

Application of the theory of planned behavior to vaccination of dogs against rabies in Abeokuta Ogun State, Nigeria

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Abstract

Statement of the Problem: Rabies is currently without cure, leaving prevention as the only strategy for its elimination from both developed and developing countries. In the provision of effective epidemic prevention policies by the government, certain theoretical frame works are often employed based on their ability to predict behaviour. In this study, the theory of planned behaviour (TPB) was applied in analyzing dog owners behaviours. **Methodology & Theoretical Orientation:** A cross-sectional survey was conducted in Abeokuta, Nigeria, using a structured questionnaire, based on the model of planned behaviour. The basic demographic data were obtained from respondents. Attitude (ba), perceived behavioural control (pbc), behavioural intention (bi), subjective norm (sn), and knowledge were assessed. The knowledge effect was distinguished as objective knowledge (ok) and subjective knowledge (sk). A total of 225 dog owners (purposively sampled) completed the questionnaire. Pearson coefficient correlation, Chi-square, T-test, and logistic regression analysis were used to review the relationships among these variables and find determinants to explain the dog owners intention to vaccinate their dogs and actual vaccination (av). **Findings:** Three main results were established; first our model was fit, and each path was significant except pbc–ok path. People with better attitudes, stronger subjective norms, and better perceptible behavioural control had stronger behavioural intention. Secondly, attitude not perceived behavioural control was the best predictive index in this model and perceived behavioural control was more influenced by objective knowledge than subjective knowledge. **Conclusion & Significance:** To increase dog vaccination coverage against rabies, the government should not only address dog owners' attitudes, but also their subjective norms and objective knowledge that in turn affect perceptible behavioural control and intention. This study successfully extended TPB to explain the behavioural intention of dog owners and presented recommendations that are more adapted to the study location. This study was conducted to profile the antibody levels to rabies in dogs presented at veterinary clinics and determine rabies awareness among dog owners in Abeokuta, Nigeria. Records of dogs' rabies vaccination

were obtained to determine their vaccination status and number of times they had been vaccinated. Sera from 138 dogs of consenting owners were analysed using indirect ELISA technique to detect rabies antibodies. Structured questionnaire was administered to 138 dog owners to determine their awareness on rabies. Data were analysed using descriptive statistics, Chi-square, ANOVA and t-test at $p \leq 0.05$. Of 138 dogs screened, 114 (82.6%) had history of vaccination against rabies. Of these 114, 87 (76.3%) were seronegative; however, 5 (3.6%) of the 24 unvaccinated dogs were seropositive. Overall, 32 (23.2%) comprising 15 (10.8%) males and 17 (12.3%) females had positive rabies antibodies level. Five (3.6%), 3 (12.1%) and 24 (17.4%) were seropositive among dogs of < 6 months, 6-12 months and > 1 year of age, respectively. Dogs > 1 year had significantly higher antibodies than < 6 months ($p < 0.05$). Most (86.9%) of the dog owners were aware of rabies. The low seroconversion in vaccinated dogs and prevalence of rabies antibodies in unvaccinated dogs are of public health concern. There is need for regular sero-profiling of vaccinated and unvaccinated dogs. Canine rabies was reintroduced to the city of Arequipa, Peru in March 2015. The Ministry of Health has conducted a series of mass dog vaccination campaigns to contain the outbreak, but canine rabies virus transmission continues in Arequipa's complex urban environment, putting the city's 1 million inhabitants at risk of infection. The proximate driver of canine rabies in Arequipa is low dog vaccination coverage. Our objectives were to qualitatively assess barriers to and facilitators of rabies vaccination during mass campaigns, and to explore strategies to increase participation in future efforts. A cross sectional study was designed to assess knowledge of dog owners towards dog rabies vaccination in rural communities in Odeda local government area of Ogun State. A structured questionnaire was administered to 268 dog owners. The questionnaire sought information on demographic characteristics of the dog owners, their association with dogs, and knowledge about dog rabies vaccine. Data obtained were analyzed using chi square and logistic regression with p value set at ≤ 0.05 . Dog rabies vaccination coverage in the study area was 4.9%. Most of the respondents (67.2%) were not aware of dog rabies vaccine. Only 3% of the dog owners had good knowledge about rabies vaccination. Socio-economic factors that had

significant association with knowledge level were age, occupation, educational level and marital status of the respondents. There was also significant association between age, religion, occupation, educational level, awareness on dog rabies vaccination, knowledge about dog rabies vaccination, danger posed by non-vaccinated dogs to the public and other animals and the intention of dog owners to vaccinate their dogs against rabies. One hundred and eighty seven respondents (70%) declared their intention to vaccinate their dogs, although 82% affirmed willingness to pay for vaccination of their dogs against rabies; however the average amount indicated was only ₦200.00 (\$0.57). In conclusion, it is free vaccination of dogs against rabies with an aggressive mass orientation on responsible dog ownership and enlightenment on fatality of clinical rabies through the mass media that can significantly alter the vaccination coverage in the studied community.

Biography:

Awoyomi Olajoju J is a senior Lecturer and a Researcher in the Department of Veterinary Public Health and Reproduction, Federal University of Agriculture Abeokuta, Nigeria. She is interested in veterinary extension services. Her research activities covers various aspects of veterinary epidemiology with focus on zoonotic disease prevention (especially emerging and reemerging zoonosis) and veterinary drug usage.

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