



## Chapter 1 General introduction

There is a need to provide veterinary health care to resource-limited communities at affordable costs. The effect of helminth parasites on the health of dogs in such communities in South Africa was not addressed previously (Connor et al., 1994). Prevalence, prevention and control of transmission of parasites to dogs and susceptible human hosts should be investigated further (Woodruff, 1975). This could ease the demands and constraints on the existing primary community health care system for humans, resulting in healthier communities and cost-effective management of resources.

In communities where there is less close contact between humans and dogs, the presence of roaming dogs may also pose a public threat of zoonotic disease (Miller, 1967). This is true particularly in communities where a lack of infrastructure allows dogs to roam and contaminate public areas such as playfields and school grounds with helminth parasite eggs (McCrindle et al., 1996). A study was therefore designed to focus on the helminth parasites which occur in dogs in resource-limited areas in South Africa.

The incidence and prevalence of the various helminth parasite species of dogs in South Africa have been poorly documented to date, and the importance of some of them has been underestimated (Ortlepp, 1934; Verster, 1979, 1986; Woodruff, 1975). The helminth parasite species previously reported, most of which are of zoonotic importance, include *Ancylostoma caninum*, *Ancylostoma braziliense*, *Toxocara canis*,

*Toxascaris leonina*, *Spirocerca lupi*, *Trichuris vulpis*, *Dipylidium caninum*,  
*Joyeuxiella pascualei* and *Echinococcus granulosus*.

Areas were selected where minimal worm control in dogs existed. This was done to determine the prevalence and the extent of helminth parasites of dogs and their potential threat to humans in these communities. These facts would enable us to create an awareness of the situation and to develop recommendations for helminth control which will be effective, practical and affordable.

The nutrition, body condition score and health problems of the dogs and an assessment of their backyard environments were recorded for each household visited during Veterinary Needs Appraisals (VNAs) in Jericho, Zuurbekom and Mamelodi, and the Boksburg study. The information gathered was correlated with the data on helminth infections in order to assess what effects the helminths had on the animals (Chapter 7). Ideally, the effects that the zoonotic dog helminths had on the human population in these areas should have been included in the study, but no information was available due to lack of record keeping at the local hospitals and clinics.

Aims:

The aims of these studies were:

- to determine the occurrence and prevalence of helminth parasite infections in dogs from the resource-limited communities of Boksburg, Bloemfontein, Jericho, Zuurbekom and Mamelodi,
- to assess the health status and extent of veterinary care of dogs in those areas using a socio-economic questionnaire,



- to compare the zoonotic potential of dog helminth parasites in these resource-limited communities and
- to develop appropriate recommendations for helminth parasite control.