

Analysis of companion animal clinics in Istanbul in terms of some physical structures, technical equipment, patients and management *

Canberk BALABAN^{1**} Halil GÜNEŞ¹

Research Article

Volume: 5, Issue: 2
August 2021
Pages: 87-97

¹. Istanbul University-Cerrahpaşa, Büyükçekmece Campus, Faculty of Veterinary Medicine, Department of Animal Breeding and Husbandry, 34500 Büyükçekmece-Istanbul, Turkey. Balaban, C.: ORCID: 0000-0001-7510-7724; Güneş, H.: ORCID: 0000-0002-4154-7104.

ABSTRACT

With the increasing in companion animal (pet) adoption in the recent years, clinics are now becoming businesses enterprises. In parallel with this increase in ownership, a significant number of veterinarians have started to choose companion animal area. According to records there is a total of 7915 ministry licensed enterprises in Turkey (Ministry of Agriculture and Forestry, 2021a) and 749 of them are established in Istanbul (Ministry of Agriculture and Forestry, 2021b). For this reason, Istanbul has been determined as the study site. In this research, it is aimed to determine the physical structures, technical equipment, patient distribution and to analyze the business activities and problems encountered of the companion animal veterinary clinics in Istanbul. Survey studies were conducted mostly face-to-face (96%) in 225 clinics in Istanbul between April 2019 and April 2021. At the end of the research, it was determined that the majority of the clinics in Istanbul were 100-200 square meters in size, single storey, with 1 examination room. In addition, 96,0% of the clinics are rental and 74,2% of which are sole corporation. In terms of investment, all clinics has a microscopic examination set. Vast majority (95.0%) have X-ray devices and 87.0% analysers. In terms of patient distribution, cats represents 61.9% and dogs represents 33.0%. In the age distribution, those between the ages of 2-5 constitute the largest group for both cats and dogs. The most common reason for the first visit is vaccination with 39.6%. With the research, it has been observed that clinics are generally small-medium in size (81,3%) and independent clinics. The fact that large and chain enterprises are almost non-existent causes both the amount of investment and the expenditure required for promotional activities to be high. From this point of view, it is clearly seen that clinics should become more professional enterprises. In order to do that veterinarians always try to improve business and administrative capabilities by attending to training events.

Keywords: veterinary clinic, management, technical analysis, investment, istanbul

Article History

Received: 07.07.2021
Accepted: 03.08.2021
Available online:
25.08.2021

DOI: <https://doi.org/10.30704/http-www-jivs-net.964767>

To cite this article: Balaban, C., Güneş H. (2021). Analysis of companion animal clinics in Istanbul in terms of some physical structures, technical equipment, patients and management. *Journal of Istanbul Veterinary Sciences*, 5(2), 87-97.
Abbreviated Title: J. Istanbul vet. sci.

*This study was prepared from a part of the data obtained from the first author's doctoral thesis titled "Some Socio-Demographic Parameters of Companion Animals Veterinary Medicine in Turkey and Technical and Economic Analysis of The Clinics".

Introduction

Pet ownership has increased continuously in the last 20-25 years in Turkey as well as in the world and the total number of cats and dogs has reached 5 million (FEDIAF, 2020). This development in Turkey has started to be felt seriously especially after the second half of the 1990s, primarily in big cities such as İstanbul, İzmir and Ankara, and over time, the pet ownership

approach has spread throughout the country. It can be said that the biggest contribution to this development is the diversification of communication channels, especially television channels, radio channels and social media. In addition, the opinions of experts on the benefits of having a pet have had positive effects on individuals and families in terms of having a pet

**Corresponding Author: Canberk Balaban
E-mail: canberkbalaban@gmail.com

Journal home page: www.jivs.net
<http://dergipark.gov.tr/http-www-jivs-net>



This work is licensed under the [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

(Erten et al., 2019).

Pet clinics are also commercial enterprises and businesses have various aspects such as technical, psycho-technical, social, humanitarian, administrative, economic, financial, psychological, and political. Enterprises will be able to maintain their existence by working effectively and efficiently in all aspects (Kaygısız and Akdağ, 2004). Veterinary clinics and animal hospitals need to be able to meet patient expectations at the highest level and increase their level of satisfaction. It plays an important role in the profitability, productivity and sustainability of animal health service providers (Çevrimli et al., 2019). From that perspective in order for veterinary clinics to work effectively and efficiently, clinical owners need to be familiar with points such as physical structure, technical equipment and detailed information about patients. In addition, business knowledge is also necessary for successful commercial management. Even in the United States, which is the largest market in this field, many clinicians still lack both knowledge and practice in this field (Kieves et al., 2007).

When pet clinics are examined, it is seen that the vast majority of them are of a small structure. It is in the form of many clinical person companies or 2-partner businesses. In addition, clinics in the form of family businesses, both owned by spouses who are veterinarians, are frequently encountered. This distribution is similar both worldwide and to the United States. When examined worldwide, it is observed that 65% to 80% of commercial enterprises, including veterinary clinics, are in the family business structure (Bakan et al., 2006). Almost all businesses in the United States (99%) are in the form of small businesses (Adoukonou, 2019). Although pet clinics have limited business volume and employment opportunities due to their structure, it should be accepted that they contribute significantly to the economic and social development in their country like other family businesses (Yıldırım, 2007). In this respect, in addition to many enterprises in the animal health sector, pet clinics have become one of the important elements of the country's economy.

Due to the increase in pet ownership in recent years and the potential of the region, it is important to examine patient clinics in Istanbul in terms of physical structure, investment, and patient characteristics. With the research it is aimed to determine the physical structures, technical equipment, patient distribution and to analyze the business activities and problems encountered of the companion animal veterinary clinics. Having detailed information about the general situation within the province will shed light the on future planning of both current clinicians

and veterinarians and also students who want to progress in this direction.

Materials and Method

The material of the study is the data collected by filling out the questionnaire prepared in veterinary clinics established in Istanbul only for the purpose of serving pets and the data processed in computer environment. The questionnaires were sent to 4% of veterinarians who could not be interviewed face-to-face via e-mail in the form of Excel file.

The clinics selected for the survey were determined using Simple Random Sampling method. The units in the main mass were listed and numbered according to the simple random sampling method and then randomly selected (Etikan, 1989). This choice has the advantages of being used in large masses, giving each point an equal chance and not needing weighting. Total of the sample for survey represents 29,6% of respective the market.

In the analysis of the survey results, arithmetic mean method was used in general, and frequency tables were created for the answers to the questions asked with the options grouped. The incidence of an observation value or measurement result within all observation units is determined as the frequency of this value. In frequency tables, frequencies for one or several variables are presented in a structured manner (Evrin and Güneş, 2000; Demir, 2017). For the grouped answers, the midpoints of the groups and their averages over the frequencies were calculated and evaluated with Microsoft Office Excel 2010 and IBM SPSS Statistics 22 for Windows.

Results

Findings obtained by using data from 225 companion animal veterinary clinics for the analysis in terms of some physical structure, technical equipment, patients, and management are given below in titles according to the subjects examined in the questionnaire.

1. Classification of clinics: With the research, it has been determined that 97.8% of the veterinary clinics in Istanbul province are in the clinic structure.

Table 1. Classes of clinics.

Types	Frequency	Percent (%)	Cumulative Percent (%)
Clinic	218	97.8	97.8
Policlinic	3	1.3	99.1
Hospital	2	0.9	100.0
Total	225	100.0	

2. Legal Status of clinics: With the research, it has been determined that 25.8% of the veterinary clinics in Istanbul province are in the partnership company and 74.2% are a sole corporation company.

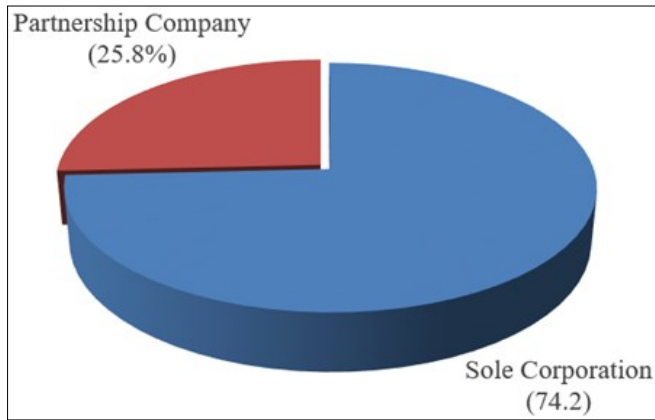


Figure 1. Legal status of clinics.

3. Distribution of clinics by year of establishment: In the study, it was determined that the majority of the veterinary clinics in Istanbul were established between 2001 and 2010 with a rate of 52.9%.

Table 2. Distribution of clinics by year of establishment.

Year	Frequency	Percent (%)	Cumulative Percent (%)
Between 1990–2000	34	15.1	15.1
Between 2001–2010	119	52.9	68.0
Between 2011–2020	72	32.0	100.0
Total	225	100.0	

4. Indoor use of clinics: The indoor area of 52.9% of the clinics where the survey was conducted is between 100 and 200 square meters.

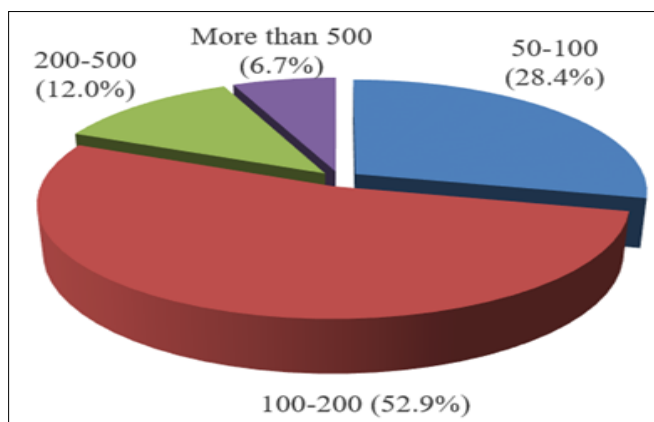


Figure 2. Indoor area of the clinics (Square meters).

5. Floor status of clinics: As a result of the research, it has been determined that the majority of veterinary clinics are single-storey with 59.5% and 33.8% are two-storey in terms of usage area.

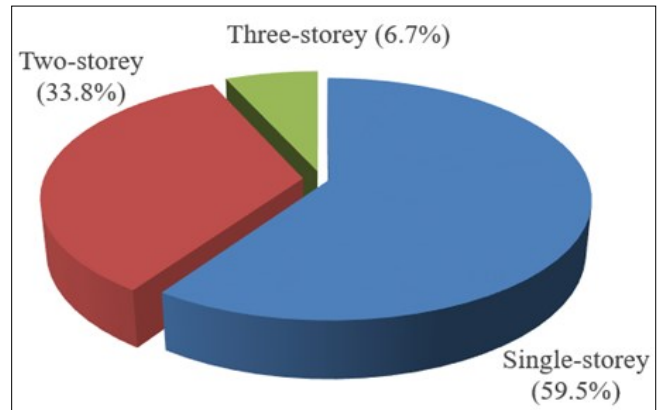


Figure 3. Floor status of clinics.

6. Examination room numbers: In the study, it was determined that 32.0% of the veterinary clinics had 1 examination room and 54.2% had 2 examination rooms.

Table 3. Examination room numbers

Examination Room	Frequency	Percent (%)	Cumulative Percent (%)
1 Rooms	72	32.0	32.0
2 Rooms	122	54.2	86.2
3 Rooms	31	13.8	100.0
Total	225	100.0	

7. Number of operation rooms: In the study, it was determined that 90.7% of the veterinary clinics had 1 operation room and 8.9% had 2 operation rooms.

Table 4. Number of operation rooms.

Operation Room	Frequency	Percent (%)	Cumulative Percent (%)
1 Rooms	204	90.7	90.7
2 Rooms	20	8.9	99.6
3 Rooms	1	0.4	100.0
Total	225	100.0	

8. Competence of clinic sizes: According to results, 53.3% of the veterinarians participating in the study stated that they found the sizes of their clinics sufficient and 46.7% stated that they did not find them sufficient.

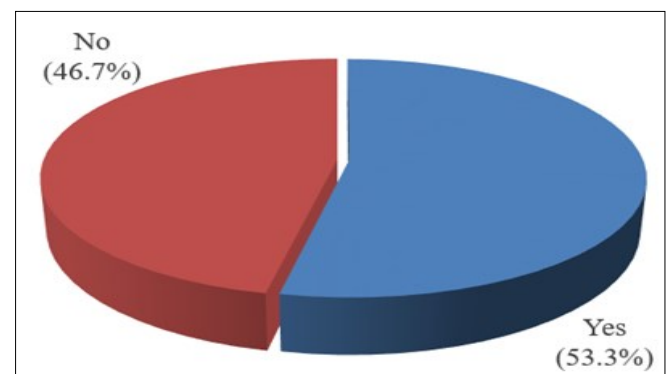


Figure 4. Competence of clinical sizes.

9. Property status: In the study, it was determined that almost all of the veterinary clinics (96.0%) were rented and the proportion of the owner veterinarians was only 4.0%.

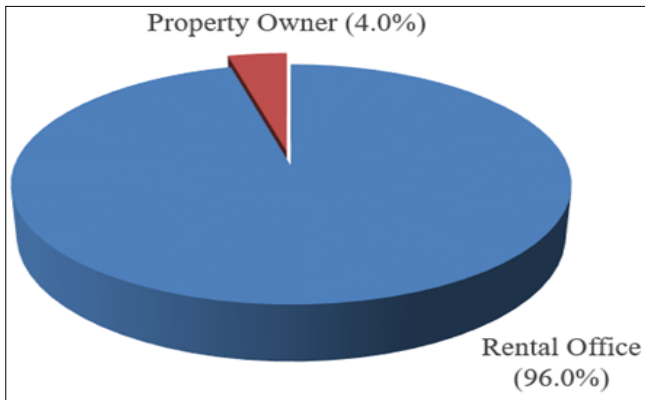


Figure 5. Property status.

10. Medical devices in the clinic: It was determined that all clinics participating in the study (100%) had microscopic examination set and 95% had X-ray unit.

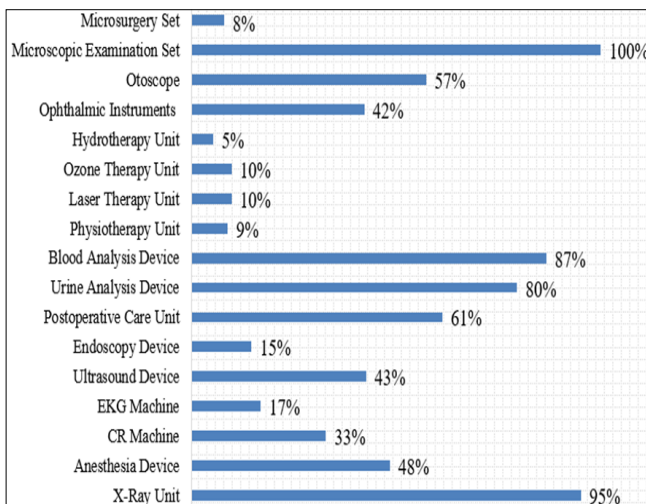


Figure 6. Ratios of medical devices in the clinic.

11. Parking lot, ambulance, pet boarding and pet coiffeur services status of clinics: As a result of the research, it was determined that 21.3% of the veterinary clinics had parking lots, 19.1% had ambulances, 65.8% had pensions and 64.4% had coiffeur.

Table 5. Parking lot, ambulance, pet boarding and pet coiffeur service status.

Facilities	Yes		No	
	Frequency	Percent (%)	Frequency	Percent (%)
Parking Lot	48	21.3	177	78.7
Ambulance	43	19.1	182	80.9
Pet Boarding	148	65.8	77	34.2
Pet Coiffeur	145	64.4	80	35.6

12. Basic problems encountered during the establishment phase: In the study, it was determined that veterinarians mostly encountered financial problems with 38.6% during the establishment of their clinics. The second place is to find a suitable establishment place with 30.5%.

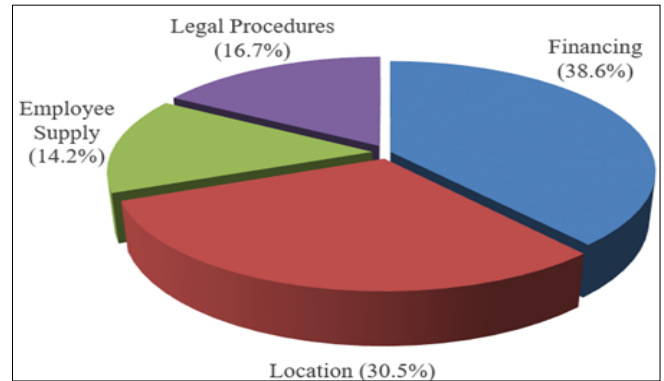


Figure 7. Basic problems encountered during the establishment phase.

13. Factors effective in location selection: As a result of the research, 31.5% of the veterinarians participating in the study reported that they mostly paid attention to whether there was another clinic nearby during the period of opening their clinic.

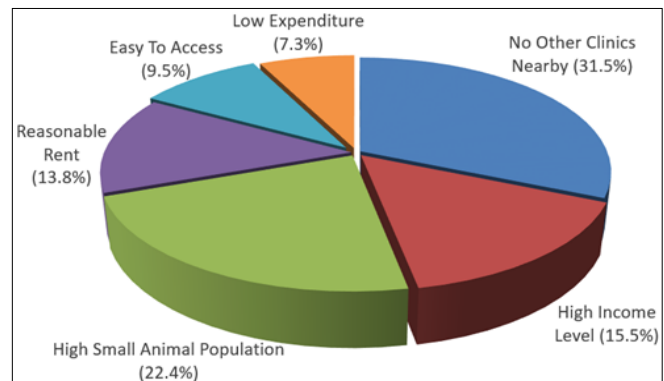


Figure 8. Factors effective in location selection.

14. Specie distribution of animals: Clinics participating in the research questionnaire reported that cats constituted the largest share among their patients with 61.9%. Dogs ranked second with 33.0%.

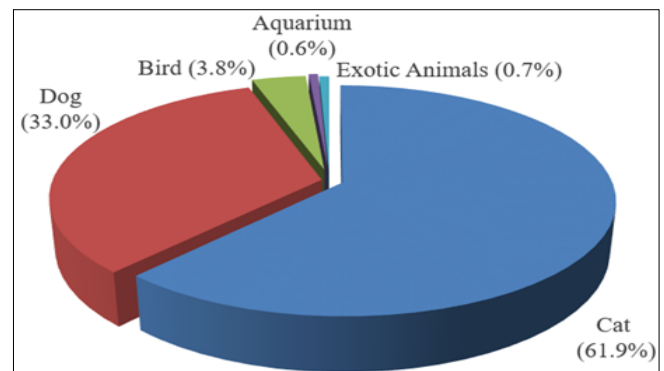


Figure 9. Distribution of incoming animals by species.

15. Age distribution of cats and dogs visiting clinics: According to the results of the study, the majority of both cats and dogs visiting the clinics constitute the group between the ages of 2-5.

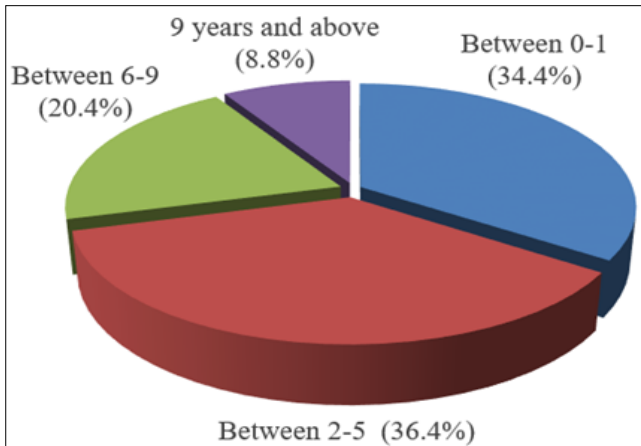


Figure 10. Age distribution of cats visiting the clinic.

17. Gender distribution of cats and dogs visiting clinics: It was determined that the gender distribution was balanced among both cats and dogs visiting the clinics in the study, and the females were higher with very little difference.

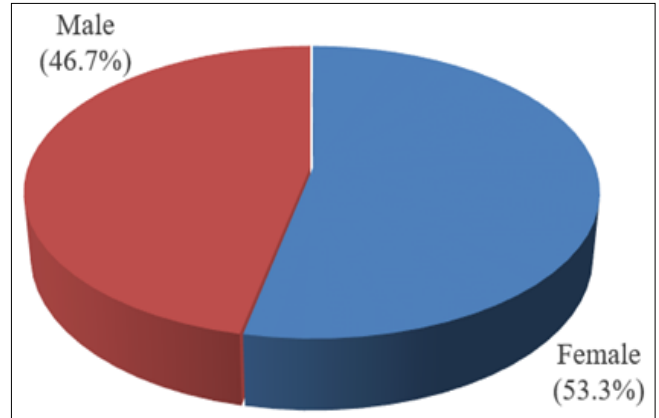


Figure 13. Gender distribution of cats visiting the clinic.

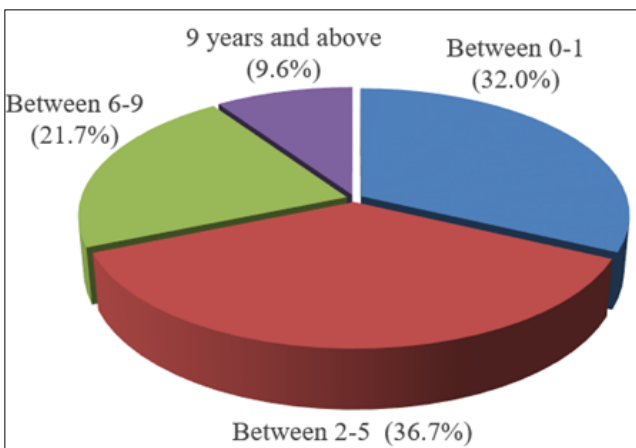


Figure 11. Age distribution of dogs visiting the clinic.

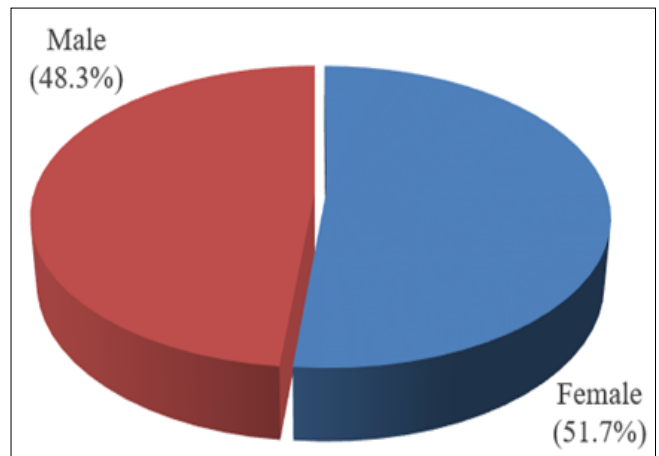


Figure 14. Gender distribution of dogs visiting clinics.

16. Breed size distribution of dogs: Veterinarians participating in the study reported that the largest group of dogs visiting clinics consisted of mini-small breed dogs with 48.0%.

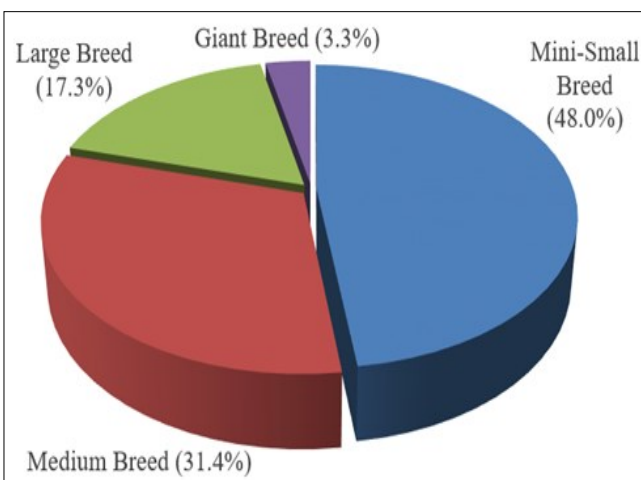


Figure 12. Breed size distribution of dogs.

18. Distribution of regular and accidental patients: With the study, it was determined that 73.1% of the cats visited and 65.0% of the dogs visited in the clinics regularly.

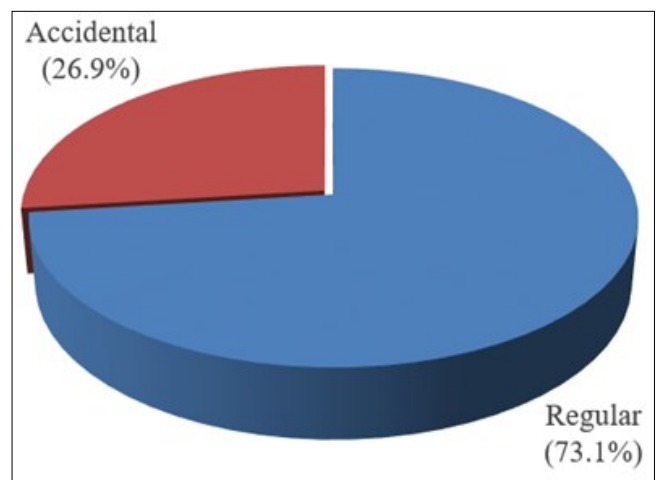


Figure 15. Regular and random distribution of cats.

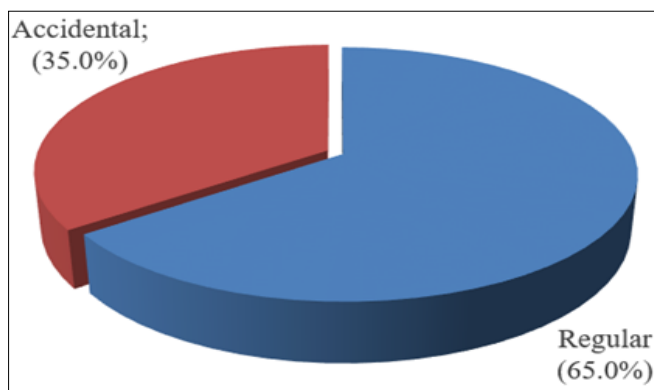


Figure 16. Regular and random distribution of dogs.

19. Patients' first visit purpose: Veterinarians participating in the study stated that the reason for their patients' first visit to clinics was vaccination with 39.6%. Prophylaxis ranks second with 32.4%.

Table 6. Patients' first visit purpose.

Visit Purpose	Frequency	Percent (%)	Cumulative Percent (%)
Prophylaxis	73	32.4	32.4
Adoption	27	12.0	44.4
Vaccination	89	39.6	84.0
Treatment	12	5.3	89.3
Antiparasitic App.	24	10.7	100.0
Total	225	100.0	

20. Annual general control number of animals: According to the study, the number of regular annual controls for both dogs and cats is very close to each

Table 7. Number of regular annual control

Pet	n	Mean	SD	Min.	Max.	Med.
Cat	225	2.7	2.21	0.0	10.0	2.0
Dog	225	2.6	2.22	0.0	10.0	2.0

SD = Standard deviation, Min = Minimum, Max = maximum, Med = Median

other and about 3 times a year.

21. Number of annual antiparasitic applications: At

Table 8. Number of annual antiparasitic applications.

Pets	Parasite Prevention	n	Mean	SD	Min.	Max.	Med.
Cats	Endoparasite	225	5.1	1.11	3.0	8.0	6.0
	Ectoparasite	225	6.9	2.02	3.0	12.0	6.0
Dogs	Endoparasite	225	5.7	1.33	4.0	8.0	6.0
	Ectoparasite	225	8.0	2.30	4.0	12.0	8.0

the end of the study, it was determined that the annual number of protection applications against internal and external parasites applied to dogs was higher than cats.

22. Annual number of vaccinations: In the study, it was determined that the number of vaccinations given to both dogs and cats was very close and approximately 3 times a year.

Table 9. Number of vaccinations per year.

Vaccination	n	Mean	SD	Min	Max	Med
Cats	225	2.8	0.41	1,0	3.0	3.0
Dogs	225	3.1	0.37	2.0	4.0	3.0

SD = Standard deviation, Min = Minimum, Max = maximum, Med = Median

23. Annual pet food purchase frequency: According to the study, cat owners purchase pet food 9.1 times a year on average, while dog owners purchase 9.7 times a year.

Table 10. Annual pet food purchase frequency

Vaccination	n	Mean	SD	Min	Max	Med
Cats	225	9.7	2.35	4.0	12.0	10.0
Dogs	225	9.1	1.97	4.0	12.0	8.0

SD = Standard deviation, Min = Minimum, Max = maximum, Med = Median

24. The Purpose of animals' first arrival to the clinic: In the study, it was determined that 76.4% of the animals visited the clinics as soon as the illness occurs. In the second place, 8.9% came to the clinic after the treatment of other veterinarians.

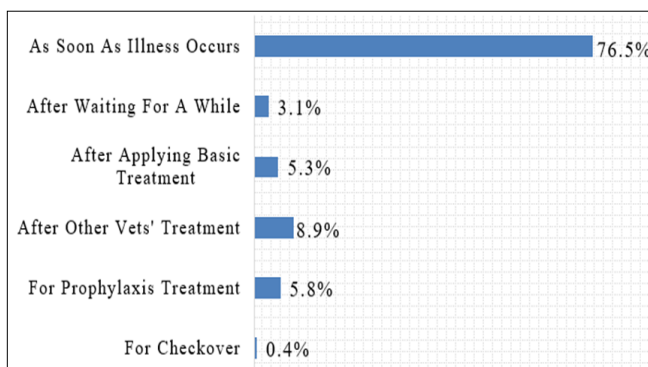


Figure 17. The purpose of patients' first arrival to the clinic.

25. Distribution of basic practices encountered in the clinic by species: While 63.4% of the internal medicine practices encountered in the clinic were related to cats, 58.8% of the surgical practices were related to cats.

Table 11. Distribution of the basic practices encountered in the clinic by species (%)

Basic Applications	Cats	Dogs	Total
Internal Medicine	63.4	36.6	100.0
Surgery	58.8	41.2	100.0
Obstetrics & Gynaecology	55.7	44.3	100.0
Prophylaxis	58.0	42.0	100.0

26. Expectations from pet owners: The veterinarians who participated in the study stated that their biggest expectations from the patient owners were to make an appointment and pay their fees in full.

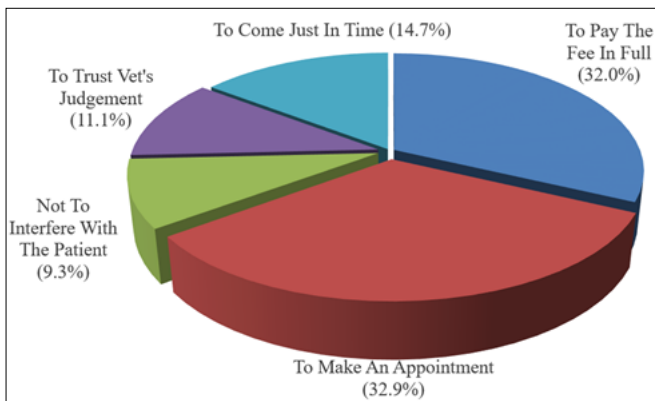


Figure 18. Expectations from pet owners.

27. Opinions on company representatives' visits and appropriate visit frequency: While 94.7% of the veterinarians participating in the study stated that they found the visits of company representatives beneficial, the ideal visit frequency was 1.3 times a month.

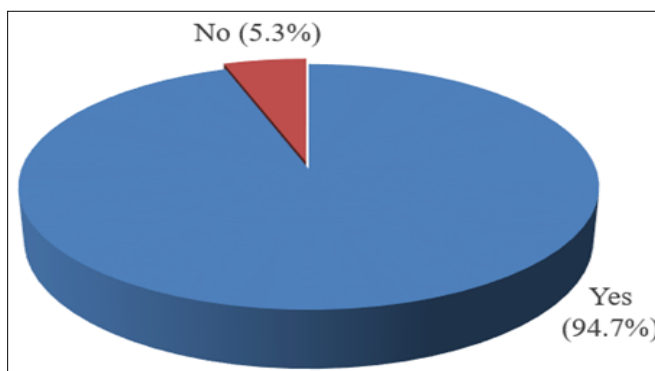


Figure 19. Whether the visits of company representatives are beneficial.

Table 12. Suggestion of appropriate monthly visit frequency

n	Mean	SD	Min.	Max.	Med.
225	1.3	0.65	0.0	4.0	0.04

SD = Standard deviation, Min = Minimum, Max = maximum, Med = Median

28. Occupational safety and health risks and problems encountered: All of the veterinarians who participated in the study stated that they thought that the profession contained risks regarding occupational health and safety, and 95.0% stated that they had problems in this regard at least once while performing the profession. The most common problems are physical problems with 94.7% and ergonomic problems with 32.0%.

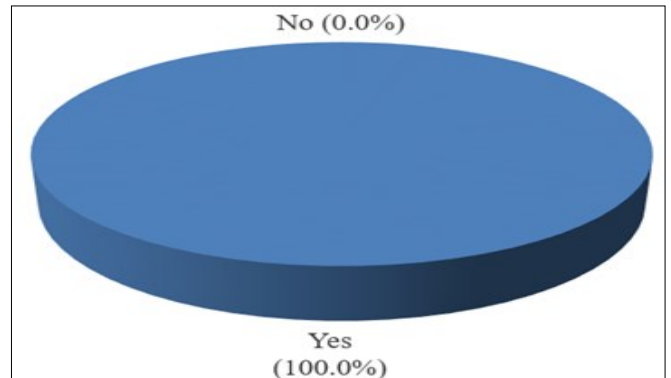


Figure 20. Occupation involves risks in occupational health and safety.

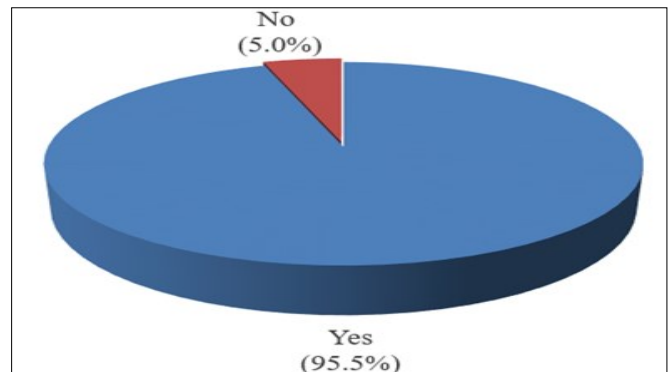


Figure 21. Having problems with occupational health and safety while performing the profession.

Table 13. Distribution of problems encountered.

Occupational Risks	n	Frequency	Percent (%)
Zoonotic Diseases	225	21	9.3
Ergonomic Problems	225	72	32.0
Radiology Problems	225	10	4.4
Chemical Problems	225	44	19.6
Physical Problems	225	213	94.7

Discussion

At the end of the research, it has been determined that 97.8% of the veterinary clinics in Istanbul are clinics. Polyclinics rank second with 1.3% and hospitals rank third with 0.9%, and these rates are compatible with the country.

According to the Ministry of Agriculture and Forestry data, 98.2% of the clinics in Turkey are clinics, 1.0% are polyclinics and 0.8% are animal hospitals (Ministry of Agriculture and Forestry, 2021a). In addition, in the study, it has been determined that 74.2% of these enterprises are in the partnership company and 25.8% are sole corporations.

With the research, it was determined that 15.1% of the clinics were established between 1990-2000, 52.9% between 2001-2010 and 32% between 2011-2020. Considering that the pet sector in Turkey has been on the rise since the second half of the 90s, it seems understandable that the majority of clinics were established after 2000.

When the physical characteristics of the clinics are evaluated, it is seen that 28.4% have an indoor area between 50-100 square meters and 52.9% have an indoor area between 100-200 square meters. The rate of clinics with a closed area of 200-500 square meters, which is larger areas, is 12.0% and the rate of clinics larger than 500 square meters is 6.7%. Since Istanbul is now a metropolis and its real estate values are high, most of the clinics are expected to be small and medium sized. As a result of a study conducted in Hungary in this area, it has been reported that the average indoor area of the clinics is 93.4 square meters (Ozsvari, 2014) and it shows parallelism with the results of this study. As a result of the research, it was determined that the majority of the clinics (59.6%) were single-storey similar to the indoor results. The proportion of two-storey clinics is 33.8% and the proportion of three-storey and more storey clinics is only 6.7%. When examined in terms of the examination room, it was seen that 32.0% had one examination room, 54.2% had two examination rooms and 13.8% had three examination rooms. In a study conducted in this direction in the United States, the average number of examination rooms was reported to be 3.1 (AVMA, 2018). In this respect, the result of the study is similar to the United States. When the number of operation rooms was analysed, it was determined that the vast majority (90.7%) were single operation rooms. Only 8.9% have two operating rooms and 0.4% have three operating rooms. According to the Veterinary Examination and Polyclinic Regulation (Official Gazette, 2011), which regulates the conditions for the opening of clinics and outpatient clinics, at least 1 examination room is required and there is no operation room requirement and the results obtained in the study are in line with this regulation.

When veterinarians were asked about their opinions about the adequacy of these physical characteristics, 53.3% of the veterinarians stated that

they thought it was sufficient and 46.7% stated that they thought it was insufficient.

Investment is significant for the development of a business. Studies conducted in this direction report that those who prefer to take risks in corporate investors and those who avoid taking risks in individual investors are predominant (Yılmaz, 2009). Since veterinary clinics are mostly individual investments, questions analysing this aspect have also been included in the research. As a result of the research, it was determined that almost all of the clinics were rented with 96.0%. The proportion of veterinarians who own the workplace is only 4.0%.

When the investments in medical equipment were examined, it is determined that all of the clinics have microscopic examination sets, 95.0% have X-ray units, 87.0% have blood analysers and 80.0% have urine analysers. When the services provided were examined, it was determined that 21.3% of the veterinary clinics had parking lots, 19.1% had ambulances, 65.8% had pensions and 64.4% had coiffeur.

Since the establishment period of a clinic is also an important process, these points were also examined in the study. According to the results, veterinarians mostly encountered financial problems with 38.6% during the establishment of their clinics. The second place is to find a place of establishment with 30.5%. Legal legislation has a rate of 16.7% and staff supply has a rate of 14.2%. According to the study, veterinarians stated that they mostly paid attention to not having any other clinics in the vicinity with 31.5% in the location selected during the establishment phase. The excess number of cats and dogs in the region is second at 22.4% and the income level of the region is third at 15.5%.

The study also examined various demographic characteristics of cats and dogs visiting clinics. As a result of the study, 61.9% of the patients were cats and 33.0% were dogs. The recent increase in life in high-rise apartments and sites in Istanbul can be considered as an important reason explaining the high number of cats. When the age group is examined, the largest group for both cats and dogs is those between the ages of 2-5. The rates are 36.4% for cats and 36.7% for dogs. The second group of puppies -cats 34.4% and dogs 32.0%- is also ranked second for both species. When the breed dimensions of dog patients are examined in detail, the largest group consists of small breeds with 48.0%. Medium breeds rank second with 31.4%, large breeds rank third with 17.3% and giant breeds rank fourth with 3.3%. The reason for this distribution can be associated with city and living conditions, such as the fact that cats are more

common than dogs. In terms of gender, it was determined that the female and male ratios were very close to each other and the female ratio was higher with little difference. These rates are 53.3% female and 46.7% male for cats; 51.7% female and 48.3% male for dogs. Among the patients, cats were found to visit clinics regularly in 73.1% and accidentally in 26.9%; dogs were found to visit clinics regularly in 65.0% and accidentally in 35.0%. Characteristics of patients visiting clinics such as age, species, breed, size, and gender are important information in terms of both medical equipment and managerial success. By regularly monitoring and analysing these points, more accurate development opportunities can be followed in terms of science and business decisions such as investment, stock, and physical opportunities can be made more accurately.

With the research, it was determined that the reason for the first visit to the clinics of the patients was vaccination with 39.6%. Prophylaxis ranks second with 32.4% and adoption ranks third with 12.0%. Antiparasitic application is the fourth reason for the visit with 10.7% and treatment is the fifth reason for the visit with 5.3%. The study found that dogs visit clinics 2.6 times a year and cats 2.7 times a year for regular check-ups. This means that they are checked approximately every 4 months, which is a good rate. The number of annual vaccinations in cats and dogs was determined to be approximately 3 times, similar to the number of controls. The frequency of food purchases is 9.7 times a year for dogs and 9.1 times a year for cats.

Parasites are one of the most common problems encountered by pets all over the world (Blagburn et al., 1996), and this issue was therefore analysed in the research. At the end of the study, it was determined that protective applications were applied to cats 6.9 times a year and to dogs 8.0 times a year against external parasites. ESCCAP (European Scientific Council Companion Animal Parasites), which carries out studies on parasites in companion animals throughout Europe, recommends monthly application in regions with high flea and tick density (ESCCAP, 2018). Likewise, CAPC (Companion Animals Parasite Council), which carries out activities on parasites in companion animals in the United States, recommends 12 times a year (CAPC, 2021). In order to protect against internal interference, it was found that 5.1 times a year was applied to cats and 5.7 times a year to dogs. Although the region experienced in the frequency of ESCCAP internal interference application reports that there are many variables such as frequency of going out and eating other animal-insect, it recommends to apply it 4-12 times a year on

average (ESCCAP, 2020). When the data obtained as a result of the study are evaluated, it is seen that both internal and external interference application frequencies in Turkey are close to the frequencies recommended by ESCCAP and CAPC.

At the end of the study, it was determined that 76.5% of the patients visited the clinics as soon as the disease was visible and 8.9% of them applied to the clinic after the treatment of another veterinarian. In the basic practices encountered in clinics, the density is generally in favour of cats. Distribution of internal medicine applications is 63.4% in cats and 36.6% in dogs, distribution of surgical applications is 58.8% in cats and 41.2% in dogs, distribution of obstetrics and gynaecology practices is 55.7% in cats - 44.3% in dogs the distribution of prophylaxis practices is 58.0% in cats and 42.0% in dogs. In this study, the distribution of species within internal medicine, surgery, obstetrics and gynaecology, prophylaxis and other applications is given. In addition, in another study, it would be useful to give distributions of applications within the species. Although cats and dogs are the patients of veterinarians, it is the owners who decide for them. Considering this situation, the expectations of veterinarians from patient owners were also examined in the study. According to the results of the research, the patients are expected to make the most appointments with 32.9%, and they are asked to pay their fees in full of 32.0%. In addition, other important expectations are that they arrive on time, trust vet's judgement and do not interfere with the patients.

In the study, field personnel of the companies that provide various services to the clinics were also examined. At the end of the study, 94.7% of veterinarians stated that they found company representatives' visits beneficial, while only 5.3% stated that they did not consider it necessary. In addition, the ideal visit frequency recommendation has been determined as 1.3 times a month.

Since veterinary medicine is a profession involving various risks, this issue has also been examined in the study. According to the results, all veterinarians stated that they thought that the profession contained risks in terms of occupational health and safety, and 95.0% stated that they had at least one problem in this regard while performing the profession. The most common problems are physical problems with 94.7% and ergonomic problems with 32.0%. Chemical problems rank third with 19.6% and zoonotic diseases rank fourth with 9.3%.

Conclusion

Istanbul province is the most important region of the pet sector in terms of both the number of clinics and

commercial business volume. The fact that a total of 749 clinics are concentrated in certain areas, that the majority of them are single-storey and have an area between 100-200 square meters and that there are no multibranch chain enterprises constitutes a fragmented market structure. In general, since the workplaces in the agricultural and livestock sectors are small-medium in size, the markets are fragmented and there is a unique intense competitive environment in such markets (Jarl Borch and Brastad, 2003). In addition to medical knowledge and practice, the opportunities offered in clinics are of utmost importance to take the lead in an intense competitive environment in veterinary medicine. When the possibilities are examined, medical devices that play a critical role in diagnosis come to the fore. In addition, facilities such as parking, ambulance, pension, and hairdresser are also remarkable services for cat and dog owners. In addition, the location of the clinic is appropriate in terms of various factors.

In order to run a successful clinic, it should be established in the appropriate region, investments should be made and many services should be provided. Considering that veterinarians experience the most financial problems during the establishment phase and considering the increasing number of new graduates in the pet sector day by day, it is clear that the conditions are getting more difficult. For this reason, veterinarians working on pet clinics should never neglect continuous development both in student and postgraduate medicine as well as in the veterinary clinics management.

References

- Adoukonou, V. (2019). *Strategies for Small Business Sustainability* (PhD Thesis). Walden University, College of Management and Technology, Minnesota, USA.
- AVMA – American Veterinary Medical Association (2018). *The Market For Veterinary Services, 18*. Retrieved from: https://www.google.com.tr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKewiNk6yl9PvwAhXQ5KQKHYNmCDcQFJAaegQIAxAD&url=https%3A%2F%2Fwww.avma.org%2Fsites%2Fdefault%2Ffiles%2Fresources%2F2018-econ-rpt3-veterinary-services.pdf&usg=AOvVaw3dkJrc8rH2hBOnvbZlCB_ [Accessed 01 June 2021].
- Bakan, İ., Çelik, A., Büyükbeşe, T., & Basım, N. (2006). Aile işletmelerinde yeni neslin eğitimi: Bir alan çalışması. *İstanbul Kültür Üniversitesi 2. Aile İşletmeleri Sempozyumu, Kongre Kitabı*, 332-337, 14-15. Nisan. 2006, İstanbul.
- Blagburn, B. L., Lindsay, D. S., & Vaughan, J. L. (1996). Prevalence of canine parasites based on fecal flotation. *Compendium on Continuing Education for the Practising Veterinarian*, 18, 483–509.
- CAPC - Companion Animals Parasite Council (2021). *The case for year-round flea and tick control*. Retrieved from: <https://capcvet.org/articles/the-case-for-year-round-flea-and-tick-control/> [Accessed 27 January 2021].
- Çevrimli, M. B., Burak, M. A. T., Günlü, A., Tekindal, M. A., & Günlü, Z. (2019). Hayvan hastanelerinde acil veteriner klinik hizmetleri ve hasta sahibi memnuniyet kriterleri ölçekleri: Geçerlik ve güvenilirlik çalışması. *Ankara Üniversitesi Veteriner Fakültesi Dergisi*, 66(3), 247-254.
- Demir, E. (2017). *İstatistik Ders Notları*. Ankara Türkiye : Üniversitesi Eğitim Bilimleri Fakültesi.
- Erten, Ö., Öztürk, Y., & Yılmaz, O. (2019). Türkiye’de pet hayvan sahiplerinin sosyo-demografik yapıları ve pet hayvancılığına bakışları; Alanya-Mardin örneği. *Burdur Mehmet Akif Ersoy Üniversitesi Veteriner Fakültesi Dergisi*, 4(2), 76-83.
- ESCCAP - European Scientific Council Companion Animal Parasites (2018). *ESCCAP Guideline 03 Sixth Edition Control of Ectoparasites in Dogs and Cats*. Retrieved from: https://www.google.com.tr/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewiq3ZaDwPjuAhUHfBoKHa6lC_oQFjABegQIARAD&url=https%3A%2F%2Fwww.esccap.org%2Flinkdocument%2F63%2F&usg=AOvVaw1exmxwnRMCUDPpIB55z8c [Accessed 27 January 2021].
- ESCCAP - European Scientific Council Companion Animal Parasites (2020). *ESCCAP Guideline 01 Sixth Edition Worm Control in Dogs and Cats*. Retrieved from: <https://www.esccap.org/guidelines/gl1/> [Accessed 27 January 2021].
- Etikan, İ. (1989). Küme örneklemesinde alt örnekleme yöntemi ve sonuçlara etkisi (*Msc. Thesis*). Hacettepe University, Graduate School of Health Sciences, Department of Biostatistics, Ankara, Turkey.
- Evrin, M., & Güneş, H. (2000). *Biyometri*. İstanbul, Türkiye. Üniversitesi Veteriner Fakültesi Yayını, Ders Notu .
- FEDIAF - The European Pet Food Industry (2020). *Annual Report 2020*. Retrieved from: https://fediaf.org/images/FEDIAF_Annual_Report_2020_cor.pdf [Accessed 20 January 2021].
- IBM Corp. Released 2013. IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.
- Jarl Borch, O., & Brastad, B. (2003). Strategic turnaround in a fragmented industry. *Journal of Small Business and Enterprise Development*, 10 (4), 2, 393-407.

- Kaygısız, F., & Akdağ, F. (2004). İstanbul ilindeki veteriner klinik işletmelerinin teknik ve mali yapıları ile işletmecilik sorunları üzerine bir araştırma. *İstanbul Üniversitesi Veteriner Fakültesi Dergisi*, 30 (2), 63-78.
- Kieves, N. R., Roark, A. W., & Sparks, T. K. (2007). Business Education in Veterinary Schools: The Potential Role of the Veterinary Business Management Association. *Journal of Veterinary Medical Education*, 34, 5, 678-682.
- Ozsvari, L. (2014). Practise management in the Hungarian small animal veterinary clinics. *New Trends in Management in the 21th Century Conference*, pp. 347-358, January 2014, Czestochowa, Poland.
- Official Gazette (2011). Veteriner hekim muayenehane ve poliklinik yönetmeliği. *Türkiye Cumhuriyeti Resmi Gazete*, Date: 15/10/2011, Number: 28085.
- Ministry of Agriculture and Forestry (2021a). *Tarım ve orman bakanlığı 2020 faaliyet raporu*. Retrieved from: <https://www.tarimorman.gov.tr/Konular/Plan-Program-Ve-Faaliyet-Raporlari/faaliyet-raporlar%c4%b1> [Accessed 07 June 2021].
- Ministry of Agriculture and Forestry (2021b). *Veteriner hizmetleri*. Retrieved from: <https://www.tarimorman.gov.tr/Konular/Veteriner-Hizmetleri/Serbest-Veterinerlik-Ve-Veteriner-Laboratuvarlari> [Accessed 20 May 2021].
- Yıldırım, A. F. (2007). *Türk Aile İşletmelerinde Kurumsallaşmayı Engelleyen Aile Değerleri Üzerine Isparta İlinde Bir Çalışma* (Msc. Thesis). Süleyman Demirel University, Graduate School of Social Sciences, Department of Business Administration, 108, Isparta, Turkey
- Yılmaz, N. (2009). Yatırımcı Davranışını Etkileyen Faktörlerle Yatırım Kararları Arasındaki İlişki Bireysel – Kurumsal Yatırımcı Farklılaşması (Msc. Thesis). Yıldız Technical University, Graduate School of Social Sciences, Department of Business Administration, 98, Istanbul, Turkey.