Complementary Therapies in Clinical Practice 36 (2019) 39–42

Contents lists available at ScienceDirect

Complementary Therapies in Clinical Practice

journal homepage: www.elsevier.com/locate/ctcp

Determination of knowledge and attitudes of nurses about apitherapy

1. Introduction

People from all cultures use complementary and integrative medicine (CIM) practices. Being one of such practices, apitherapy is defined as the use of bee and bee products as complementary and supportive for treatment of some diseases. Honey, pollen, propolis, royal jelly, bee bread, and bee venom are used for apitherapy applications [1,2].

Apitherapy has a history in the world that dates back to ancient times. Ancient Egyptian domesticated the bees and used them for celebration, medical uses and science 7000 years BC. In Ancient Egypt, more than 16 Egyptian papyri about treatment had more than 500 prescriptions using honey and other bee products [3–6]. In around 400 BC, Hippocrates, known as the father of medicine, had used bee venom and had called the venom as “Aracnum”, signifying a very enigmatic cure. On the other hand, in China in 200 BC, “fifty-two cures” were written onto silk, and two of those cures mentioned about the medical use of bee larvae and honey. Roughly 100 years ago, Australian physician Dr. Philip Terc argued the conscious use of bee stings and expressed that there was a rather strange relationship between bee stings and rheumatism [1,7]. In 1935, Dr. Bodog Beck wrote the “Bee Venom Therapy”, which today is still considered as being the best book ever written on this subject [8].

Today, especially Far Eastern countries such as in Japan, studies on apitherapy have been conducted and apitherapy is used in the treatment of diseases [1,9–14]. But, in Turkey, the use of apitherapy products for the treatment of diseases is not common [15,16]. The studies concerning recognition of apitherapy in Turkey have revealed that the most widely recognized product is honey which has been used mostly as a nutrient [16,17].

Honey contains vitamins, minerals, organic acids, flavonoids, phenolic acids, amino acids, and enzymes; therefore, it is easy to digest and nutritious, and also has protective and therapeutic properties against many diseases [2,17–21]. Propolis used in apitherapy has anti-microbial and anti-carcinogenic effects. The studies have stated that different propolis extractions prevent the development of cancer cells and reduce the diversification and spread of tumor cells [22–26]. Royal jelly is a popular apitherapy product used to treat various diseases due to its antioxidant, anti-tumor, anti-aging, neurotropic, and anti-inflammatory properties [27–30]. Furthermore, the studies have reported that bee venom has an anti-carcinogenic activity against many types of cancer such as prostate cancer, liver cancer, and breast cancer [31,32]. Pollen is a valuable nutrient because of protein, vitamins, and minerals in its composition. On the other hand, bee bread (perga) is a special form of pollen that is fermented by the bee and both products are used in field of health [33,34].

Today, the people in the society have an ever-growing interest in CIM [35–38]. This leads nurses, who serve to meet the heath needs of individuals, family, and community, to take obligatorily an active role in CIM [39,40]. Apitherapy is also one of CIM methods. Increasing knowledge of nurses about apitherapy will allow healthy/sick individuals to use effectively and properly apitherapy. For this purpose, it is important primarily to determine current knowledge and attitudes of the nurses concerning apitherapy. The number of the related studies in the literature is limited.

This study was conducted to determine knowledge and attitudes of nurses concerning apitherapy.

2. Methods

2.1. Participants

This descriptive study was conducted at a University Hospital located in the eastern Turkey between July and September 2018. The population of the study was composed of a total of 300 nurses working at the related hospital. The whole population was intended to be included in the sample; however, the study was conducted with 118 nurses due to some reasons such as declining to participate in the study and being on annual leave.

2.2. Procedure

The data were collected using a data collection form which was prepared by the researcher in accordance with the literature and included questions about descriptive characteristics of the participants as well as their apitherapy knowledge and attitudes [16,17,38,41]. Before starting the study, a pilot application was conducted by applying the questionnaire to 15 nurses, and ambiguous questions were then revised. The nurses who was included in the pilot application were not included in the sample.

Necessary permissions from the ethics committee of Atatürk University Nursing Faculty and the related hospital were obtained to conduct the study. The study was conducted in accordance with the principles of the Declaration of Helsinki. After the participants were informed about the study, their verbal and written consents were obtained.

2.3. Data collection

The data collection forms were distributed to the nurses by the researcher and upon their completion, they were collected. It took approximately 8–10 minutes to fill out a form.

The data collection form had two sections. The first section included questions about descriptive characteristics of the nurses (age, gender, marital status, financial status, educational level, and working duration). The second section included questions regarding knowledge level of nurses about apitherapy, the source of this information, apitherapy products used by them, and their intended use for these products.

https://doi.org/10.1016/j.ctcp.2019.05.001
Received 29 January 2019; Received in revised form 27 March 2019; Accepted 13 May 2019

Table 1
Distribution of the descriptive characteristics of nurses.

Descriptive Characteristics		
The average age (year)	27.89 ± 7.66	
Working period (year)	8.33 ± 6.91	
	n	**%**
Gender		
Female	80	67.8
Male	38	32.2
Marital Status		
Married	49	41.5
Single	69	58.5
Economic Status		
Good	49	41.5
Medium income	64	54.3
Poor	5	4.2
Educational status		
Health professions high school	64	54.2
Faculty of nursing	54	45.8

2.4. Statistical analysis

The data obtained from the study were analyzed using SPSS 21 packaged software. Descriptive tests (percentage, arithmetic mean, standard deviation, and min-max) were used in the analysis.

2.5. Limitations of the study

The limitation of the study is that the study was conducted only with nurses and in one hospital.

3. Results

When the descriptive characteristics of the nurses participating in the study were examined, it was found that 67.8% of them were female, 58.5% were single, 54.2% graduated from a health professions high school, and 54.3% had a middle level of income. The average age of the nurses was 27.89 ± 7.66 and their working duration was 8.33 ± 6.91 years (Table 1).

Table 2 shows the results related to apitherapy knowledge, attitudes, and use status of the nurses. Only 28.8% of the nurses had knowledge about apitherapy. Moreover, 18.6% of the nurses got the information about apitherapy from the Internet, 11% from doctors/specialists, 10.2% from friends, 5.1% from newspapers/magazines, and 4.2% from their parents (Table 2).

When evaluating the status of the nurses to use apitherapy products, it was found that 66.1% of the participants used minimum one apitherapy product. When examining the reasons behind why the nurses were not using the apitherapy product, it was found that 35.6% of the participants did not use apitherapy products due to lack of sufficient knowledge, 22.9% considered these products too expensive, 7.6% did not believe that they were beneficial, and 6.8% considered that these products had side effects (Table 2).

The apitherapy product most frequently used by the nurses using these products (n = 78) was honey (65.3%). The other apitherapy products used by the nurses were bee pollen (11.9%), propolis (5.9%), and royal jelly (1.7%). On the other hand, bee bread and bee venom were not used by the nurses. When examining the use frequency of the nurses for apitherapy products, 44.9% used these products occasionally (Table 2).

When examining the opinions of the nurses about which diseases should be treated using apitherapy products, it was observed that the top three diseases were immune system diseases (57.6%), followed by digestive system (57.6%) and respiratory tract diseases (35.6%). 58.5% of the nurses were of the opinion that apitherapy could be used by individuals of all age groups. Additionally, 68.6% of the nurses considered that apitherapy products should not be used to people with allergy; whereas, 53.5% thought that such products should not be used for infants under the age of 1 year (Table 2).

Table 2
Nurses' knowledge and attitude about apitherapy.

Knowledge and Attitude	n	%
Information about apitherapy (n = 118)		
Yes	34	28.8
No	84	71.2
The source of knowledge about apitherapy (n = 34)[a]		
Parent	5	4.2
Friend	12	10.2
Internet	22	18.6
Newspaper/Magazine	6	5.1
Doctors/Experts	13	11
Apitherapy product usage status (n = 118)		
Yes	78	66.1
No	40	33.9
Reason for not using apitherapy products (n = 40) [a]		
I find it too expensive	27	22.9
I do not believe in the benefits	9	7.6
I am not knowledgeable	42	35.6
I think it's a side effect	8	6.8
Commonly used apitherapy product (n = 78) [a]		
Honey	77	65.3
Propolis	7	5.9
Bee Pollen	14	11.9
Bee milk	2	1.7
Bee Bread	0	0
Bee Poison	0	0
Using frequency apitherapy products (n = 78)		
Everyday	15	12.7
Sometimes	53	44.9
Once in a month	3	2.6
Very Rare	7	5.9
Diseases using apitherapy (n = 118) [a]		
Heart diseases	23	19.5
Digestive System Diseases	45	38.1
Nervous System Diseases	15	12.7
Respiratory System Diseases	42	35.6
Immune System Diseases	68	57.6
Rheumatism Diseases	16	13.6
Endocrine System Diseases	23	19.5
Cancer	25	21.2
Anemia	11	9.3
Infertility	15	12.8
Wound Therapy	14	11.9
Aging	28	23.7
Who should use apitherapy (n = 118) [a]		
Youth	34	28.8
elders	35	29.7
children	28	23.7
All Age Groups	69	58.5
Cancer Patients	22	18.6
Who should not use apitherapy (n = 118) [a]		
Cancer Patients	11	9.3
Allergy sufferers	81	68.6
pregnant women	22	18.6
elders	14	11.9
One year old	63	53.4

[a] Multiple options are marked.

4. Discussion

As a result of this study, which was conducted to identify apitherapy knowledge and attitudes of the nurses, it was determined that very few of the nurses had knowledge about apitherapy and they generally obtained such information from the Internet. Furthermore, it was determined that a great majority of the nurses who did not prefer to use apitherapy products did not use these products due to lack of sufficient knowledge. Even though apitherapy products are found favor by the society, apitherapy is a CIM method applied generally by word of mouth or through empirical approaches. In the study conducted by DeKeyser et al., in Israeli, it was determined that nurses had little knowledge about CIM but they were eager to learn CIM methods [42]. In their study, Holroyd et al. [43] stated that the majority of nurses acquired their knowledge about CIM methods through newspapers/magazines or friends. The reliability of the information found in sources such as the Internet, newspapers, and magazines used by the nurses to get information about CIM is controversial. We are thus of opinion that nurses should learn information about CIM through undergraduate and graduate education as well as education programs such as congress/course in order to apply correctly and effectively CIM. Hence, the status of the patients to use both apitherapy and other CIM methods would be assessed by nurses who are qualified about CIM and thus possible risks would be reduced for the patients [40,41].

As a result of the study, it was determined that 66.1% of the nurses used minimum one apitherapy product. The apitherapy product most frequently used by the nurses using apitherapy product was honey. In the study conducted by Trumbeckaite et al., with students studying in the faculty of pharmacy, it was determined that all of the participants used minimum one apitherapy product and most frequently used honey [41]. Since honey is a high-energy and carbohydrate-rich food and has rather attractive properties in addition to its taste, its aroma, etc., it is well-known as a source of nutrition and energy and is the most widely consumed apitherapy product [2]. In the literature, it is reported that honey is used as a source of energy and healing for a wide range of diseases, including cancer [18–21,44–46]. Two studies conducted in Turkey also revealed that honey was the most widely known bee product and was mostly used as a nutrient, which is similar to the results of the present study [16,17]. This suggests that in Turkey, honey is used as a nutrient rather than medical purpose.

In the present study, it was found that the other apitherapy products used by the nurses were pollen, propolis, and royal jelly. On the other hand, bee bread and bee venom were not used by the nurses. In addition, the nurses stated that they were using apitherapy products occasionally. In their study, Trunbeckaite et al., found that the most widely used bee product was honey, followed by royal jelly and propolis and only four of the participants used bee venom [41]. In their study, Tunca et al., determined that apitherapy product most widely used by participants was honey, which was followed by royal jelly, pollen, and propolis, and they did not consume apitherapy products very frequently [17]. This is associated with the fact that procurement of honey is higher than other bee products such as propolis, royal jelly, bee venom, bee wax, and pollen in Turkey [47].

When examining nurses used apitherapy products for treatment of which diseases, it was observed that the top three diseases included immune system, digestive system, and respiratory tract diseases. In their study, Trumbeckaite et al., found that participants used apitherapy products primarily to strengthen the immune system and to heal respiratory tract diseases [41].

As a result of this study it was found that while 58.5% of the nurses stated that apitherapy could be used by individuals of all age groups, 68.6% stated that those with allergies should not use apitherapy products and 53.4% stated that they should not be used for infants under the age of 1 year. Being an apitherapy product causing allergic reactions and even death, bee venom contains minimum 18 bioactive compounds including enzymes, peptides, and amines. It is thought that the irritation and allergic reactions caused by bee stings are generally induced by melittin and phospholipase A2 [48,49]. Additionally, bee venom used in small doses can be beneficial in the treatment of many diseases [31,32]. On the other hand, the restrictions for the use of honey in children are botulism and allergic reactions. Botulism is the most dangerous side effect of using honey on infants under the age of 1 [13,50]. *The Regulation on Traditional and Alternative Medicine Practices* enforced in Turkey outlines “apitherapy is not applied in those with allergy towards bees and bee products, children, and infants under 1 year of age.” [51].

5. Conclusion

As a result of the study, it was found that a vast majority of the nurses had no sufficient knowledge about apitherapy. Additionally, the nurses acquired information about apitherapy from unreliable sources such as the Internet. Furthermore, it was found that the nurses used minimum one apitherapy product and the most commonly used product was honey. The nurses considered that apitherapy products could be used to treat diseases such as the immune system, digestive system, and respiratory tract diseases.

Based on these results, it can be asserted that the nurses had no sufficient and accurate knowledge about apitherapy. Also, the knowledge and usage levels of the nurses for other bee products, except for honey, were low. This reveals the importance of informing nurses about apitherapy during their education process. Nurses need to first have sufficient knowledge and qualification about apitherapy in order to accurately guide patients and their relatives about this subject. It is recommended to include apitherapy and other CIM methods in nursing curricula and also to conduct such studies with larger populations and all healthcare professionals to determine their current knowledge and practices about apitherapy.

References

[1] T. Cherbuliez, Apitherapy the use of honeybee products, in: M. Grassberger (Ed.), Biotherapy History, Principles and Practices, London, 2013, pp. 113–146.
[2] E. Ulusoy, Bal ve apiterapi (Honey and apiteraphy), Uludağ Arıcılık Dergisi 12 (2012) 89–97 (In Turkish).
[3] A.G. Hegazi, Apitherapy in Arab countries with special reference to apitherapy in Egypt, 36th International Apicultural Congress of Vancouver, September 1999.
[4] A.G. Hegazi, Apitherapy in Egypt. Egypt, J. Vet. Sci. 36 (2002) 1–15.
[5] A.G. Hegazi, Apitherapy, immunological aspects, APIMEDICA (2006) 1st International Forum on Apitherapy, Greece 212-15 October p:35, 2006.
[6] A.G. Hegazi, Medical importance of bee products, Bee Sci. 12 (4) (2012) 136–146.
[7] P. Terc, About a Remarkable Connection of Bee Venom with Rheumatism, Med. Presse, Wien, 1888.
[8] B.F. Beck, Bee Venom Therapy: Bee Venom, Its Nature, and Its Effect on Arthritic and Rheumatoid Conditions, D. Appleton-Century Company, New York and London, 1935, pp. 150–197.
[9] M.H. Christopher, M.D. Kim, Apitherapy: bee venom therapy, Biotherapy-History, Principles and Practice, Springer, Netherlands, 2013, pp. 77–112.
[10] M. Hellner, D. Winter, R. von Georgi, K. Münstedt, Apitherapy: Usage and Experience in German Beekeepers Evidence-Based Complementary and Alternative Medicine vol. 5, (2008), pp. 475–479 4.
[11] F. Zhu, S.A. Wongsiri, Brief introduction to apitherapy health care, J. Thai Tradit. Altern. Med. 6 (3) (2011) 303–312.
[12] C. Mutlu, M. Erbaş, S. Arslan Tontul, Some properties of honey and other bee products and their effects on human health, Akademik Gıda 15 (1) (2017) 75–83.
[13] S. ÖZKAN, K. BANCAR, Apitherapy and chid health, Deuhfed 8 (4) (2015) 247–251.
[14] E. Senel, E. Demir, Bibliometric analysis of apitherapy in complementary medicine literature between 1980 and 2016, Complement. Ther. Clin. Pract. 31 (2018) 47–52.
[15] FAO, http://faostat.fao.org, (2015) , Accessed date: 26 December 2014.
[16] F.E. Bölüktepe, S. Yılmaz, Familiarity and purchase frequency of bee products, Uludag Bee Journal 8 (2) (2008) 53–62.
[17] R.İ. Tunca, A. Taskin, U. Karadavut, Determination of bee products consumption habits and awareness level in some provinces in Turkey, Turk. J. Agric. Food Sci. Technol. 3 (7) (2015) 556–561.
[18] E. Spilioti, M. Jaakkola, T. Tolonen, M. Lipponen, V. Virtanen, I. Chinou, E. Kassi, S. Karabournioti, P. Moutsatsou, Phenolic acid composition, antiatherogenic and anticancer potential of honeys derived from various regions in Greece, PLoS One 9 (4) (2014).
[19] A. Islam, I. Khalil, N. Islam, M. Moniruzzaman, A. Mottalib, S.A. Sulaiman, S.H. Gan, Physicochemical and antioxidant properties of Bangladeshi honeys stored

for more than one year, BMC Complement Altern. Med. 12 (1) (2012) 177.
[20] K. Münstedt, F. Momm, J. Hübner, Honey in the management of side effects of radiotherapy- or radio/chemotherapy-induced oral mucositis. A systematic review, Complement. Ther. Clin. Pract. 34 (2019) 145–152.
[21] C. Wang, M. Guo, N. Zhang, G. Wang, Effectiveness of honey dressing in the treatment of diabetic foot ulcers: a systematic review and meta-analysis, Complement. Ther. Clin. Pract. 34 (2019) 123–131.
[22] V.R. Pasupuleti, L. Sammugam, N. Ramesh, S.H. Gan, Honey, propolis, and royal jelly: A Comprehensive Review of Their Biological Actions and Health Benefits, (2017), pp. 1–21.
[23] P.M. Fratellone, F. Tsimis, G. Fratellone, Apitherapy products for medicinal use, J. Altern. Complement. Med. 22 (22) (2016) 1020–1022.
[24] H. Xuan, Z. Li, H. Yan, Q. Sang, K. Wang, Q. He, Y. Wang, F. Hu, Antitumor Activity of Chinese Propolis in Human Breast Cancer MCF-7 and MDA-MB-231 Cells, Evidence-Based Complementary and Alternative Medicine, (2014), pp. 1–11.
[25] S. Demir, Y. Aliyazicioglu, I. Turan, S. Mısır, A. Menteşe, S.O. Yaman, K. Akbulut, K. Kılınç, O. Değer, Antiproliferative and proapoptotic activity of Turkish propolis on human lung cancer cell line, Nutr. Canc. 68 (1) (2016) 165–172.
[26] A.G. Hegazi, Z. Nagia, M.S. Moharm, F.E. Nour, Z Halah Minway E Khiat, A.M. Khair, Influence of ethanolic extract of Egyptian propolis in mice bearing Ehrlich carcinoma on biochemistry 8th, Internatıonal Symposıum on Apıtherapy Portoroz, Apimondia - Ljubljana, Slovenija September, vols. 17–19, 1998.
[27] S. Taavoni, F. Barkhordari, A. Goushegir, H. Haghani, Effect of royal jelly on premenstrual syndrome among Iranian medical sciences students: a randomized, tripleblind, placebo-controlled study, Complement. Ther. Med. 22 (4) (2014) 601–606.
[28] F. Seyyedi, M. Rafiean-Kopaei, S. Miraj, Comparison of the effects of vaginal royal jelly and vaginal estrogen on quality of life, sexual and urinary function in postmenopausal women, J. Clin. Diagn. Res. 10 (5) (2016) PMC4948482.
[29] M. Imai, A. Umezawa, J. Qin, K. Miyado, N. Yamakawa, Y. Takahashi, Molecular Alterations during Female Reproductive Aging: Can Aged Oocytes Remind Youth? INTECH Open Access Publisher, Croatia, 2012.
[30] Z. Zamani, P. Reisi, H. Alaei, A.A. Pilehvarian, Effect of royal jelly on spatial learning and memory in rat model of streptozotocin-induced sporadic Alzheimer's disease, Adv. Biomed. Res. 1 (2) (2012) 1–6.
[31] N. Oršolić, Bee venom in cancer therapy, Cancer Metastasis Rev. 31 (1–2) (2012) 173–194.
[32] M. Jo, M.H. Park, P.S. Kollipara, B.J. An, H.S. Song, S.B. Han, J.H. Kim, M.J. Song, J.T. Hong, Anti-cancer effect of bee venom toxin andmelittin in ovarian cancer cells through induction of death receptors and inhibition of JAK2/STAT3pathway, Toxicol. Appl. Pharmacol. 258 (1) (2012) 72–81.
[33] B. Anđelkovic, G. Jevtic, M. Mladenovic, J. Markovic, M. Petrovic, N. Nedic, Quality of pollen and honey bee bread collected in spring, J. Hyg. Eng. Des. 1 (2012) 275–277.
[34] Z. Abouda, I. Zerdani, I. Kalalou, M. Faid, M.T. Ahami, The antibacterial activity of Moroccan bee bread and bee-pollen (fresh and dried) against pathogenic bacteria, Res. J. Microbiol. 6 (4) (2011) 376–384.
[35] WHO Traditional Medicine Strategy 2002-2005, World Health Organization, Geneva, 2002.
[36] C.K. Ong, G. Bodeker, C. Grundy, G. Burford, K. Shein, WHO Global Atlas of Traditional, Complementary, and Alternative Medicine, World Health Organization, Kobe, Japan, 2005.
[37] Z. Koç, T. Çınarlı, The determination of Complementary and Alternative Medicine use in patients presenting at the emergency room, Complement. Ther. Clin. Pract. 31 (2018) 164e169.
[38] M. Kavurmacı, N. Tan, Z. Kavurmacı, Nursing, midwifery, and dietetics students' attitudes to complementary and ıntegrative medicine and their applications, Bakirköy Tip Dergisi 4 (14) (2018) 300–306.
[39] E.A. Herdman, Complementary and alternative medicine and nursing, Hemşirelikte Eğitim ve Araştırma Dergisi 4 (2) (2007) 2–3.
[40] E. Sözeri, B.B. Kahraman, Complementary health approaches perspectıve from the nurse and the patıent, Balikesir Saglik Bil Derg 5 (1) (2016) 39–42.
[41] S. Trumbeckaite, J. Dauksiene, J. Bernatoniene, V. Janulis, Knowledge, attitudes, and usage of apitherapy for disease prevention and treatment among undergraduate pharmacy students in Lithuania, Evid. Based Complement Altern. Med. (2015) 1–9. Article ID 172502.
[42] F.G. DeKeyser, B. Bar Cohen, N. Wagner, Knowledge levels and attitudes of staff nurses in Israel towards complementary and alternative medicine, J. Adv. Nurs. 36 (1) (2001) 41–48.
[43] E. Holroyd, A.L. Zhang, L.K. Suen, C.C. Xue, Beliefs and attitudes towards complementary medicine among registered nurses in Hong Kong, Int. J. Nurs. Stud. 45 (11) (2008) 1660–1666.
[44] A.N. Fauzi, M.N. Norazmi, N.S. Yaacob, Tualang honey induces apoptosis and disrupts the mitochondrial membrane potential of human breast and cervical cancer cell lines, Food Chem. Toxicol. 49 (4) (2011) 871–878.
[45] N.S. Al-Waili, K. Salom, A.A. Al-Ghamdi, Honey for wound healing, ulcers, and burns; data supporting ıts use in clinical practice, Sci. World J. 11 (2011) 766–787.
[46] S. Samarghandian, J.T. Afshari, S. Davoodi, Honey induces apoptosis in renal cell carcinoma, Phcog. Mag. 7 (25) (2011) 46–52.
[47] F. Karadal, Y. Yıldırım, Balın kalite nitelikleri, beslenme ve sağlık açısından önemi (Quality qualities of honey, the importance of nutrition and health), Erciyes Üniversitesi Veterinerlik Fakültesi Dergisi 9 (3) (2013) 197–209 (In Turkish).
[48] D.J. Son, J.W. Lee, Y.H. Lee, H.S. Song, C.K. Lee, J.T. Hong, Therapeutic application of anti-arthritis, pain-releasing, and anti-cancer effects of bee venom and its constituent compounds, Pharmacol. Ther. 115 (2) (2007) 246–270.
[49] M. Ali, Studies on bee venom and its medical uses, International Journal of Advancements in Research & Technology 1 (2) (2012) 69–83.
[50] E. Pifko, A. Price, S. Sterner, Infant botulism and indications for administration of botulism im-mune Globulin, Pediatr. Emerg. Care 30 (2) (2007) 120–124.
[51] Resmi Gazete, Geleneksel Ve Tamamlayıcı Tıp Uygulamaları Yönetmeliği (Regulation on Traditional and Complementary Medicine Practices), http://www.resmigazete.gov.tr/eskiler , Accessed date: 27 October 2014.

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