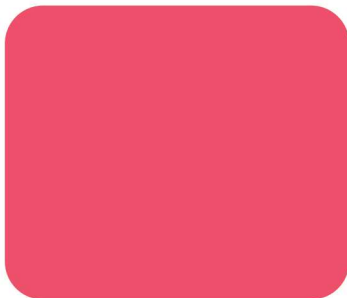
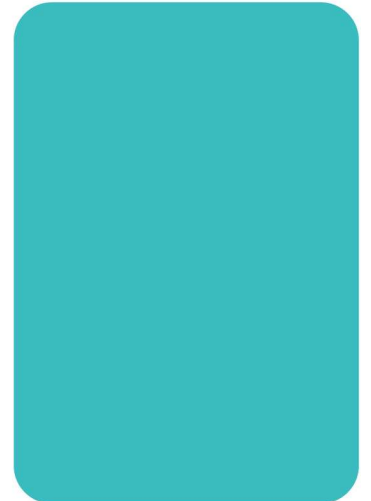


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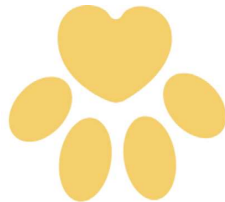


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Evaluation of dog population management interventions with using of quantifiable indicators

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This study shows how routinely collected data can be used to monitor and evaluate Dog Population Management interventions. We estimated the number of dog bites, dog attacks and traffic accidents in relation to roaming and owned dog populations. Data were analyzed per 1,000 inhabitants in the cities in N. Macedonia using the Pearson correlation coefficient and the General Linear Model GLM, a univariate procedure.

The correlation coefficient revealed that there was no statistically significant correlation between the occurrence of incidents and the gender of both owned and stray dogs. There was a statistically significant correlation between owned and stray dog population sizes with interventions such as sterilization and castration.

The GLM method, a univariate procedure, showed that the population of owned dog significantly affects ($p < 0.01$) the rate of dog bites, dog attacks and traffic accidents. The population of dogs released from the shelter had a statistically significant effect ($p < 0.05$) on dog bites and showed that neutering of shelter dogs, was associated with increased fear and aggression in individual dogs.

The behavioral effects of neutering in the literature vary depending on whether dogs are considered on an individual or on a population basis.

We suggest that these quantitative indicators can be used to evaluate interventions and assess DPM performance. Evaluation of DPM can be maximized by selecting measurable indicators such as dog attack, dog bites, and traffic accident. DPM assessment should be complemented by other factors beyond the number of neutered dogs depending on the goals of each specific DPM program.

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