

PERCEPTION AND AWARENESS OF VETERINARIANS AND PET
OWNERS TOWARDS TELEMEDICINE SYSTEM IN VETERINARY HEALTH
CARE SERVICE IN MALAYSIA

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CERTIFICATION

This is to certify that we have read this research paper entitled '**Perception and Awareness of Veterinarians and Pet Owners Towards Telemedicine System in Veterinary Health Care Services in Malaysia**' by Kanmani A/P Rajandran, and in our opinion it is satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the course DVT 5436 – Research Project.



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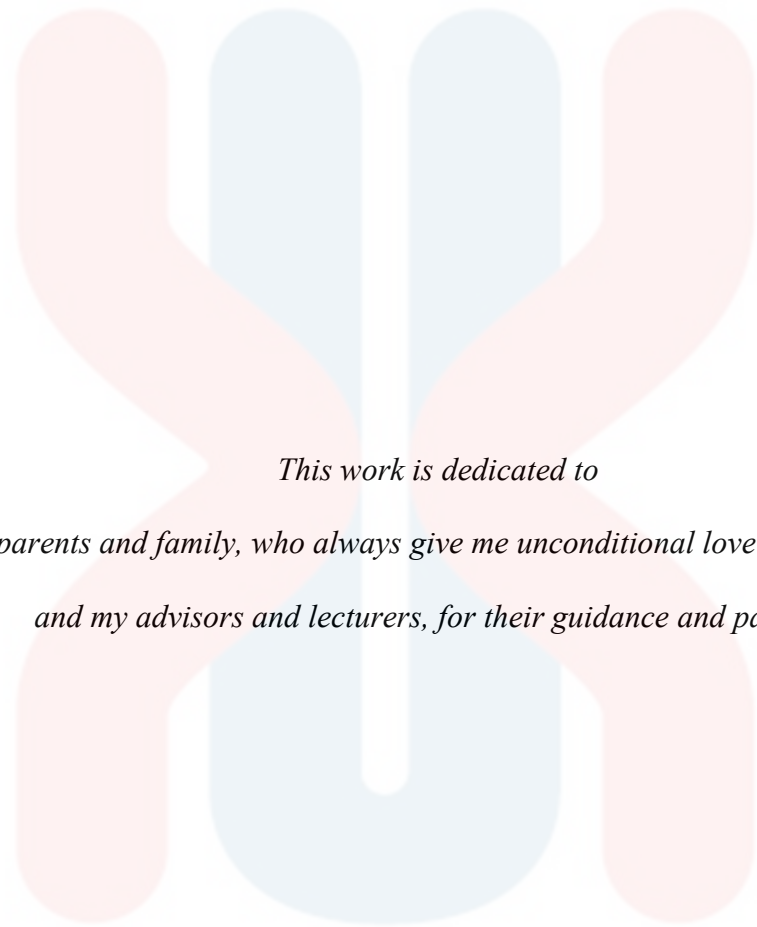
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Thank You

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*This work is dedicated to
my parents and family, who always give me unconditional love and support,
and my advisors and lecturers, for their guidance and patience*

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ABSTRACT

An abstract of the research paper presented to the Faculty of Veterinary Medicine, Universiti Malaysia Kelantan, to fulfil the requirement of the course DVT 5436 – Research Project

Veterinary telemedicine is a distance communication between a veterinarian and pet owners which occurs using telecommunication with the aid of electronic device as a medium in the practice of veterinary healthcare and it is an advance technology involving veterinary consultations, diagnosis and treatment of diseases in animals via online. This is a pilot cross sectional study to access the perception and awareness of veterinarian and pet owners on veterinary telemedicine in veterinary healthcare service in Malaysia, as well as to access their acceptance level to adopt and implement veterinary telemedicine in the future, in Malaysia. Thus, an online survey was conducted and a total of 143 respondents, comprised of 47 veterinarians and 96 pet owners from all over Malaysia participated in this study. Statistical analysis was done and significant association between some categorical groups was determined using Pearson Chi Square test. Based on the findings, a majority of the veterinarians and pet owners showed a good level of awareness on the system and purpose of telemedicine and also showed positive perceptions towards the usage and utilization of telemedicine in veterinary practice. The main purpose of this study was achieved, as a majority of veterinarians and pet owners showed a high level of acceptance towards the necessity to implement the telemedicine system in veterinary health care services in Malaysia.

Keywords: *Veterinary telemedicine, Awareness, Perception, Acceptance level*

ABSTRAK

Abstrak daripada kertas penyelidikan ini dikemukakan kepada Fakulti Perubatan Veterinar, Universiti Malaysia Kelantan untuk memenuhi syarat keperluan kursus DVT 5436 – Projek Penyelidikan.

Sistem teleperubatan veterinar adalah salah satu telekomunikasi jarak jauh antara seorang veterinar dan pemilik haiwan kesayangan secara atas talian dengan menggunakan perantian elektronik sebagai alat komunikasi dalam perkhidmatan kesihatan veterina dan merupakan sebuah teknologi canggih yang melibatkan konsultasi veterinar, diagnosis dan rawatan penyakit haiwan secara atas talian. Ini merupakan kajian pilot untuk menganalisis persepsi dan pengetahuan doktor veterinar dan pemilik haiwan kesayangan terhadap perkhidmatan teleperubatan veterinar dan juga untuk menentukan tahap penerimaan mereka untuk mengaplikasikan sistem teleperubatan dalam perkhidmatan kesihatan veterinar di Malaysia, pada masa akan datang. Oleh itu, sebuah kajian selidik secara atas talian telah dijalankan dan seramai 143 responden yang mewakili 47 orang doktor veterinar dan 96 pemilik haiwan kesayangan dari seluruh Malaysia telah menyertai dalam kajian ini. Analisis statistik telah dilakukan atas data terkumpul dan Pearson Chi Square Test telah dilakukan atas beberapa kumpulan kategorikal untuk menentukan signifikansi statistik. Kebanyakan doktor veterinar dan pemilik haiwan secara keseluruhan mempunyai pengetahuan yang baik atas kewujudan dan keperluan sistem teleperubatan veterinar, dan juga mempunyai persepsi positif terhadap penggunaan sistem teleperubatan dalam bidang veterinar ini. Objektif kajian ini tercapai, di mana kebanyakan doktor veterinar dan pemilik haiwan kesayangan

bersetuju untuk menerima and mengaplikasikan sistem teleperubatan veterinar dalam perkhidmatan perubatan veterinar di Malaysia pada masa akan datang.

Kata Kunci : *Teleperubatan veterinar, Kesedaran, Persepsi, Tahap Penerimaan*

1.0 Introduction

In the advent of technology, one of the advancement in the veterinary healthcare system is telemedicine. Telemedicine refers to distance communication between a veterinarian and pet owners which occurs using telecommunication in the practice of veterinary medicine health care service in giving consultations, diagnosis and treatment of diseases in animals (Kastelic, J.& Ogilvie, T., 2021) .

Veterinary telemedicine approach does not replace the current veterinary medicine practice, but it is a complementary tool that uses technology in a different form. In order to allow for a veterinarian to diagnose and treat a patient via telemedicine, a valid existing veterinary-client-patient relationship (VCPR) must be established, and all the other regulatory requirement, such as client informed consent must be followed by the veterinarian and also the client (American Veterinary Medical Association,2019).

The receptivity veterinarians and pet owners on the advancement in veterinary medicine, is generally a necessary precondition for sustained telemedicine use, in spite of the benefits derived from the use of telemedicine (Kirsten *et al.*, 2019). More to the point, the knowledge, perception and attitude toward telemedicine are likely to influence the nature of telemedicine and it will play a central role in determining its ultimate success of the healthcare service (Melanie T. Gentry., 2019).

It is expedient to note that the perceptions of veterinarians and pet owners in Malaysia is desirable in the bid to the extensive adoption, implementation and use of telemedicine in Veterinary healthcare service in Malaysia. With this background knowledge and the existing research gap, this research work was conducted to access the perception and awareness of veterinarian and pet owners on telemedicine approach in veterinary healthcare service in Malaysia . The outcome of this study will be useful in the development of telemedicine technology and implementation of telemedicine usage in the veterinary health care service in Malaysia in future.

2.0 Research problem

In Malaysia, the quality of veterinary healthcare services should be improved and expand the services to the rural area as well, to provide healthcare service to their pets, because most of the owners not able to bring their animals to veterinary clinics for medical care, due to geographical locations or the behaviour of the animal that is very aggressive or nervous. There is also no alternative approach such as veterinary telemedicine to provide veterinary healthcare service to those clients and pets, in Malaysia. Veterinary telemedicine is well established in Europe countries and it improves the quality of veterinary health services in those countries. However, there are also no studies conducted on veterinary telemedicine in Malaysia. Hence there is paucity of data on the perception and awareness of veterinarians and pet owners in Malaysia about veterinary telemedicine and their acceptance level on the implementation of telemedicine in veterinary health care services in Malaysia in the future.

3.0 Research questions

- 3.1 Do veterinarian and pet owners in Malaysia aware of the system and purpose of veterinary telemedicine in veterinary health services ?
- 3.2 What is the perception level of veterinarian and pet owners on the usage and utilization of telemedicine in veterinary healthcare services ?
- 3.3 Would the veterinarians and pet owners willingly accept, implementing veterinary telemedicine system in Veterinary health services in Malaysia in the future?

4.0 Research hypothesis

- 4.1 Veterinarians and pet owners in Malaysia are aware of the system and purpose of veterinary telemedicine in veterinary health services.
- 4.2 The veterinarians and pet owners have a good level of perception towards the usage and utilization of veterinary telemedicine in veterinary health care services.
- 4.3 The veterinarians and pet owners willingly accept to implement the veterinary telemedicine system in veterinary health service in Malaysia, in the future.

5.0 Research Objectives

- 5.1 To assess the level of awareness of veterinarian and pet owners in Malaysia on the veterinary telemedicine system.
- 5.2 To assess the perception level of veterinarians and pet owners in Malaysia on veterinary telemedicine in veterinary health care services.

5.3 To determine the acceptance level of veterinarians and pet owners on implementation of veterinary telemedicine system in veterinary health services in Malaysia in the future.

6.0 Literature Review

6.1 Telemedicine in Veterinary Practice

The COVID-19 pandemic has led to a steep increase in usage of internet facilities and different types of telecommunication technology in veterinary practice has drastically increase after the pandemic COVID-19 (Dubin RJ, 2021) . One of such aspect is the use of online media for healthcare services (i.e., ‘Telemedicine’ and ‘Telehealth’) in veterinary science and human medicine (Kastelic J. & Ogilvie T., 2021) . In veterinary profession, telemedicine and teleguidance was used for various purposes for a long period of time. However, The use of this technology was only used to treat minor cases of their patient (CM Bhadesiya, 2021) and also in post operative management of some rare cases such as prosthesis in a bird (CM Bhadesiya & VA Patel, 2021).

Utilization of telemedicine does not completely replace the traditional methods; however, it can be used as effective way to provide high quality veterinary care in mild cases, especially in rural areas (CM Bhadesiya, 2021). In addition, According to the Canadian Veterinary Medical Association, telemedicine refers to the practice of veterinary medicine that involving consultation, diagnosis and treatment of animal diseases that occurs at a distance between a veterinarian and an animal owner by using a telecommunication as a medium with the help of electronic devices and network facilities (Kastelic J. & Ogilvie T., 2021).

According to some studies conducted in UK, veterinary telemedicine teams are encouraged to think outside the box and find ways to solve their clinicians to incorporate the virtual care into their veterinary practice (Cushing & Lacroix, 2018; and Rose, 2017). There are many veterinarians who are interested in using telemedicine in their practices, but they have concerns about further infringement on their personal time or if telemedicine will disrupt their already busy day-to-day workflow (Freiman, 2019). A veterinarian that practices the telemedicine system in his regular veterinary practice, he must have good sufficient knowledge on diagnosis and treatment of common animal diseases as he is responsible for decision making on every attending cases (CM Bhadesiya,2021).

6.2 Uses and Benefits of Telemedicine

Recently, in one of the article entitled ‘Online procurement of pet supplies and willingness to pay for veterinary telemedicine’, it states that telemedicine in human medicine was useful for delivering rural health care and indirectly improved health outcomes, especially in reductions in hospitalization, readmission and mortality of the patient (WHO, 2010) . It also stated that use of telemedicine in medical practices was very cost effective. Similar to human medicine, telemedicine also gives benefits for pets and pet owners including easier access for pet health care service in rural areas, and it was easy for the pet owners to seek for veterinarian consultation without visiting the clinic in- person which is more time saving for the owners (Widmar NO & Bir C., 2020).

Besides that, other benefits of telemedicine in veterinary practice is, there is no need for the pet owner to bring their pet to veterinary clinic especially, those pet owners that have large, nervous, fractious or shy animals ((Widmar NO & Bir C., 2020). In

addition, a study was conducted on veterinarians to determine how information and communication technologies are utilized in veterinary practices by Kogan, and based on the responses by the veterinarian, they agree that virtual visit with telemedicine requires less time and cost effective, especially in the management of post-operative recheck visits, nutritional counselling and management of diabetic patients (Kogan et al., 2016).

6.3 Different Forms of Telemedicine in Veterinary Practice

There are different forms of application of telemedicine that is being used in veterinary medicine that are similar and identical to application of telemedicine in human medicine. Tele-ultrasonography, tele-ECG, tele-cytology and tele-radiology as reported by Mars and Auer (2006) are the most popular forms of veterinary telemedicine that have been used and had success in post-operative management (M.Larkin,2018). Even though, there are many applications of telemedicine in veterinary practice, there is a barrier to provide successful uses of certain forms of telemedicine, which is due to the inability of the patient which is the animals, to describe their clinical signs (Gyles, 2006).

Currently, telecytology which is also known as digital pathology with virtual microscopy, has been increasing in practice. The images of the whole - slides can be observed and manipulated in all angles in very high resolution with good quality of images that is equivalent to the visual magnification and optical resolution of a light microscope (Bertram & Klopfleisch, 2017). The usage of telecytology, is recommended for both clinicians and clients for client education since 2001 (Hebert *et al.*,2001). Besides that, as telecytology becomes so common, veterinary pathologists can share the results among their colleagues to ask for second opinion or

as a referral on the cytology or histology of the tissue sample (Bertram & Klopfleisch, 2017).

As a conclusion , based on the literature review , it indicates that more research is needed to perceive the usefulness of telemedicine in veterinary practice. There are review articles that address the positive implementation of telemedicine in veterinary health care services, especially in developed countries. In Malaysia, veterinary telemedicine can be a useful tool in veterinary health care for those pet owners and veterinarians. However, there must be studies that should be done to determine the perception of veterinarian and pet owners in Malaysia to access the viability and successful deployment of the telemedicine system in veterinary practices in Malaysia, in future.

7.0 Materials and methods

7.1 Study Design

A cross-sectional survey study in which a self-administered online questionnaire entitled ‘ Perception and Awareness of Veterinarian and Pet Owners on Veterinary Telemedicine Approach in Veterinary Health Care Services In Malaysia’, was conducted among veterinarian and pet owners in Malaysia between March 2022 to April 2022.

7.2 Study Population

A self-administered questionnaire was distributed to veterinarians and pet owners all over Malaysia including Sabah and Sarawak. The participants were veterinarian with different experience level in the field and also pet owners who are above 18 years old from all states of Malaysia.

7.3 Questionnaire Advancement

An online self-administered questionnaire was designed using Google Form and the link of the questionnaire were distributed to the study population via social medias such as Whatsapp, Instagram and Facebook. The questionnaire was successfully administered to the respondents after obtaining their consent at the beginning of the study.

The questionnaire was designed and modified based on previously published research article (Emikpe *et al*,2021) .The final questionnaire consisted of four sections with a total of 34 items. The questionnaire validation was done by a group of two-members of experts with experience in the field of study. To verify the validation process, the questionnaire was distributed for a pilot test with 10

respondents from the intended population, and their responses were evaluated and validated by the member of experts. Once the questionnaire was validated, it was distributed for the target population of the study.

The questions were designed with closed end questions with either multiple choice questions or dichotomous (yes/no) responses or 5- point Likert scale that ranged from '1=strongly disagree' to '5=strongly agree.

The questionnaire consists of 4 domains (Appendix :

1. Demographic characteristics (7 Questions)
2. Awareness and knowledge on Veterinary Telemedicine (7 Questions)
3. Perception on Telemedicine in Veterinary Health Care (15 Questions)
4. Necessity of Implementation of Veterinary Telemedicine in Malaysia (4 Questions)

7.4 Data Collection and Statistical Analysis

Data collection on awareness of the respondents, was performed with a 'yes' or 'no' format and each responses, was given a score of '1' for 'Yes' and '0' for 'No'. The expected score of the respondents can be a minimum of 0 or a maximum of 7. An average score of 3.5 (50 %) from the 7 questions was used as a cutoff point to determine the level of awareness on telemedicine (Emikpe *et al.*,2021) The mean awareness score of less than 3.5 (50 %) was grouped as poor and mean score with greater then 3.5 (50%) was labeled as good.

Perception of the respondents on veterinary telemedicine was evaluated with a 5- point Likert scale and each points were given a specific score from 1 to 5 and the scores were calculated. Each respondents can score a maximum of 75 or minimum of 15 for their perception response. The respondents with mean scores less than 37.5

(50%) was grouped as poor, scores between 37.4 (51%) - 45 (60%) grouped as moderate, and score greater the 45 (60%) was grouped as good. (Emikpe *et al.*, 2021).

In this study, the acceptance level of the veterinarians and pet owners on the necessity of implementing veterinary telemedicine in Malaysia was rated with 5-point Likert scale and each responses were scored and calculated. The score obtained can be a minimum score of 3 or a maximum score of 15. A group of two-member expert with experience in the field of study determined the cutoff point of the score to indicate the acceptance level of the respondents based on their experience and opinion. An average score of 7.5 (50%) from 3 questions was used as a cut off point to determine the acceptance level and categorized as high acceptance, and mean score of less than 7.5 (50%) was categorized as low acceptance.

Statistical data analysis was performed on collected data by using Microsoft Excel. Descriptive statistics was used to analyse the demographic characteristics of the respondents as well as the participants' awareness , perception and the necessity of deploying telemedicine system in veterinary health care service in Malaysia. The categorical data was analyzed and expressed in percentage and frequency. The significant association between some of the grouped categorical variables was performed using Pearson Chi Square Test. Statistical significance was tested at 95% confidence interval, with p-values less than .05 were considered as statistically significant.

8.0 Results

8.1 Demographic Characteristic of the Respondents

The result of demographic characteristics of the respondents were displayed in the Table 1. Based on the findings, a majority of respondents are female (62.90%) whilst, the remaining were male (37.10%). Most of the respondents were within the age group of 26-30 years old (46.90%), followed by the age group of 18-25 years old (28.70%), 31-40 years old (12.60%), more than 50 years old (6.30%) and 40-50 years old (5.60%) respectively. The highest education level of the majority respondents were tertiary education level (90.20%) and remaining 9.8% of respondents were with secondary education as their highest education level. In addition, the result revealed that almost all of the respondents (99.3%) have regular access to internet facilities.

The findings of this study also indicated that out of one-hundred three (143) respondents that participated, 47 respondents (32.87%) were veterinarians, while 96 respondents (67.13%) were pet owners. Most of the veterinarians who participated in this study have vast experience level of less than a year (38.3%) and 1-5 years of experience (38.3%) in veterinary field.

Demographic Information	N (N=143)	Percentage
Gender		
Female	90	62.90%
Male	53	37.10%
	143	100.00%
Age		
18-25	41	28.70%
26-30	67	46.90%
31-40	18	12.60%
40-50	8	5.60%
more than 51	9	6.30%
	143	100.00%
Highest education level		
primary	0	0.00%
secondary	14	9.80%
tertiary	129	90.20%
	143	100.00%
Are you a veterinarian or pet Owner		
Veterinarian	47	32.87%
Pet Owner	96	67.13%
	143	100.00%
Veterinarian experience level		
less than a year	18	38.30%
1-5 years	18	38.30%
6-10 years	5	10.60%
more than 10 years	6	12.80%
	47	100.00%
Do you have Regular access to Internet		
Yes	142	99.30%
No	1	0.70%
	143	100.00%

Table 1 shows the demographic characteristics of the respondents.

8.2 Awareness of the veterinarians and Pet Owners on Telemedicine system in Veterinary Practices

In this study, the awareness of respondents on the telemedicine system and its purpose in veterinary practices was assessed and displayed in Table 2 below. Based on the findings from the table 2 below, a majority of the veterinarians (59.57%) and pet owners (80.21%) had never seen a telemedicine system before, but most of the veterinarians (65.96%) were familiar with the term of this system. However, despite of not familiar with the term or system of telemedicine, a majority of the pet owners (51.05%) and veterinarian (57.45%) were familiar with tools like teleconference or teleconsultation.

The awareness of the respondents on the purpose of telemedicine was assessed and the result was displayed in table 2 below. A vast majority of the respondents that comprises of 89.58% of pet owners and 76.60% of veterinarians were having a knowledge that telemedicine is the extension of medical diagnosis in veterinary health care services. A greater number of veterinarians (95.74%) and pet owners (94.79%) aware that veterinary telemedicine is not appropriate for every concern, especially with those emergency cases that requires in-person visit to veterinary clinics. In addition, 87.23% of the veterinarian and 94.79% of the pet owners also showed awareness that, veterinary telemedicine is a useful tool in situations where pet owners, especially those in rural areas cannot physically bring their pet to clinic for health care service. The purpose of telemedicine in veterinary practices as a useful tool in chronic disease management and post-surgery management were aware by 85.11% of veterinarians and 81.25% of pet owners.

AWARENESS ON VETERINARY TELEMEDICINE AND ITS PURPOSES				
Questions			Veterinarian Percentage (n)	Pet Owner Percentage (n)
Q1	Have you heard of the term 'telemedicine' before?	Yes	65.96 % (31)	42.71 % (41)
		No	34.04 % (16)	57.29 % (55)
Q2	Have you seen a telemedicine system before?	Yes	40.43 % (19)	19.79 % (19)
		No	59.57 % (28)	80.21 % (77)
Q3	Are you familiar with tools like teleconference or teleconsultation?	Yes	57.45 % (27)	51.05 % (49)
		No	42.55 % (20)	48.96 % (47)
Q4	Telemedicine is useful in continuing medical diagnosis in veterinary health care	Yes	76.60 % (36)	89.58 % (86)
		No	23.40 % (11)	10.42 % (10)
Q5	Telemedicine approach is useful tool for chronic disease management and post-surgery management.	Yes	85.11 % (40)	81.25 % (78)
		No	14.89 % (7)	18.75 % (18)
Q6	Telemedicine is particularly useful (and necessary) in situations where pet owners cannot physically bring their pet to a veterinary hospital especially in remote communities.	Yes	87.23 % (41)	94.79 % (91)
		No	12.77 % (6)	5.21 % (5)
Q7	Veterinary Telemedicine is not appropriate for every concern. For example, A dog that has been hit by a car or has a large bleeding wound, needs to be seen in-person and hospitalized for diagnostics and treatment.	Yes	95.74 % (45)	94.79 % (91)
		No	4.26 % (2)	5.21 % (5)

Table 2 shows the responses of the respondents on their awareness on veterinary telemedicine system and its purposes in veterinary practice.

8.2.1 Comparison of Overall Awareness level among Veterinarians and Pet Owners on Veterinary Telemedicine.

The overall awareness level was compared between the veterinarians and pet owners on telemedicine and the results were presented in the table below. In overall, more pet owners (88.54%) showed a good level of awareness compared to veterinarians (87.23%) and they were having good knowledge on the purpose of telemedicine in veterinary health care services. However there is no significant difference between the awareness level of the two groups ($p>0.05$).

AWARENESS LEVEL ON VETERINARY TELEMEDICINE			
	Veterinarian	Pet Owners	Chi-Square Test
	Percentage (n)	Percentage (n)	
GOOD	87.23% (41)	88.54% (85)	
POOR	12.77 % (6)	11.46% (11)	P-value = 0.8216

Table 3 shows the comparison of overall awareness level on veterinary telemedicine between veterinarians and pet owners.

8.3 Perception towards Utilization of Telemedicine

The perception among veterinarians and pet owners with respect to the uses and utilization of telemedicine in veterinary practices were examined in this study. The findings as shown in the Table 4 below, a majority of the veterinarians (63.83%) and a majority of pet owners (89.58%) have an overall good perception towards telemedicine. The mean responses on the questionnaire clearly indicate that the respondents had a very good perception on how beneficial the telemedicine can be to the veterinary health care services, as well as possible disadvantages of telemedicine can be to the veterinary practice in the utilization and adoption of this system in

veterinary healthcare practices. However, there is significant different between the perceptions of veterinarian and pet owners ($p < 0.05$).

Based on the responses to the utilization of telemedicine from Table 5, 58.33% of pet owners and 34.04% of veterinarians strongly agreed that telemedicine will capture and store medical information of patients for future use. A majority of the pet owners ((57.29%) were confident that communication between veterinarian and client will be increased through telemedicine. A group of veterinarian (31.91%) were disagree that utilization of telemedicine will reduce medical errors while the vast majority of the pet owners (26.04%) were neutral.

A greater number of veterinarians (51.06%) and pet owners (46.88%) strongly believed that telemedicine will reduce in-person visit to veterinary clinics. 36.17% of veterinarians agreed and 48.96% of pet owners strongly agreed that utilization of telemedicine in veterinary practice will help to provide quick healthcare to the patients. 31.91% of veterinarians and 34.38% of pet owners showed strong agreement that telemedicine will enhance the quality of veterinary health care service when telemedicine is deployed in veterinary practices. Besides, a small number of pet owners (4.17%) and veterinarians (8.51%) showed disagreement on the mentioned benefit that telemedicine will improve clinical decision in veterinary practices (Table 5).

With respect to the downside and complexity of telemedicine, 40.43% of veterinarians and 45.83% strongly agreed that telemedicine will add extra responsibility to the veterinarians. A majority of the perception of veterinarians (38.30%) and pet owner (27.08%) were neutral on cost effectiveness on usage of telemedicine in veterinary practices and a majority of pet owners (38.30%)

disagreed that ‘telemedicine is not time-effective to be used in veterinary practice’ while the veterinarians(38.30%) remained neutral.

Concerning on security of data privacy in use of telemedicine, a majority of pet owners (20.83%) agreed that telemedicine can threaten patient information privacy, while only small number of veterinarians (9.38%) were strongly agreed on this issue.

PERCEPTION TOWARDS UTILIZATION OF TELEMEDICINE			
	Veterinarian	Pet Owners	Chi-Square Test
	Percentage (n)	Percentage (n)	
GOOD	63.83% (30)	89.58% (86)	
MODERATE	27.66% (13)	9.38% (9)	P-value = 0.0007*
POOR ATTITUDE	8.51% (4)	1.04% (1)	

* Statistically Significance with 5% confidence interval ($p < 0.05$)

Table 4 shows, the overall perception level of veterinarian and pet owners towards the utilization of telemedicine in veterinary health care services.

		SD	D	N	A	SA
Utilization of Telemedicine in Veterinary Practices		Percentage (n)	Percentage (n)	Percentage (n)	Percentage (n)	Percentage (n)
Capture and store medical information for future use	V	2.13% (1)	6.38% (3)	25.53% (12)	31.91% (15)	34.04% (16)
	P	0.00 % (0)	5.21% (5)	12.50 % (12)	23.96% (23)	58.33% (56)
Increase Veterinarian and Client communication	V	0.00% (0)	0.00% (0)	21.28% (10)	38.30 % (18)	40.43 % (19)
	P	3.13 % (3)	2.08 % (2)	10.42% (10)	27.08 % (26)	57.29% (55)
Reduce visit to veterinary clinic	V	0.00 % (0)	6.38 % (3)	10.64% (5)	31.91% (15)	51.06 % (24)
	P	0.00 % (0)	6.25% (6)	19.79 % (19)	27.08 % (26)	46.88% (45)
Reduce veterinary medical error	V	19.15% (9)	31.91% (15)	25.53% (12)	10.64% (5)	12.77% (6)
	P	10.42 % (10)	17.71 % (17)	26.04 % (25)	25.00 % (24)	20.83% (20)
Help quick health care delivery	V	0.00% (0)	4.26% (2)	27.66% (13)	36.17% (17)	31.91% (15)
	P	2.08 % (2)	1.04% (1)	10.42% (10)	37.50% (36)	48.96% (47)
Enhances emergency medical delivery	V	8.51% (4)	4.26% (2)	21.28% (10)	36.17% (17)	29.79% (14)
	P	2.08 % (2)	1.04% (1)	13.54% (13)	32.29% (31)	44.79% (43)
Increases number of patients attended	V	6.38 % (3)	8.51% (4)	29.79% (14)	21.28% (10)	34.04% (16)
	P	5.21% (5)	4.17% (4)	13.54 % (13)	32.29% (31)	44.79% (43)
Improves clinical decision in veterinary practice	V	10.64% (5)	8.51% (4)	42.55% (20)	23.40% (11)	14.89% (7)
	P	4.17% (4)	8.33% (8)	29.17% (28)	23.96% (23)	34.38% (33)
Facilitates efficient and effective medical diagnosis	V	10.64% (5)	17.02% (8)	25.53% (12)	27.66% (13)	19.15% (9)
	P	4.17% (4)	6.25% (6)	22.92% (22)	33.33% (32)	33.33 % (32)
Enhances quality of veterinary health care	V	8.51% (4)	6.38% (3)	29.79% (14)	31.91% (15)	31.91% (15)
	P	2.08 % (2)	5.21% (5)	15.63 % (15)	42.71% (41)	34.38% (33)
Adds extra responsibility to veterinarians	V	0.00% (0)	6.38% (3)	17.02% (8)	36.17% (17)	40.43% (19)
	P	2.08% (2)	3.13% (3)	10.42% (10)	38.54% (37)	45.83% (44)
Not cost effective to use in veterinary practice	V	10.64% (5)	21.28% (10)	38.30% (18)	17.02% (8)	12.77% (6)
	P	10.42% (10)	19.79% (19)	27.08% (26)	20.83% (20)	21.88% (21)
It is a complex and Stressful process	V	8.51% (4)	12.77% (6)	34.04% (16)	21.28% (10)	23.40% (11)
	P	14.58% (14)	21.88% (21)	23.96% (23)	21.88% (21)	17.71% (17)
It is not time-effective to be used in practice	V	8.51% (4)	17.02% (8)	38.30% (18)	17.02% (8)	19.15% (9)
	P	23.96% (23)	27.08% (26)	23.96% (23)	11.46% (11)	13.54% (13)
Threatens patient information privacy in healthcare	V	10.64% (5)	10.64% (5)	40.43% (19)	19.15% (9)	9.38% (9)
	P	18.75% (18)	25.00% (24)	16.67% (16)	20.83% (20)	18.75% (18)

* V-Veterinarian (n=47), P- Pet Owner (n=96), SD-Strongly Disagree, D- Disagree, N-Neutral, A- Agree, SA- Strongly Agree

Table 5 shows the perception of veterinarians and pet owners towards the utilization of telemedicine in veterinary practice.

8.4 Acceptance level towards Implementation of Telemedicine in Veterinary

Practice in Malaysia

The responses of veterinarians and pet owners on the necessity of implementation of telemedicine system in veterinary health care services in Malaysia were analyzed and expressed in Table 6 below. The majority respondents that strongly agreed that telemedicine should be implemented in veterinary practices in Malaysia, were pet owners (55.21%), while most veterinarians (34.04%) only showed partial agreement. Among all the respondents that participated in this study, 50% of pet owners and 27.66% of veterinarians strongly agreed to willingly accept telemedicine system in veterinary health care service in Malaysia. With respect to consideration on the benefits of telemedicine, a greater number of pet owner (52.08%) and veterinarian (34.04%) strongly believed that implementation of telemedicine system in veterinary practices will improve the quality of veterinary health care services in Malaysia.

8.4.1 Comparison between an overall acceptance level between veterinarians and pet owners

Based on the responses of respondents in this section, the overall acceptance level of the veterinarians and pet owners were determined and showed in Table 7. The overall acceptance level of the respondents including the veterinarian and pet owners were high towards the necessity of implementation of telemedicine in veterinary practice in Malaysia. There is no significant difference between the acceptance level of veterinarians and pet owners ($p > 0.05$) and hence veterinarians with 89.36% and pet owners with 96.88% willingly accept to implement telemedicine system veterinary health care services in Malaysia

NECESSITY ON IMPLEMENTATION OF VETERINARY TELEMEDICINE						
Questions		SD	D	N	A	SA
		Percentage (n)	Percentage (n)	Percentage (n)	Percentage (n)	Percentage (n)
Do you agree that veterinary telemedicine is a necessary tool that should be implement in Malaysia in future?	V	0.00% (0)	6.38% (3)	31.91% (15)	34.04% (16)	27.66% (13)
	P	2.08% (2)	2.08% (2)	9.38% (9)	32.29% (30)	55.21% (53)
Do you agree to accept veterinary telemedicine approach in veterinary health care services in Malaysia willingly?	V	2.13% (1)	10.64% (5)	23.40% (11)	36.17% (17)	27.66% (13)
	P	2.08% (2)	1.04% (1)	11.46% (11)	35.42% (34)	50.00% (48)
Do you agree, veterinary telemedicine will improve the quality of veterinary health care services of Malaysia if it is implemented in the future?	V	2.13% (1)	3.13% (3)	27.66% (13)	29.79% (14)	34.04% (16)
	P	2.08% (2)	2.08% (2)	10.42% (10)	33.33% (32)	52.08% (50)
It is important that the data privacy of veterinary telemedicine is protected to enhance the security of Telemedicine, if this technology is implemented in the future in Malaysia.	V	0.00% (0)	0.00% (0)	2.13% (1)	27.66% (13)	70.21% (33)
	P	0.00% (0)	1.04% (1)	6.25% (6)	19.79% (19)	72.92% (70)

*V= Veterinarian (n=47), P=Pet Owner (n=96), SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Table 6 shows, the responses of veterinarians and pet owners on their acceptance on telemedicine system in veterinary practice in Malaysia.

ACCEPTANCE LEVEL ON IMPLEMENTATION VETERINARY TELEMEDICINE			
	Veterinarian Percentage (n)	Pet Owners Percentage (n)	Chi-Square Test
HIGH	42 (89.36%)	93 (96.88%)	P-value = 0.0664
LOW	5 (10.64%)	3 (3.13%)	

Table 7 shows, the overall acceptance level of veterinarians and pet owners towards necessity to implement the telemedicine system in veterinary practice in Malaysia.

9.0 Discussion

The online questionnaire in this study was administered to two different group of target population which are the veterinarian and pet owners. The awareness, perception and acceptance level on the necessity of telemedicine system in veterinary practice in Malaysia was assessed among these two groups because the view of perception from the veterinarians as the implementer of the telemedicine system and the views of the pet owners as the client and user of this system could be different.

Based on the findings in this study, a majority of veterinarians (87.23%) and pet owners (88.54%) in Malaysia were aware about the telemedicine system and its purpose in veterinary practices. Most of the respondents were aware and have good knowledge on telemedicine could be due to the nature of Malaysians who spends nearly quarter of their day on social medias as described by Kim Ho and based on his article, 72% of Malaysian going for social medias to get themselves updated with news and current issues (Kim,2019), hence the pet owners have higher chance of knowing about telemedicine via social media platform compared to veterinarians

who are most of the time busy at clinics, thus, more pet owners were aware of the telemedicine system in veterinary health care services. This statements is also supported by a study conducted in Australia, that pet owners access internet most of the time to get information regarding the animal health issues and veterinary information (Kogan *et al*, 2019).

However, there is minority of group who are less familiar and not aware about the telemedicine system compared to the pet owner. This outcomes shows that, before implementation of telemedicine system, the awareness and knowledge on the telemedicine system should be created by using the social media platform and via official veterinary websites such as official website of Malaysia Department of Veterinary Service and official website of Malaysia Veterinary Council. This platform will not only create awareness to the veterinarians, but will also create awareness to those pet owners who are not aware about the telemedicine system, as they can also access the information from the social medias and website.

The overall perception of Malaysian veterinarians and pet owners towards the utilization of telemedicine system in veterinary practices in Malaysia, was good and represented by 90.21% of the respondents participated in this study and the statistical test shows there is significiance difference between these two groups ($p > 0.05$). There were a majority of 89.58% of pet owners and about 63.83% of veterinarians showed good perception towards utilization of telemedicine in veterinary health care service.

However, a large number of veterinarian had moderate (27.66%) and poor attitude (8.52%) towards utilization of telemedicine in veterinary practice, because in spite of the benefits of the telemedicine, most of the veterinarians doubts the utilization of telemedicine, will create a lot of controversial issues and medical errors, especially in

diagnosis and treatment of animals diseases and this leads to difference in perception between the veterinarians. In a previously published article in Journal of Avian Medicine and Surgery in 2017, Dr Divers stated that drug prescription without doing physical examination on the animal via telemedicine is dangerous and more controversial. He also stated that more medical errors are likely to be made by the veterinarians when treating animals via telemedicine (Hess L., 2017). Hence, to reduce the issues of controversial, more researches and studies should be done in Malaysia to investigate the downside of utilization of telemedicine in veterinary practices, especially in clinical decision making and medical errors by the veterinarians.

The necessity of implementing telemedicine in veterinary health care service in Malaysia were accepted by majority of respondents who participated in this study, that comprises of 89.36% of veterinarians and 96.88% of pet owners. This outcome is mainly due to the benefits of telemedicine system can provide to the veterinary health care services, if this system is implemented in Malaysia. The advantage of telemedicine that reduces in-person visits to veterinary clinics, provides quick health care services and facilitates effective and efficient medical diagnosis were strongly agreed by 48.25%, 43.45% , and 28.67% of respondents. These result shed more

good perception compared to previously reported studies on the benefits of telemedicine in veterinary health care practices (Bishop *et al*, 2015).

With the respective findings, based on the perception of respondents and their willingness to accept veterinary telemedicine system in Malaysia, it is believed that veterinary telemedicine system will improve the quality of veterinary services in Malaysia especially in expanding service to rural areas and with this, the current barriers of delivering veterinary care in rural areas can be reduced. The barrier in providing veterinary service in rural areas due to the geographical location that is located very far away from the city, is also one of the biggest issue even in developed countries such as United Kingdom (Watson ,2019). However, with the emergence of telemedicine system in veterinary practice, pet owners living in remote area can enjoy the service of veterinary health care to their pets via telemedicine without the need of travel long distance to receive veterinarian's service and the stress in animals due to transportation can also be reduced (Bishop *et al*.,2015, Bragg *et al*.,2015).

Thus, the implementation of veterinary telemedicine in veterinary practice of Malaysia is highly recommended to enhance and improve the quality of veterinary healthcare services in Malaysia.

10.0 Conclusion

In conclusion, the overall awareness level of veterinarians and pet owners towards the telemedicine and its purposes on veterinary practices were good and they also have an overall good perception on utilization of telemedicine in veterinary healthcare services despite a minority of veterinarians and pet owners have different perception on this system. It is highly recommended to implement telemedicine in veterinary health care service in Malaysia, as majority of the veterinarians and pet

owners showed high level of acceptance towards the necessity of implementing the veterinary telemedicine system in Malaysia, in the future.



11.0 Recommendations and future work

There were several limitations were noted in this study. For the future studies, it is wise to increase the sample size (e.g., n=200) to produce more meaningful and significance results to asses the awareness level, perception and acceptance level on telemedicine system in veterinary practices in Malaysia . Besides that, this cross sectional study can be improved by adding more questions on the downside of telemedicine system to asses the limitation and barriers of telemedicine system in veterinary services. This recommendation is made, because the assessment of the barrier or restrain of telemedicine system can be identified and over come with a better solution. Additionally, in Malaysia, more researches and studies should be done on utilization, benefits and disadvantages of telemedicine system in veterinary practice to asses the efficiency and effectiveness of temedicine system, to improve the quality of veterinary services in Malaysia.

For the future work, the success rate of telemedicine system in veterinary health care service rests on three major pillars of care: enhanced quality, cost containment and improved access (Bashshur *et al.*,2013). Hence, the implementation and adoption of veterinary telemedicine should be initiated by the the government and this will allow wider access of the veterinary telemedicine system to the public. In addition, this action will also allow standardization of guidelines on the rules and regulations on the usage of telemedicine system in veterinary practice in Malaysia (Zailani S.,2014).

Appendix A

The consent form used for the respondents who participated in this study.

 UNIVERSITI MALAYSIA KELANTAN	Fakulti Perubatan Veterinar Faculty of Veterinary Medicine
	RUJ. KAMI (Our Ref) : TARIKH (Date) : UMK.A06.600-12/1/1 (7) 31 JANUARI 2022
KEPADA SESIAPA YANG BERKENAAN	
Tuan/Puan,	
MEMOHON PENYERTAAN SOAL SELIDIK PROJEK PENYELIDIKAN PELAJAR TAHUN AKHIR FAKULTI PERUBATAN VETERINAR (FPV), UNIVERSITI MALAYSIA KELANTAN (UMK)	
Dengan segala hormatnya perkara di atas adalah dirujuk.	
2. Sukacita dimaklumkan bahawa pelajar tahun akhir program Doktor Perubatan Veterinar, Fakulti Perubatan Veterinar (FPV) Universiti Malaysia Kelantan (UMK) akan menjalankan projek penyelidikan tahun akhir bermula 1 Januari 2022 sehingga 1 Mei 2022. Ini adalah untuk memenuhi keperluan kursus wajib DVT 5364 (Research Project) pada semester Februari, sesi 2021/2022.	
3. Sehubungan dengan itu, pihak fakulti ingin memohon penyertaan sukarela daripada pihak tuan/puan mengambil bahagian kajian soal selidik pelajar kami bagi membolehkan mereka mendapatkan data penyelidikan untuk dianalisis. Senarai pelajar bersama tajuk penyelidikan mereka adalah seperti di Lampiran 1.	
4. Penyertaan kajian berasaskan soal selidik ini tidak akan melibatkan data peribadi tuan/puan. Hasil kajian ini (jika diterbitkan), tidak akan mendedahkan mana-mana nama individu dan organisasi berkaitan serta disimpan rapi oleh penyelia setiap pelajar tersebut.	
5. Sekiranya terdapat sebarang pertanyaan terhadap perkara ini, tuan/puan boleh menghubungi penyelaras kursus bagi Projek Akhir Tahun iaitu Dr Intan Noor Aina binti Kamaruzaman melalui emel intanaina@umk.edu.my . Segala perhatian dan jasa baik daripada pihak tuan/puan amatlah dihargai dengan ucapan ribuan terima kasih.	
Sekian.	
"RAJA BERDAULAT, RAKYAT MUFAKAT, NEGERI BERKAT" "WAWASAN KEMAKMURAN BERSAMA 2030" "BERKHIDMAT UNTUK NEGARA"	
Saya yang menandatangani amanah,	
 PROFESOR DR. JASNI BIN SABRI Dekan Fakulti Perubatan Veterinar	
UNIVERSITI MALAYSIA KELANTAN اونيورسيتي مليسيا كلنتن	Karung Berkunci (Locked Bag) 36, Pengkalan Chepa, 16100 Kota Bharu, KELANTAN, MALAYSIA
	Tel : 609 771 7277 Fax : 609 771 7282

Appendix B - The online questionnaire that was administered via Google Forms platform

* Required

1. By clicking " Yes, I agree to participate in this survey" below, You are indicating that, you meet the criteria of participation, have read and understood this concern form and agree to participate in this research study. *

Mark only one oval.

Yes, I agree to participate in this survey

Skip to question 2

Part One - Personal information

Please choose one answer only for each of following questions.

2. Gender *

Mark only one oval.

Male

Female

Other: _____

3. Age *

Mark only one oval.

18 - 25 years old

26 - 30 years old

31 - 40 years old

40 - 50 years old

More than >51 years old

4. What is Your Current Residential in Malaysia? *

Mark only one oval.

- Kelantan
- Terengganu
- Perak
- Kedah
- Pahang
- Perlis
- Selangor
- Wilayah Persekutuan
- Johor
- Pulau Pinang
- Sabah
- Sarawak
- Labuan
- Malacca
- Negeri Sembilan

5. What is Your Highest Education level? *

Mark only one oval.

- Primary education
- Secondary education
- Tertiary education

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6. Are you a Veterinarian ? *

Mark only one oval.

- Yes
 No

7. If you are a veterinarian, what is your experience level in this veterinary field or industry in Malaysia?

Mark only one oval.

- less than a year
 1 - 5 years
 6 - 10 years
 More than 10 years

8. Are you a Pet Owner? *

Mark only one oval.

- Yes
 No

9. Do you have regular access to internet? *

Mark only one oval.

- Yes
 No

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**Part Two -
Awareness
and
Knowledge
on
Veterinary
Telemedicine**

In this section, the participants are assessed based on their awareness on veterinary telemedicine Approach in Veterinary Health Care.

Veterinary Telemedicine refers to the practice of veterinary medicine (advice, diagnosis, treatment) which occurs at a distance using telecommunication between a veterinarian and an animal owner. In other words, telemedicine is a veterinary medical practice tool, and involves medical information regarding a patient's clinical health status communicated via electronic methods. Telemedicine does not replace current veterinary medicine practice but is a complementary tool. A valid veterinary-client-patient relationship (VCPR) must exist and all the other regulatory requirements, such as informed consent, must be followed to allow a veterinarian to diagnose and treat a patient via telemedicine.

10. 1. Have you heard of the term 'telemedicine' before? *

Mark only one oval.

- Yes
 No

11. 2. Have you seen a telemedicine system before? *

Mark only one oval.

- Yes
 No

12. 3. Are you familiar with tools like teleconference or teleconsultation? *

Mark only one oval.

- Yes
 No

13. 4. Telemedicine is useful in continuing medical diagnosis in veterinary health care *

Mark only one oval.

- Yes
 No

14. 5. Telemedicine approach is useful tool for chronic disease management and post-surgery management. *

Mark only one oval.

- Yes
 No

15. 6. Telemedicine is particularly useful (and necessary) in situations where pet owners cannot physically bring their pet to a veterinary hospital especially in remote communities, where the pet owners typically do not have the option to take their pet to a veterinarian when the pet becomes ill or injured. *

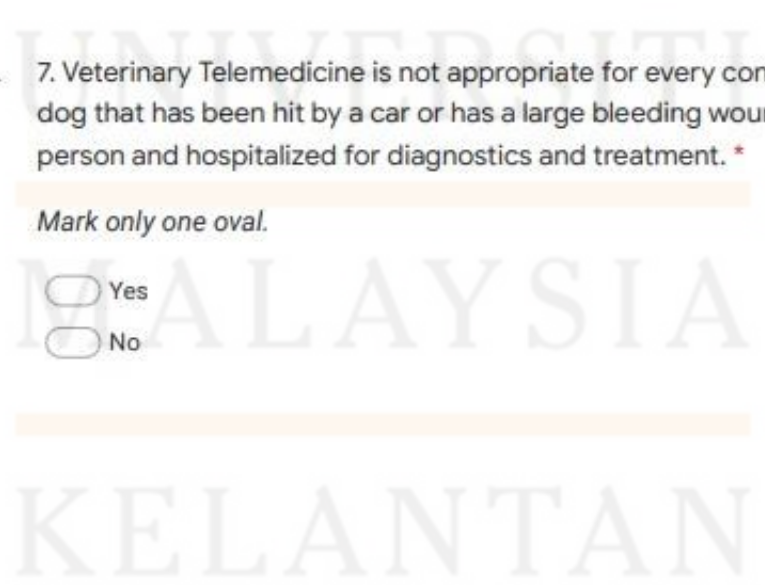
Mark only one oval.

- Yes
 No

16. 7. Veterinary Telemedicine is not appropriate for every concern. For example, A dog that has been hit by a car or has a large bleeding wound, needs to be seen in-person and hospitalized for diagnostics and treatment. *

Mark only one oval.

- Yes
 No



Part Three (A) - Perception on Telemedicine
in Veterinary Health Care Service

17. 1. Telemedicine capture and store medical information of patients for future use *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. 2. This technology increases veterinarian and client communication *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

19. 3. Telemedicine reduces visits to veterinary clinics. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

20. 4. Medical error in veterinary practice can be reduced. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

21. 5. Telemedicine can help quick health care delivery. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

22. 6. Utilization of Telemedicine enhances emergency medical delivery. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

23. 7. Telemedicine Technology increases number of patients attended in veterinary practice. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

24. 8. Veterinary Telemedicine improve clinical decision in veterinary practice *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree



25. 9. Telemedicine facilitates effective and efficient medical diagnosis in veterinary practice. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

26. 10. Utilization of telemedicine enhances the quality of veterinary health care delivery. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Part Three (B) - Perception on Telemedicine in Veterinary Health Care Service

Complexity and Disadvantages of Veterinary Telemedicine

27. 1. Telemedicine approach adds extra responsibility to the healthcare provider *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

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28. 2. Telemedicine Technology is not cost effective to use in veterinary practice. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

29. 3. Telemedicine adoption and use in veterinary medicine is a complex and stressful process. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

30. 4. Telemedicine use is not an effective use of time in veterinary practice. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

31. 5. Telemedicine technology threatens client and patient information privacy in healthcare delivery in veterinary practice. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree



32. Do you agree that veterinary telemedicine is a necessary tool that should be implemented in Malaysia in the future? *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

33. Do you agree to accept veterinary telemedicine approach in Veterinary Health Care Services in Malaysia willingly? *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

34. Do you agree, veterinary telemedicine will improve the quality of veterinary Health Care Services of Malaysia if it is implemented in the future? *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

35. It is important that the data privacy of veterinary telemedicine is protected to enhance the security of Telemedicine, if this technology is implemented in the future in Malaysia. *

Mark only one oval.

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

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