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Retrospective analysis of the horse racing industry in Türkiye with a specific focus on population, earnings, and injury rates

İsmail Gökçe Yıldırım [1] Solmaz Karaarslan[2]

[1] *Department of Anatomy, Faculty of Veterinary Medicine, Aydın Adnan Menderes University, Aydın, Türkiye*
[2] *Department of Animal Science, Faculty of Veterinary Medicine, Aydın Adnan Menderes University, Aydın, Türkiye.*

Correspondence: *İsmail Gökçe Yıldırım (gyildirim@adu.edu.tr)*

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ABSTRACT

Objective: The global horse racing industry is expanding in terms of horses and market value, but these growths may not always yield positive outcomes. The study aims to evaluate the current situation of horse racing on a Türkiye scale and provide information for the industry.

Material and Methods: This study conducts a retrospective analysis. Data from all horse races held across the country were used in the study. The data utilised came from the TJC software support team and the official website.

Results: The study observed a notable increase in the number of horses participating in races, and the number of races being held from these races over the years. However, it's important to note that while the number of young horses participating in races has seen a proportional increase, the ratio of horses in older age groups has seen a decrease. Furthermore, the average earnings of horses in the older age groups have seen a proportional decline, leading to a significant decrease in all age groups. The findings from this study suggest that over the years, horses in Türkiye have been tending to shorten their racing life.

Conclusion: The relative decrease in the number of horses participating in races in the senior age categories, along with the decrease in the amount of earnings within the total values, is predicted to have a negative impact on the future of the industry. The study proposes early identification and removal of horses with restricted athletic abilities. These limitations may arise from conformational defects, biomechanical predisposition, or developmental delays.

Keywords: *Horse, Age, Injury, Thoroughbred, Arabian horse*

INTRODUCTION

Horse flat races are among the most popular sports activities in Europe and Asia, especially in countries where the English language and culture prevail. The horse racing industry includes horse owners, breeders, veterinarians, jockeys, trainers, and related professional groups. In addition, it provides employment and income to people who provide feed, medicine, and materials for horses. The horse racing industry has a large employment and economic impact. In 2022, the market value of the horse racing industry worldwide was US $402 billion. The market value is expected to reach US $793 billion in 2030 (Global and Regional Industry Overview, Market Intelligence, Comprehensive Analysis, Historical Data, and Forecasts 2023 – 2030, 2023). In 2019, Australia's annual Thoroughbred export revenue was announced at US $1.9 billion. It is possible for countries to increase their export revenues through the sale of racing and breeding horses, in addition to their income from horse

racing. For this, the horse racing industry must have a strong infrastructure (Hardy and Limoli, 2019).

The Türkiye Jockey Club (TJC) organizes Thoroughbred and Arabian flat racing events in 10 hippodromes. In 2022, 3789 Thoroughbred horses made 30968 starts, with a total bonus value of US $33 million. The number of Arabian horses was recorded as 3130, the number of starts as 29527, and the total bonus value was US $26 million. The races attracted 6919 horses, resulting in 60495 starts and US $59 million prize awards (Türkiye Jockey Club Detailed Statistics, 2023).

The number of racing horses competing in TJC-affiliated hippodromes, the number of races, the age and breed distribution of the horses, and their profits have all varied over time (Türkiye Jockey Club Detailed Statistics, 2023). Changes in these factors and their correlations may be examined to provide information about the horse racing business across the country. The information derived from the data collected for this purpose will be useful in presenting the industry's past and present, as well as estimating its future.

Genetics play a significant role in racehorses' natural physical skills and performance. Furthermore, there are two critical systems that influence racehorse performance. The first is nutrition/energy metabolism, or energy provision and consumption, and the second is conditioning, which includes gait mechanics, coordination, and muscle strength (Lawrence, 1996). Optimal care, feeding, and training for these characteristics, as well as providing proper environmental circumstances, all have a positive effect on horse racing success and performance (Yıldırım, 2014).

Customers who want to own a horse demand horses with high success and earning potential from breeders. Conformation-based studies aimed at revealing athletic ability through body structure analysis in racehorses have gained importance (Belloy and Bathe, 1996; Anderson et al., 2004; Love et al., 2006; Smith et al., 2006; Bakhtiari and Heshmat, 2009; Robert et al., 2013; Yıldırım and Erden, 2023). In addition, studies on the causes and treatments of injuries in racehorses continue intensively (Perkins et al., 2005a, 2005b; Cogger et al., 2006; Cheetham et al., 2010; Crawford et al., 2021; Morrice-West et al., 2021). Many horses depart the industry irreversibly due to injuries that end their racing lives (Perkins et al., 2005a, 2005b; Yıldırım, 2014). Ensuring that racehorses lead healthy lives both during and after their racing careers is essential for animal welfare and rights. Awareness of the health, injuries, and post-racing lives of racehorses has markedly increased over the past three decades (Perkins et al., 2005a). In racehorses, health can deteriorate as a result of injuries and diseases, sometimes even resulting in death (Perkins et al., 2005b). Horses, animals known for their close cultural and emotional connection to humans, are significantly affected by this shift in public awareness.

It is thought that these retrospective studies will provide useful information for the veterinary profession as well as other stakeholders in the industry. The purpose of this study is to review TJC's statistical data on horse races organised between 1997 and 2022, as well as to assess the industry's present position.

MATERIALS and METHODS

Data from all horse races held across the country were used in the study. The data utilised came from the TJC software support team and the official website (Türkiye Jockey Club Detailed Statistics, 2023) with the permission of TJC on April 11, 2023. Data on the number of running horses between 1975 and 2022 was used in the study. In the evaluations made according to race-based age groups, data between 1997 and 2022 for the Thoroughbred horse races. Data between 2003 and 2022 for the Arabian horse races due to the change in race categories in 2003 were evaluated. To understand the changes in earnings over the years, the earnings data was examined by converting it into US $.

TJC hippodromes conduct flat racing events for both Thoroughbreds and Arabians, with each breed competing in distinct races. Thoroughbreds typically begin their racing careers at the age of two, with races organised into three age groups: two-year-olds, three-year-olds, and four-year-olds and above. Arabians, in contrast, commence racing at the age of three and are classified into three groups: three-year-olds, four-year-olds, and five-year-olds and above. This report presents data for both breeds according to the respective age groups in which they participate.

The injury records from the İzmir Şirinyer Hippodrome from 2018 to 2023 were utilised, with permission from TJC on March 29, 2023. This part of the study was carried out with the permission of Aydın Adnan Menderes University, Animal Experiments Local Ethics Committee, numbered 64583101/2023/44.

The study utilized descriptive statistics, including frequency and percentage, with graphs created in Microsoft Excel 2016® (Microsoft Corp., Redmond, Washington, USA). In the manuscript, the statistical data related to the racing industry are presented using line, bar, and pie charts.

RESULTS

When the number of horses and the number of races are studied, both metrics have shown considerable growth over the past few decades (Figure 1). Between 1975 and 2022, the number of Thoroughbred horses increased 13.73 times, while the number of Arabian horses increased 7.35 times (Thoroughbreds 276, 3789; Arabians 426, 3130, respectively). The number of races grew by 8.03 times for Thoroughbreds and 3.68 times for Arabians between 1975 and 2022 (Thoroughbred races 437, 3509; Arabian races 811, 2981, respectively).

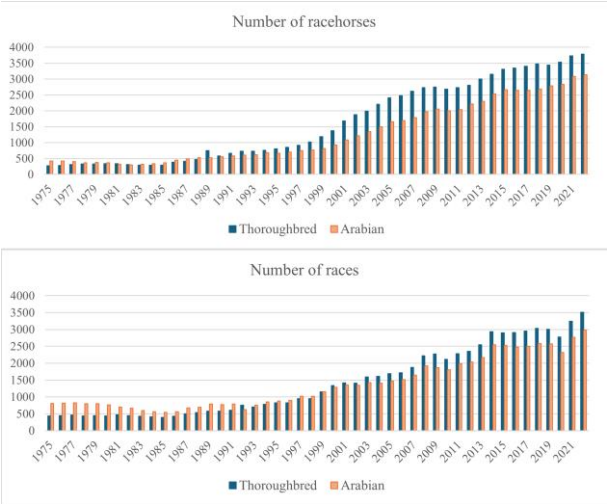

Figure 1. Number of racehorses and number of races by years in Türkiye

The numerical changes of Thoroughbred and Arabian horses participating in the races according to their age groups were evaluated. In the period until 2005, while the number of horses running in two age groups of the Thoroughbreds was lower compared to other age groups, it was determined that the number of horses running in the age group of four years old and older was higher compared to other age groups. This situation has changed since 2005, and it has been observed that the number of horses running in the three years old age group is higher than in other age groups, and the number of horses running in the four years old and older age group is mostly lower (Figure 2). When the change in the number of running horses of the Arabian race over the years was examined, it was seen that a similar situation existed, and since 2005, the number of running horses in the age group of five years old and older has been lower compared to other age groups.

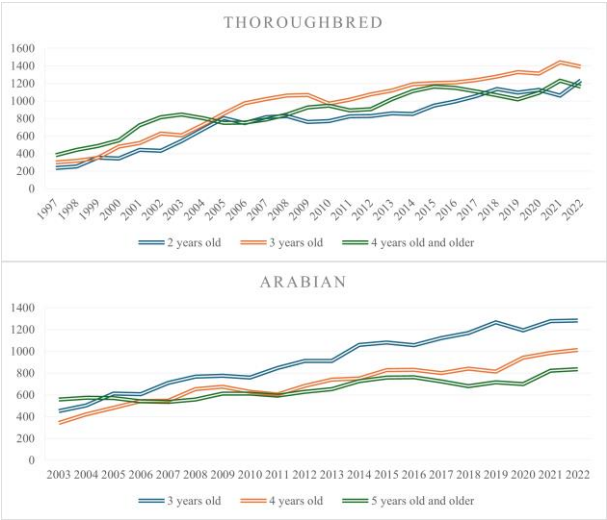

Figure 2. The number of Thoroughbred and Arabian racehorses according to age groups by years in Türkiye

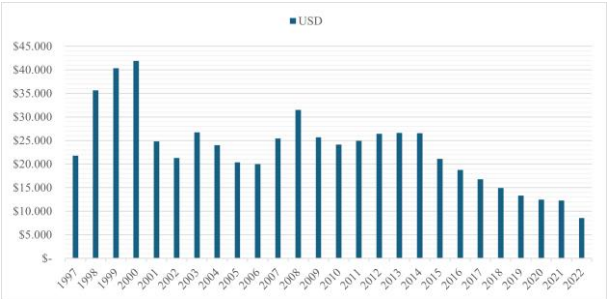

Figure 3. The average earnings per horse by year in Türkiye

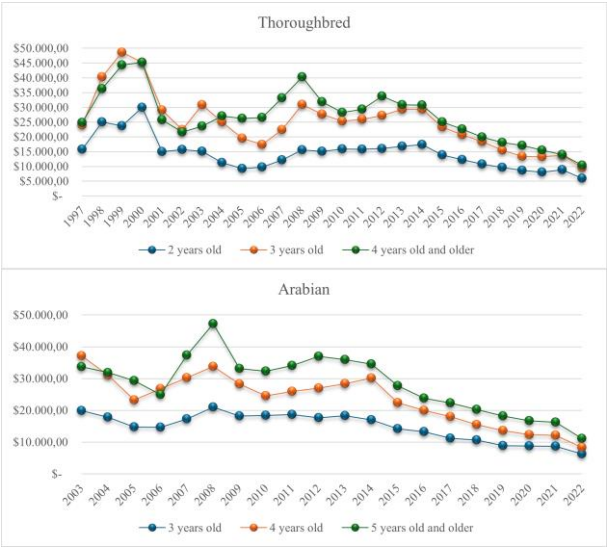

Figure 4. The average earnings (US $) per horse in the Thoroughbred and Arabian horses across age groups

Average earnings per horse from 1997 to 2022 are shown in US $ (Figure 3). The average earnings per horse go down.

Average earnings per horse in racehorses based on breed and age vary over the years. It has been observed that the average earnings per horse for both Thoroughbred and Arabian horses across age groups have approached each other over the years (Figure 4).

Race winning rates for Thoroughbred and Arabian horses in their age groups and the average number of wins per winning horse were evaluated. The lowest winning rate in Thoroughbred horses was found in the two age groups. In addition, it was determined that horses aged four years and older had the highest win rates per winning horse in Thoroughbreds (Figure 5).

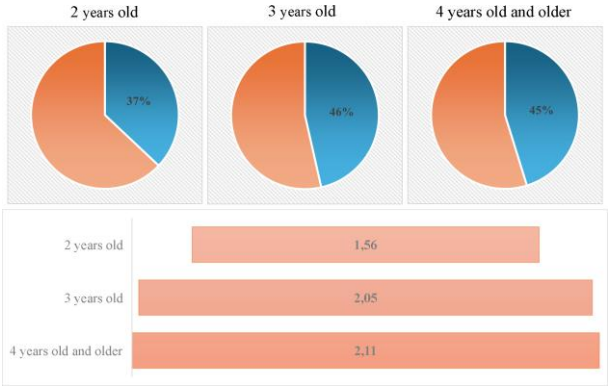

Figure 5. The average winning rates and the average wins per winning horse by age groups for Thoroughbred horses

It has been determined that the winning rates in Arabian horses are equal in the three and four age groups. In addition, it was seen that horses five years old and older had the highest number of wins per winning Arabian horse (Figure 6).

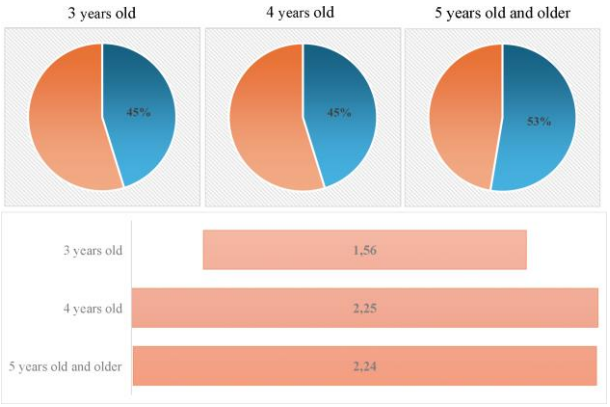

Figure 6. The average winning rates and the average wins per winning horse by age groups for Arabian horses

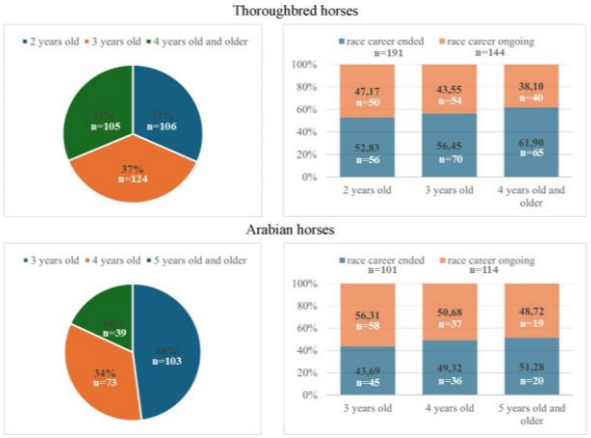

Figure 7. Injuries observed in Thoroughbred and Arabian horses at the Hippodrome Equine Hospital between 2018 and 2022

Table 1. Effects of injury categories on racing careers in Thoroughbreds and Arabian horses [f (%)].

Category	Thoroughbred		Arabian	
	Race carrier ending	Race carrier ongoing	Race carrier ending	Race carrier ongoing
Fracture	128 (37.98)	80 (23.74)	33 (15.28)	10 (4.63)
Bone fissure	8 (2.37)	17 (5.04)	15 (6.94)	14 (6.48)
Tendon injury	50 (14.84)	36 (10.68)	51 (23.61)	86 (39.82)
Ligament desmitis	3 (0.89)	2 (0.60)	2 (0.93)	2 (0.93)
Tendon rupture	1 (0.30)	0 (0.00)	1 (0.46)	1 (0.46)
Chip fracture	3 (0.89)	9 (2.67)	0 (0.00)	1 (0.46)
Total Injuries	193 (57.27)	144 (42.73)	102 (47.22)	114 (52.78)

Data from TJC Equine Hospital records was utilised to assess the association between injury cases and the age distribution of running horses, and their consequences on their racing careers. The rates of injuries in Thoroughbred and Arabian horses were determined by age group. It was seen that injuries to Thoroughbred horses occurred at equal rates in all age groups. On the other hand, injuries in Arabian horses were seen at a greater rate in the upper age groups (Figure 7).

In both breeds, the percentage of injuries that ended a racer's career increased proportionally with age. When evaluating the impact of injuries on race careers, it was observed that fractures were more prevalent in Thoroughbreds, whereas tendon injuries were more common in Arabian horses (Table 1). In Thoroughbreds, fractures represented the most frequent career-ending injuries, while in Arabian horses, tendon injuries were noted to have a higher likelihood of allowing horses to continue their race careers. When the distribution of injuries across age groups was examined between the two breeds, differences were observed (Table 2). While fracture cases in Thoroughbreds remained the most prevalent across all age groups, tendon injuries in Arabian horses peaked at the age of three and showed a decreasing trend over the following years.

Table 2. Distribution of injuries by age groups in Thoroughbreds and Arabian horses [f (%)].

Thoroughbred[1]						
Age	**Fracture**	**Bone fissure**	**Tendon injury**	**Ligament desmitis**	**Tendon rupture**	**Chip fracture**
2 years	54 (16.12)	10 (2.98)	37 (11.05)	0 (0.00)	0 (0.00)	5 (1.49)
3 years	85 (25.37)	8 (2.39)	24 (7.16)	2 (0.60)	0 (0.00)	5 (1.49)
4 years and older	67 (20.00)	7 (2.09)	25 (7.46)	3 (0.89)	1 (0.30)	2 (0.60)
Total Injuries	206 (61.49)	25 (7.46)	86 (25.67)	5 (1.49)	1 (0.30)	12 (3.58)
Arabian[2]						
Age	**Fracture**	**Bone fissure**	**Tendon injury**	**Ligament desmitis**	**Tendon rupture**	**Chip fracture**
3 years	15 (6.98)	5 (2.32)	78 (36.28)	2 (0.93)	2 (0.93)	1 (0.46)
4 years	14 (6.51)	11 (5.12)	47 (21.86)	1 (0.46)	0 (0.00)	0 (0.00)
5 years and older	13 (6.05)	13 (6.05)	12 (5.58)	1 (0.46)	0 (0.00)	0 (0.00)
Total Injuries	42 (19.54)	29 (13.49)	137 (63.72)	4 (1.86)	2 (0.93)	1 (0.46)

[1] The total number of injuries of Thoroughbred horses in the hospital records is 337 (1 years: 2 fracture).
[2] The total number of injuries of Arabian horses in the hospital records is 216 (2 years: 1 fracture).

DISCUSSION

As in all countries where horse racing culture is widespread, the racehorse industry continues to grow in Türkiye. The number of horses running, the number of races, and the earnings values provide data in this direction. However, numerical increases may not always be an indicator of a positive trend. Some problems can be seen because of a detailed evaluation of the data. By recognising these problems at an early stage, it may be possible to take the necessary regulations and precautions.

Although the Thoroughbred is the most popular racing breed in the world, several other breeds are bred and utilised for this purpose. Thoroughbred and Arabian horses are racehorses in Türkiye, competing in breed-specific races. While Arabian horses accounted for 61 percent of all horses running in 1975, Thoroughbred horses accounted for 39 percent. However, this ratio has shifted in favour of Arabian horses over time. Thoroughbred horses had a 61 percent rate from 2001 to 2003. By 2022, it will be composed of 45 percent Arabian and 55 percent Thoroughbred horses. The proportionate growth of Thoroughbred horses, the world's most popular racing breed, is a normal and expected outcome. However, given their biologic, historical and geographical significance, the presence of Arabian horses in the racing business must be monitored and taken care of.

The number of Thoroughbred and Arabian horses participating in races and the number of races is increasing. While the number of Thoroughbred horses was 276 and the number of races was 437 in 1975, the number of Thoroughbred horses and 3509 races were reached in 2022, respectively. While the number of Arabian horses was 426 and the number of races was 811 in 1975, the number of horses and races reached 3130 and 2981 races in 2022. When the process is examined, it is seen that the increase in the number of running horses is greater than the increase in the number of races. As a result, it is noteworthy that the number of horses running today in both races is more than the number of races organised. The increase in the number of running horses is a positive situation for the development of the racehorse industry. However, it is not a sufficient parameter on its own for the development of the racing industry. In addition to this increase, it should be ensured that the racing lives of the horses

continue uninterrupted for many years. At this point, the change in the numbers and rates of running horses according to their age groups over the years provides important information about the racing lives of the horses. Especially in the first year of racing, the injury rate and the recurrence rate of these horses' injuries are higher (Perkins et al., 2005b). For this reason, injuries of young horses are an important problem for their racing continuity in older age groups. It is desired that racehorses have a successful and long racing career without being interrupted by injuries (Stover, 2003). In the presence of this situation, among the total number of horses that started their racing career, the number of those that could not continue their racing life due to injury or similar reasons would be less than the other half. As a result, the proportion of age groups within the total number of running horses increases from young to older age groups. To reveal the existence of this situation, which is seen as positive, the numbers and rates of the number of Thoroughbred and Arabian horses running according to age groups were examined over the years. Until 2005, the number and rates of running horses were higher in the age group of four years and older. In the same period, it was observed that the number of two years old horses was proportionally less, while the number of three years old horses was at an intermediate level, and there was a balanced age distribution. On the other hand, it was noted that since 2005, the rate of horses aged four and over has never exceeded that of three years old horses and has even gone below the rate of two years old horses since 2018. In addition to the rapid increase in the number of horses that have just started racing, the increase in the number of horses in the upper age group is proportionally behind, which is also true for Arabian horses. These findings, which are valid for both races, indicate that young horses participating in races have problems reaching the upper age groups, meaning their racing lives are shortened. The most critical finding in the study is the decrease in the number of racehorses reaching the upper age group. In order to concretize this finding, the distribution of injury data obtained from the Hippodrome Equine Hospital records between 2018-2023 according to breed and age groups was used. Detailed data on the distribution of injuries due to racing and training have been published previously (Yildirim et al., 2025). While 32 percent of injuries to Thoroughbred horses occur at the age of two, 52.83 percent of these injuries end their racing career. In Arabian horses, 48 percent of the total injuries were seen in the first year of racing life, and 43.69 percent of these injuries were of a nature that would end their racing life. While fractures remained the most prevalent injury in Thoroughbreds across all age groups, tendon injuries in Arabians peaked at age three and showed a declining trend in subsequent years. These variations are likely influenced by differences in conformation between the two breeds, as well as the age at which they commence their racing careers (Yıldırım, 2014; Yıldırım and Erden, 2023). The breeding quality and preferability of horses decrease when horses with superior performance that are interrupted by injuries and have a short racing life are used in production. As a result, although there is an increase in the number of young horses, the proportion of horses running in the upper age groups decreases. In this case, the horse racing industry suffers a loss in earnings for both the running horse and the breeder.

In order to raise horses that are not interrupted by injuries and have a successful and long racing life, in addition to race performance, conformation, that is, the selection of horses with ideal structure, is of critical importance. In addition to increasing the number of horses with ideal body structures in the sector, feeding, training, and race planning should be made in accordance with the individual athletic characteristics of the horses. The racehorse industry worldwide has a long-standing reputation for feeding and care strategies based on traditional methods. This situation is further strengthened by strong family ties and generational influences. While younger generations are becoming successful trainers, care-feeding strategies are strongly influenced by previous generations, with little emphasis often being placed on feeding and care techniques that have developed in line with the latest research on horse health and performance (Wood et al., 2020). It is thought that the use of more advanced techniques in line with scientific developments in the care-management conditions and nutrition of racehorse breeding will make significant contributions to improving the current situation.

When the average winning rates of horses running in different age groups were examined, the winning rates of Thoroughbred horses were 37 percent, 46 percent, and 45 percent, respectively, in the two, three, four, and older age groups between 1997 and 2022. In Arabian horses, between 2003 and 2022, these rates were calculated as 45 percent, 45 percent, and 53 percent in the three, four, five, and older age

groups. When the average number of wins per horse in different age groups was calculated at the same year intervals, it was seen that the number of wins per horse increased with increasing age.

The increase in the market value of the racehorse industry is a positive development for all related sectors, as well as racehorse breeding. It is thought that increasing the share of horse owners from this economic development will increase the efforts to obtain more successful racehorses. In this context, the earnings per running horse of horses registered with TJC between 1997 and 2022 were evaluated. When the average earnings per horse are examined, it is observed that the purchasing power has decreased. This decrease may cause the deterioration of the care and feeding conditions of horses, a decrease in breeders' interest in the sector, and a decline in breeding. This may result in a decrease in the quality of racehorses. For the process to be more positive in racehorses and to increase the number of high-quality and successful horses, the average earnings per horse should be increased. In addition to increasing the average earnings per horse, the focus should be on increasing the number of successful horses and their ratio within the total number of horses. It is thought that if the average earnings per horse are higher in the upper age groups, breeders and horse owners will turn to horses that will maintain their superior performance for many years. This trend results in an increase in the quality of running horses, a decrease in economic losses due to injuries and similar reasons, and progress in animal welfare and rights. In other words, orientation towards the ideal is encouraged within this industry.

Earnings of racehorses by age group are an important metric. In this context, assessing earnings by age group is necessary for a more thorough review. For this reason, the average earnings per horse at TJC hippodromes were calculated based on breed and age groupings. In 2008, the prices for Thoroughbred horses aged two, three, four, and older were US $15.567, US $30.994, and US $40.296, respectively. It is important to note that by 2022, earnings will have reduced to US $5.930, US $9.596, and US $10.362, in that sequence. In 2008, the earnings of Arabian horses aged three, four, five, and older were US $21.033, US $33.834, and US $47.267, respectively. By 2022, earnings had reduced to US $6.215, US $8.275, and US $11.092, respectively. As a result, the corresponding shift in average earnings per horse in the higher age group relative to total earnings was determined. In 2008, the four years and older age group accounted for 46.39 percent of total Thoroughbred horse earnings, whereas it will account for 40.02 percent by 2022. In Arabian horses aged five years and older, the figure was 46.27 percent in 2008 and 43.35 percent in 2022. The reduced earnings of horses running in the upper age categories are seen to constitute a risk to meeting the production aim of durable horses with extended racing careers and outstanding success.

Limitation: In this study, age, race, and income data were evaluated at certain intervals in the Türkiye sample. The relationship between disability, age, race, and earning was evaluated using data from a hospital where approximately 20% of the total racehorses are affiliated. More comprehensive evaluations and results can be obtained in further studies with larger groups from many countries.

CONCLUSION

This study provides summary information about the numerical change of Thoroughbred and Arabian racehorses in the example of Türkiye, the age distributions of the horses participating in the races, as well as their earnings status. It is thought that these results, supported by analysis-based determinations and comparisons as well as graphics and descriptive statistics, will contribute to the definition of the current situation of the racing industry and the problems that may arise in the future. When the data between 1975 and 2023 is evaluated, the findings indicate that the racehorse industry has achieved significant growth in the number of running horses. However, in terms of the development of the sector, it is thought that the increase in the number of running horses should be accompanied by an uninterrupted and long racing life. The decrease in the ratio of horses competing in the upper age groups within the total number of horses and in earnings is also an important issue and poses a threat to the future of the sector. To improve decreasing earnings, horses with developmental delays due to breeding and feeding and limited athletic ability due to conformation defects should be considered early and eliminated before starting racing life. Because there is an important relationship between susceptibility to injury and horse's conformation and its athletic ability. It will be possible to raise horses with ideal conformation who do not experience injuries and have a successful and lengthy racing career. It will also be possible to raise horses with high levels of health and racing performance by using the right care and feeding techniques. It is thought that

increasing the number of studies on the mentioned subjects will benefit the development of the racing industry.

REFERENCES

Anderson TM, McIlwraith CW, Douay P. The role of conformation in musculoskeletal problems in the racing Thoroughbred. Equine Vet J. 2004; 36(7):571-575.

Bakhtiari J, Heshmat G. Estimation of genetic parameters of conformation traits in Iranian Thoroughbred horses. Livestock Science. 2009; 123(2-3):116-120.

Belloy E, Bathe, AP. The importance of standardising the evaluation of conformation in the horse. Equine Vet J. 1996; 28(6):429-430.

Cheetham J, Riordan AS, Mohammed HO, McIlwraith CW, Fortier LA. Relationships between race earnings and horse age, sex, gait, track surface and number of race starts for Thoroughbred and Standardbred racehorses in North America. Equine Vet J. 2010; 42(4):346-350.

Cogger N, Perkins N, Hodgson DR, Reid SW, Evans DL. Risk factors for musculoskeletal injuries in 2-year-old Thoroughbred racehorses. Prev Vet Med. 2006; 74(1):36-43.

Crawford KL, Finnane A, Greer RM, *et al*. Survival analysis of training methodologies and other risk factors for musculoskeletal injury in 2-Year-Old Thoroughbred Racehorses in Queensland, Australia. Front Vet Sci. 2021; 8:698298.

Global And Regional Industry Overview, Market Intelligence, Comprehensive Analysis, Historical Data, And Forecasts 2023-2030. Available at: https://www.zionmarketresearch.com/report/horse-racing-market. Accessed Dec 25, 2023.

Hardy G, Limoli P. Measurement of economic impact of the Australian thoroughbred breeding industry. Australia: AgriFutures Australia Publication; 2019.

Lawrence LA. Feeding the performance horse. Available at: https://content.libraries.wsu.edu/index.php/utils/getfile/collection/cahnrs-arch/id/192/filename/1927182432004_eb1612.pdf. Accessed Jun 03, 2023.

Love S, Wyse CA, Stirk AJ, *et al.* Prevalence, heritability and significance of musculoskeletal conformational traits in Thoroughbred yearlings. Equine Vet J. 2006; 38(7):597-603.

Morrice-West AV, Hitchens PL, Walmsley EA, Wong ASM, Whitton RC. Association of Thoroughbred Racehorse workloads and rest practices with trainer success. Animals (Basel). 2021; 11(11):3130.

Perkins NR, Reid SW, Morris RS. Risk factors for injury to the superficial digital flexor tendon and suspensory apparatus in Thoroughbred racehorses in New Zealand. N Z Vet J. 2005a; 53(3):184-192.

Perkins NR, Reid SW, Morris RS. Risk factors for musculoskeletal injuries of the lower limbs in Thoroughbred racehorses in New Zealand. N Z Vet J. 2005b; 53(3):171-183.

Robert C, Valette JP, Denoix JM. Longitudinal development of equine forelimb conformation from birth to weaning in three different horse breeds. Vet J. 2013; 198: 75-80.

Smith A, Staniar WB, Splan RK. Associations between yearling body measurements and career racing performance in Thoroughbred racehorses. Equine Vet Sci. 2006; 26:212-214.

Stover SM. The epidemiology of Thoroughbred racehorse injures. Clin Tech Eq Prac. 2003; 2(4):312-322.

Türkiye Jockey Club Detailed Statistics. Available at: https://www.tjk.org/TR/YarisSever/Static/Page/AyrintiliIstatistikler Accessed June 03, 2023.

Wood LJ, Lancaster B, Breheny MR, Rogers CW. Trainers perceptions of the impact of different feeding and management practices on racehorses they identified displaying symptoms of recurrent exertional rhabdomyolysis. Proceedings of the New Zealand Society of Animal Production. 2020;80: 90-94

Yıldırım IG, Erden H. Conformational characteristics in Arabian and Thoroughbred horses. Anim. Health Prod. Hyg. 2023; 12(2):27-35.

Yıldırım IG. Atlarda Vücut Yapısının Değerlendirilmesi. Neden bazı atlar daha başarılıdır? Nobel Tıp Kitabevleri Tic. Ltd. Şti, Türkiye; 2014.

Yildirim İG, Karaarslan S, Erkan A. Distribution of race and training-related musculoskeletal injuries by track and location in Thoroughbred and Arabian racehorses. Equine Vet J. Published online January 7, 2025.

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