

## The Evaluation of Economic Performances of Female Veterinarians in Turkey (I)

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### Abstract

The purpose of this study is to identify the general profiles of female veterinarians in economic life and to determine the status of their professional performances. A survey study was conducted with 110 women out of 511 women who are engaged in veterinary clinic management businesses in Turkey. In the survey, it was determined that female veterinarians who performed clinic management businesses worked at an average of 9.91 hours on weekdays, and that 79% of them predominantly had pets in their clinics, and regarding that, pet clinic management was being carried out. In the interviews, it was determined that, the highest incomes in clinics were received from vaccination-drug revenues, examination-treatment, and operations; depending on the city that the clinic is located and whether there are pets or not. In the study conducted, it was determined that the average monthly incomes of the clinic enterprises belonging to female veterinarians were \$ 1.917 and the average monthly profits were \$ 868. As a result, it is thought that, female veterinarians' participation in supplementary vocational training activities, and improving their managerial skills by focusing on customer satisfaction and advertising activities, will help to solve problems in the professional life.

**Keywords:** Woman, veterinary, clinic management, income status, cost.

### INTRODUCTION

Today, social, technological and industrial changes have resulted in more women's taking part in the business life. Both ease of access to information through improvements in information technology, and the increase in the number of women who are educated, have resulted in more frequent appearances of women in all fields of the professional life. It is observed that the women in Turkey has mostly been concentrated in agriculture sector and secondly in industry and services sectors (Guney, 2006). However, there are some professions that are considered as professions for males, thus, the women are not widely seen in these fields. One of these professions is veterinary medicine. Indeed, in a study carried out, the rate of women who are graduated from the veterinary faculty has been reported to be around 20% (Başagaç et al., 2010).

In Turkey, many researches and studies have been conducted regarding the problems encountered by working women. The common feature of these studies is that; women, unlike men, encounter certain problems just because they are women (Narin et al., 2006). When we have a look at the specialties that separate female entrepreneurs from the male entrepreneurs, it might be said that, the factors such as; the roles of the parties that they undertake in the society, customs and traditions, or the variations in the needs in the different stages of the human life might be identified as the prominent ones (Soysal, 2010). In this respect, it can be said that women do not start their professional life on equal conditions in their entrepreneurial activities, as it is the same in every field of their life. Hence, in the studies performed regarding the women entrepreneurs in Turkey, it was tried to answer the question of "How efficient are the women entrepreneurs in

the fulfillment of the business management functions?" (Çakıcı, 2004).

The energy that the professional spends for her business, knowledge, personal competence and job satisfaction are the conditions determining the professional performance, yet, the communication skills as well as the technical qualifications are also important for being a successful veterinarian (Yerlikaya, 2004). In this context, the main purpose of this study is to determine the general profiles of the female veterinarians operating veterinary clinics in Turkey; and reveal their level of efficiency in fulfilling the business management functions. From this point of view, it is believed that the study will bring great benefits in the long run by determining the female veterinarians' weaknesses in clinic management/business management in Turkey.

### MATERIALS AND METHODS

The target group of the study was constituted by female veterinarians serving in the medical offices, clinics, outpatient clinics or hospital units in the Turkey. According data from Agriculture and Forest Ministry of Turkey; They are total of 511 female veterinarians managing clinics out of 6.541 veterinary clinics in 2019. In the study, sampling size was determined as 110 people with 5% error margin and 5% significance level. The study was conducted with volunteer female clinicians in December in 2019 and February in 2020. The study was included provinces where intensive female clinicians ( $\geq 10$ ). The sample group was formed by stratified sampling method. The number of participants in the survey by cities is given in Table 1.

**Table 1.** The number of veterinary clinics, where the survey was carried out

Province	Total number of clinics *	Number of clinics surveyed	Percent (%)
Adana	14	4	3,8
Ankara	43	13	11,6
Antalya	27	8	7,3
Balıkesir	12	4	3,2
Bursa	26	8	7,0
İstanbul	174	51	46,8
İzmir	52	15	14,0
Muğla	13	4	3,5
Samsun	11	3	3,0
<b>Toplam</b>	<b>372</b>	<b>110</b>	<b>100,0</b>

\* According data from Agriculture and Forest Ministry of Turkey

The SPSS package program was used to evaluate the survey results. In the research; whether the data has shown normal distribution was determined using the "Kolmogorov- Smirnov" test as well as the descriptive statistics, and analyses were carried out by using independent samples test and/or chi-square test according to the relationship data set between the total income and other various parameters (clinical experience, clinician's post-graduate education status and daily working hours) (Düzgüneş et al., 1983).

## RESULTS

It has been determined that primarily pets were brought to 79.1% of the clinics in the interviews carried out with the female veterinarians and they were performing pet veterinary clinic management business due to that fact, and 20.9% of the clinics were mainly working on the livestock animals.

In the survey study, it was determined that female veterinarians managing clinics had a mean of  $37.5 \pm 5.37$  (Min: 26; Max: 55) ages and have been performing their businesses for  $13.7 \pm 6.12$  (Min: 1; Max: 31) years.

The data obtained from the survey study on the monthly average income and expense statuses of clinician female veterinarians are presented in Table 2. When Table 2 is examined, it is seen that monthly average income of clinical enterprises \$ 1.917 (min: 829, Max: 6.995) and \$1.109 expenditures of the enterprises of clinics belonging to female veterinarians were identified; and the monthly average profit of clinical enterprises was calculated as \$ 868.

**Table 2.** Average monthly costs and incomes of veterinary clinics (\$)

	Minimum	Maximum	Mean	Std. deviation
Monthly average income	829,4	6.995,0	1.916,6	979,8
Monthly average expense	459,7	3.297,5	1.108,7	734,8
Monthly average profit	279,8	3.097,5	867,7	724,3

No statistically significant difference ( $p > 0.05$ ) was found between the animal species (livestock/pet) and the monthly average income of the clinics in the analysis. Although there was no statistically significant relation between the experience years and the monthly incomes of the female veterinarians in the study ( $p > 0.05$ ), the average experiences of female veterinarians, who had monthly incomes below \$ 1.259, were  $10 \pm 6,14$  years; and those who had incomes above \$ 1.259, had  $14,08 \pm 7.15$  years of experiences.

In the survey study, it was determined that female veterinarians managing their clinics worked in an average of 9.91 (min: 4, max: 15) hours in the weekdays and 8.30 (min: 4, max: 12) hours in the weekend. It was determined that the participants averagely worked from 9.00 am (min: 7, max: 11) to 19.00 pm (min: 15, max: 21) and on Sundays they used their weekend holiday.

In the survey study, it was found that 24.5% (27 people) of the female veterinarians managing their clinics were graduated from master's education, and 10.9% (12 people) had doctor's degree. It was found that 45% of the participants were graduated from internal medicine department, 33% were graduated from surgery, and the rest were masters/doctors of anatomy, microbiology, pharmacology, reproduction and artificial insemination, obstetrics and gynecology.

In the questionnaire, it was asked to the female veterinarians, who did not have master's/doctor's degrees, that: "Would you want to have a master's/doctorate degree in the future?"; and 18 of them (25.4%) stated that they would like to graduate from master's and 8 of them (11.3%) stated that she would like to have a doctor's degree, and 45 of them (63.3%) stated that they did not have master's degree and they were not interested in having it.

The data and statistics on the total incomes and expenditures of female veterinarians managing their clinics by their level of income, education level and daily working hours are presented in Table 3. When Table 3 is examined, no statistically significant relationship between the years of clinical experience and working hours and monthly income-expenditure of female veterinarians was found. On the other hand, in the study conducted, for the veterinarians with the average monthly income under \$ 1.259, the average working hours was  $9.25 \pm 1.51$  per day; for the veterinarians with the average monthly income between \$ 1.259-1.959, the average working hours was

9.87 ± 1.50 per day, and for the veterinarians with the average monthly income over \$ 1.960, the average working hours was 10.5 ± 1.47 per day. It is also

noteworthy that the graduates of master's/doctor's education had higher profits than those who were not graduates of such educations.

**Table 3.** Classification of total income and net profit of veterinary clinics according to different parameters (\$)

Parameters		Total incomes		Total expenditures	
		$\bar{X} \pm S\bar{x}$	P	$\bar{X} \pm S\bar{x}$	P
Clinical experience	≤12	2.139,6±258,3	0,075	1.209,7±137,7	0,702
	≥13	1.980,0±160,6		1151,8±119,5	
Education level	Post-graduate	2250,0±213,8	0,037*	1168,0±124,0	0,271
	Graduate	1672,4±152,5		1170,1±121,2	
Daily working hours	≤9 saat	1790,7±240,3	0,234	1039,6±127,9	0,223
	≥10 saat	2230,5±197,0		1254,8±125,1	

\* The difference between the groups is statistically significant ( $P < 0.05$ )

In the interviews carried out with the veterinary clinics managed by female veterinarians, it was asked to rank the items that received the highest share in total monthly income-expenditure by their percentages. In the direction of the obtained data, among the most important income items in the clinic management businesses are; vaccine-drug revenues (35.3%), examination-treatment fees (27.8%), operation fees (19%), and the sales of various products such as feed (17.9%); and among the important cost items are; personnel costs (27.8%), rental expenses (23.1%), vaccine-drug costs (20%), expenditures on instrument-equipments (16.8%) and other expenses (12.3%).

In the interviews, the female veterinarians were asked to compare the income situations regarding to the male veterinarians who managed their own clinics. The answers given by the participants and the relation of the answers with their income levels are presented in Table 4. When Table 4 is examined, it is determined that as the monthly incomes of female veterinarians increase, the ratio of those who think that income situation is the same and/or higher than the male veterinarians also increases, and the difference was determined to be statistically significant ( $p < 0.01$ ).

**Table 4.** Compare the income situations

Income situation	Income situations regarding to the male veterinarians			Total
	Lower	Same	Higher	
≤ 1.259 \$	19 (%46.3)	20 (%48.8)	2 (%4.9)	41 (%100)
\$ 1.259-1.959	6 (%21.4)	16 (%57.1)	6 (%21.4)	28 (%100)
≥1.960	2 (%4.9)	26 (%63.4)	13 (%31.7)	41 (%100)
Total	27 (%24,5)	62 (%56.4)	21 (%19.1)	110 (%100)

$X^2 = 23,127$   $p < 0,01$

In the interviews, they were requested to rank their activities that they performed in order to increase the number of patients coming to the clinic and to ensure customer satisfaction. Accordingly, it has been determined that female veterinarians that were engaged in activities such as; welcoming patients' owners with a smiling face (1.), giving detailed information to patient owners about the patient (2.), 24/7 service provision (3.), establishing a record and tracking system for patients (4.), and demanding wages similar and/or below the market level (5.). Also, 70% of female veterinarians stated that they did not have any problems in getting the clinic service fees.

The cases that are most frequently encountered by female veterinarians, and the data obtained regarding the

most frequent operations performed by them are given in Table 5. Table 5 shows that animal owners who visit the clinics of female veterinarians mostly come for examination and treatment of their animals, vaccination-drug applications and operations; and additionally for difficult labor, artificial insemination and counseling services of female veterinarians, who especially perform clinical activities regarding the livestock animals. The most common surgery/operations, which is most frequently encountered by female veterinarians, is the operation of castration. This is respectively followed by cesarean with the injuries related to soft tissue and all types of trauma.

**Table 5.** The cases that are most frequently encountered and operations performed

The cases that are most frequently encountered				The most frequent operations performed			
Cases	N	Mean	Line	Operations	N	Mean	Line
Examination and treatment	110	1,27	1.	Castration	90	1,92	1.
Vaccination-drug	88	2,01	2.	Soft tissue	75	2,26	2.
Operations	71	2,55	3.	Cesarean	62	2,98	3.
Difficult labor	36	2,75	4.	Trauma	48	3,50	4.
Artificial insemination	18	4,60	5.	Other	32	5,23	5.

In interviews with female veterinarians conducting clinical operations, 45% of the participants reported that they did not prefer orthopedic surgery, 25% did not prefer euthanasia and 10% did not prefer tumor surgeries, while the remaining 20% stated that they did not separate the patients and perform all kinds of operations.

### DISCUSSION AND CONCLUSION

Depending on the increasing numbers of the veterinary faculties in recent years in Turkey, it is known that there is a significant increase in the number of veterinarians working in clinic management businesses. In the research, a survey study was carried out with 110 out of 511 female clinicians operating in Turkey; and the fact that the clinics belonging to female veterinarians (53%) are mostly located in İstanbul, İzmir, Ankara can be explained by the fact that this province has a significant potential in terms of numbers of pet animals. This can be explained by the fact that female veterinarians do not prefer to perform clinic business in places, where the livestock animals are in majority. This situation is in line with other studies (Erdoğan and Sarıözkan, 2011; Yükses et al., 2008).

It has been determined that female veterinarians managing their clinics, who participated in the survey study, have an average age of  $38.5 \pm 6.50$  years and a clinical experience of  $13.7 \pm 6.12$  years. According to this, it was concluded that, female veterinarians that are clinicians in the region are more experienced and are in the middle age group, in contrast to the other studies (Erdoğan and Sarıözkan, 2011; Özen et al., 2005). Parallel to the results of Erdoğan and Sarıözkan (2011), it was determined that there was no statistically significant relationship between the experience years and monthly incomes of female veterinarians, while the average clinical experiences of those with monthly incomes higher than \$1.259 were higher.

Approximately 35% of veterinary clinicians were found to have had postgraduate/doctorate education after graduation and this rate was found to be similar from Nevşehir (Erdoğan ve Sarıözkan, 2011) and Ankara (Aral et al., 2010). It was found to be remarkable that those who did not have master's/doctorate education after graduation earn lower net profits than the ones that had, which is also in parallel with the findings of Aral et al (2010). This is interpreted as the fact that those who did receive any additional training after graduation developed themselves in areas such as customer satisfaction and business administration. As a matter of fact, in veterinary clinic administration, besides being a good veterinarian, knowing and applying business principles is one of the most important factors that increase the profitability of the enterprise. In this respect, it is considered that it's not enough for the veterinarians to only establish the business; but also the management functions should effectively be utilized. Also, in clinical operations; customer relations,

service quality and promotional activities have also been gaining importance. In the interviews with participants, it was determined that the findings were similar to the study of Aral et al. (2010) in the subject of the activities that are carried out in order to increase the number of patients coming to the clinics and to provide customer satisfaction.

In the study, it has been determined that about 80% of female veterinarians who have received master's/doctorate education have preferred internal medicine and surgery departments for master's/doctorate education. These departments' being preferred is considered to be due to the importance of practical skills in diagnosis and treatment in clinic administration. In order to improve the knowledge and skills of veterinarians, participation in in-service vocational trainings as well as trainings in faculties is seen as a preliminary factor in service effectiveness (Clark, 1999). This is because Erdoğan and Sarıözkan (2011) found that physicians participating in courses and seminars organized within the scope of vocational training obtained higher net profits than those who did not participate in these trainings.

In the survey study, it was determined that female veterinarians who worked as clinic managers worked for 9.91 hours on an average during the weekdays. This value was found to be lower than other studies carried out in Ankara province (Aral et al., 2010; Şentürk, 2015). Despite the fact that there is no statistically significant relationship between the working hours and the monthly incomes-expenditures in the survey carried out with female clinicians, it was found that the clinicians that have a monthly income higher than \$ 1.960, had an average of  $10.5 \pm 1.47$  working hours. In parallel with this study, in a study conducted in Australia, clinician veterinarians reported that their annual average income increased with increasing working hours (Heath and Niethe, 2001), while in the study Aral et al. (2010) performed, as clinician veterinarians increased their working hours, their net profits also increased by 7.2%.

In the study, it was determined that 79% of the female veterinarians had mainly pet animals visiting their clinics, and for that reason pet clinic businesses were carried out. In the interviews, the highest incomes for the clinic businesses were determined to be gained from vaccine-drug revenues, examination-treatment and operation fees, depending on the province that the clinic is located and its type; and these results were found to be in parallel with the findings of other studies (Aral et al. 2010; Kaygısız ve Akdağ, 2004). In the study, castration operation and soft tissue lesions were the most frequent of the operations which the female veterinarians encountered, and it was found that female veterinarians, especially clinicians on livestock animals, also handled difficult labor, artificial insemination and counseling services. In this context, it is thought that, additional vocational training courses will provide the opportunity for the clinicians to improve their

knowledge and skills especially in these subjects, closely follow the innovations in their field, and have good results in terms of business profitability and customer satisfaction.

In the study conducted, it was determined that monthly average income of clinic enterprises belonging to female veterinarians was \$1.916, and the average of the expenditures was \$1.108; and in line with these data, the monthly average profit of clinical enterprises was calculated as \$867. According to the results of the research, monthly average income and net profit levels are close to Erdogan and Sariozkan (2011)'s study, and higher than the values found in the studies of, Ozen et al.(2005), Yuksek et al. (2008) and Aral et al. (2010). However, it can be considered as; due to the fact that those studies were carried out 10 years ago, it might be interpreted as an increase in veterinarians' incomes over time, while it is not enough.

When the monthly average income status of female clinicians is evaluated on the basis of gender, it has been found that women earn less than men (13.2-62.8%) in studies performed domestically or abroad (Aral et al. 2010; Şentürk, 2015; Heath and Niethe, 2001). As a matter of fact, 24.6% of female veterinarians, who have been managing their own veterinary clinics, stated that their monthly average incomes were lower than that of male veterinarians. However, in the analysis, it has been found that as the monthly income of female veterinarians increases, the rate of those, who think that their income status is the same and/or higher than of men's, increases. This situation is interpreted as the self-confidence of the female clinicians also increases, as their level of income raises. Similar to this study, Kalleberg and Leicht (1991) found in their study that veterinary clinic enterprises owned by female entrepreneurs were not less successful than veterinary clinics that men had despite many disadvantages that they have such as lack of experience, the family roles, and poor business connections; even, they have similar income increases during their growth periods. In contrast, in the situations when competition is high, women's entrepreneurship are reported to be less likely to survive (Goney, 2006).

As a result, despite the facts that female veterinarians enjoy being clinicians, have the same level of knowledge and self-confidence, their incomes are still low when compared to the male clinicians; and this is due to the perceptions, which exist widely in society, of being a veterinarian is rather a male profession and men can do it better, and the point of view against the women. For this reason, it is considered that female veterinarians' being more involved in vocational training activities, improving their managerial skills by focusing on customer satisfaction and advertising activities, will be beneficial for solving the problems in their professional life.

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#### Conflict of Interest

The authors declare that there is no conflict of interest in the content of the article

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