The study conducted between January 2004 and January 2007, on the prevalence of *Toxocara* infection in humans was aimed at having better understanding of the dynamics of this zoonotic infection. In toxocariasis man acts as an unnatural host in which *Toxocara* larvae will not develop but migrate and survive for a long time. The mode of transmission to humans is by oral ingestion of infective *Toxocara* eggs from contaminated soil (sapro-zoonoses), unwashed hands or consumption of raw vegetables and water. The disease manifests itself in three forms, visceral larva migrans, ocular larva migrans and covert toxocariasis.

The only report on human toxocariasis in Kashmir valley has been given by Ahmad *et al.*, 2002, a hospital based study. Since the infection causes severe impairments and leads to several human disorders, a comprehensive study detailing the seroprevalence of toxocariasis in human populations in the valley and the prevalence of *Toxocara canis* in the dog population that serve as primary host of utmost significance. The study described in the following pages is divided over seven chapters.
The first chapter gives the present scenario of the *Toxocara* infection on global level and includes a brief introduction about Kashmir valley and the socio-economic conditions of people, which are in direct relation with *Toxocara* infection.

Chapter second gives an account of the work done on different aspects of the toxocariasis. Since the present study was multidimensional and in order to have a clear understanding and background information about the work done related to these aspects, a comprehensive survey of the literature has been conducted.

Chapter third describes the techniques applied for obtaining and processing of the material during the study period. In view of the diverse nature of the work the chapter is divided into various subheadings.

Chapter fourth details observations made during the present study that are summarized below.

- Various demographic and social characteristics like age group, gender, residence, water source, parental education, personal hygiene, eating habits, presence of pet in house, geophagia and house fencing were considered as the risk factors associated with human toxocariasis.

- The prevalence of *Toxocara* as revealed by ELISA tests of the study population was 36.84%. The prevalence of infection was least in children and highest in old age groups. The prevalence was highest in age group III (43.85%), followed by age group II (37.71%) and age group I (32.86%). Male (42.92%) population was having more seroprevalence of *Toxocara* infection than females (27.31%).
Prevalence of infection was lowest in district Srinagar (children, 25% & adults, 36.66%); and highest in district Budgam (children, 36.17% & adults, 43.68%). Individuals having contact with dogs (57.77%) or presence of pet in house (72.72%) were having higher prevalence of *Toxocara* infection than those who had no contact with dogs (31.83%) or had no pet in their houses (35.58%). Individuals whose houses were fenced were less (31.45%) *Toxocara* seroprevalent than those, whose houses were unfenced (43.39%). Those who accepted having habit of geophagia were more prevalent (41.57%) than those without geophagia (25.37%). Individuals having a habit of eating raw vegetables were more infected (41.57%) than those who didn’t have habit of eating raw vegetables (25.37%). Individuals having pet in the house were high *Toxocara* seroprevalent (72.72%) as compared to individuals who were not having pet in the house (35.58%).

Prevalence of infection was higher in individuals using water from rivers, streams, well water and from other sources (39-45%) than those using tap water (30.74%). Prevalence of infection was higher (45.78%) in the individuals drinking unboiled water than those drinking boiled water (27.92%).

Children whose fathers were illiterate had significantly higher prevalence of *Toxocara* infection (42.42%) than those whose fathers were educated (24.67%). Children whose mothers were illiterate had significantly higher prevalence of infection (39.13%) than those mothers were educated (21.56%).
Infected individuals were having less mean values of haemoglobin (10.23±1.5 gm/dl) than uninfected children (10.51±1.5 gm/dl). There was found no significant difference in total erythrocyte count between infected (4.82±0.39 million/mm$^3$) and uninfected individuals (4.84±0.44 million/mm$^3$). Individuals infected by Toxocara had high mean values of total leukocyte count (8731.77±1452.77/cmm) than uninfected individuals (7729.40±1234.49/cmm). Individuals infected by Toxocara (9.0±4.30%) had high eosinophil number as compared to uninfected individuals (3.22±2.47%). The alkaline phosphatase level was found higher in case of infected children 622.84±168.85 U/L and infected adults 510.06±185.69 U/L than in uninfected children 389.37±152.15 U/L and uninfected adults 308.79±138.96 U/L.

There was no significant difference of mean value of serum bilirubin level between infected (1.0±0.40 mg/dl) and uninfected individuals (1.00±0.50 mg/dl). There was no significant difference of mean value of serum creatinine between infected individuals (0.89±0.32 mg/dl) and uninfected individuals (0.83±0.34 mg/dl). The mean value of blood glucose in uninfected persons was 103.73±18.51 mg/dl and in infected persons was 105.80±18.95 mg/dl. The mean value of blood urea in uninfected persons was 34.66±8.27 mg/dl and in infected persons was 33.85±8.08 mg/dl.

Two patients suspected of ocular toxocariasis were screened for the detection of Toxocara antibodies. Out of which one patient was diagnosed as a case of ocular toxocariasis.
968 faecal samples were collected and analysed for the prevalence of *Toxocara canis* infection in stray dog population of Kashmir valley. The overall prevalence of *Toxocara canis* infection in stray dog population was 19.42%. Prevalence of *Toxocara canis* infection was lowest in stray dogs of district Srinagar (12.12%), and highest in stray dogs of district Pulwama (27%).

The detailed investigations made during the present study on the seroprevalence of *Toxocara* infection and pathology caused by them in human has been discussed elaborately in chapter fifth of the thesis. From present study, it is revealed that poor hygienic practices associated with access to water, eating habits, contact with dogs, unfenced house and geophagia are the probable risk factors for *Toxocara* infection. There is an urgent need for initiation of control programs like supply of clean piped water, maintenance of proper hygienic conditions and health education as long term measures and treatment by anthelmintic to stray dogs to curb the resurgence of the infection. It was clear during the current endeavour that *Toxocara* infection is involved in causing anaemia. Also it was clear that it is involved in causing eosinophilia, rise in total leukocyte count and rise in serum alkaline phosphatase level. Present results can be used by authorities to target vulnerable groups in Kashmir valley and should encourage the involvement of pet owners in the activities of deworming campaign of dogs because *Toxocara* infection will be difficult to control by drugs alone. Lastly in chapter six recommendations and chapter seven bibliography is given.