYE

Abstract

Background: The aim of this study was to investigate the state of traditional methods used by individuals with cutaneous leishmaniasis (CL) disease and the effects of traditional methods on their health.

Materials and Methods: This was a descriptive study. The sample for this study consisted of 232 cutaneous leishmaniasis patients. The research was conducted in the Oriental Sore Treatment Center between January 01, 2020, and March 01, 2021. The research data were collected with a survey. The descriptive statistics were evaluated with the chi-square test and phi (Φ) and Cramer's V parameters. A p-value of less than .05 was considered statistically significant.

Results: It was observed that 96 people participating in the survey who received treatment with the diagnosis of CL were children and 136 people were adults. It was determined that one of the family members of each patient had previous CL with a rate of 44.9% and that 8.1% of the patients themselves had CL before. While the traditional method is not used in pediatric patients with CL, it was determined that 44.1% of adult patients used the traditional method for securing their disease. Patients using traditional methods mostly (48.3%) bought ready-made ointments from herbalists and applied them to the wounds. 66.7% of the patients suffered from the traditional method they applied. While 10.8% of patients aged 45 years and younger, 74.6% of patients over 45 years of age used traditional methods ($p<0.05$), and it was observed that there was a negative moderate relationship between age and traditional method usage ($\Phi = -0,64$). While 89.5% of illiterate patients used traditional methods, 13.6% of patients with secondary school or higher education were detected to use traditional methods ($p<0,05$, $V=0,57$). Patients with facial wounds preferred to use traditional methods more ($p<0,05$, $V=0,25$).

Conclusions: This study showed that cutaneous leishmaniasis is still an important public health problem in Şanlıurfa Province in Turkey, and that traditional methods have negative effects on adult patients.

Key Words: Cutaneous Leishmaniasis, Şark Çıbanı, Traditional Method, Health, Effect

Öz

Amaç: Bu çalışmanın amacı, kutanöz leishmania (KL) hastalığına sahip bireylerin geleneksel yöntem kullanma durumu ve etkilerini ortaya çıkarmaktır.

Materyal ve Metod: rmuştur. Araştırma 01 Ocak 2020- 01 Mart 2021 tarihleri arasında Şark çıbanı merkezinde yapılmıştır. Araştırma verileri anket formu ile toplanmıştır. Veriler tanımlayıcı istatistikler, Ki-kare testi ile phi (Φ) ve Cramer V katsayı ile değerlendirilmiştir. 0,05'ten küçük P değeri istatistiksel olarak anlamlı kabul edilmiştir.

Bulgular: kete katılan KL tanısıyla tedavi alan 96 kişinin çocuk olduğu, 136 kişinin yetişkin olduğu görülmüştür. Hastaların aile üyelerinden birisinde daha önce KL geçirme oranı %44,9 iken, hastaların %8,1'inin daha önce KL hastalığını geçirdiği saptanmıştır. KL çocuk hastalarda geleneksel yöntem kullanılmazken, yetişkin hastaların %44,1'inin hastalığı için geleneksel yöntem kullandığı saptanmıştır. Geleneksel yöntem kullanan hastalar en çok (%48,3) aktardan alınan hazır merhemleri yara yerine sürmüştür. Hastaların %66,7'si kullandığı geleneksel yöntemden zarar görmüştür. Kırk beş yaş ve altındaki hastaların %10,8'i, 45 yaş üstü hastaların %74,6'sı geleneksel yöntem kullanmış ($p<0,05$), yaş ile geleneksel yöntem kullanma durumu arasında negatif orta bir ilişkinin olduğu görülmüştür ($\Phi = -0,64$). Okuryazar olmayan hastaların %89,5'i geleneksel yöntem kullanırken, ortaokul ve üstü eğitime sahip hastaların ise %13,6'sının geleneksel yöntem kullandığı saptanmıştır ($p<0,05$, $V=0,57$). Yüzünde yarası olan hastalar daha çok geleneksel yöntem kullanmıştır ($p<0,05$, $V=0,25$).

Sonuç: araştırma, Şanlıurfa ilinde KL hastalığının hala önemli bir halk sağlığı sorunu olduğunu, geleneksel yöntemlerin yetişkin hastalar üzerinde olumsuz etkisi olduğunu göstermiştir.

Anahtar kelimeler: Kutanöz Leishmania, Şark Çıbanı, Geleneksel Yöntem, Sağlık, Etki

Corresponding Author / Sorumlu Yazar

Dr. Selma KAHRAMAN

Harran University, Health Sciences Faculty,
Public Health Nursing, 63050, İpekyol, Şanlıurfa,
TÜRKİYE

E-mail: skahraman1308@gmail.com

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Introduction

Cutaneous leishmaniasis (CL) is ranked second among the six most important tropical diseases by the World Health Organization (WHO). Cutaneous leishmaniasis is a common parasitic disease and a worldwide public health concern. In addition, this disease is one of the most neglected diseases in the world, and it largely affects the poorest of the poor (1-4).

The average annual number of CL cases worldwide varies between 700,000 and 1,200,000, and 350 million people are known to be at risk per year. It has been estimated that approximately 1.5 million new cases of CL are added to these figures each year (5,6). Leishmaniasis is endemic in 88 countries throughout Latin America, Africa, Asia, and southern Europe. In 2018, over 85% of new CL cases reported to the WHO were from Afghanistan, Algeria, Bolivia, Brazil, Colombia, Iran, Iraq, Pakistan, Syria, and Tunisia (7,8). In endemic countries, tracking the actual frequency of the disease is challenging because it is typically monitored through passive surveillance. Migration and urbanization are significant risk factors for CL (1,7-10). Additionally, economic hardship, natural disasters, armed conflict and tourism cause susceptible populations to migrate to areas endemic for cutaneous leishmaniasis. Conflicts, such as in Syria recently, caused CL outbreaks due to healthcare disruption, and potential human to human transmission due to massive overcrowding (1,7-10). Şanlıurfa is the province with the highest endemicity in Turkey in terms of CL, and its annual number of cases is approximately 2000 (11). The incidences of CL cases in 2010, 2011, and 2012 were determined to be 0.41%, 0.14%, and 0.31%, respectively (12). In a study conducted in the Şanlıurfa region, the incidence of the disease was found to be 1.06% and the prevalence to be 9.38%, and Şanlıurfa Province is considered to be one of the riskiest regions for CL since approximately half of the CL cases reported throughout Turkey in the last two decades have been reported to be from this region (5,11,13). The global mean age-standardized disability-adjusted life years (DALY) recorded for CL has been calculated as 0.58 per 100,000 persons (14). In addition, when the effect of CL scars is taken into account, the actual burden of CL has been estimated to be 10 times greater, and the number of people living with these scars has been estimated to be 40 million (2,15). Therefore, this disease, which is hyperendemic in Şanlıurfa, requires high priority in terms of public health.

Şanlıurfa is the province with the highest endemicity in Turkey in terms of CL, and its annual number of cases is approximately 2000 (11). The incidences of CL cases in 2010, 2011, and 2012 were determined to be 0.41%, 0.14%, and 0.31%, respectively (12). In a study conducted in the Şanlıurfa region, the incidence of the disease was found to be 1.06% and the prevalence to be 9.38%, and Şanlıurfa Province is considered to be one of the riskiest regions for CL since approximately half of the CL cases reported throughout Turkey in the last two decades have been reported to be from this region (5,11,13). The global mean age-standardized disability

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Cutaneous leishmaniasis is now recognized as a complex and highly variable disease in terms of its epidemiology, etiology, pathology, and clinical features. Scientific advances have led to significant improvements in laboratory diagnosis, but currently available treatments are unsatisfactory. The development of better therapies and vaccines represent major challenges for the future. The development (and delivery) of a vaccine against CL would ultimately be one of the most effective measures to control or even eliminate the disease. Prophylactic vaccines for leishmaniasis in humans are not yet available (6-10). So early diagnosis, treatment, and continuation of treatment for CL are very important for individual patients and society (1).

CL has been largely neglected for drug development because it affects poor people in poor regions of the world. Most of the current drugs used to treat CL are decades old and have many limitations such significant toxicity and side effects (8-10). In Turkey, pentavalent antimonial compounds (PAC) are commonly used as the first choice in the treatment of cutaneous leishmaniasis, and they are frequently administered intralesionally directly into the wound on the skin in patients with appropriate clinical conditions. Recovery from CL is slow and continues after treatment. Because the majority of CL patients live in rural areas and are poor, and because the disease is ignored and accepted by society, most patients do not apply to medical centers for diagnosis and treatment, and most of them are not reported to health institutions (1-3,16). Given all this, it is thought that the rate of preferring traditional practices for treating this disease is higher than reported. In addition, it is thought that the rate of preference for traditional applications is even higher than reported due to factors such as this study being carried out during the pandemic period, the CL treatment center being closed, the treatments being disrupted, and people having to stay at home. Conducting the research in Şanlıurfa, which is hyperendemic, is important in terms of planning public health services, since to our knowledge, no similar research has been conducted before.

Materials and Methods

Study design

This descriptive study was conducted at the Bamyı Suyu Oriental Sore Treatment Center, which is the only CL institution in Şanlıurfa Center. Since the applications of CL patients to the health center are mostly between October and February (8,9), the study was conducted with 272 patients with CL

who were registered between 01 October 2020 and 28 February 2021 (8,9). Without using a specific sampling technique and reaching the entire population, 232 patients who accepted the study constituted the sample of the study, and it was determined that 85.3% of the population was reached. Written permission for the study was obtained from the Harran University Clinical Research Ethics Committee (on 23.11.2020 session 20 and decision numbered 01) and the Provincial Health Directorate.

Survey instrument

A survey consisting of 23 questions in Turkish was prepared for the research. There were 19 multiple-choice and four open-ended questions in the survey. Five questions were about the sociodemographic characteristics of the people diagnosed with CL, and eight questions were about using traditional treatment methods, characteristics of use, and characteristics of treatment.

Participation eligibility

The study was conducted with patients who were diagnosed with cutaneous leishmaniasis, had started treatment, and could speak and understand Turkish.

Survey invitation and informed consent

After obtaining the necessary permissions for the study, the researcher met with the nurse in charge of the Oriental Sore Treatment Center, and the study was planned. According to this planning, the researcher first went to the center on Mondays and Thursdays, which are the treatment days and obtained verbal consent by explaining the research to the adult patients with Oriental sore disease who came for treatment or to the adults who brought their children with the diagnosis of Oriental sore. Then, the patients were taken to a private room after their treatment, and the questionnaire filling was started. The literate people filled out the surveys themselves, while the surveys of the illiterate people were filled out by the researcher. Face-to-face interviews lasted a minimum of 10 minutes and a maximum of 20 minutes. After 50 face-to-face surveys were filled out, the treatments were stopped due to the pandemic, and the survey collection process was suspended for 3 months. As the pandemic extended, replanning was done, the contact telephone numbers of the sick people were obtained, and the interviews were conducted by phone. A total of 222 people were called by phone, and 182 people who answered the phone and agreed to participate in the survey were interviewed over the phone, and data were collected. The shortest interview took 8 minutes and the longest 15 minutes. A total of 38 people did not respond when called by phone, and two people did not agree to participate in the survey. Thus, a total of 232 samples for the research on cutaneous leishmaniasis were formed, with 182 individuals interviewed by phone and 50 interviewed face-to-face.

Data analysis

Statistical analysis of the data was conducted using the Statistical Package for Social Sciences (SPSS 20.0) program. To

evaluate the study data, descriptive statistics (number, percentage, and mean values) were evaluated with the chi-square test, with the phi (Φ) coefficient in the 2×2 tables and the Cramer's V coefficient in the $2 \times R$ tables, showing the amount of relationship between the two nominal variables. A P value of less than 0.05 was considered statistically significant.

Results

Among the people participating in the survey, it was observed that 96 people (41.4%) who received treatment with a diagnosis of CL were children, and 136 people (58.6%) were adults. Therefore, the data were analyzed in two groups: adults and children.

Adult Patients with Cutaneous Leishmaniasis Sociodemographic characteristics

As shown in Table 1, it was determined that 52.2% of the patients with CL were over the age of 45 ($\bar{X}=44.39 \pm 17.56$) and 47.1% were women (Table 1). It was determined that 43.4% of the patients had graduated from secondary school or higher education, 41.9% of the patients' monthly incomes were above 1000 TL, and most of them (72.1%) lived in the elementary family type. It was determined that 79.4% of the patients had information about CL disease, and 40.4% of the patients who stated that they knew obtained their information from the Oriental Sore Treatment Center. It was determined that one of the family members of each patient had previous CL with a rate of 44.9% and that 8.1% of the patients themselves had CL before. It was determined that 36.8% of the patients' CL wounds were on the face, and 63.2% were on the lower and upper extremities. The rate of patients who were diagnosed with CL 3–6 months prior was 44.1%.

Sociodemographic characteristics and the state of traditional method use

As shown in Table 3, it was determined that 44.1% of patients with CL used traditional methods other than medical treatment for their disease. A total of 48.3% of the patients who used traditional methods stated that they applied ointment from an herbalist to the wound, and 13.3% stated that they went to the *khoja* and prayed (*amulet*).

Among all patients, 3.3% stated that they applied onion, 13.3% applied henna, and 8.4% applied stinging nettle or cologne to the CL wound. Other patients (5.0%) who used traditional methods adopted a special diet for wound healing. Of the patients who used traditional methods, 80.0% said that they heard about the traditional method from their relatives or neighbors. It was found that 66.7% of the patients stated that they were harmed by the traditional method they used. Concerning the harmful effects of traditional methods, 25.6% of the patients stated that there was paresthesia at the wound site, 43.6% had redness at the wound site, and 30.8% reported growth of the wound size. A total of 68.3% of the patients stated that they had used the traditional method for less than 1 week.

Table 1. Socio-Demographic Characteristics of Adult Patients Diagnosed with Cutaneous Leishmaniasis

Variables (n= 136)	Number	Percentage
Gender		
Female	64	47,1
Male	72	52,9
Age (\bar{x}:44,39\pm17,56)		
Aged 45 and Below	65	47,8
45 years and older	71	52,2
Education		
Illiterate	19	14,0
Literate and Primary School Graduate	58	42,6
Secondary School and Higher	59	43,4
Income		
Under minimum wage	33	24,3
Minimum wage	46	33,8
Above minimum wage	57	41,9
Type of Family		
nuclear family	98	72,1
Extended Family	38	27,9

Table 2. Socio-Demographic Characteristics of Child Patients Diagnosed with Cutaneous Leishmaniasis

Variables (n= 96)	Number	Percentage
Gender		
Female	42	43,8
Male	54	56,2
Age (\bar{X}:7,95\pm3,95)		
0-6 aged	40	41,7
7-17 aged	56	58,3
Type of Family		
Nuclear family	76	79,2
Extended Family	20	20,8
Income		
Under minimum wage	23	24,0
Minimum wage	32	33,3
Above minimum wage	41	42,7

Table 4 shows the use of traditional methods according to the sociodemographic characteristics of adult patients with CL. While 10.8% of patients aged 45 and under used traditional methods, 74.6% of patients over 45 years used traditional methods. The statistical difference between these two variables was significant ($p < .05$). It was observed that there was a negative moderate relationship between age and the use of traditional methods ($\Phi = -0.64$).

It was determined that 89.5% of the illiterate patients used a traditional method, 60.3% of the literate and primary school graduates used a traditional method, and 13.6% of the patients with secondary school or higher education used a traditional method. It was determined that there was a statistically significant difference between education and using traditional methods, and there was a moderate relationship of 57% ($p < .05$, $V = 0.57$).

While 34.3% of the patients who knew CL used the traditional method, 82.1% of the patients who did not know about CL used the traditional method and a weak negative relationship was determined between these two variables ($p < .05$, $\Phi = -0.39$).

While 54.0% of the patients with facial wounds used a traditional method, this rate was calculated as 49.0% in the upper extremity and 22.9% in the lower extremity, and a weak positive correlation was found, with a Cramer's V coefficient of 25.0% ($p < .05$, $V = 0.25$).

Table 5 shows, 91.9% of the patients with an income below 1000 TL were harmed by a traditional method, while 50.0% of the patients with an income above 1000 TL stated that they were harmed by a traditional method. A statistically significant difference was determined between income status and damage from a traditional method, and a weak positive relationship was calculated ($p < .05$, $V = 0.33$).

Pediatric Patients Diagnosed with Cutaneous Leishmaniasis Sociodemographic characteristics

As shown in Table 2, it was determined that 58.3% of the CL pediatric patients were over the age of 6 ($\bar{X} = 7.95 \pm 3.95$) and 43.8% were girls. It was determined that 79.2% of the pediatric patients had an elementary family, and 42.7% of them had a family income level above 1000 TL. It was determined that 97.9% of the patients knew about the disease, either from their families or from themselves. It was found that

70.5% of the patients obtained information from the Oriental Sore Treatment Center. It was determined that 68.8% of the patients had wounds on their faces, and 31.2% had wounds on their lower and upper extremities. It was stated that 5.2% of the patients had this disease before. All the pa-

tients stated that they would continue the medical treatment for CL. Concerning the closeness of patients with CL disease in their families, it was determined that 48.1% of their siblings had experienced CL disease. It was determined that none of the pediatric patients used traditional methods.

Table 3. The State of Using Traditional Methods in Adult Patients Diagnosed with Cutaneous Leishmaniasis

Variables	Number	Percentage
State of Traditional Method Usage (n=136)		
Yes	60	44,1
No	76	55,9
Types of Traditional Methods (n=60)		
Ointments bought from Herbalists	29	48,3
Going To Khoja (Amulet)	8	13,3
Onion	2	3,3
Henna	8	13,3
Stinging Nettle	5	8,4
Cologne	5	8,4
Special Diet	3	5,0
Period of Traditional Method Usage (n=60)		
Less than 1 Week	41	68,3
More Than 1 Week	19	36,7
Source Recommending the Traditional Method (n=60)		
Relatives-Neighbors	48	80,0
Mass Media	12	20,0
Getting Harmed From Traditional Method (n=60)		
Yes	40	66,7
No	20	33,3
Harmful Effects of Traditional Methods (n=40)		
Paresthesias	10	25,6
Redness	18	43,6
Wound Growth	12	30,8

Table 4. The State of Using Traditional Methods in Adult Patients Diagnosed with Cutaneous Leishmaniasis According to Socio-Demographical Characteristics

State of Traditional Method Usage		Using		Not Using		P
Variables (n=136)		Num-ber	Percentage	Number	Percentage	
Gender	Female	32	50,0	32	50,0	,259
	Male	28	38,9	44	61,1	
Age	Aged 45 and Below	7	10,8	58	89,2	,000 Φ=-0,64
	45 years and older	53	74,6	18	25,4	
	Illiterate	17	89,5	2	10,5	
Education	Literate and Primary School Graduate	35	60,3	23	39,7	,000 V= 0,57
	Secondary School and Higher	8	13,6	21	86,4	
	Under minimum wage	14	42,4	19	57,6	
Income	Minimum wage	20	56,5	20	43,5	,091
	Above minimum wage	20	34,1	37	65,9	
Type of Family	nuclear family	40	40,8	58	59,2	,259
	Extended Family	20	52,6	18	47,4	
State of Having Knowledge About the Disease	Yes	37	34,3	71	65,7	,000 Φ=-0,39
	No	23	82,1	5	17,9	
Area of The Wound	Facial	27	54,0	23	46,0	,012 V=0,25
	Upper extremity	25	49,0	26	51,0	
	Lower extremity	8	22,9	27	77,1	

Table 5. The Damage Incidence After Traditional Treatment in Adult Patients Diagnosed with Cutaneous Leishmaniasis According to Socio-Demographical Characteristics

The Damage Incidence After Traditional Treatment Variables (n=60)		Yes		No		P
		Number	Percentage	Number	Percentage	
Gender	Female	24	75,0	8	25,0	,234
	Male	16	57,1	12	42,9	
Age	Aged 45 and Below	4	57,1	3	42,9	,429
	45 years and older	36	67,9	17	32,1	
	Illiterate	11	64,7	6	35,3	
Education	Literate and Primary School Graduate	24	68,6	11	31,4	,928
	Secondary School and Higher	5	62,5	3	37,5	
Income	Under minimum wage	13	91,9	1	7,1	,033 V=0,33
	Minimum wage	17	65,4	9	34,6	
	Above minimum wage	10	50,0	10	50,0	
Type of Family	nuclear family	27	67,5	13	32,5	,534
	Extended Family	13	65,0	7	35,0	
State of Having Knowledge About the Disease	Yes	26	70,3	11	29,7	,639
	No	14	60,9	9	39,1	
Area of The Wound	Facial	15	37,5	12	60,0	,255
	Upper extremity	19	47,5	6	30,0	
	Lower extremity	6	15,0	2	10,0	

Discussion

This study, which determined the use and effects of traditional methods in individuals with cutaneous leishmaniasis, is the first in the literature. The most important result of this study is that traditional methods other than medical treatment are not used in pediatric patients with cutaneous leishmaniasis. This result is a pleasing situation. The traditional method is used by families, not children. It is thought that the reason for this situation is that parents are more careful about their children's illnesses and do not take risks. However, it is a sad point that nearly half of adult CL patients (44.1%, Table 3) use traditional methods together with medical treatment. Among the reasons for adult patients to search for a solution with traditional methods are difficulties in the treatment and control of Oriental sore disease, that the lesions are painless (1,16), that there was a pandemic at the time of this study, that there were closures due to the pandemic, and that the treatments were interrupted for a long time. As a result, these factors suggest that there has been an increase in the use of traditional methods. Another important result of this study is that almost half of the patients who used traditional methods together with medical treatment for CL wounds stated that they used ready-made ointments from herbalists, and 66.7% of them stated that they were harmed by the traditional method they used (Table 3). It has been observed that this damage usually causes side effects at the wound site. In addition, it has been observed that patients with low income suffer more ($p < .05$, $V = 0.33$). Traditional practices are any kind of health care that replaces medical treatments and is not accepted by modern biomedicine or treatments (17). This suggests that there is a drug interaction that reduces its therapeutic effectiveness. In addition, this result makes one think that the traditional methods used are far from scientific, easy to obtain, and cheap. In support of this result, in a study, a combined

treatment with honey was used for CL wounds, and it was not found to be effective compared to routine treatment, and it was even seen that its therapeutic effectiveness decreased (16). In another study investigating the effects of wounds on the psychological state of children with CL, it was stated that one-third of the children practiced traditional applications, such as henna, eucalyptus, saffron, honey, olive oil, alcohol, bleach, animal urine, etc.; however, the effects on treatment were not mentioned (15).

One out of 10 adults aged 45 years underused traditional methods, while seven out of 10 patients over 45 years of age used traditional methods (Table 4, $p < .05$). A moderately negative correlation was found between age and the use of traditional methods ($\Phi = -0.64$). This result shows that as age increases, the use of traditional methods increases. Among the reasons for this result were, first, a low level of knowledge, since only 9.9% of adult Oriental sore patients over the age of 45 who participated in the study had secondary school or higher education. The second reason was that adult patients over the age of 45 are more influenced by their relatives and neighbors who recommend a traditional method compared to patients under the age of 45.

In this study, it was determined that 58.6% of individuals diagnosed with CL in Şanlıurfa, where CL is hyperendemic, were adults. In all studies, including a study conducted in Şanlıurfa (12), but according to this new research has been reported that the disease is more common in children in endemic regions, disparately (1-3,5,11,13,14,18,19). According to this research, both the higher incidence of CL disease in adults and the high rate of resorting to traditional methods in the adult group suggest that public health services for this age group should be a priority.

While 89.5% of illiterate patients used traditional methods, it was determined that 13.6% of Oriental sore patients with

secondary school or higher education used traditional methods (Table 4, $P < 0.05$). A positive moderate relationship was found between the level of education and the use of traditional methods, and as a result, it can be said that as the level of education increases, the rate of using traditional methods decreases ($V = 0.57$). The reasons for patients with low educational status to use traditional methods can be stated as not knowing the harmful effects of the traditional methods they use, not knowing how to benefit from health institutions, and not having enough information about CL. In this study among CL patients, it was seen that 68.8% of pediatric patients and 36.8% of adult patients had wounds on their faces. It was determined that there was a weak positive relationship between using a traditional method according to the area of the wound in adult patients and that patients with facial wounds had used a traditional method more frequently ($V = 0.25$, Table 4). Rapid healing of wounds on the face is much more important for patients with CL, especially due to such reasons as undesirable changes in the face and loss of beauty, therefore, it is thought that traditional methods are used to get results quickly.

This research introduces a potential contradiction and another situation that needs to be investigated: 8.1% of adult patients and 5.2% of pediatric patients in the study reported a previous occurrence of the disease. In the literature, it is mentioned that individuals living in countries endemic for CL due to *L. major* develop strong and possibly lifelong immunity after a primary infection. However, it is also noted that in cases with mucosal involvement, recurrence may occur even after the clearance of cutaneous lesions, sometimes emerging up to a year later (8,10). In light of this information, this situation suggests the possibility of mucosal involvement and the potential for recurrence before complete recovery.

Our study had some limitations. First, less information was provided than face-to-face data, as the majority of study data was collected by telephone. Secondly, the data of the research are based on the self-reports of the participants and there is no official confirmation of this information. In this study, it was seen that cutaneous leishmaniasis disease is still an important public health problem in Şanlıurfa Province. It was determined that the majority of the patients were adults, that the pediatric patients did not use traditional methods, that nearly half of the adult patients used traditional methods, and that the majority were harmed by a traditional method. It has been determined that the use of traditional methods varies according to the age, education, income, and knowledge status of the patients, as well as the region of the wound. In line with these results, it is recommended that measures be taken to prevent the spread of the disease in the region, to carry out more detailed studies, to question whether cutaneous leishmaniasis patients who apply to a health institution use traditional methods or not, and to raise awareness about this issue.

Ethical Approval: Written permission for the study was obtained from the Harran University Clinical Research Ethics Committee (on 23.11.2020 session 20 and decision numbered 01) and the Provincial Health Directorate.

Author Contributions:

Concept: S.M., S.K.

Literature Review: S.M., S.K.

Design : S.M., S.K.

Data acquisition: S.M., S.K.

Analysis and interpretation: S.M., S.K.

Writing manuscript: S.M., S.K.

Critical revision of manuscript: S.M., S.K.

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