



COGNITIVE, AFFECTIVE AND BEHAVIOUR ON PET-ASSOCIATED ZOO NOTIC DISEASES QUESTIONNAIRE (CAB-ZDQ) - DEVELOPMENT AND VALIDATION



Nor Haryati Ahmad Sanusi*, Teresa Yong Sui Mien, Albeny Joslyn Panting, Komathi Perialathan,
Masitah Ahmad, Nurashma Juatan & Mohammad Zabri Johari
Institute for Health Behavioural Research, National Institutes of Health, Ministry of Health Malaysia
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INTRODUCTION

Zoonoses among household pets are recognized as disease and infections transmitted between animals and humans. World Health Organization estimated zoonotic diseases have contributed about one billion cases of illness and millions of mortalities every year. Most pet owners are unaware of the risks posed by their pets into zoonotic disease. There is still a lack of studies assessing infections at home.

OBJECTIVE

The aim of this study was to validate the newly developed Cognitive, Affective and Behaviour on Pet Associated Zoonotic Diseases Questionnaire (CAB-ZDQ) & to assess zoonotic infections from pets (dog & cat) at home.

INSTRUMENT (Development & Validation)

1. IDENTIFICATION OF SOURCE AND SELECTION OF VARIABLES

- Preliminary questionnaire was developed from the literature review of multiple studies.
- Adaptation and modification were also made to the questionnaire designed.
- Several series of Focus Group Discussions (FGD) with stakeholders from Ministry of Health Programme and Department of Veterinary Services Sector to ascertain the focus areas of intended questionnaire.
- The agreed initial dimensions were knowledge on the disease, causation, treatments or preventative actions, perceptions towards the diseases, actual behaviours for preventing diseases, and awareness of the Animal Welfare Act 2015.

2. ITEM GENERATION AND CHOICE OF RESPONSE FORMAT, SCORING AND SCALING

The items in the questionnaire were developed by considering the study objectives and were divided into four main sections:

1. Demographic

Demographic and socio-economic characteristics.

2. Cognitive (C)

Respondents' **knowledge** about the zoonotic diseases occurring in cats and dogs, and about the animal welfare. This section consisted of 14 items with three choices of response: 'True', 'False' and 'Do not know'. One point was given to a correct answer and zero point to the incorrect and 'Do not know' answers.

3. Affective (A)

Respondents' **opinion** about their level of concern on zoonotic disease risk, disease preventive behaviours, and seeking treatments. This section consists of 10 items, and they were rated on a five-point Likert scale from strong positive feelings to strong negative feelings.

4. Behaviour (B)

Respondents' **practice** towards zoonotic diseases prevention. This section consisted of nine items for dog owners, eight items for cat owners and three items for those who did not own any pets but had contacts with cats or dogs. This section was rated in percentage score.

3. ASSESSMENT OF CONTENT VALIDITY, FACE VALIDITY AND REFINEMENT OF QUESTIONNAIRE

- Technical experts in the field of zoonotic diseases for these studies are from four programme managers at the Ministry of Health and Veterinary Medicine Expert from Universiti Putra Malaysia.
- The questionnaire was reviewed by a panel of technical experts comprising two public health specialists and one medical officer (veterinary medicine) from the Zoonotic Division, Malaysia Health Ministry and one academician specializing in veterinary public health from the Universiti Putra Malaysia.
- Cognitive testing was conducted among 20 participants, representing different educational levels and socioeconomic backgrounds.

4. PRE-TEST

- The pre-test and pilot test were carried out in three localities representing the urban settings, Subang Jaya, Setia Alam and Shah Alam; and two localities representing the rural areas, Meru and Hulu Selangor.

METHODOLOGY

Research Design	Tool development.
Population	Selected respondent from Klang Valley represented main ethnicities, gender, levels of education and population type (urban/rural).
Sampling Technique	Participants recruited were purely from the public via random home visits.
Sample Size	Pre-test: 40 participant Pilot test: 163 participant
Instrument	Quantitative questionnaire.
Data Collection Period	Pre-test: 3rd to 5th November 2019 Pilot test: 7th to 10th December 2019
Data Collection Method	Data were collected by face to face interviewed and proper guidance on certain parts of the questions was provided during data collection.

RESULT

This questionnaire has Cognitive, Affective and Behaviour (CAB) part to assess household pets' zoonotic diseases. The final refined CAB questionnaire contains of 14 items cognitive (no items removed at pilot phase), nine items affective (one item removed at pilot phase) and five items behaviour (no items removed from pre-test phase), respectively. Reliability analysis indicated good internal consistency after item reduction with Cronbach's alpha values were 0.700 (cognitive) and 0.606 (affective). The reliability test results for the cognitive and affective domain are summarised in Table 1 and Table 2, respectively.

Table 1

Pilot Data Analysis: Reliability Analysis on Cognitive Domain		
No	Item	Total Cronbach alpha 0.70
A1a	Rabies from dogs can infect humans.	0.672
A1b	Rabies from cats cannot infect humans.	0.695
A1c	Animal skin disease can infect humans through physical contact.	0.692
A1d	Dogs that are infected with rabies show signs of profuse salivation and aggressive behaviour.	0.669
A1e	You can get infected with rabies if you are bitten by a rabid dog (dog infected with rabies).	0.667
A1f	Humans can be infected with rabies if their wounds are exposed to rabid dog's saliva.	0.672
A1g	Cat's or dog's scratch cannot transmit disease to human.	0.702
A1h	Individuals are at risk of contracting an animal's disease if they do not wash their hands after cleaning the pet's waste.	0.688
A1i	If bitten by a dog or a cat, the wound should be washed with soap and running water for at least 15 minutes.	0.687
A1j	Tetanus booster shot is one of the treatments given for animal bites.	0.684
A1k	Vaccination for dogs or cats serves as a protection from disease.	0.669
A1l	Prompt treatment at a clinic or hospital is necessary if bitten by dog or cat.	0.683
A1m	Malaysia does not have a specific law that protects animal welfare.	0.697
A1n	Individuals who mistreat and abuse animals may be subjected to imprisonment and / or fine.	0.698

Item numbers	Item Description	Item numbers	Item Description
A1a – A1c	Disease	A1f – A1g	Modes of transmission
A1d	Signs and symptoms	A1i – A1l	Preventive Measures
A1e & A1h	Risk factor	A1m – A1n	Animal welfare

Table 2

Pilot Data Analysis: Reliability Analysis on Affective Domain		
No	Item	Total Cronbach alpha 0.70
A4a	I don't think I need any first aid treatment (Examples: using antiseptic, ointment, wound dressing) after being bitten by a dog.	0.609
A4b	I need to seek treatment at a clinic or hospital after being scratched by a cat.	0.607
A4c	I believe cats and dogs can spread diseases to me.	0.553
A4d	I am worried that family members with health problems will be prone to contract diseases from dogs.	0.561
A4e	I am worried when children play with stray cats or dogs.	0.567
A4f	Vaccinating dogs against rabies will not protect them from contracting or spreading the disease	Deleted
A4g	The use of personal protective equipment (Examples: gloves, scoop, shoes/slippers) while cleaning the pet's waste is not important.	0.605
A4h	Pet owners need to bring their pets to the veterinary clinic for annual vaccination.	0.546
A4i	I need to get vaccinated against rabies if I was bitten by a stray dog within an area that has rabies cases.	0.572
A4j	Dogs within the area with rabies cases need to be vaccinated against rabies.	0.574

Item numbers	Item Description
A4a – A4b	Treatment seeking
A4c – A4e	Zoonotic disease risk
A4f – A4j	Disease preventive behaviour

CONCLUSIONS

The findings of this developed questionnaire has proved its feasibility in assessing the Malaysian general population cognitive, affective and behaviour regarding household pet's zoonotic disease. This validated designed instrument will contribute to the future research studies on the zoonotic diseases related to pets at home.

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