

Use of Herbal Products in Peritoneal Dialysis Patients

Periton Diyalizi Hastalarında Bitkisel Ürün Kullanımı

ABSTRACT

OBJECTIVE: Complementary and alternative medicine practices are perceived by patients, both in pre-dialysis and dialysis periods, to be hopeful and promising. In our study we searched herbal product (HP) use in peritoneal dialysis (PD) patients before dialysis and during dialysis.

MATERIAL and METHODS: 58 peritoneal dialysis patients who were followed in our nephrology outpatient clinic were included in the study. A questionnaire consisting of objective questions was completed with the patients by a single investigator.

RESULTS: The mean age of 58 patients (30 women) in our study was 53.2 ± 14.7 years and duration of PD was 41.3 ± 8.3 months. Thirteen of the patients were not literate. 19 patients in the pre-dialysis period and 14 PD patients were using herbal products. Five of the patients who used HB in the pre-dialysis period continued using them after the initiation of PD. There was no relationship between the use of HPs and initiation of PD. Various herbs and plants were the most common products used and the most common supply source was sellers of herbs.

CONCLUSION: HP usage is quite common among PD patients even though they are under close supervision by their physicians. Therefore, all patients should be questioned about HP use by physicians and there is a need for increased awareness of the use of HP.

KEY WORDS: Complementary and alternative medicine, Herbal product, Peritoneal dialysis

ÖZ

AMAÇ: Tamamlayıcı ve alternatif tıp uygulamaları hem diyaliz hem de prediyaliz dönemdeki hastalar için umut olarak algılanır. Çalışmamızda, periton diyalizi (PD) hastalarında diyaliz öncesinde ve sırasında bitkisel ürün (BÜ) kullanımını araştırdık.

GEREÇ ve YÖNTEMLER: Nefroloji polikliniğinde takip edilen 58 PD hastası çalışmaya dahil edildi. Tek bir araştırmacı tarafından nesnel sorular içeren bir anket dolduruldu.

BULGULAR: Çalışmamızdaki 58 hastanın (30 kadın) ortalama yaşı $53,2 \pm 14,7$ yıl, PD süresi $41,3 \pm 8,3$ ay idi. Hastaların 13'ü okuma yazma bilmiyordu. Prediyaliz döneminde 19 hasta ve PD tedavisi sırasında 14 hasta BÜ kullanıyordu. Prediyaliz dönemde BÜ kullanan beş hasta PD'nin başlamasından sonra da kullanmaya devam etmiştir. PD'nin başlaması ile BÜ kullanımı arasında ilişki saptanmadı. Çeşitli ot ve bitkiler en sık kullanılan ürünlerdi ve en yaygın olarak sağlandığı yer de aktarlardı.

SONUÇ: Her ne kadar sürekli hekimlerinin kontrolü altında olsalar da PD hastalarında BÜ kullanımı oldukça yaygındır. Bu nedenle her hastanın hekimleri tarafından BÜ kullanımı açısından sorgulanması gerekir ve BÜ kullanımı konusunda farkındalığın artırılmasına ihtiyaç vardır.

ANAHTAR SÖZCÜKLER: Tamamlayıcı ve alternatif tıp, Bitkisel ürün, Periton diyalizi

Egemen CEBECİ¹
Yonca SEVİM¹
Tayfun BEKTAŞ¹
Meltem GÜRSU¹
Savaş ÖZTÜRK¹
Abdullah ŞUMNU¹
Serhat KARADAĞ¹
Sami UZUN¹
Rümeysa KAZANCIOĞLU²

- 1 Haseki Education and Research Hospital, Department of Nephrology, İstanbul, Turkey
- 2 Bezmi Alem Vakıf University, Faculty of Medicine, Department of Nephrology, İstanbul, Turkey



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Correspondence Address:

Egemen CEBECİ
 Haseki Eğitim ve Araştırma Hastanesi,
 Nefroloji Bölümü, İstanbul, Turkey
 Phone : + 90 505 833 49 88
 E-mail : egemencebeci@hotmail.com

INTRODUCTION

The United Nations National Institutes of Health defines “complementary and alternative medicine (CAM)” as a wide field of health including services, methods, practices and their accompanying theories that are outside of the politically dominant health system (1). The use of CAM methods is increasing nowadays. In a study among American adults between 1990 and 1997, use of alternative treatment methods increased from 33.8% to 42.1% (2). CAM includes various types of therapy, the most common of which is herbal therapy (HT) (3). This has been used as a treatment method for many diseases in the past and continues to be used today.

Chronic kidney disease is a disease for which the prevalence is rising rapidly both in our country and throughout the world. The main modalities of treatment for patients with end stage renal disease (ESRD) are hemodialysis, peritoneal dialysis (PD) and transplantation. CAM may be perceived to give hope to patients in both the pre-dialytic and dialytic periods. However, HT carries many negative factors with it. These include unconscious use of these products without informing the physician, product reliability, cost and modern medicine’s lack of interest in HT.

In our study, we examined the rate of use of herbal products to determine the type of products used, methods of procurement, from whom patients receive advice, benefits and side effects, the cost of the products and the state of knowledge of physicians on the subject, both in the predialytic and dialytic periods of PD patients followed up in our outpatient clinic.

MATERIAL and METHODS

Fifty-eight end stage renal disease patients on PD who were followed in our nephrology clinic were included in the study. Patient data were obtained using a questionnaire consisting of objective questions, which was completed with the patients by a single investigator. Informed consent was obtained from each patient. A definition of herbal product use that corresponds to the United Nations National Institutes of Health definition is: a herbal derived product used without being offered by a physician and which corrects recent renal disease itself, disease progression or symptoms of the disease.

Age, gender, educational and marital status, primary kidney disease, and PD duration of the patients were recorded. We aimed to determine whether patients ever used any HT before dialysis, the timing of use (predialytic or dialytic period), the type of product used, the place where the product was obtained, the advisor, the period of use, the cost, and any side effect or positive effect that the patient realized. The investigator also asked about whether the patient researched about the product before using it, from where the information was gained and whether she/he had informed their physician about the use of the product. The questionnaire used for the study is presented in Table I.

The data obtained were analyzed statistically using SPSS version 16.0. Data were evaluated by descriptive statistical methods (rate, mean, standard deviation) as well as quantitative parameters showing normal distribution of data for comparison with the Student-t test. Abnormal distribution parameters were evaluated with the Mann-Whitney U test. Chi-square test was used for the comparison of qualitative data. Results were at 95% confidence intervals and $p < 0.05$ was evaluated.

RESULTS

Fifty-eight patients were involved in the study. The number of female and male patients was 30 and 28, respectively. The mean age of the patients was 53.2 ± 14.7 years (24-82 years). The mean duration of PD was 41.3 ± 30.8 months (1-108 months). The data on educational status were as follows: 13 (22.4%) were not literate, 27 (46.6%) were primary school graduates, 6 (10.3%) were secondary school graduates, 5 (8.6%) were high school graduates and 7 (12.1%) patients had graduated from university. 42 (72.4%) of the patients were married, 11 (19%) widowed and 5 (8.6%) were single. Primary renal diseases of the patients are presented in Table II.

Nineteen patients (32.8%) were using herbal products in the predialytic period while 14 patients (24.1%) used one or more of these products after the onset of PD. Five of 19 patients who used herbal products in the predialytic period continued to use them after dialysis. Nine patients started to use herbal products after the onset of PD. There was no significant difference between the rate of use of any herbal product before or after starting PD ($p=0.78$). There was no significant relation between herbal product use after peritoneal dialysis and sex ($p=0.44$), educational status ($p=0.73$), marital status ($p=0.66$) or duration of PD ($p=0.61$). The following results come from the 14 patients who used any herbal product during PD treatment. The most common types of herbal products chosen by PD patients were plants and herbs (Figure 1). The ingredient of the HP was not certain in any of the patients. The most common procurement location for herbal products were herb sellers (28.6%) (Figure 2). Neighbors, family members and acquaintances gave recommendations to 6 patients (42.9%) and the number of patients who were advised by medical personnel was three (21.4%). Four of the herbal product users (28.6%) researched about the product and 2 of them (50%) did the research themselves. Four patients (28.6%) had learned how to use the product from neighbors, family members or acquaintances. Eight patients (57.1%) noted to be satisfied and had seen beneficial effects. None of the patients were warned by the sellers about side effects of the products. Only one (7.1%) of the patients noted a complaint of stomach bloating and burning. No other side effects were reported by the patients.

Regarding the patients who used any herbal product after the onset of PD, the mean duration of use of the product was 22.4 ± 34.9 months (range: 1 month-120 months). Half of these patients used the herb once or twice in their lifetime.

Table I: The questionnaire for used in the study.

1. Did you use any herbal product or food that you thought may be beneficial before initiating dialysis? YES NO	9. What is the frequency of consumption of herbal product and/or foods that were used? • Once or twice a day • 2-3 times a day • Once a week • Once in 15 days • Once a month • Other (please indicate):
2. Did you use any herbal product or food that you thought may be beneficial after initiating dialysis? YES NO	10. Did you tell to your doctor or medical profession that you use the herbal product or foods? • YES • NO (please indicate reason):
3. What are the products? • Various herbs and plants • Herbal teas • Foods	11. Did you have any adverse effect of the used product? a. NO b. YES (please indicate)
4. Where did you buy? • Pharmacy • Herb seller • Market or the public market • Vineyards, orchards, plantations • Other (please indicate):	12. Did you have any beneficial effect of this product and/or food? • NO • YES (please indicate)
5. Who suggested you to use this product? • Neighbors, family members and acquaintances • Another patient • Internet • TV • Wallpaper/magazine • Medical professions such as physician, dietician, nurse • Other (please indicate):	13. Are you pleased to use this product and/or food? • NO • YES • I am hesitant
6. What is the profession of the adviser? • Medical professions (physician, nurse, medical attendant) • Someone not related to medicine • Media (television, wallpaper) worker	14. How long have you been using herbal product and/or food? (please indicate)
7. Were these products inquired before use? YES NO By whom?	15. How much does the herbal product and/or food cost monthly if you use constantly?
8. Where did you learn the information about how to use the herbal product or food? • Neighbors, family members and acquaintances • Another patient • Internet • TV • Wallpaper/magazine • Medical professions such as physician, dietician, nurse • Other (please indicate):	16. Did you know any potential serious side effects of this product and/or food? • NO • YES
	17. Did the adviser warn you about serious side effects of this product and/or food? • NO • YES
	18. Did your physician or nurse ask you whether you use herbal product and/ food or not?

Two patients (14.3%) did not pay for the product while the median monthly cost was 5.3 (0-178) Euros. Only five patients (35.7%) reported that they informed their physician about their use of the herbal product. It was learned that the physicians inquired about use of any herbal products from only 16 (27.6%) of the patients, and two of them were using herbs.

DISCUSSION

The incidence of end-stage renal failure is increasing all around the world. Alternative and complementary medicine practices include a variety of methods, with HT being the most widely used method. This study was planned because of a lack of studies on herbal product use in PD patients. In our study, we

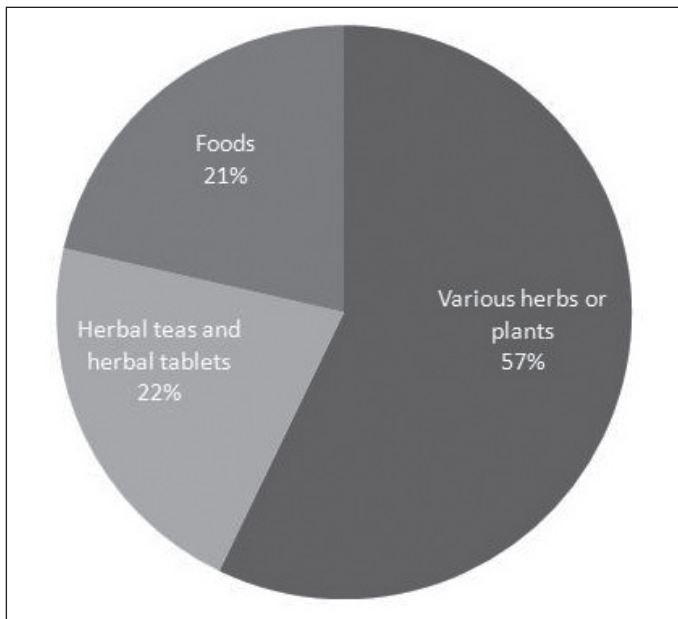


Figure 1: The type of herbal products used by the patients.

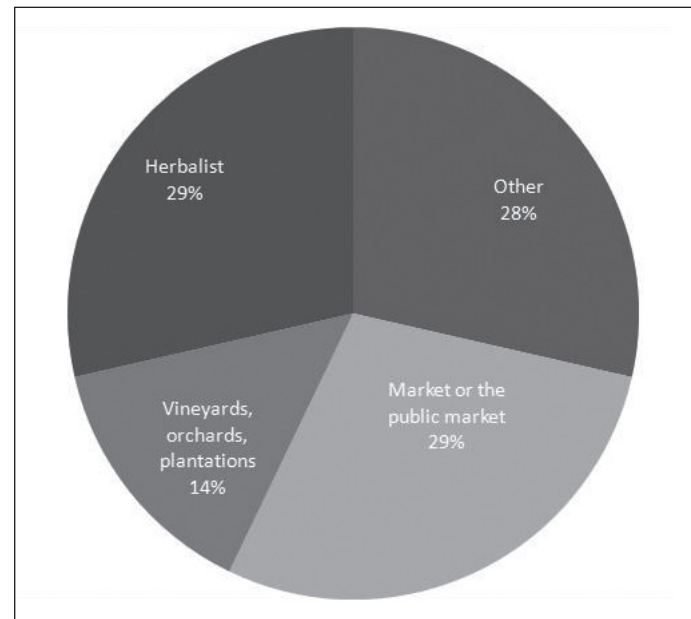


Figure 2: The procurement location of herbal products.

Table II: Primary renal disease of the studied population (n %).

	n	%
Diabetic nephropathy	20	34.5
Hypertensive nephrosclerosis	7	12.1
ADPKD*	4	6.9
Glomerulonephritis	2	3.4
Unknown	12	20.7
Others**	13	22.4
Total	58	100.0

*: Autosomal dominant polycystic kidney disease

**: Amyloidosis, urolithiasis, pyelonephritis, vesicoureteral reflux

found that 32.8% of these patients used herbal products in the predialysis period, while five of these 19 patients continued to use this product in the dialytic period. It was also observed that nine new patients other than these five patients (15.5%) started to use herbal products while under PD treatment. Another important finding of our study was that only five (8.6%) of the PD patients informed their doctor about the use of herbal products, and the doctors asked only 16 (27.6 %) patients whether they used herbal products. Considering these findings together, it may be concluded that there is a lack of interest by physicians about herbal therapy and patients are reluctant to give information on this subject. Questioning the use of herbal products among patients at the beginning of treatment could reduce the uncontrolled use of these products. This practice

has not been established in patients with PD in our country. However, some studies with non-PD patients showed similar data as in our study. In the study by Kara (4), herbal product use after diagnosis of chronic kidney disease was found to be 28.1%, and 13.2% of patients were ascertained to still use herbal products after hemodialysis. In this study, a significant relationship was found only between marital status and use of herbal products and use of herbal products was significantly more frequent in married patients ($p=0.02$) (4). In a recent study by Biçen et al. (5), the rate of herbal product use was 38% in patients with chronic kidney disease, 38.6% in hemodialysis patients and 16.7% in patients with transplanted kidneys. They did not find a significant relation between herbal product use and sex, marital status and educational level (5). In the study by Kleshinski et al., it was found that the rate of herbal product use was 14.4% in PD and hemodialysis patients and there was no significant relation between herbal product use and marital status, while the education level of patients who used a herbal product was higher compared to non-users (6). In another study carried out in our country, it was reported that only 28.2% of physicians asked about herbal product use in their patients, similar to our study (7).

Herbal products are not always safe, some of them being carcinogenic or hepatotoxic and some are contraindicated in kidney disease because of unpredictable pharmacokinetics, drug interactions, negative effects on renal function, nephrotoxicity, and hemodynamic changes, unpredictable changes in blood pressure or blood level or electrolyte imbalance. There is no clear information whether some active compounds or potentially active or toxic metabolites are dialysable or not in PD patients (8). In our study, eight (57.1%) of the fourteen patients using

herbs after starting PD stated that they saw beneficial effects from herbal products. None of the patients were warned about side effects by people from whom they obtained the product and only one (7.1%) patient complained of stomach bloating and burning sensation. Because of the small number of patients, it is not possible to comment on the potential of HPs to cause side effects based on the findings of our study.

Some herbal products are known to harm the kidneys, while there are some that are useful. For example herbal products containing *Aristolochia fangchan*, used to lose weight, were found to cause aristolochic acid nephropathy associated with progressive renal interstitial fibrosis and increased risk of urothelial malignancies in more than 100 patients (9). In our country, there are studies that show garlic is the most preferred herbal treatment (4, 10). However, there are some publications that point out that garlic may increase the pharmacological effects of oral anticoagulants and may reduce the effect of drugs used in the treatment of acquired immune deficiency syndrome, such as saquinavir (11). Dialysis patients are more geared to alternative treatments because of their chronic diseases. Moreover, this population of patients is more prone to the toxic effects of these products due to decreased renal excretion (12). In a study conducted in Taiwan, increased use of non-prescription herbal treatments was found to be associated with chronic kidney disease (13). However, there are also some studies that show positive effects of herbal therapy in patients with chronic kidney disease. Zhang et al. (14) claimed that herbal pastes or incense treatment delay kidney disease progression and improve renal function and have an ameliorating effect on certain renal complications in patients with chronic renal failure. On the other hand, there are studies stating that CAM is useful in PD patients. Guo et al. (15) studied traditional Chinese herbal medicine in PD patients, and found that this treatment reduced the frequency of exchanges needed to control uremia. Although studies reported in the literature did not comment on obvious side effects of these products, a clear conviction cannot be created without larger long-term controlled studies.

The average monthly cost for herbal products was 93.21 Turkish Liras in our study. The monthly cost was found to be less than 50 Turkish Liras in 87% of patients in another study from our country (5). It was reported that 34.4 billion dollars are spent annually in the USA for CAM, of which 5.1 billion dollars are for HT (2). These data are striking in terms of showing the economic dimensions of herbal products.

In the study of Kara et al. (4), 84.4% of patients were advised by friends and family members and in the study of Bicen et al. (5), 67.6% of patients were advised by a relative. In our study, neighbors, family members and acquaintances had advised the product to 6 (42.8%) patients. Therefore, the relatives of the patients should also be educated about CAM, not only the patients.

Kara (4) reported that the most commonly used herbal product was garlic. Bicen et al. (5) stated that the most commonly used products were ready-made products and nettle. In our study, the most commonly preferred products were various plants (n=8, 57.1%), herbs (n=3, 21.4%), herbal teas and herbal tablets (n=3, 21.4%). The huge variety of herbal products decreases the reliability of information about the herbs.

Herbal products were supplied from herb and spice sellers for four (28.6%) patients, grocery stores or public markets for four (28.6%) patients, and vineyards, orchards, and fields for two (14.3%) patients (Figure 1) in our study. These data show us that patients can easily find available herbal products, purchasing them anywhere unchecked by health inspectors and these cause serious doubts about the reliability of the products.

In conclusion, herbal product use is quite common among PD patients who are regularly followed-up and thought to be more conscious of their effects. On the other hand, patients do not routinely inform the physicians unless asked about their use. Therefore, all patients should be routinely questioned for herbal product use and be informed by their physicians.

CONCLUSION

Herbal product usage is quite common among PD patients although they are under close supervision by their physicians, and HP users do not inform physicians unless they are asked about the subject. Therefore, all patients should be questioned about HP use by physicians and there is a need for increased awareness on the use of HP.

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