Health and Welfare of Horses in Short-Term Commercial Transport

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Abstract

Animal transport represents even nowadays one of the stressors that induce poor animal welfare. The research aimed to identify potential risk factors affecting the health and welfare of horses transported to the slaughterhouse and methods in which they could be corrected. The study tracked a total of 3196 adult horses from collecting farms (lot F, n: 2490), and from households (lot H, n: 706) transported to the slaughterhouse on a journey that did not exceed 8 hours, in accordance with the Regulation EC 1/2005 on the protection of animals during transport. The incidence of injuries in loading/unloading of horses, varied in group F (12.2%) compared to H (3.4%). Associated with this incidence, the behavioural response was passive for 10% horses in group F, in comparison to 70% horses in group H, as against the restlesness noticed for 42% horses in group F, and 21% in H. In determining the risk factors associated with the poor welfare of horses during short-term transport, the lack of experience of both horses and personnel involved in transport-related operations, mainly moving, loading and unloading, were taken into account, as playing a main part in animal health and welfare.

Keywords: health, horses, short-term, transport, welfare

1. Introduction

Even nowadays, decreasing the transport stress represents a priority in animal transport as it induces poor animal welfare. Diminishing the intensity and period of stressors is often in the responsibility of animal caretakers from farms or places where animals are housed. Indeed, the transport stress cannot be totally avoided no matter how well the animal transport is managed, but optimum conditions in moving the animals from the place of raising in order to be loaded/unloaded in and out of the mean of transport could substantially lead to diminishing the intensity and period of stress.

Council Regulation (EC) No 1/2005 on the Protection of Animals during Transport, provides both general requirements for the journey that last up to eight hours (short journey), and specific ones for the journey that exceeds eight hours („long journey"), conditions designed to decrease the negative effects of transport on the welfare of the animals which are transported [1]. In the scientific research on horses' welfare during transport, the purpose of the transportation is often neglected. However, it can be assumed that the period of the journey may adversely affect the welfare, and it is different for the horses for international competition, in comparison to horses transported to be slaughtered [2].

Over the years, there have been much more studies on the incidence of injuries related to the long-term commercial transport of horses in comparison to the short-term commercial transport [3-6,10]. The large number of injuries encountered in horses during long-term transport is due to their increased susceptibility to transport, injuries associated with various diseases, lower physical condition or, in most cases, poor transport conditions [7]. The welfare of horses during transport can be assessed by simple

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measurements, clinical data and behavioral observation, which may show the subjective mental condition [8].
The research aimed to identify the potential risk factors affecting the health and welfare of horses transported to the slaughterhouse in short-term transport and methods in which they could be corrected.

2. Materials and methods

Research has been carried out over a four year period in February-March and July-September each year.
The study tracked a total of 3196 adult horses, aged between 4.5 and 10 years, from collection farms (lot F, n: 2490) and from households (lot H, n: 706) located in the southern part and southeast of the country. The horses were transported (average distance of 201 km) to a slaughterhouse located also in the south of the country. The journeys with an average of 3.5 hours were made by registered and/or authorized vehicles intended for animal transport, on county roads and highway.
The incidence of injuries was tracked by direct observation, in the collection pen where the horses were registered for transport, and during their way in order to be loaded in vehicles (72%). At the slaughterhouse (28%), the monitoring was carried out at the reception of the animals on the unloading platform, and in the housing places - individual and collective pens in which the livestock providers were easily identified, thus information on animals health and welfare could be achieved.
The monitored behavioral manifestations were represented by: body position in motion; head, ears and tail movements; horse response to different orders (Table 1).
The achieved data on behavioral manifestations and the incidence of monitored lesions were statistically analyzed in order to compare the two groups of the studied horses.

3. Results and discussion

The achieved data show both the overall picture of transport conditions (vehicles, loading/unloading methods), and an overview on the welfare aspects of horses which are transported to the slaughterhouse, on short journeys.

The incidence of injuries (Figure 1) identified in the collection pen, and during the loading of horses varied on the study period, in group F (12.2%) versus group H (3.4%), the differences were not significant ($p \geq 0.05$).

Table 1. The behavioral manifestations observed

Behavior in motion	Description of behavioral manifestation
Calm	the horse responds to orders, head in normal position, ears directed forward, complete lack of restlessness or an increased attention, tail down
Little restless	the horse is slightly anxious, moves more its head, rarely moves the ears backwards, shows some signs of restlessness, tail down and occasional movements.
Agitated	the horse is agitated, shows irregular reactions to commands, head frequently up, ears backward, tail down, with frequent movements

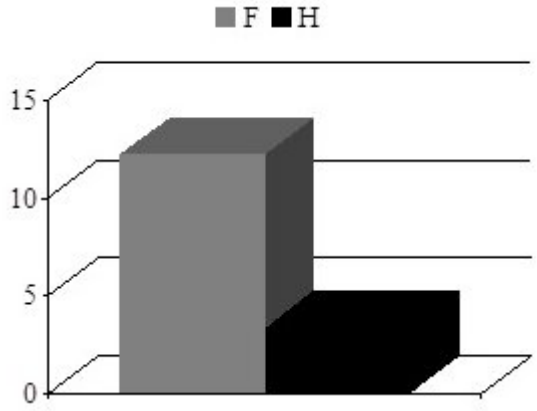

Figure 1. Incidence (%) of injuries recorded in horses during the study

Out of the injuries recorded in animals from farms/collection farms (F) 92% were considered as mild injuries (wounds, superficial cuts on the body and head), and 8% were considered to be severe injuries - contusions, other types of lesions, lameness and the differences were distinctly significant ($p \leq 0.001$), Figure 2.
The high incidence of injuries was mainly due to inappropriate displacement methods applied to the animals to be loaded, by caretakers and due to the horses' lack of experience with these maneuvers. In some cases, the means of transport by which the horses arrived at the collection farm, and were then

transported to the slaughterhouse, did not meet the general requirements regarding the lack of sharp objects. At the same time, the horses in group H recorded only 3% mild lesions, registered in the collection pen, and no serious injuries were noticed.

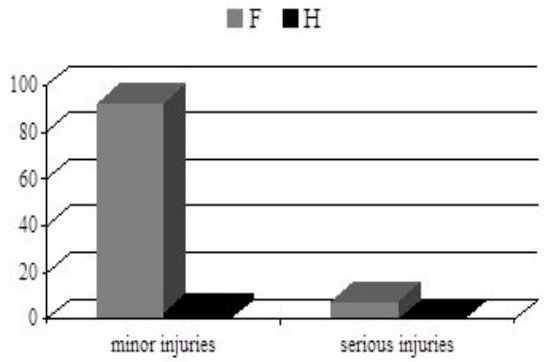

Figure 2. Characteristic (%) of recorded injuries in horses during the study

In journeys during which the movement of horses was performed by persons with which the animals were unfamiliar, a rather large number of injuries was accounted for horses transported from farms, in comparison to those from households. The methods of movement and loading/unloading methods are very important, as decreasing the fear that appears easily and which leads to body and limbs injuries as a result of the subsequent restlessness.

In our study, in many cases the easy horses loading was due to the experience of caretakers who used appropriate methods of guidance and direction, even though they weren't always the caretakers/owners of the animals.

Marlin et al., identified specific risk factors associated with poor welfare, including health defined as lack of transport capacity, in the long journey transport of horses to the slaughterhouse [7].

In connection with the incidence of injuries, the calm behavior of horses was shown in 10%, of the animals from group F, as against to 70% ($p \leq 0.01$) of the horses in H group, in comparison to the restlessness behavior showed by 42% animals in group F, and 21% ($p \leq 0.05$) in H (Figure 3).

At destination, the restlessness behavior was maintained almost in the same percentage in the horses from collection farms, 17% in group F, and 8% in group H. There were no very restlessness behavior situations.

Horses from collection farms showed more restlessness behavioral manifestations in terms of number and intensity, than those from households, as they were handled for at least two journeys unlike those from H group. Less behavioral manifestations of restlessness in horses from households, accustomed to transport, harnessing, were shown, thus a rather shorter time of loading (1-8') was performed. Some of them showed restlessness when seeing the mean of transport (73%), and they remained for 31% ($p \leq 0.01$) of them until loading in the vehicle.

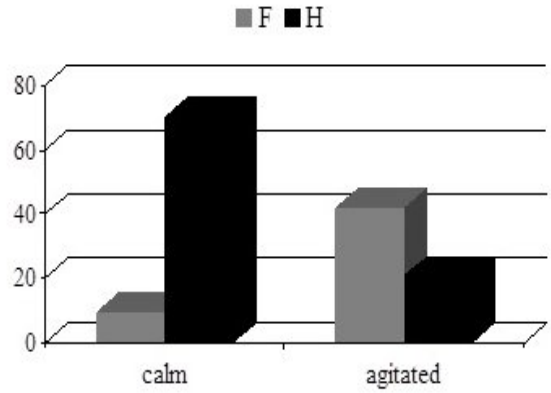

Figure 3. Percentage of behavioral manifestations (%) in the analyzed horses

During the studied journeys, the achieved results of the animal welfare indicators (injuries, behavioral manifestations) showed that the protection rules during horses transport were not fully followed. These concerned mainly the methods of handling animals in order to be loaded /unloaded, and the conditions in the means of transport. The movement of horses by unfamiliar persons, and/or using improper methods (palm striking of the animal body, sudden and rapid movements of hands or body, powerful noises that induce fear reactions) led to a rather large number of injuries in horses transported from collection farms, in comparison to those from households. In agreement with other studies, our results also show that it is important to admit that not the period of the journey but its implied negative aspects are the cause of the welfare issues which were noticed [2,4].

4. Conclusions

The way in which horses are handled in farms/collection farms/households in order to be

loaded represents a major stress factor leading to a high percentage of restlessness behavioral manifestations, and leads to a high incidence of horse injuries during short-term transport.

Compliance with regulations on allowed methods of moving animals is a mandatory condition which must be respected by all those involved in handling of horses regardless of where they come from.

It is crucial as all persons who are handling animals should be trained regarding the methods of loading, and to how use the behavioral manifestations of horses in order to identify the stress factors that induce their different responses, even in short-term transport.

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