

## The Attitudes and Perceptions Towards Animal Welfare of Staff Employed in the Care and Handling of Animals During Animal Transport in Muş Province

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### ABSTRACT

The study was carried out with the participation of 80 people consisting of transporters, drivers and animal care personnel who deal with animal handling processes and live in the centre of Muş province and its districts where most of animal transporters settle. The questionnaire consists of three parts; the socio-demographic characteristics of participants are examined in part one. Part two analyses the attitude scale based on cognitive, emotional and behavioural aspects of animal welfare during transport; and, the third part evaluates the perception scale such as shelter, feeding, staff, health and other factors which determine the perception of staff towards the factors affecting animal welfare. The results obtained from the research showed that perception and attitude of the personnel assigned for animal transportation might affect the welfare of animals during transportation. Staff employed in animal handling and transportation in Mus Province is insufficient with respect to animal welfare knowledge and experience, and their attitude is shaped mostly by cognitive and emotional aspects. This study has come to the conclusion that in order to improve human-animal relations and its quality and ultimately animal welfare, the staff employed in the whole process must be evaluated thoroughly, and the fact that most transportations out of Mus consist of at least 8 or more hours of traveling should be taken into consideration in order to benefit from staff training and cognitive behavioural intervention techniques.

**Key Words:** Animal Transport, Animal Welfare, Attitude, Perception, Staff

## Muş İlinde Canlı Hayvan Nakilleri Sırasında Hayvan Bakım ve İdaresini Yapan Personelin Hayvan Refahına İlişkin Algı ve Tutumları

### ÖZ

Bu araştırma Muş il merkezi ve bazı ilçelerinde yaşayan 80 hayvan nakliyecisi, araç sürücüsü ve hayvan bakıcısının katılımıyla yapılmıştır. Anket üç bölümden oluşmaktadır; birinci bölümde katılımcıların sosyo-demografik özellikleri incelenmiştir. İkinci bölüm bilişsel, duygusal ve davranışsal boyutlara dayanan hayvan refahı tutum ölçeği ve üçüncü bölüm nakil personelinin hayvan refahını etkileyen barındırma, besleme, personel, sağlık ve diğer faktörlere ilişkin algı ölçeğinden oluşmaktadır. Araştırmada elde edilen sonuçlar, hayvan nakillerinde görevli personelin hayvan refahı algı ve tutumunun idare ettikleri hayvan nakillerinde hayvanların refahını etkileyebileceğini göstermiştir. Muş ilinde gerçekleşen hayvan nakillerinde görevli personelin hayvan refahı konusunda bilgi ve becerisinin yetersiz olduğu ve hayvan refahına ilişkin personel tutumunda bilişsel ve duygusal boyutların ağırlık taşıdığı anlaşılmıştır. Sonuç olarak çoğunluğu sekiz saati aşan uzun yol nakiller olan Muş ilinde gerçekleşen nakillerde insan-hayvan etkileşimlerinin düzeyini ve kalitesini arttırmak için nakilde görevli personelin algı ve tutumunun geliştirilmesi için personel eğitimi ve bilişsel davranışçı müdahale tekniklerinden yararlanılabileceği düşünülmektedir.

**Anahtar Kelimeler:** Hayvan Nakli, Hayvan Refahı, Tutum, Algı, Personel

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## INTRODUCTION

There is increasing evidence that intensive methods of animal production, transportation and slaughter cause a dramatic decrease in animal welfare (Napolitano et al 2013). The most common reasons for this decrease are high-housing density, poor domestic shelter conditions (Baxter et al 1983), the use of concentrated feed (Kan et al 1998), genetic modifications, improvement attempts aimed at efficiency only (Ormandy et al 2011), growth and efficiency enhancing additives (Kan et al 1998), transport and slaughter conditions (Pascual-Alonso et al 2016, Grandin 2005), as well as human-animal interactions (Waiblinger et al 2002). Whether these conditions can be improved or continue to pose a threat to the welfare of the animals depends particularly on the staff in charge of animal care, feeding and handling.

Perceptions, attitudes and behavioural effects of farmers and farm workers on animal welfare have been examined comprehensively (Herzog et al., 1991, Köhler, 2001, Paul and Serpell 1993, Furnham and Heyes 1993; Hills 1995). The staff's attitude towards animal welfare can change depending on demographics, professional experience, social and market demands while their interest in the animals' welfare can be affected by bureaucracy, additional costs, loss of competitiveness, high welfare standards and education (Van Poucke et al 2006, Dockes and Kling-Eveillard 2006, Kauppinen et al 2012). Kılıç and Bozkurt (2013) have determined that sheep breeders' perception of animal welfare is closely associated with the welfare standard of the animals in their farm. After the animals are picked from the production unit for transportation, the factors such as standards of loading and unloading, road and weather conditions, means of transport conditions, attitudes of the animal keepers and the drivers create some effect on animal welfare (Broom 2008, Trunkfield and Broom 1990). Although it is known that the transportation process is mainly responsible for the formation of negative human-animal relations, occurrence of stress, fear and sorrow due to the animals coming across with new and unfamiliar people, and different environments including new objects and events, there is limited amount of research on the relationship between transporters' and keepers' attitudes and perception towards animal welfare (Gonyou et al 1986, Boivin et al 1992).

Recent years have seen an increase in public concern for animal welfare during transport in Turkey as well as in the EU. Turkey's national legislation on farm animal welfare during transportation is compatible with Council Regulation (EC) No 1/2005 on the

protection of animals during transport. Amendments on long-distance transports will enter into force after 31 December 2016, based on the amendment published on the Official Gazette No. 29577 of 29 December 2015. Live animal transport is performed intensely from northeast to the west of Turkey especially in a few months, and most of slaughter houses are mostly centred in Aegean, Marmara and Central Anatolia regions. Based on the geographical structure of Turkey, a limited number of main routes are used for long transports constituting about 2000 km. Therefore, in every year, many dairy cows, beef cattle, sheep and goats are generally transported from the eastern provinces of Turkey to the western regions. The perceptions and attitudes of the animal transport staff are crucial for the impacts of transportation on the welfare of animal exposed mostly to long-distance transports in Turkey.

With the participation of staff making contact with livestock during transport in Muş province, which is located in the starting point of a long-distance transport route, this study was conducted (1) to describe the perceptions regarding factors which affect animal welfare, to confirm the attitudes towards animal welfare during animal transport, and (2) to determine whether socio-demographic factors affect perceptions and attitudes in relation to animal welfare.

## MATERIALS AND METHODS

### *Data Collection*

The research has taken into focus the animal transporters, drivers and animal care personnel who work with live animals during transport in Muş Province. Muş was chosen due to its geographical location. The city is located on one of the busiest routes used for short and long animal transportation in Turkey. This route goes through Central Anatolia, Aegean and Marmara regions.

The research was carried out with the participation of 80 people consisting of transporters, drivers and animal care personnel who are employed in animal handling processes and live in the centre or some districts of Muş province where most of animal transporters settle (Korkut, Hasköy and Varto). The stratified sampling method which is one type of probability sampling methods (taking into account the different tasks in the animal transport process) was used to select the participants. Eighty face to face interviews were performed; 68 of them were taken into consideration following the elimination of incomplete or invalid questionnaires.

The scales developed by Kılıç and Bozkurt (2014) were used in the study for describing the perceptions regarding the factors which affect animal welfare and

determining the attitudes towards animal welfare during animal transport. The questionnaire consists of three parts; the socio-demographic characteristics of the participants are examined in part one. Beside the scale used, some variables such as gender, age, educational background, experience in animal transport, job and salary satisfaction, social security benefits, childhood in the rural or urban areas, current settlement status (city or village), interest in animal welfare and beliefs with regard to the most effective factors on animal welfare were included to determine the personal characteristics of animal transport staff in the questionnaire. Part two evaluates the attitude scale based on cognitive, emotional and behavioural aspects of animal welfare during transport (including 20, 10 and 12 items belonging to 3 dimensions respectively). Lastly, the third part analyses the perception scale such as shelter, feeding, staff, health (veterinary inspection and animal emotion) and other factors (including 6, 10, 6, 15 and 10 items belonging to 5 dimensions respectively) that determine the perception of the staff towards the factors affecting animal welfare.

#### *Statistical Analysis*

The attitudes and perceptions of the animal transport staff were evaluated using the Likert (1967) type scale. The levels of agreement for the attitude scale and the levels of affect for the perception scale were scored in 5 scores (None=1, Low=2, Moderate=3, High=4 and Completely=5). In our research, perceptions on factors affecting animal welfare and attitudes regarding animal welfare during transport of animal transport staff were described by calculating means and standard deviations for each dimension. SPSS 14.01 for Windows was used to determine the statistical results.

## **RESULTS**

#### *Demographic features and individual opinions*

In terms of group structure, the whole staff working for animal transport, who was interviewed in this study, consisted of males. 42.6% of the participants were older than 41 years and rate of personnel who graduated from primary school was 42.6% while only 13.2% of the participants had a university degree. The monthly salary of 76% of the participants was under 1750 TL while 44% of participant stated that they did not have social security. 58.8% of the participants grew up in urban areas while 51.5% of them live in rural areas. 25% of participants lived their childhood in urban area. According to participants' responses, 44.1% of the participants had an experience in animal transportation for less than 11 years while 14.7% of them had more than 24 years. A majority (85.3%) of those involved in the transport of livestock have stated to enjoy their job. On the other hand 45.6% of the participants stated that they had no interest in animal welfare while 66.2% of them considered this

matter as unimportant. 60.3% of the personnel dealing with animals during transport stated that natural conditions affect animal welfare the most. 66.2% and 72.1% of the participants believed the transportation process greatly affects animal health and welfare in a negative manner respectively. But those who believed the process would create stress in the animals were lower (54.5%). The fact that giving breaks (resting) during the transportation would not relieve the stress of animals was not agreed much (10.3%). 66.2% of the participants believed that pushing involuntary animals from the back or hitting them during loading and unloading is an effective method.

#### *Perceptions towards animal welfare*

The means and standard deviations of dimensions related to animal welfare perception scale applied in the research are given in Table 1 (feeding, shelter and staff status) and Table 2 (health and other status). The arithmetic means of participants' responses on the subject of "feeding status" showed that the most important factors affecting animal welfare were believed to be "properties of feed given to animals" ( $\bar{X}=4,85$ ) and "vegetation properties in pasture" ( $\bar{X}=4,69$ ) while "weaning at an early age" ( $\bar{X}=4,25$ ) and "feeding equipment and other physical conditions" ( $\bar{X}=4,50$ ) were believed to be the least important factors. When we examined the mean calculated for "shelter status" in the scale, we saw that the participants held the perception that issues related with "ventilation status or system of shelters" were the most effective ( $\bar{X}=4,69$ ) whereas "sound and noise inside shelter" ( $\bar{X}=4,13$ ) and "gas composition inside shelter" ( $\bar{X}=4,29$ ) were believed to be least likely effective factors on animal welfare.

Regarding "staff status", the participants believed that "staff behavior to animals" ( $\bar{X}=4,69$ ) and "pleasure of staff on their job" ( $\bar{X}=4,69$ ) were more effective than "staff motivation (working conditions, salary, so on)" ( $\bar{X}=4,16$ ) and "staff education level" ( $\bar{X}=4,44$ ) in terms of animal welfare (Table 1). The most positive approach of animal transport staff in terms of animal welfare was regarding "staff behavior to animals" ( $\bar{X}=4,69$ ) and "pleasure of staff on their job" ( $\bar{X}=4,69$ ) whereas the most negative comments were regarding "staff motivation (working conditions, salary, so on)" ( $\bar{X}=4,16$ ) and "staff education level" ( $\bar{X}=4,44$ ) (Table 1).

As regard to the results given in Table 2, while questioning the health status affecting animal welfare, "health of the animals checked regularly by a veterinarian" ( $\bar{X}=4,81$ ) and "method of health treatment" ( $\bar{X}=4,76$ ) were considered to be the most important while "neutering (bulls, dogs, horses etc.)" ( $\bar{X}=3,88$ ) and "cutting tails, paws, clipping

nails, beak, wings, fingers etc.” ( $\bar{X}=3,99$ ) were considered to be the least important ones. Evaluation of other status affecting animal welfare showed that “animals’ feeling of safety” ( $\bar{X}=4,56$ ) and “transportation conditions” ( $\bar{X}=4,50$ ) were the most important factors while “sacrificing animals” ( $\bar{X}=3,81$ ) and “naming of farm animals” ( $\bar{X}=4,12$ ) are the least important ones.

#### *Attitudes towards animal welfare*

When evaluating cognitive aspects of attitudes affecting animal welfare during transport, it has been showed that, “conditions of shelter in which animals live affect animal welfare” ( $\bar{X}=4,85$ ), “nutritional requirements of animals affect animal welfare” ( $\bar{X}=4,84$ ) and “animal health conditions affect animal welfare” ( $\bar{X}=4,81$ ) were believed to be the most important factors but on the other hand “sacrificing animals affects animal welfare” ( $\bar{X}=3,38$ ), “purchase of food products produced in animal friendly production system (milk, egg, meat etc.) affects animal welfare” ( $\bar{X}=3,63$ ) and “legal legislation regarding animals has an impact on animal welfare” ( $\bar{X}=3,66$ ) were considered to be the least effective factors (Table 3). Evaluation of emotional aspects of attitudes affecting animal welfare during transport showed that “violence against animals is ferocity” ( $\bar{X}=4,78$ ) and “I believe happy animals will give better quality products (meat, milk, eggs, etc.)” ( $\bar{X}=4,75$ ) were the most important while the factors “I recognise that animals are individuals” ( $\bar{X}=3,87$ ) and “I believe that there is a relation between domestic violence and intentional harm against animals” ( $\bar{X}=3,94$ ) are considered to be the least effective ones (Table 4).

Behavioural aspects of attitudes affecting animal welfare during transport in the questionnaire revealed that “I encourage people to treat animals well” ( $\bar{X}=4,60$ ) and “I approach with compassion to street animals” ( $\bar{X}=4,57$ ) were the most agreed points while “I can easily identify the label on the product whether it has been produced in animal friendly production system” ( $\bar{X}=3,47$ ) and “I’m interested in animal welfare” ( $\bar{X}=3,91$ ) were the least agreed ones (Table 5).

## DISCUSSION

This study carried out in the city of Muş and its districts only involved men. This is thought to be the result of mainly male-dominated labour force of Turkey along with animal transportation sector bias of animal keeping requiring high physical labour force and the region’s socio-cultural background and structure restricting women from joining work force while encouraging men to do the hard work (Anonim 2013, Karpat Çatalbaş 2015, Kellert and

Berry 1987). Herzog et al (1991) reported that correlations between the masculine and feminine dimensions of sex role orientation were in opposite directions on all animal attitude measures.

The participants of the study received mainly low levels of education (only 20% were middle or high school graduated) and most of them were at middle age or older. This is thought to negatively affect the animal welfare perception and attitude of transporters and animal keepers according to the correlation between educational level and positive attitudes towards animals (Kellert 1988; Pifer et 1994, Hemsworth and Coleman 1998, Kılıç et al 2013) and increased concern for animal welfare in the middle aged or younger (Maria 2006). On the other hand, the majority of the participants stated that they had been dealing with animal transportation for more than 12 years (55%). A majority (75%) of those involved in the transport of animals have stated that they had been raised in urban areas, and it is expected that traditional animal husbandry experience affects animal welfare during transportation under their responsibility in a positive manner. This shows that the participants are people who do this work in the long part of their life almost, thus exhibiting a higher rate of experience through working in animal trade, animal handling and care during loading or unloading processes, and mostly they are vehicle owners or drivers. The emotional aspect of the staff caring animals would greatly affect the welfare of the animals during transport because Kılıç and Bozkurt (2013) have reported that perception of farmers, who do their job happily, towards animal welfare is affected in a positive manner. The fact that wages are below the minimum wage is believed to create a discontent among the staff, causing less work satisfaction and motivation. Less motivation would greatly affect the morale of the staff causing a decrease in animal welfare quality (Hemsworth and Coleman, 1998, Coleman 2004, Hemsworth and Coleman 2010). It can be argued that 75 % of participants lived their childhood in the village and it would be a positive impact on animal welfare as reported by Napolitano et al (2013).

The staffs perception that feeding and health factors are the main determinants of animal welfare is a positive finding. On the other hand, the participants have perceived that some animal husbandry practices such as forced molting, contesting or holding fights, slaughtering conditions, culling and even animal violence, which result in higher stress, pain, agony and suffering on animals, do not greatly affect animal welfare. Most of them even believe that sterilization and cutting of tails, claws, nails, beaks and wings are the least affecting factors on animal welfare. It was thought that there were differences in perception of animal transport

staff with respect to the effects of conventional practices of animal breeding on animal health and animal welfare. These findings indicate that the transport personnel in Mus need more training about animal welfare to manage the transport successfully and to modify their attitudes and behaviour as well. Insufficient knowledge and training of animal keepers especially on the subject of animal health, animal welfare and pain management, leads to poorly practiced techniques, causing a worsening in animal welfare. It is also seen that these people, who transport animals to a completely new environment, evaluate animal welfare as the physical well-being of animals, and they also consider that animals which are fed better to grow faster are healthier. Considering animal welfare just from the point of the health status of animal is an attempt to rid of the guilt factor, and justify their contradictory perceptions. As a matter of fact, the participants believed that protecting the animals from natural conditions such as hunger and cold is an effective method for better animal welfare. This thus creates a resistance when trying to change their perspective and attitude towards animal welfare (Furnham and Heyes 1993).

The results of research showed that the perception of the animal transport staff towards animal welfare is in line with the cognitive part of animal welfare attitudes of them. Although the participants believed that human-animal relations, the transport process, and fear and insecurity affect animal welfare, they also believed that the physical farm conditions are greater determinants when compared to the transportation conditions. It is also seen that these people believe that considering animals as individuals or even naming them, slaughtering or sacrificing animals, the activities of animal protection activists and purchasing higher priced animal friendly food products do not have any effect on animal welfare. As reviewed and reported by some researchers the cognitive agents such as the low education level and the poor skills and knowledge based solely on traditional practices of animal husbandry, incomplete knowledge on modern and large institutions, animal health and animal welfare are thought to create a negative effect on the animal welfare considering that these people have close contact with animals and their transportation (İnceoğlu 2010, Kellert 1988, Pifer et al 1994, Hemsworth and Coleman 1998, Kielland et al 2010, English et al 1992, Bozkurt et al 2013). Although the staff employed in animal transportation believes that animals can feel pain and have emotions and deserve to be in good condition, they also agree that animals are created for the sake of mankind. It is understood that the emotional perspectives of these people towards animal welfare are closely related to the values system in which they

were brought up. On the other hand staff employed in animal transportation believes in that their behaviour towards animals affects the others' perception towards them (İnceoğlu 2010). Considering the low education level of the participants and their close relations with sensitive subjects such as race, religion and ethnic origin, their perspectives towards animal welfare is inevitably and mostly based on emotional aspects (İnceoğlu 2010, Tozkoparan 2013, Kutunis 2013). Hills (1995) stated that a positive relationship was hypothesized between empathy for animals and "belief in animal mind".

Staff responsible for animal care during transportation stated that attitude towards animal welfare is closely related with the factors such as approaching animals with affection, following legal guidelines that protect animal welfare, supporting animal protection activists and buying expensive products that have passed animal welfare guidelines. However, they have also stated that they did not have a tendency to inform others about the needs of animals and how to improve their welfare. It is thought that these contradictions arise from the battle between what is expected from them as a society and their own perspectives towards the matter. This is due to the individual effort to adapt to the group which they believe they belong to and abiding by the group's perspectives towards the matter even if it contradicts what they believe in or what they were raised to believe in (İnceoğlu 2010).

This research showed that there was a contradiction between their attitudes towards animal welfare and their perceptions during the process of transportation. One of the most prominent contradictions is in the state of treating animals like individuals. Although participants believed that animals should be treated as individuals on a cognitive scale, when evaluated through emotional perspective, they mostly agreed that they "would not treat animals as individuals." In a similar fashion, staff who stated that they would buy animal friendly products even though they were more expensive (70% of participants) and they believe transportation affects animal health and causes stress, they partly contradicted themselves in stating that transportation conditions do not affect animal welfare and animals that are unwilling to be loaded and unloaded are made to do so by using force. Some researchers reported similar findings (Hemsworth and Coleman 1998, Kellert 1988).

This study ultimately showed that the staff employed for handling animals approach the issue of animal welfare in a three-dimensional field comprised of cognitive, behavioural and emotional. Any change in one of these three aspects would cause a chain reaction to change the others in order to achieve a

balance and unity in the process. As Kutanis (2013) stated, an individual who changes an approach towards a subject in a positive or a negative manner rearranges their psychological and behavioural approach as well. It is thought that the independent variables of the person (genetic factors, physical conditions, direct experience in handling process, demographic characteristics and personality) alongside with their social status (socialization,

adapting to social norms, member of a group and social status) affect each individual's approach

towards animal welfare when dealing with animal transportation (English et al 1992, Coleman et al 1998, Hemsworth et al 2000, Kielland et al 2010).

**Table 1.** Descriptive statistics regarding the feeding, shelter and staff status factors affecting animal welfare perception scale of animal handling staff during transport

Factors/ Articles	Effect Level (%)					$\bar{X}$	SD
	1	2	3	4	5		
<b>Feeding status</b>							
Properties of feed given to animals	0,0	0,0	1,5	11,8	86,8	4,85	0,40
Properties of the water given to animals	0,0	1,5	5,9	19,1	73,5	4,65	0,66
Feeding equipment and other physical conditions	1,5	1,5	5,9	27,9	63,2	4,50	0,80
Size of the outdoor grazing area (pasture)	1,5	0,0	5,9	16,2	76,5	4,66	0,73
Vegetation properties in pasture	0,0	1,5	5,9	14,7	77,9	4,69	0,65
Weaning at an early age	5,9	1,5	16,2	14,7	61,8	4,25	1,15
<b>Shelter status</b>							
Sanitary conditions of shelters	2,9	2,9	4,4	5,9	83,8	4,65	0,93
Ventilation status or system of shelters	1,5	1,5	5,9	8,8	82,4	4,69	0,78
Air temperature inside shelter	1,5	2,9	7,4	13,2	75,0	4,57	0,87
Air humidity inside shelter	1,5	2,9	7,4	19,1	69,1	4,51	0,87
Gas composition inside shelter	5,9	4,4	10,3	13,2	66,2	4,29	1,19
Lighting condition of shelters	5,9	1,5	10,3	14,7	67,6	4,37	1,12
Isolation condition of shelters	2,9	1,5	13,2	11,8	70,6	4,46	0,98
Sound and noise inside shelter	10,3	4,4	11,8	8,8	64,7	4,13	1,37
Floor condition of shelter	5,9	4,4	4,4	11,8	73,5	4,43	1,15
Higher stocking density	5,9	0,0	4,4	8,8	80,9	4,59	1,03
<b>Staff status</b>							
Staff behavior to animals	1,5	1,5	4,4	11,8	80,9	4,69	0,76
Staff education level	1,5	2,9	11,8	17,6	66,2	4,44	0,92
Staff training on animal welfare	1,5	2,9	5,9	22,1	67,6	4,51	0,86
Staff experience	4,4	2,9	2,9	14,7	75,0	4,53	1,01
Staff motivation (working conditions, salary,so on)	13,2	2,9	4,4	13,2	66,2	4,16	1,42
Pleasure of staff on their job	1,5	0,0	5,9	13,2	79,4	4,69	0,72

**Table 2.** Descriptive statistics regarding the health and other status factors affecting animal welfare perception scale of animal handling staff during transport

Factors/ Articles	Effect Level (%)					$\bar{X}$	SD
	1	2	3	4	5		
<b>Health status</b>							
Method of health treatment	1,5	0,0	1,5	14,7	82,4	4,76	0,63
Minerals and vitamins given to animals under veterinary control	2,9	0,0	2,9	17,6	76,5	4,65	0,81
Pain or suffering	4,4	1,5	5,9	14,7	73,5	4,51	1,00
Happiness of animals	1,5	1,5	5,9	13,2	77,9	4,65	0,79
Stress and fatigue of animals	4,4	1,5	5,9	14,7	73,5	4,51	1,00
Culling of animals due to disease (killing)	10,3	7,4	8,8	17,6	55,9	4,01	1,38
Neutering (bulls, dogs, horses, etc.)	14,7	8,8	5,9	14,7	55,9	3,88	1,52
Cutting tails, paws, clipping nails, beak, wings, fingers, etc.	11,8	2,9	14,7	16,2	54,4	3,99	1,38
Applications such as forcible shedding of feathers and horn blunting	10,3	2,9	10,3	29,4	47,1	4,00	1,28
Animal fighting (dog, cocks, bulls)	10,3	4,4	5,9	16,2	63,2	4,18	1,34
Violence against animals	8,8	1,5	8,8	16,2	64,7	4,26	1,24
Slaughterhouse conditions	11,8	0,0	10,3	17,6	60,3	4,15	1,33
Usage of electric prods or other devices	11,8	1,5	4,4	14,7	67,6	4,25	1,34
Animal racing (like dog racing)	10,3	8,8	5,9	10,3	64,7	4,10	1,42
Health of the animals checked regularly by a veterinarian	1,5	0,0	1,5	10,3	86,8	4,81	0,60
<b>Other status</b>							
Scaring and frightening conditions for animals	5,9	2,9	8,8	14,7	67,6	4,35	1,14
Conditions related to breeding	2,9	2,9	5,9	25,0	63,2	4,43	0,95
Relations between animals and their babies	2,9	2,9	2,9	25,0	66,2	4,49	0,92
Technical devices in production cycle	4,4	0,0	11,8	14,7	69,1	4,44	1,01
Animals' feeling of safety	1,5	5,9	4,4	11,8	76,5	4,56	0,94
Recognition of animals as individuals	2,9	4,4	7,4	17,6	67,6	4,43	1,01
Naming of farm animals	10,3	2,9	13,2	11,8	61,8	4,12	1,34
Transportation conditions	1,5	4,4	8,8	13,2	72,1	4,50	0,94
Sacrificing animals	22,1	0,0	8,8	13,2	55,9	3,81	1,62
Leaving animals in streets (like cats, dogs)	8,8	1,5	10,3	5,9	73,5	4,34	1,27

**Table 3.** Descriptive statistics of cognitive aspects of the attitude scale

Factors/ Articles	Agreement level (%)					$\bar{X}$	SD
	1	2	3	4	5		
Conditions of shelter in which animals live affect animal welfare	1,5	0,0	1,5	5,9	91,2	4,85	0,58
Nutritional requirements of animals affect animal welfare	1,5	0,0	0,0	10,3	88,2	4,84	0,56
Animal health conditions affect animal welfare	1,5	0,0	1,5	10,3	86,8	4,81	0,60
Staff responsible for the care of animals has an impact on animal welfare	2,9	1,5	5,9	19,1	70,6	4,53	0,91
Conditions of transporting animals from one place to another have an impact on animal welfare	2,9	0,0	7,4	22,1	67,6	4,51	0,87
Conditions that may lead to nervosity affect animal welfare	1,5	2,9	8,8	22,1	64,7	4,46	0,89
Technical equipment used during the product acquirement process have an impact on animal welfare	1,5	2,9	4,4	23,5	67,6	4,53	0,84
Relationship with the offspring of animals affects animal welfare	1,5	4,4	7,4	19,1	67,6	4,47	0,92
Equipment and technology used in animal production affect animal welfare	7,4	4,4	8,8	17,6	61,8	4,22	1,23
Feeling of safety affects welfare of the animals	8,8	2,9	19,1	16,2	52,9	4,01	1,29
Recognition of animals as individuals affects animal welfare	11,8	7,4	8,8	13,2	58,8	4,00	1,44
Slaughtering of livestock affects animal welfare	14,7	4,4	16,2	11,8	52,9	3,84	1,48
Naming animals affects animal welfare	16,2	5,9	7,4	16,2	54,4	3,87	1,52
Conditions during transport affect animal welfare	7,4	1,5	11,8	20,6	58,8	4,22	1,18
Sacrificing animals affects animal welfare	26,5	8,8	8,8	11,8	44,1	3,38	1,71
Leaving animals in streets (like cats, dogs) affects animal welfare	16,2	7,4	8,8	14,7	52,9	3,81	1,54
Activities of non-governmental organizations supporting animal protection affect animal welfare	14,7	7,4	11,8	19,1	47,1	3,76	1,48
Legal legislation regarding animals has an impact on animal welfare	17,6	10,3	7,4	17,6	47,1	3,66	1,57
Interaction between animals and human has an impact on animal welfare	10,3	5,9	2,9	30,9	50,0	4,04	1,31
Purchase of food products produced in animal friendly production system (milk, egg, meat etc.) affects animal welfare	14,7	11,8	11,8	19,1	42,6	3,63	1,50

**Table 4.** Descriptive statistics of emotional aspects of the attitude scale

Factors/ Articles		Agreement level (%)					$\bar{X}$	SD
		1	2	3	4	5		
I recognise that animals are individuals	11,8	5,9	16,2	16,2	50,0	3,87	1,40	
Animals have been created for human use	4,4	2,9	7,4	13,2	72,1	4,46	1,06	
I believe that animals have rights just like people	0,0	2,9	8,8	13,2	75,0	4,60	0,78	
I believe animals are "sentient being"	0,0	1,5	5,9	11,8	80,9	4,72	0,64	
I can understand if an animal is in pain or suffering	1,5	2,9	7,4	5,9	82,4	4,65	0,86	
Violence against animals is ferocity	1,5	0,0	2,9	10,3	85,3	4,78	0,64	
I believe that there is a relation between domestic violence and intentional harm against animals	13,2	2,9	13,2	17,6	52,9	3,94	1,41	
I believe that animals have rights like people	2,9	1,5	8,8	17,6	69,1	4,49	0,94	
I believe that attitudes of people towards animals affect others' perception towards them	2,9	2,9	14,7	20,6	58,8	4,29	1,02	
I believe happy animals will give better quality products (meat, milk, eggs, etc.)	1,5	0,0	4,4	10,3	83,8	4,75	0,68	

**Table 5.** Descriptive statistics of behavioural aspects of the attitude scale

Factors/ Articles		Agreement level (%)					$\bar{X}$	SD
		1	2	3	4	5		
I am interested in animal welfare	5,9	17,6	10,3	11,8	54,4	3,91	1,38	
Animal welfare issue affects my choices when buying animal products	7,4	8,8	1,5	22,1	60,3	4,19	1,27	
I tell people around me about animal welfare	16,2	1,5	11,8	14,7	55,9	3,93	1,49	
I encourage people to treat animals well	1,5	0,0	7,4	19,1	72,1	4,60	0,76	
I approach with compassion to street animals	1,5	1,5	5,9	20,6	70,6	4,57	0,80	
I support that NGOs play active role in animal protection	2,9	5,9	11,8	10,3	69,1	4,37	1,09	
I comply with legal legislation regarding animals	2,9	2,9	16,2	14,7	63,2	4,32	1,04	
I always treat animals well	0,0	4,4	5,9	20,6	69,1	4,54	0,80	
I take required attempts against animal violence	8,8	4,4	10,3	19,1	57,4	4,12	1,29	
I purchase the products complying with the production phases of animal welfare regulations	4,4	4,4	10,3	23,5	57,4	4,25	1,10	
Even if they are expensive I would buy products which have been produced under high animal welfare standards	4,4	4,4	14,7	20,6	55,9	4,19	1,12	
I can easily identify the label on the product whether it has been produced in animal friendly production system	25,0	2,9	13,2	17,6	41,2	3,47	1,63	

## CONCLUSIONS

In conclusion, the staff in charge of animal handling and transportation in Mus is insufficient with respect to animal welfare knowledge and experience, and their attitude is shaped mostly by cognitive and emotional aspects. Regarding the attitudes of animal transport staff on animal welfare, cognitive aspect is higher compared to emotional and behavioural ones and those personnel who deal with the animals' care during transport think that natural conditions are more effective. Moreover, animal welfare is not understood sufficiently by those. In addition, there is a need for training these people particularly on animal health, pain, modifications and surgical procedures. This study has come to the conclusion that in order to improve human-animal relations and its quality and ultimately animal welfare, the staff employed in the whole process must be evaluated thoroughly and the fact that most transportations out of Mus consist of at least 8 or more hours of traveling should be taken into consideration in order to benefit from cognitive behavioural intervention techniques.

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