INTRODUCTION
INTRODUCTION

Brucellosis is a zoonotic disease and has proved to be one of the most difficult disease problems. It is prevalent in most of the countries.

The important aspects of Brucellosis as a world problem are essentially two fold:

1. The public health importance, and
2. The economic loss to animal industry.

In many parts of the world, Brucellosis is mainly due to a low standard of living. The economic losses due to Brucellosis in animals are caused by abortion or premature birth, decreased milk yield, and temporary or permanent infertility in infected livestock. Where a rigorous campaign against Brucellosis in animals has been carried out, great savings have resulted in national economy. In U.S.A., it is estimated that the reduction in the incidence of bovine Brucellosis by one-half has resulted in a saving of 50 million U.S. dollars annually to the livestock industry (FAO/WHO, 1950).
Goats give much milk for their impoverished owner in comparison to the little expense of providing food. Mostly farmers maintain small number of goats in their flocks.

These animals live in close contact with the owner and his family, and roam about freely with other domestic animals. A highly contagious disease in them is, therefore, a constant threat to the other animals and to human beings.

Ovine Brucellosis is prevalent in countries of the Mediterranean, in the Middle East and in the U.S.S.R. In other parts of the world, Brucellosis in sheep has rarely been reported, although Brucellosis in other animal species is widely prevalent. This difference between countries may be related to the variation in the susceptibility of the different breeds of sheep (FAO/WHO, 1954).

The public health importance of Brucellosis comprises not only in the direct or indirect transmission of the disease from the infected animals to men, and the consequent illness, physical incapacity and loss of manpower, but also in the
greater decrease of the much required food stuffs such as animal proteins, which are very important for the human health and their well being. Since Brucellosis is not generally transmitted from man to man, the prevention of the human infection depends upon the control and elimination of this disease in animals.

WHO (1975) considered the disease as one of the main causes of the rural health hazard and pointed out that about 30 million man days were lost in our country every year, because of Brucellosis infection among the rural population.

The urban population may also be exposed to Brucellosis as a result of consuming dairy products often prepared from unboiled milk which might be contaminated with Brucella organisms.

The survey had also disclosed that the disease had substantially reduced the number of cases from each breeding female animal, caused reduction in the milk yield and affected breeding efficiency, thus causing a loss to the farmer's hopes of earning a profit for his labour.
WHO had concluded that Brucellosis costs India at least Rs.35 crores annually in food animals and man days of labour. According to the first ever nation wide survey conducted by the Federation of Obstetrics and Gynaecological society of India (F.O.O.S.I.) in 1979, the prenatal mortality, is high in India, and premature delivery and baby are directly responsible for 35 to 40 percent of deaths. Disease in pregnancy was considered to be one of the factors.

The improvement in the control of bovine Brucellosis and the treatment of milk and milk products to sufficient heat can be correlated with the lessening of human Brucellosis due to Brucella abortus in the affected areas. However, the problem of Brucella melitensis infection in sheep, goats and other domesticated animals and its transmission to man still retains its high level of importance.

In India, Mody (1946); Bhuyan and Borua (1947); Manchanda (1953); Mathur (1959, 1960, 1964); Panjarathinan and Gulkajani (1973) have reported fairly widespread infection in human being in areas where the unhygienic condition and low standard of living were prevalent amongst human beings.
Brucellosis is not a notifiable disease in animals in most of the countries as is with many infectious diseases. There is sufficient evidence to show that the disease is widely prevalent in animals (Viswanathan, 1943; Folding, 1943, 1947 a,b; Mathur, 1963, 1964; Panjarathinam and Gulrajani, 1973) and in human being (Soman and Kothari, 1954; Meenakshi and Natarajan, 1951; Panjarathinam and Gulrajani, 1973; Stephen et al, 1978).

The incidence of the disease in man and animals in different parts of the country should first be studied by using different serological techniques supported by the isolation of the causative organisms.

However, there was no extensive study of Brucellosis causing foetal loss in women in India, except one serological evidence (Randhawa et al, 1974). Therefore in the present investigation, more attention was paid to find out the incidence of this disease in women with a special emphasis on foetal loss.

The important aspects of the problem, therefore, dealt with are:
1) The determination of Brucellosis in
   a) animals (cattle, sheep and goats) and
   b) women with history of abortion or
      foetal loss.

2) Detecting the infection by the use of different
   serological techniques:
   a) Rapid plate method
      Blood serum
      i) by using Brucella abortus coloured antigen,
         ii) by using Rose Bengal antigen
   b) Tube agglutination test
   c) Coombs' test
   d) Complement fixation test
   e) Indirect haemagglutination test
   f) Gel diffusion test
   g) Milk ring test, alongwith the isolation of
      Brucella organisms from milk.

In addition to the above serological survey,
much importance was attached to those cases of abortion
in women and following tests were also conducted, as
no information was available in India:
   i) Blood culture in Castanseda medium,
   ii) Placenta and urine, (whenever available)
      were subjected to culture on trypticase
      soy agar.
Besides the above mentioned studies, C-reactive protein (CRP) determination was also performed to correlate with the clinical diagnosis.

From these investigations, it would be possible to throw some light on the present position of human Brucellosis with special reference to foetal loss, as well as with zoonosis.