



بسم الله الرحمن الرحيم



Sudan University of Science and Technology
College of Veterinary Medicine

Attitude of Veterinary Students and Veterinarian in Khartoum
State towards animal Welfare

موقف البيطرة وطلاب الطب البيطري في ولاية الخرطوم تجاه رفاه الحيوان

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A Research submitted for partial fulfillments of the requirement for the
degree of Bachelor of Veterinary Medicine

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October, 2016

الآية

بسم الله الرحمن الرحيم

قَالَ تَعَالَى:

﴿ وَإِنَّ لَكُمْ فِي الْأَنْعَامِ لَعِبْرَةً ^ط تُسْقِيكُمْ مِمَّا فِي بُطُونِهِمْ مِنْ بَيْنِ فَرْثٍ وَدَمٍ لَبَنًا

خَالِصًا سَائِغًا لِلشَّارِبِينَ ﴾

سورة النحل (66)

افعل الخير مهما استصغرتاه فلا
تدري أي حسنة تدخلك الجنة



DEDICATION

To our parents

To our teachers

To our friends

ACKNOWLEDGMENTS

We thank God first, foremost for given health and strength to finish this work We would like to express our deep appreciation to our supervisor professor Shadia Abd Altee , And also thanks Dr .Olla for help us .

Our special thanks are due to all veterinarians and veterinary students in Sudan University of science and Technology, University of Khartoum and Bahary University who participate in the study.

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ABSTRACT

This is a prospective study undertaken from February 2016 to - April 2016 in Khartoum State to investigate the attitude of undergraduate veterinary students and practicing veterinarians toward animal welfare.. Fifty(4th and 5th year)veterinary medicine students were enrolled in the study. The students were from three different universities located in Khartoum State that is Sudan University of Science and Technology (SUST) ,University of Khartoum and Bahry University. Fifty practicing veterinarians from both government (Abo-hamama Veterinary Hospital and Elkhadaro Veterinary Hospital) and private sector(some veterinary pharmacies in khartoum North).

Two questionnaire were constructed one for each group to collect information on their knowledge and attitude towards animal welfare by direct interviewing of the respondent.

Most of the students (96%) think that animal welfare is an important issue in the veterinary field ,(88%) have scientific knowledge of the animal welfare,(66%)think that animal welfare should be taught to veterinary students,(92%)believe that animal welfare affects animals' productivity, all the students think that there is a need for more veterinary service centers to promote animal welfare and they know that euthanasia is among the OIE concerns. Only 12% of the students think that animal welfare is applied in the Sudan and 36% follow animal welfare during health care of the animals. It was found that the gender did not affect the students attitude towards animal welfare.

Most of the veterinarians (82%), have scientific knowledge of animal welfare and 94% think that animal welfare benefits the society .The majority of the veterinarians take decisions according to both the owners' interest and the animalwelfare,12%make their decisions only according to owners' interest and 4% decide according to the animal welfare.94% of the participants use anesthesia in the control of pain.

It is concluded that the attitude of both the veterinary students and the practicing veterinarians toward animal welfare is very good and adding animal welfare in the veterinary curriculum is essential.

Key words : animal welfare , veterinary education , veterinary ethics , five freedoms.

المستخلص

هذه دراسة استطلاعية اجريت في الفترة من فبراير 2016 إلى أبريل 2016 في ولاية الخرطوم للتحقيق في موقف طلاب الطب البيطري الجامعيين والأطباء البيطريين الممارسين الرفق بالحيوان ... التحق خمسون (من طلاب العام الرابع والخامس) طالب او طالبة بالطب البيطري في الدراسة. شكلت مجموعات الطلاب من ثلاث جامعات مختلفة تقع في ولاية الخرطوم. وهي جامعة السودان للعلوم والتكنولوجيا جامعة الخرطوم وجامعة بحري. التحق خمسون من الأطباء البيطريين الممارسين من القطاعين الحكومي (مستشفى البيطري أبوحمامة ومستشفى الكدرو البيطرية) والقطاع الخاص (بعض الصيدليات البيطرية في شمال الخرطوم).

تم إنشاء اثنين من الاستبيانات واحد لكل مجموعة لجمع المعلومات عن المعارف والمواقف تجاه الرفق بالحيوان عن طريق المقابلات المباشرة من المدعى عليه.

معظم الطلاب (96%) يعتقدون أن الرفق بالحيوان قضية مهمة في مجال الطب البيطري، (88%) لديهم معرفة علمية الرفق بالحيوان، (92%) يعتقدون أن الرفق بالحيوان تؤثر الحيوانات الإنتاجية، وجميع الطلاب يعتقدون أن هناك الحاجة إلى المزيد من مراكز الخدمات البيطرية لتعزيز الرفق بالحيوان وأنهم يعرفون أن القتل الرحيم هو من بين الاهتمامات العالمية لصحة الحيوان. 12% فقط من الطلاب يعتقدون أن يطبق الرفق بالحيوان في السودان 36% تابعوا الرفق بالحيوان خلال الرعاية الصحية للحيوانات. تبين أن الجنس لا يؤثر على موقف الطلاب نحو الرفق بالحيوان.

معظم الأطباء البيطريين (82%)، لديهم معرفة علمية الرفق بالحيوان و 94% يعتقدون أن الرفق بالحيوان تفيد المجتمع. 84% من الغالبية العظمى من الأطباء البيطريين يتخذون القرارات وفقا لكلا من أصحاب المنافع والرفق بالحيوان ، و 12% وفقا لمنفعة الأصحاب و 4% فقط وفقا للرفق بالحيوان. 94% من المشاركين يستخدمون التخدير في السيطرة على الألم.

ويستنتج من ذلك أن موقف كل من الطلاب البيطريين والأطباء البيطريين في الممارسة جيدة جدا

LIST OF ABBREVIATIONS

CNS	Central Nervous System
IBS	Irritable Bowel Syndrome
OIE	Organization for Animal Health
SUST	Sudan University of Science and Technology

INTRODUCTION

Animal welfare means how an animal is coping with the condition in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence)it is healthy ,comfortable/well nourished ,safe ,able to express innate behavior and if it is not suffering from unpleasant states such as pain ,fear and distress .Good AW requires disease prevention and veterinary treatment ,appropriate , shelter, human slaughter .Management ,nutrition ,humane handling and human slaughter and human treatment .Animal welfare refers to state of animal the treatment that receives is covered by other terms such as animal care , animal husbandry

So that animal welfare is complex where do we start ? the first step is to improve management, breeding and handling . The second step is assessing animal welfare by guiding following internationally recognized concept which include the following ;

- 1/ Good feeding absence of hunger and thirst
- 2/ Good housing include thermal comfort easy to movement and resting
- 3/ Good health include injury , disease and pain control
- 4/ Provide natural element like sun light (OIE).

OBJECTIVE

The objective of this study is to investigate :

Attitude of veterinarians and veterinaries students in Khartoum state toward the animal welfare

CHAPTER ONE

LITERATURE REVIEW

1.1. ANIMAL WELFARE:

Animal welfare is in a good state of welfare if it is healthy, comfortable, well nourished, safe and able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear and distress.

It is essential the animal welfare concern in all societies around the world . therefore , increasing efforts toward the animal in management are developed for better status to animal and to solve problem arising from food defiance , immunological and physiological diseases . the improvement in animal welfare comprise animal inspection ,animal periodic analysis , good management and best treatment. World Organization for Animal Health (OIE) - 2009 Terrestrial Animal Health code.

Supply chains for improved animal welfare comprise the innovative and adaptive capacity of the chain to respond to society's demands , and the extent to which consumers actually purchase animal-friendly products (David_Harvey and Carmen Hubbard2013).

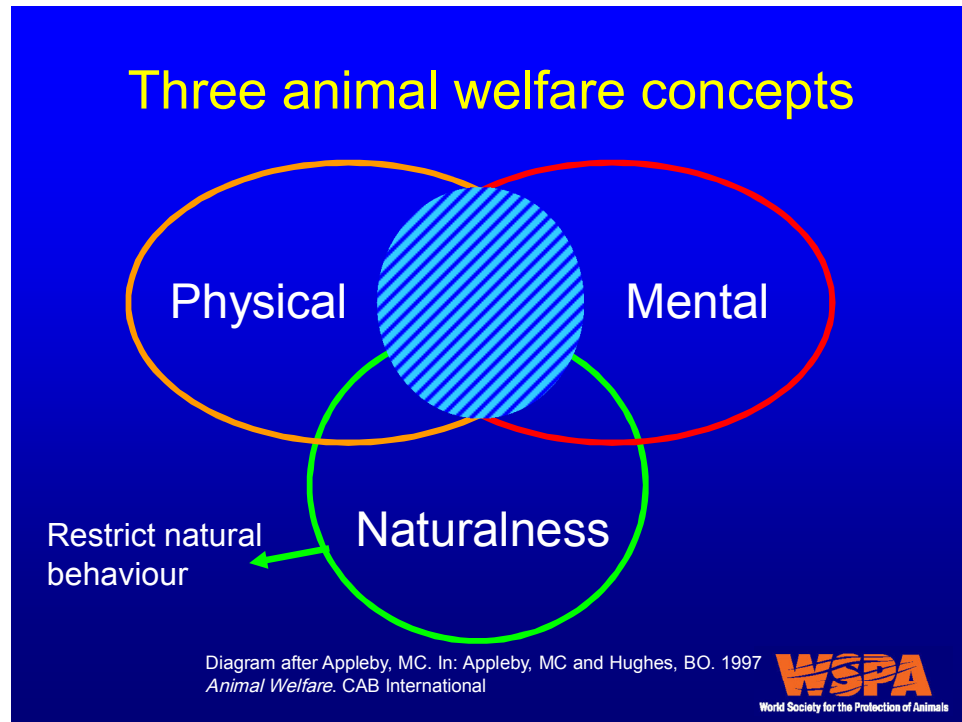
“ The state of an animal as it attempts to cope with its environment” (Fraser and Broom 1990) recognises that the process of coping with challenges from the external and internal environment carries a physiological and psychological cost; the welfare of the animal is determined by its success (or otherwise) in meeting that cost. My definition of good welfare “Fit and Happy (feeling good)” (Webster 2006) also recognises that our responsibility to any sentient animal within our care requires us to promote both its physical and psychological wellbeing. .(Webster 2006)

Sentience may be defined as “Feelings that matter”. A sentient animal is one that interprets and acts upon incoming sensations in an emotional sense, according to whether they induce pleasure, pain or indifference. It may, or may not recruit cognitive behaviour to modify this emotional response but the welfare of any sentient animal (including ourselves) is primarily defined by its emotional state as it seeks to cope with challenge. If the stimuli are pleasant or the challenge is modest and it can cope with ease, then its welfare is likely to be satisfactory. Suffering occurs when the animal is unable to cope, or has difficulty in coping, because the challenges are too severe or too prolonged.

1. 2. *ANIMAL WELFARE COMPONENTS :*

It is important to distinguish between the various components of animal welfare: Science, Ethics and legislation.

1.3. *ANIMAL WELFARE CONCEPT:*



1.4. *ANIMAL WELFARE DEFINITION:*

Animal welfare definitions : are derived from the three basic concepts :

Physical status (fitness)

Mental status (feelings) Positive and negative emotional states

“Naturalness” (telos)

1.4.1. *PHYSICAL STATUS:*

Welfare defines the state of an animal in regards to its attempts to cope with its environment.” (Fraser and Broom, 1990)

McGlone , (1993)suggested that an animal is in a poor state of welfare only when physiological systems are disturbed to the point that survival or reproduction are impaired.

1.4.2. MENTAL STATUS (FEELINGS)

Duncan (1993) advocates that the mental state (feelings) is critical that is what the animal feels and this is not necessarily related to health or fitness.

1.4.3. NATURALNESS:

Rollin (1993) recognises that mental states that is control of pain and suffering are not the only measures relevant to animal welfare but he also recognises that fulfilling nature (telos) is also relevant to welfare. He defines “telos” as “genetic traits manifest in breed and temperament” .

In order to avoid suffering, it is necessary over a period of time for the animal to Perform all the behaviours in its repertoire because it is all functional (Kiley-Worthington, 1989).

Dawkins, (1988) stated that “To be concerned about animal welfare is to be concerned with the subjective feelings of animals, particularly the unpleasant subjective feelings of suffering and pain.” .

1.5.ASSESSMENT OF ANIMAL WELFARE:

There are many ways and means for the assessment of animal welfare.

1.5.1. THE FIVE FREEDOMS:

Many of the groups working in the animal welfare agreed that the five freedoms to be the important framework to assess animal welfare. These include all three elements that determine the ideal welfare state as perceived by the animal; Physical, mental and naturalness.

The Five Freedoms are :

1. Freedom from thirst, hunger and malnutrition -by ready access to fresh water and a diet to maintain full health and vigour.
2. Freedom from discomfort -by providing a suitable environment including shelter and a comfortable resting area.
3. Freedom from pain, injury and disease -by prevention or rapid diagnosis and treatment .
4. Freedom from fear and distress-by ensuring conditions which avoid mental suffering.

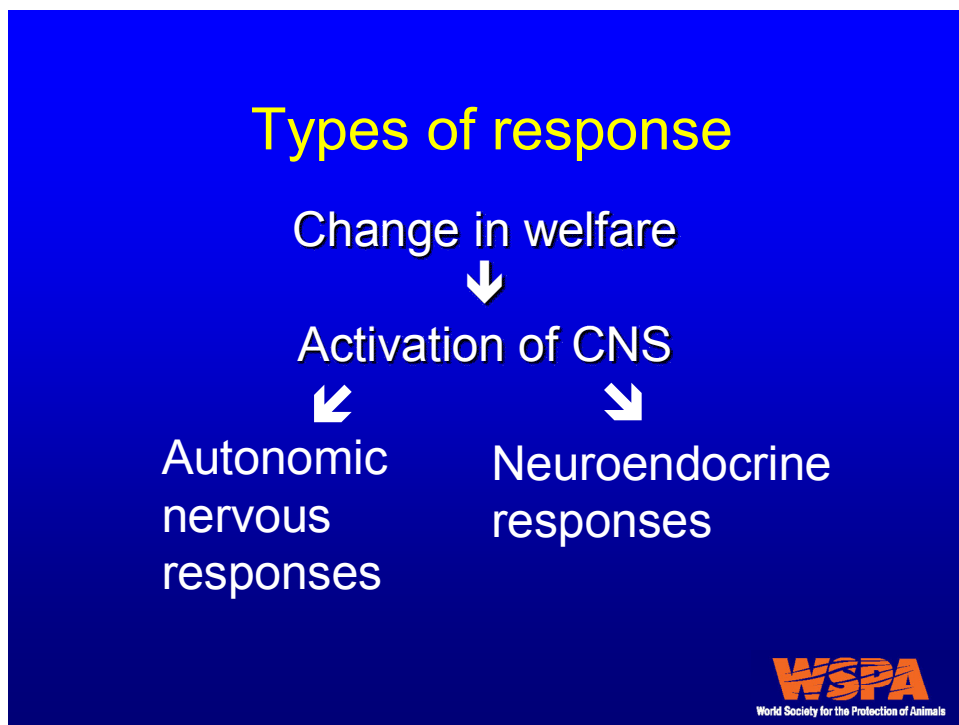
5. Freedom to express normal behaviour-by providing sufficient space, proper facilities and company of the animal's own kind (webster ,2006).

The Five Freedoms were formulated in the early 1990s and are now well recognised as highly influential in the animal welfare arena. However, a marked increase in scientific understanding over the last two decades now shows that the Five Freedoms do not capture, either in the specifics or the generality of their expression, the breadth and depth of current knowledge of the biological processes that are germane to understanding animal welfare and to guiding its management. (Mellor, 2016).

1.5.2. *PHYSIOLOGICAL MEASURES OF ANIMAL WELFARE :*

A change in welfare often causes a change in an individual's physical and psychological state. An animal responds to such changes in state in a number of ways, including a range of physiological responses. Consequently one way of assessing welfare is to measure these physiological responses. However, a change in welfare may also be possible with no detectable physiological problem. A change in welfare activates a range of physiological responses via integrated pathways of the Central Nervous System (CNS).

The following diagrams show the different physiological responses :



1.5.3. BEHAVIOURAL MEASURES OF ANIMAL WELFARE:

Behavioural observation

Choices and preferences

Work that an animal will do to gain a resource

Work that an animal will do to escape unpleasant stimuli

Deviations from normal behaviour.

Different behavioural measures can tell us a lot about the importance, --to animals, of having the opportunity to perform certain behaviours.

Animal behaviour is the observable action of the animal. The actions of an animal can result entirely from external circumstances e.g. spinal reflexes such as the limb withdrawal and patellar reflexes. The animal cannot control the response—thus the behaviour is not a choice, but is an automatic “hard-wired” response to a stimulus.

1.6. ANIMAL WELFARE ETHICS :

It must involve the study of ethics. Our approach to practical ethics, where animal welfare has to be incorporated into the totality of human values and responsibilities is based on an ‘Ethical Matrix’. This recognises three principles of ethics; beneficence, autonomy and justice and applies them

. (webster ,2006)

1.7. ANIMAL WELFARE IN SCIENCE AND EDUCATION:

The subject of animal welfare should be an integral part of all education in agriculture and veterinary science. The essence of these vocations: good husbandry and the diagnosis, prevention and treatment of disease are critical to ensuring that animals in our care are fit and happy(webster ,2006).

Epidemiological studies have implicated stress (psychosocial and physical) as a trigger of first onset or exacerbation of irritable bowel syndrome (IBS) symptoms of which visceral pain is an integrant landmark. A number of experimental acute or chronic exteroceptive or interoceptive stressors induce visceral hyperalgesia in rodents although recent evidence also points to stress-related visceral analgesia as established in the somatic pain field (Muriel_Larauche, et al 2011)

Animal welfare must therefore be part of the clinical curriculum and taught in a clinical way; i.e. through practical experience and directed self-education

. (Webster, 2006), undergraduate education and felt well prepared for their role in clinical practice .(K. A. Cobb, et al 2015)

Previous research has demonstrated that in households where the male partner is more dominant, there is convergence in male and female attitudes towards animals, whereas if the female partner is empowered they exhibit greater empathy towards animals than the male partner (Clive Phillips, et al 2010).

1.8. ROLE OF THE VETERINARIANS ON ANIMAL WELFARE:

The veterinary profession plays a key role in the controversy in that it possesses a detailed knowledge of both camps. Practicing veterinarians and veterinary inspectors are in regular contact with the animals, either in the clinic or during visits to the farms, either to treat sick animals, to institute preventive measures, or to control that legislation is being followed. At the same time veterinarians possess (or should possess) the scientific background that enable them to judge the welfare of their patients and clients.

The principle role of veterinary in animal welfare :

- The protection of animal health
- The relief of animal suffering
- The conservation of animal resources
- The promotion of public health
- The advancement of medical knowledge (AVMA , 2009)

1.9. ANIMAL WELFARE IN RELIGION:

Despite contemporary Islamic rites involving animals , study of Islam also show the promotion of kindness to living creatures . the Quran , the Hadith , and the history of Islamic civilization offer many examples of kindness, mercy and compassion for animals.

Islam teaches that animal should be given equal consideration to humans . the holy prophet Mohammed said, “it behoves you to treat the animals gently “(Hadith Muslim), 4:2593_ ,” and the earth – he has assigned it to all living creatures” (Quran Majeed, 55:10-12), “all creatures are like a family to god”(Hadith Mishkat, 3:1392) . and “a good deed done to an animal is as meritorious as a good deed done to human

being , while an act of cruelty to an animal is as bad as an act of cruelty to a human being “(Hadith Mishkat, book 6 , ch. 7 , 8 :178).

قال تعالى : (وإن لكم في الأنعام لعبرة نسقيكم مما في بطونه من بين فرث و دم لبنا خالصا سائغا للشاربين) .
سورة النحل : الآية 66

قال رسول الله صلى الله عليه وسلم: عذبت امرأة في هرة ، حبستها حتى ماتت جوعا ، فدخلت فيها النار ، قال الله : لا انت أطعمتها ولا سقيتها حين حبستها ، ولا أنت أرسلتها فأكلت من خشاش الأرض .
{صحيح الجامع}

عن أبي هريرة رضي الله عنه قال: قال رسول الله صلى الله عليه وسلم : بينما رجل يمشي بطريق اشتد عليه العطش ، فوجد بئرا فنزل فيها فشرب ، ثم خرج فإذا كلب يلهث يأكل الثرى من العطش ، فقال الرجل: لقد بلغ هذا الكلب من العطش مثل الذي كان بلغ بي ! فنزل البئر فملأ خفه ثم أمسكه بفيه فسقى الكلب ، فشكر الله له ، فغفر له ، قالوا : يارسول الله ، وإن لنا في البهائم أجرا فقال : نعم في كل ذات كبد رطبة أجر . (متفق عليه)

CHAPTER TWO

MATERIALS AND METHODS

2.1. *THE STUDY DESIGN ,AREA AND DURATION :*

This is a prospective study undertaken from february 2016 to - April 2016 in Khartoum State.

2.2. *THE PARTICIPANTS ;*

2.2.1. *G ROUP ONE:*

All of them are from Khartoum State under graduate veterinary students .

Forty 4th and 5th year veterinary medicine students were enrolled in the study.The students were from three different universities located in Khartoum State that is Sudan University of Science and Technology (SUST) , University of Khartoum and Bahry University.

2.2.2. *GROUP TWO:*

Fifty practicing veterinarians from both government (Abo-hamama Veterinary Hospital and Elkhadaro Veterinary Hospital) and private sector(some veterinary pharmacies in khartoum North).

2.3. *DATA COLLECTION :*

Two questionnaire (appendices 1and 2) were constructed one for each group to collect information on their knowledge and attitude towards animal welfare by direct interviewing of the respondent.

2.4. *ETHICAL CONSIDERATION :*

The study was approved by the Department of Clinical studies –College of Veterinary Medicine –SUST.

All the participants were fully informed about the study and its objectives and were assured that the obtained information will not be used for any other purpose than of this study and will be kept highly confidential, then a verbal consent was taken from them.

2.5. STATITSTICAL ANALYSIS :

The analysis of the result was qualitative using Statistical Package for Social Sciences (SPSS version 16). The data were described as percent.

CHAPTER THREE

RESULTS

3.1. Students Basic Information ,attitude and knowledge of animal welfare:-

The participants were 25 male students and 25 female students

Forty six students (92%) ,23 males and 23 females, have scientific knowledge of animal welfare .

Forty four of the participants(88%) ,21 males and 23 females, think that animal welfare, is not applied in Sudan.

Thirty five students(70%) ,19 males and 16 females think that animal welfare is a physical and psychological luxury.

Forty six students (92%) ,22 males and 24 females ,believe that animal welfare has an impact on the animal production.

Eighteen students (36%) ,8 males and ten females, are conscious of the animal's rights during health care of them.

All the students agree that there is a need to increase the number of veterinary clinics and the related organizations .

Thirty three of the participants (66%) have animal welfare. syllabus in their veterinary curriculum.

Forty eight participants (96%), 24 males and 24 females, think that animal welfare is a very important issue in the veterinary field.

Twelve students (24%), eight males and four males , are acquainted with the organizations working in the a.w. in the Sudan.

All the participants know that euthanasia is among the OIE concerns.

Table (1) Students knowledge and attitude towards animal welfare

Knowledge and attitude	Frequency	Percent
Scientific knowledge of Animal Welfare		
Yes	44	88
No	6	12
Total	50	100
Animal welfare is applied in Sudan		
Yes	6	12
No	44	88
Total	50	100
Animal Welfare is a physical and mental luxury		
Yes	35	70
No	15	30
Total	50	100
Animal Welfare affects the animals' productivity		
Yes	46	92
No	4	8
Total	50	100
Following Animal Welfare during health care of the animals		
Yes	18	36
No	32	64
Total	50	100
There is a need for more veterinary services		
Yes	50	100
Total	50	100
Animal Welfare should be taught in the veterinary colleges		
Yes	33	66
No	17	34
Total	50	100

Animal Welfare is an important issue in the veterinary field		
Yes	48	96
No	2	4
Total	50	100
Acquainted with Animal Welfare Organizations		
Yes	12	24
No	38	76
Total	50	100
Euthanasia is among the OIE concerns		
Yes	50	100

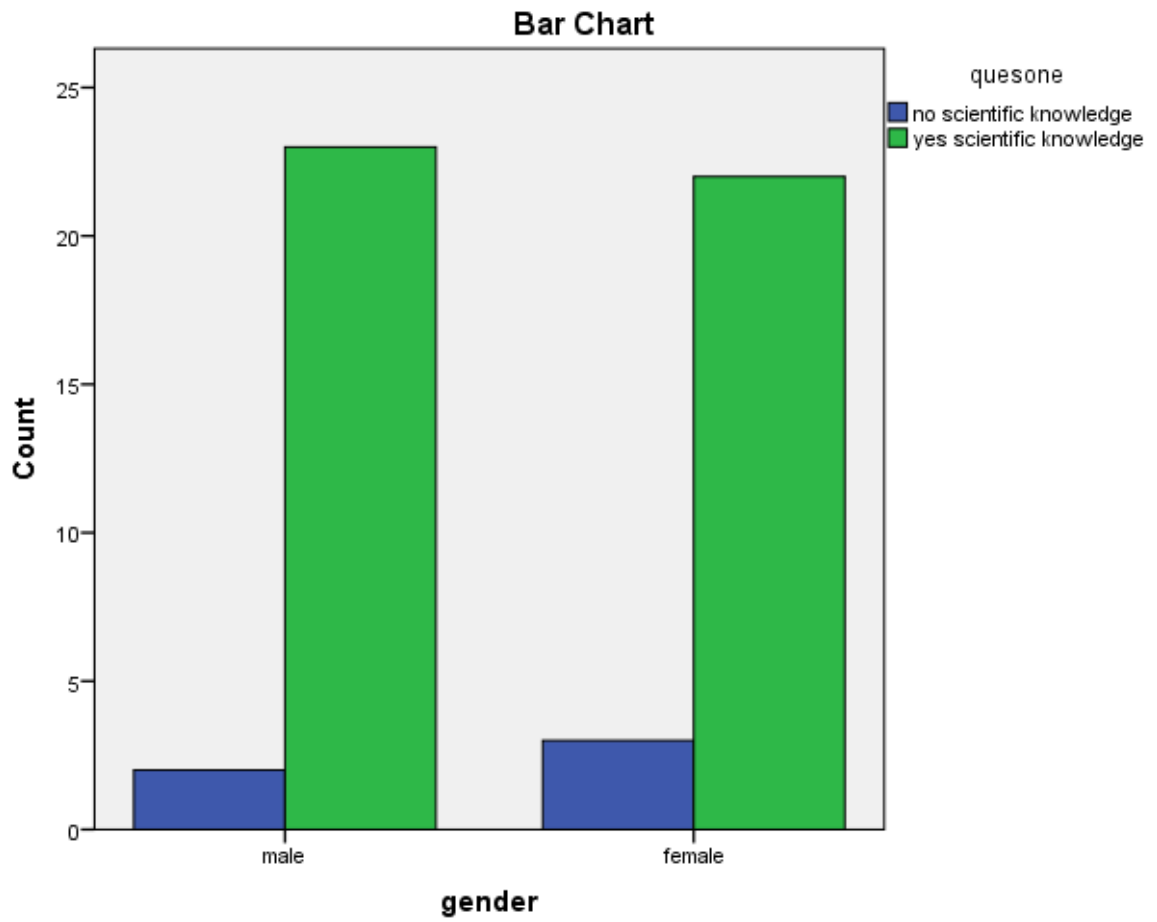


FIGURE (1) SCIENTIFIC KNOWLEDGE

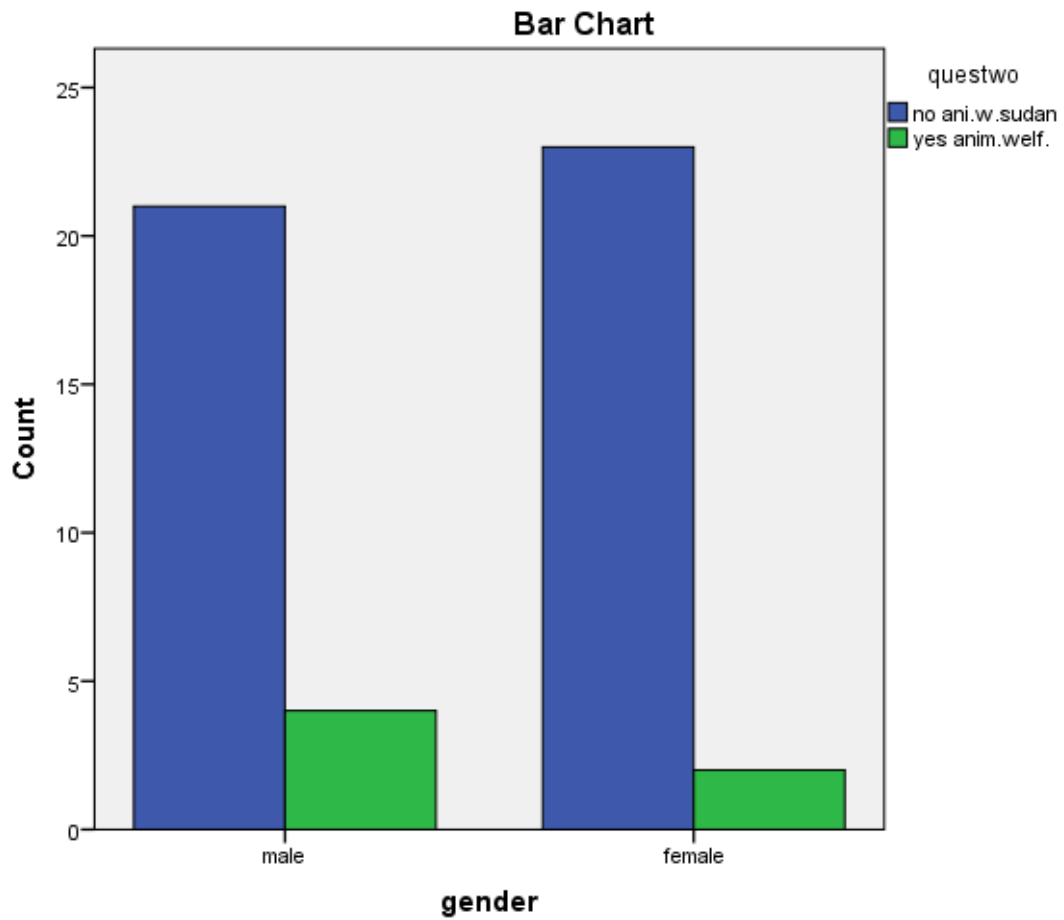


FIGURE (2) ANIMAL WELFARE APPLIED IN SUDAN

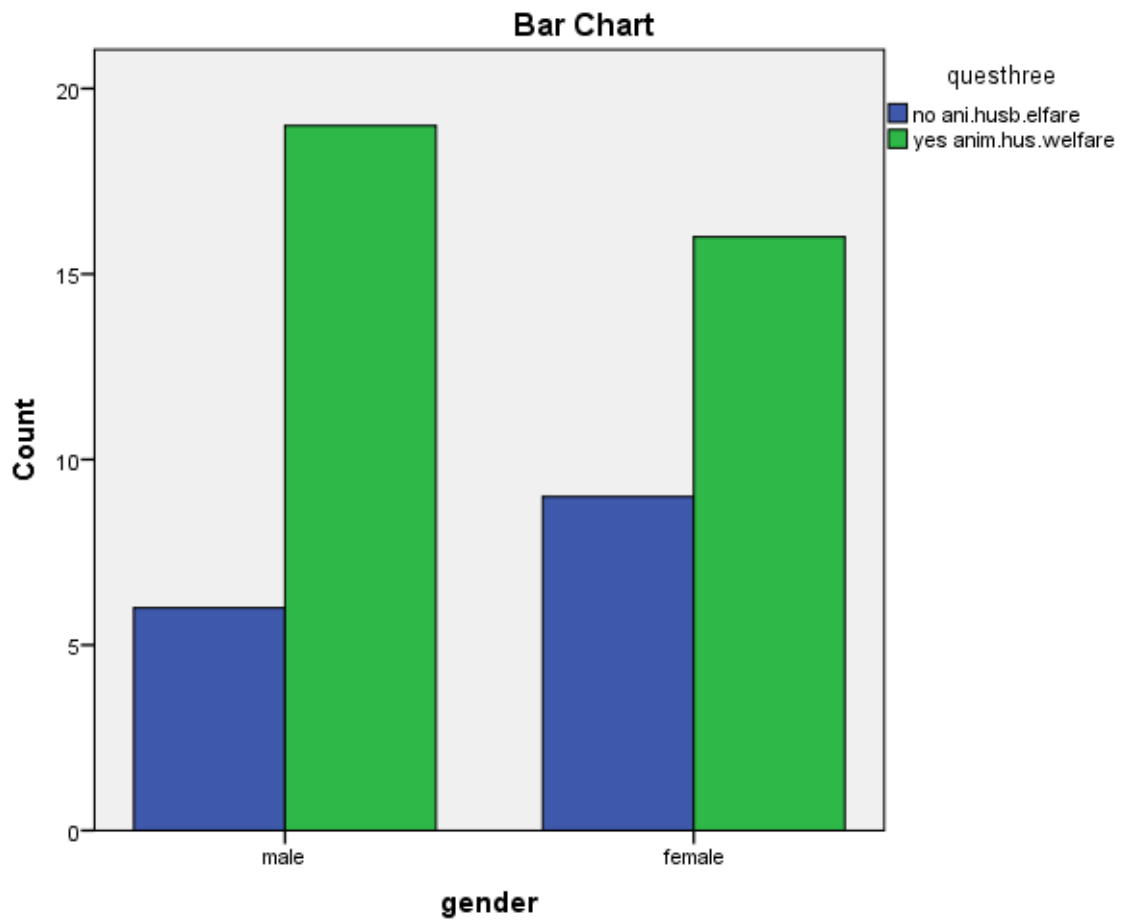


FIGURE (3) ANIMAL WELFARE IS A PHYSICAL AND MENTAL LUXURY

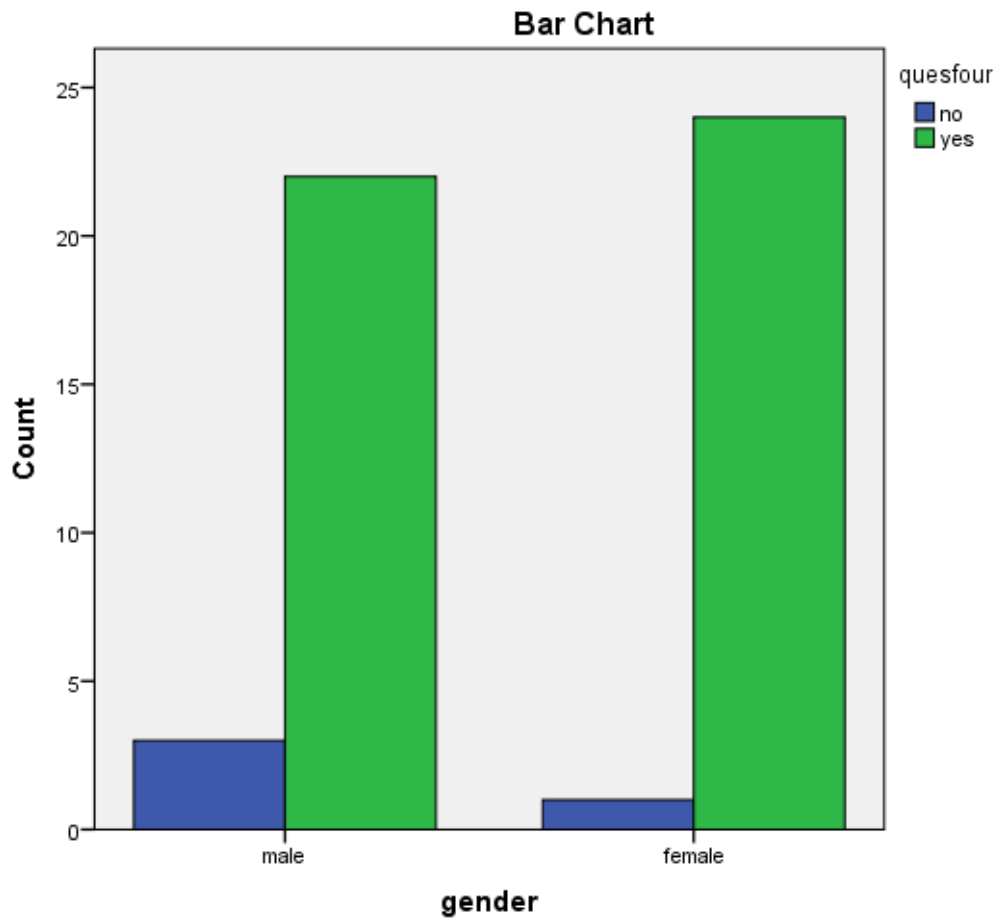


FIGURE (4) ANIMAL WELFARE AFFECTS THE ANIMALS' PRODUCTIVITY

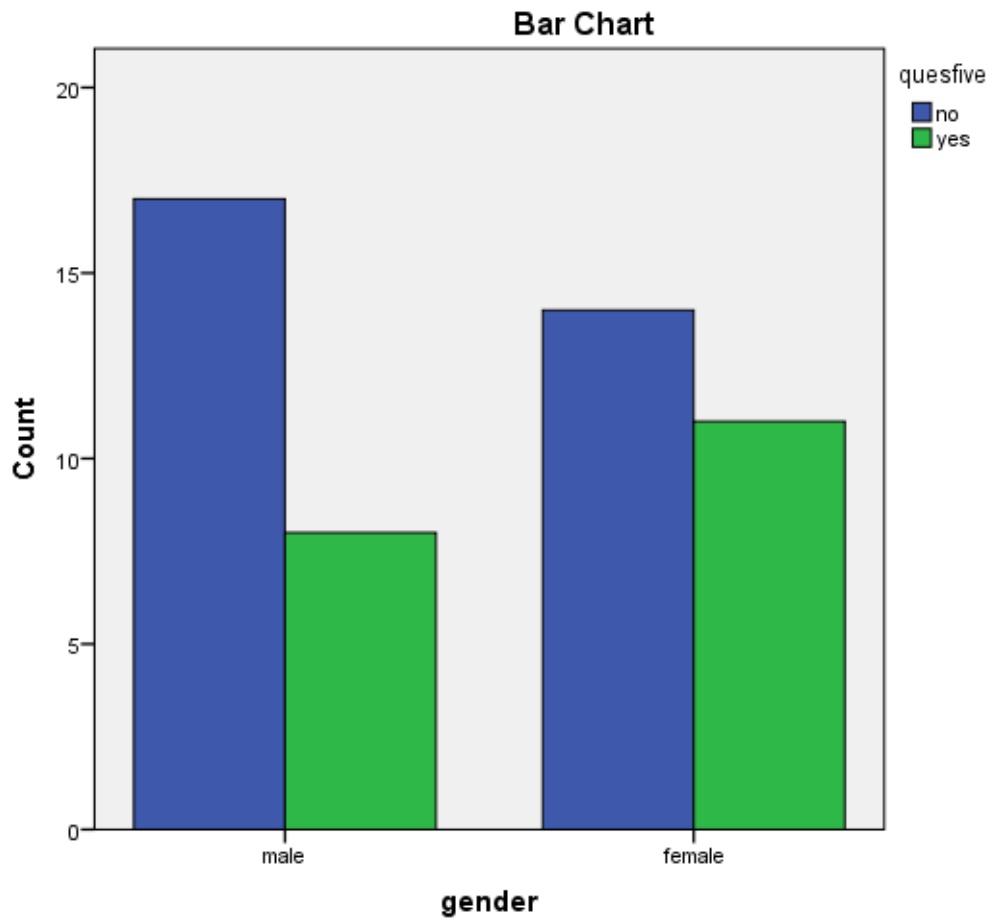


FIGURE (5) Following Animal welfare during health care of the animals

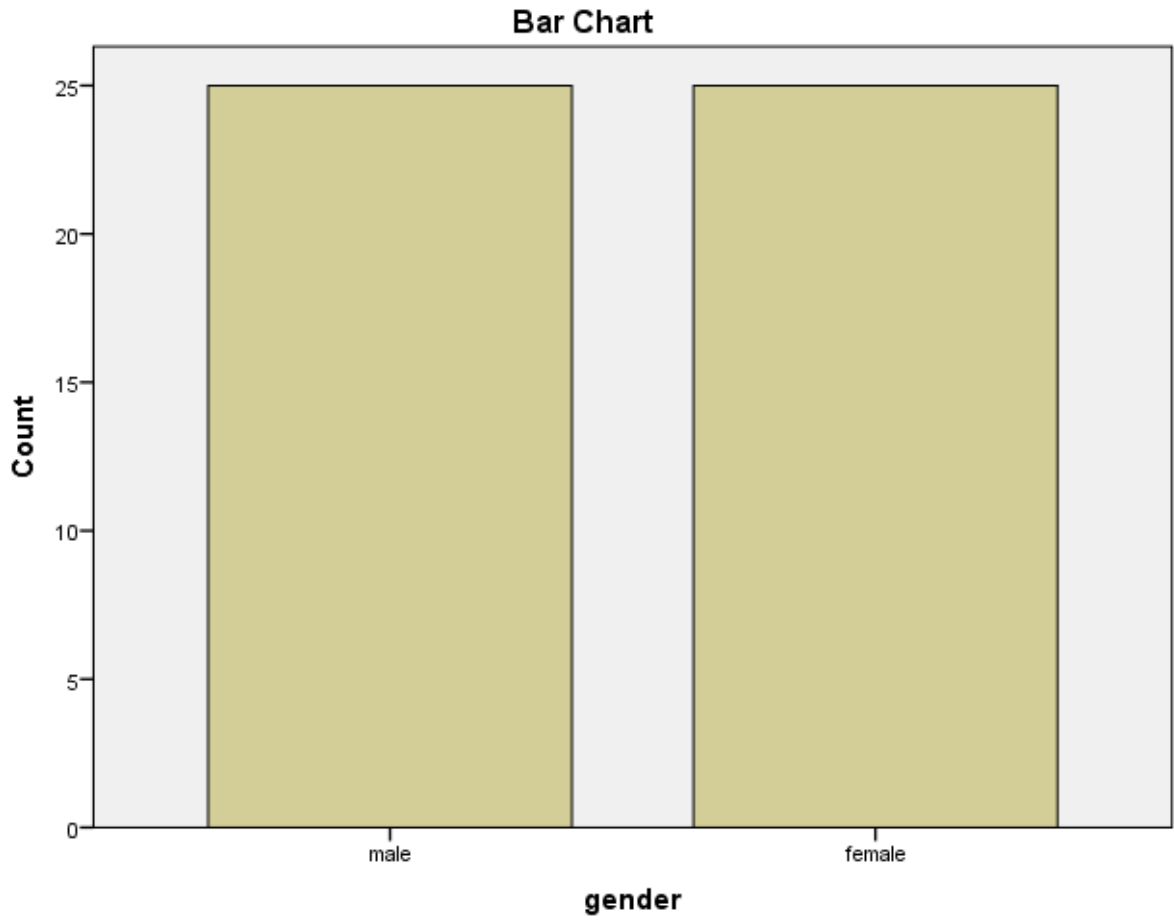


FIGURE (6) THERE IS A NEED FOR MORE VETERINARY SERVICES CENTERS

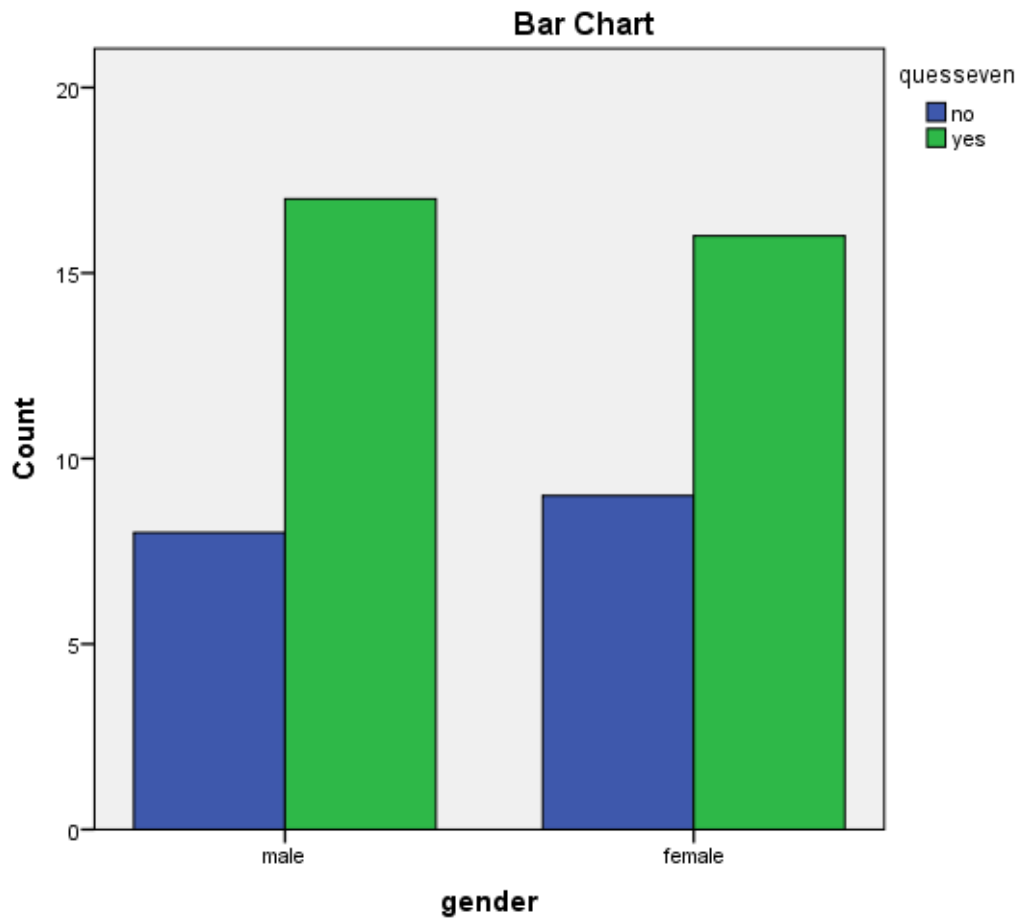


FIGURE (7) ANIMAL WELFARE SHOULD BE TAUGHT IN THE VETERINARY COLLEGES

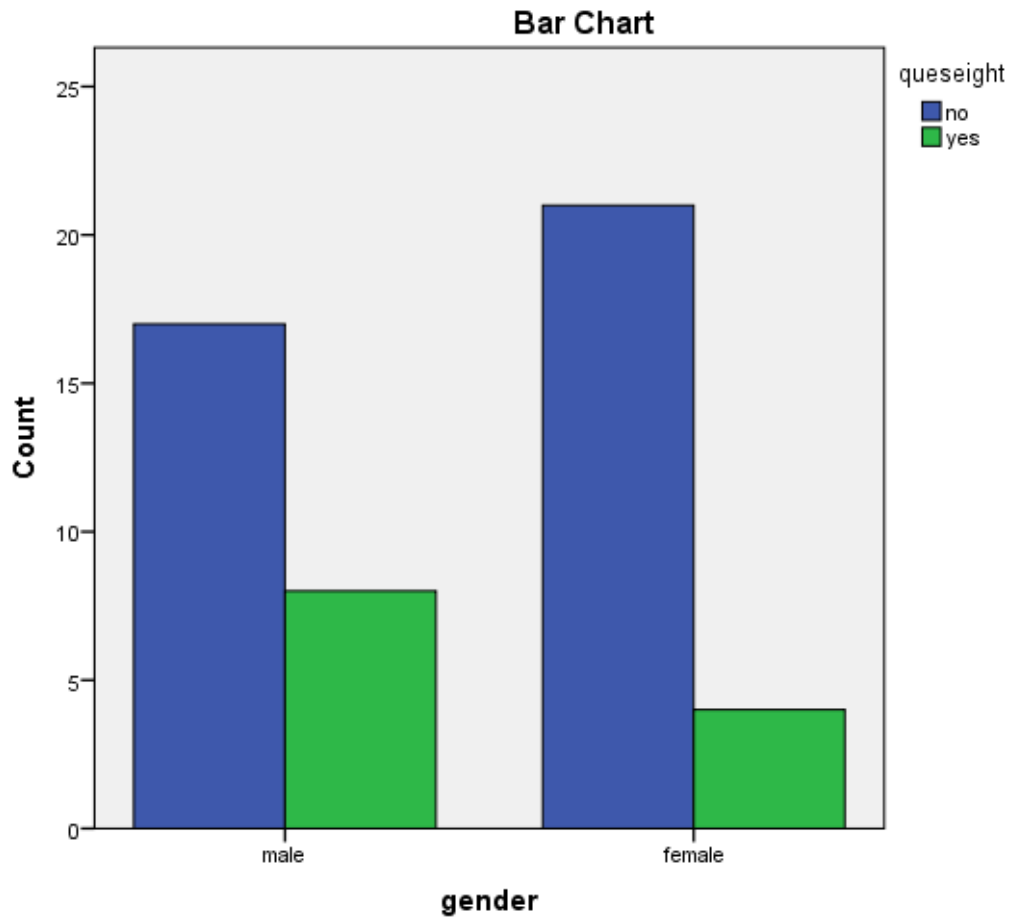


FIGURE (8)ANIMAL WELFARE IS AN IMPORTANT ISSUE IN THE VETRINARY FIELD

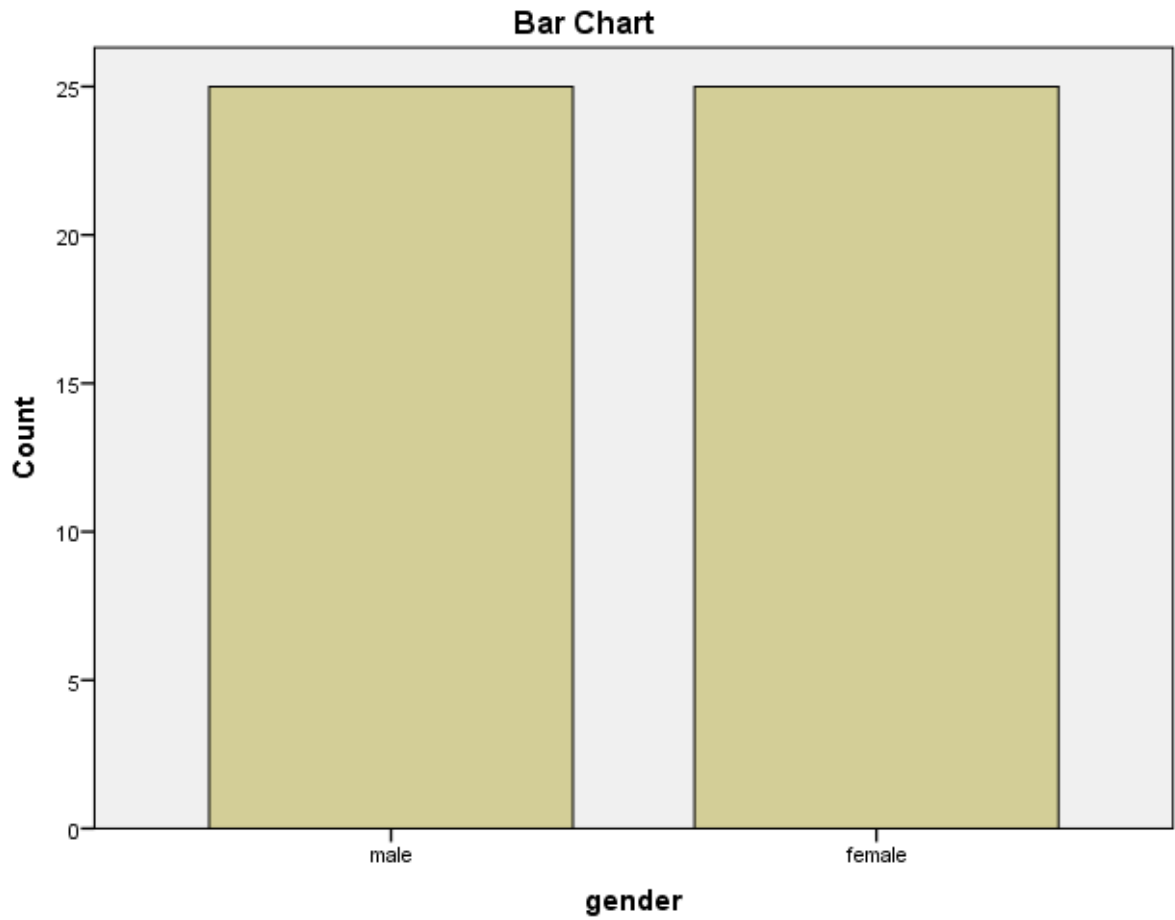


FIGURE (9) ACQUAINTED WITH ANIMAL WELFARE ORGANIZATIONS

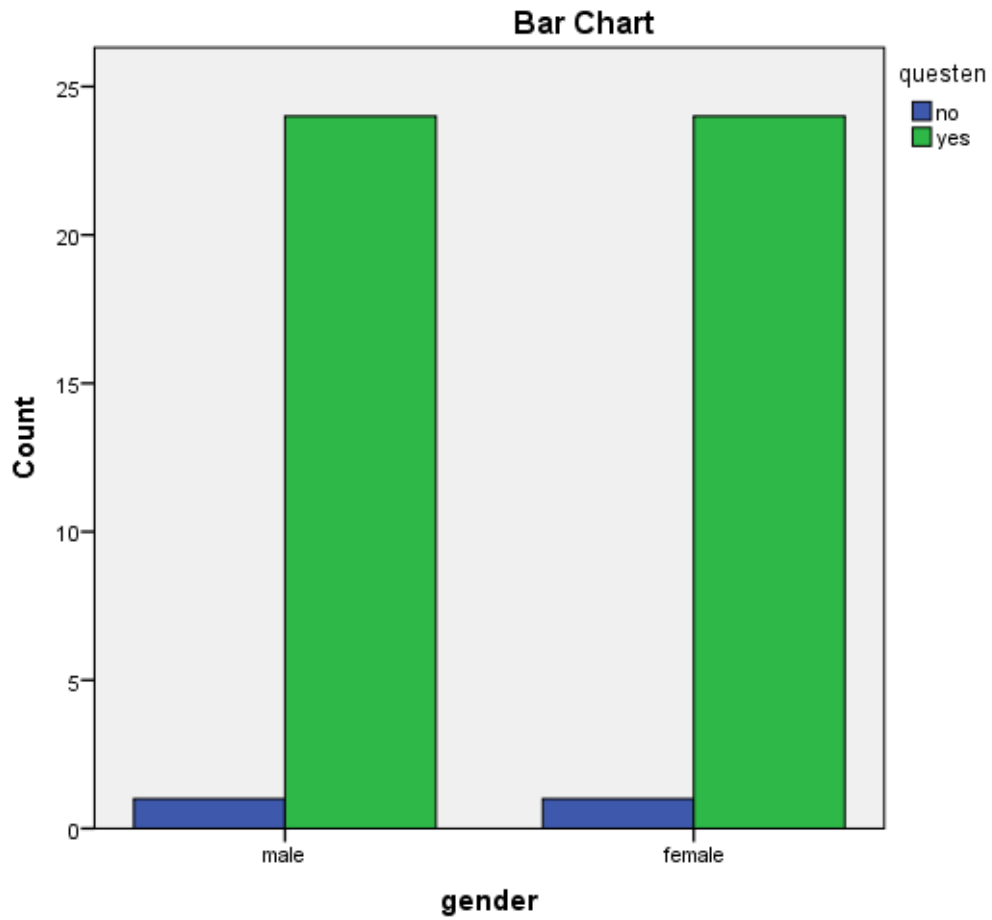


FIGURE (10) EUTHANASIA IS AMONG THE OIE CONCERNS

3.2. Working veterinarian Basic Information ,attitude and knowledge of animal welfare:-

Forty one of veterinary (82%), have scientific knowledge of animal welfare .

Twenty six and twenty four of the veterinary

y (52%) and (48%) choice carelessness ,and other in respectively

Thirty seven , twelve and one of veterinary (74%), (24%) and (2%), choice humane

Scientific Both in respectively

Six , two and forty two of veterinary (12%), (4%) and (48%), choice

Humane , Animal welfare and Both in respectively

Thirty seven of veterinary (74 %) usage the anesthesia to control of animal pain

Forty seven of veterinary (94%) concerned the animal welfare benefit the society

Table (1) veterinarian's knowledge and attitude towards animal welfare

	Frequency	Percent
scientific knowledge of animal welfare .		
Yes	41	82
No	9	18
Total	50	100
Causes of illness		
Carelessness	26	52
Other	24	48
Total	50	100
Consults of A.W by the owner		
Humane	37	74

Scientific	12	24
Both	1	2
Total	50	100
Decision of ethical job		
Humane		
Animal	6	12
welfare	2	4
Both	42	84
Total	50	100
usage the anesthesia to control of animal pain		
Yes	37	74
No	13	26
Total	50	100
the animal welfare benefit the society		
Yes	47	94
No	3	6
Total	50	100

Table (2) some characteristics of the veterinarians

	Frequency	Percent	Valid percent	Cumulative percent
Experience				
1-10	22	44.0	51.2	51.2
11-20	11	22.0	25.6	76.7
21-30	2	4.0	4.7	81.4
31-40	6	12.0	14.0	95.3
41-50	2	4.0	4.7	100.0
Total	43	86.0	100.0	
Missing System	7	14.0		
Total	50	100.0		
Employer				
Government	35	70	72.9	72.9
Private sector	13	26	27.1	100
Valid total	48	96	100	
Missing	2	4		
Total	50	100		

Table (3) Attitude of the working veterinarian towards Animal welfare

	Frequency	Percent	Valid percent	Cumulative percent
Scientific	41	82	82	82
acknowledge				
Yes	9	18	18	100
No	50	100	100	
Total				
Q2				
Causes of				
illness	26	52	52	52
Carelessness	22	44	44	96
Other	2	4	4	100
Total	50	100	100	
Q3				
Humane	37	74	74	74
Scientific	12	24	24	98
Both	1	2	2	100
Total	50	100	100	
Q4				
Humane	6	12	12	12
Animal	2	4	4	16
welfare	42	84	84	100
Both	50	100	100	
Total				
Q5				
Yes	37	74	74	74
No	13	26	26	100
Total	50	100	100	
Q6				
Yes	47	94	94	94
No	3	6	6	100
Total	50	100	100	

CHAPTER FOUR

DISCUSSION

Webster (2006) stated that the subject of animal welfare should be an integral part of all education in agriculture and veterinary science. The essence of these vocations: good husbandry and the diagnosis, prevention and treatment of disease are critical to ensuring that animals in our care are fit and happy, this accords with the findings of this work as the majority of the participant recognize the importance of education of animal welfare and its impact on raising the awareness level toward animal welfare.

Harverd and Hubbard (2013) think that improved animal welfare comprise the innovative and adaptive capacity of the chain to respond to society's demands , this is on line with the findings of the current work.

The gender did not affect the students attitude towards animal welfare which is contradicting the findings of Paul and Podberscek, (2000) who performed a cross-sectional study of students at 2 UK vet schools. They found that female students had higher empathy than male students and they attributed this to the students being influenced by the attitudes of the clinical faculty ,the effect of the university, and an interaction between the university and gender.

In Canada, two studies were performed by Dohoo and Dohoo (1996) and Hewson et al (2001) they found that many vets relied on general anesthesia for pain relief to dogs and cats undergoing surgery which is on line with the findings of this study.

Conclusion

- Student attitude toward animal welfare is very good
- The gender doesn't affect in student attitude toward animal welfare .
- Veterinarians are well aware with animal welfare.
- The social and Islamic culture most probably affects the attitude of participants toward the animal welfare.
- The education of animal welfare leads to rise the awareness level toward the animal welfare

RECOMMENDATIONS

- The curriculum in all universities and practical sections administration should enforce the animal welfare.
- All the veterinarians and veterinary students must be fully aware of animal welfare and that it has economic benefits and better easy life for both the human and animals.
- Regulation and policy should be impose to protect animal from bad human behavior.

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المؤلف ; محمد بن اسماعيل البخاري .

تاريخ التأليف; 854 م.

Appendix1: good and compromise of animal welfare

Good animal welfare



Bad animal welfare



Appendix 2 questioner of veterinary students

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ
جامعة السودان للعلوم والتكنولوجيا
كلية الطب البيطري
قسم طب وجراحة الحيوان

إستبيان حول رعاية ورفاهية الحيوان (طالب بيطري)

الاسم	<input type="text"/>	<input type="text"/>
السنة الدراسية :	<input type="text"/>	<input type="text"/>
ذكور	<input type="checkbox"/>	أنثى <input type="checkbox"/>

1. هل أنت ملم بالرفق بالحيوان من ناحية علمية ؟
نعم لا
2. هل تطبق رفاهية الحيوان في السودان ؟
نعم لا
3. هل تعتبر رعاية الحيوان رفاهية جسدية ونفسية ؟
نعم لا
4. هل تعتبر رعاية ورفاهية الحيوان جزءاً أساسياً في المجال البيطري ؟
نعم لا
5. هل تتبع في رعاية وصحة الحيوان كل الحقوق الواجبة تجاه الحيوان ؟
نعم لا
6. هل من الضروري زيادة عدد وتوزيع المستشفيات البيطرية والمنظمات ذات الصلة في الولاية، وهل يدخل ذلك ضمن صحة الحيوان ورعايته ؟
نعم لا
7. هل يتم شمل الرفق بالحيوان داخل مقررات الطب البيطري ؟
نعم لا
8. هل أنت ملم بالمنظمات العاملة في هذا المجال في السودان ؟
نعم لا
9. هل يدخل القتل الرحيم من ضمن اهتمامات منظمة صحة الحيوان OIE ؟
نعم لا
10. هل تمثل رعاية ورفاهية الحيوان جزءاً هاماً في المجال البيطري ؟
نعم لا

شكراً جزيلاً ...

إشراف أ.د/ شادية عبدالعاطي

Appendix 3 questioner of veterinarians

بسم الله الرحمن الرحيم

جامعة السودان للعلوم والتكنولوجيا

كلية الطب البيطري

قسم طب وجراحة الميوان

إستبيان حول رعاية ورفاهية الحيوان (طبيب بيطري)

1. الاسم :
2. العمر :
3. سنوات الخبرة :
4. مجال العمل : خاص عام (قطاع حكومي)
- صيدلية مزرعة صحة عامة
5. هل لديك معرفة مسبقة برفاهية الحيوان ؟
- نعم لا
6. ما هي الحالات الأكثر تكراراً ؟
- نقصان التغذية سوء المعاملة والإهمال أمراض جهازية ومناعية أخرى
7. هل يراعي صاحب الحيوان في رفاه الحيوان الآتي ؟
- الناحية العلمية المذهب الإنساني
8. إذا كان يجب اتخاذ قرار لديه علاقة بأخلاقيات المهنة ماذا ستختار ؟
- مصلحة الإنسان رفاهية الحيوان التوفيق بين الإثنين
9. هل تستخدم المخدر في التحكم في ألم الحيوان ؟
- نعم لا
10. هل تعتقد أن رفاه الحيوان يحسن رفاه الإنسان والمجتمع ؟
- نعم لا
- شكراً جزيلاً ...
- إشراف، أ.د/ شادية عبدالعاطي