

Evaluation and efficacy of a health and welfare education programme for working equid owners in Ethiopia: A cluster-randomised controlled trial.

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Aims/Background: The aim of this study was to evaluate the efficacy of 3 different knowledge dissemination methods in changing the knowledge of donkey livestock owners in Ethiopia using a cluster-randomised controlled trial. Ethiopia has the largest population of working horses, mules and donkeys in Africa and the second largest population in the world behind China. These working equids suffer from low productivity as a result of prevalent parasitic and infectious diseases, and diseases associated with poor management practices. Limited published work is available evaluating the impact of different knowledge dissemination methods on adult learning in developing countries.

Methods: We designed and piloted 3 knowledge dissemination methods for educating working equid owners in Ethiopia; a diagrammatic handout, an audio programme and a village meeting with a qualified animal health worker. A cluster-randomised controlled trial design was used to compare each method with a control group that received no knowledge dissemination. We aimed to detect a change in knowledge between pre and post-dissemination of 30% (e.g. increasing from 20% to 50% in the intervention groups). Sample size estimates indicated that 8 villages each with 15 owners, per type of intervention tested would give sufficient power to detect the 30% change in knowledge with 95% confidence and 80% power. Villages and livestock owners were randomly selected from the Oromia region of Ethiopia and the knowledge dissemination intervention was randomly assigned to each village. Cluster randomisation was necessary to prevent "contamination" between owners belonging to one village via sharing of information. All interventions underwent multiple stages of pretesting and reverse translation. Questionnaires were devised to evaluate the effectiveness of the knowledge dissemination interventions. The questionnaires contained identical questions and were administered both pre- and post- (10-21 days) dissemination to assess changes in knowledge levels. Data analysis to evaluate the change in knowledge of individual respondents between the different knowledge dissemination interventions utilised multilevel models allowing for clustering of individuals within village.

Results: 516 participants from 32 villages undertook the pre-intervention questionnaire and 504 participants undertook the post-dissemination questionnaire, giving a 98% response rate to the post-dissemination questionnaire. Preliminary analysis suggests that the village meeting method resulted in the greatest improvement in knowledge compared to the controls.

Conclusions: To our knowledge this is the first cluster-randomised controlled trial aimed at evaluating and quantifying the effectiveness of different knowledge dissemination methods for working equid owners in a developing country. An education programme will now be developed and implemented using knowledge gained from this trial.

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