

## **Abstract**

Malaria still continues to be a major public health problem in Sri Lanka. It is endemic in certain parts of the country and is described as *unstable*, where acquired immunity among the population is low and complications of infection in the vulnerable groups are high. Pregnant women are one such group that exhibits an increased risk of infection and complications. Thus measures to prevent malaria during pregnancy assumes great importance. Prevention depends on chemoprophylaxis and personal protection methods. The National Malaria Control Programme recommends chloroquine prophylaxis during pregnancy and puerperium to all pregnant women living in malaria endemic areas.

It is believed that compliance by pregnant women is low. Traditional tendency to avoid drugs during pregnancy and the common belief that chloroquine cause abortions are the common reasons for poor compliance encountered among pregnant women. Poor compliance costs the health systems and the national welfare programmes to spend more money on curative and social welfare services thus the importance of improving compliance.

The present study was carried out in an endemic area in Sri Lanka to describe the existing knowledge and attitudes among pregnant women and service providers, assess the current level of compliance to chloroquine prophylaxis in

prophylaxis in pregnancy and to plan, implement and evaluate interventions to improve compliance.

The prevalence of infection during current pregnancy was 1.94 compared to a life-time prevalence of 0.042. Foetal loss in the form of abortion (6.7%) and still births (2.2%) was seen in the previous pregnancy.

The survey of pregnant women identified many deficiencies in knowledge. Awareness of complications of malaria during pregnancy and methods of prevention were poor. The women showed uncertainty about the ability of drugs to cure and prevent malaria. A common misconception seen was that the use of chloroquine resulted in abortion, probably an important reason for low compliance seen in the study. Compliance was seen to decrease with increasing age, parity and education.

Although assessing knowledge on malaria, its treatment and prevention in medical practitioners was a sensitive issue, the study highlighted many important areas of deficiencies in knowledge which are important in the management and prevention of malaria. Medical practitioners had poor knowledge of high risk groups in the population and about the increased risk of cerebral malaria associated with pregnancy. Some aspects of knowledge of malaria parasite such as stages seen in a peripheral blood film, infective

stages of the parasite and the role of gametocytes in transmission of malaria were seen to be poor. Knowledge on methods of prevention was also found to be poor. Surprisingly many (82.5%) practitioners were unaware of side-effects of chloroquine, contraindications to use chloroquine as prophylaxis (90%) and there was uncertainty about the effects of the anti malarial on the foetus. The practice of blood filming at least once during pregnancy was low (26.3%). Prescription of chloroquine prophylaxis was found to be correct only in 25% cases.

Similar deficiencies in knowledge were identified among field health staff. Knowledge on high risk groups, parasite, vector and methods of prevention were poor. These deficiencies in knowledge were reflected in the population.

Three interventions to improve compliance, health education leaflet, strip-packed chloroquine tablets and film-coated chloroquine tablets were identified using Focus Group Discussions among several categories of stakeholders. These were implemented and evaluated in the present study. The highest increase in compliance was seen in the group who received the health education leaflet. Compliance was increased from 28.8% to 86.8% in this group. The second most effective intervention was the strip-packed chloroquine tablets, compliance increased from 38.1% to 63.5%. Although a common reason that is thought to decrease the use of chloroquine was its

bitter taste, distribution of film-coated chloroquine was the least effective intervention. The improvement here was from 31.2% pre intervention to 46.3% during intervention.

The health education leaflet was the cheapest out of the three interventions studied. The unit cost compared to the other two methods was Rs. 2.00 per health education leaflet (Unit cost was Rs.168.00 for strip-packed chloroquine and Rs.45.00 for film-coated chloroquine). The success of the health education leaflet in this population may be related to the high level of literacy seen in the community. It appears that increasing the mother's knowledge on complications of malaria during pregnancy, to herself and to the foetus was sufficient to improve compliance. Based on these findings it is recommended that this method be employed on a larger scale to improve compliance.