CHAPTER 1

INTRODUCTION AND OBJECTIVES
INTRODUCTION AND OBJECTIVES

INTRODUCTION

The massive expansion in the availability, use of chemicals in industrial, agricultural and domestic fields and abuse and overuse of drugs has led to the increased incidence of accidental and intentional poisoning worldwide during the last few decades. The magnitude of the problem is enormous, as each individual is exposed to chemicals invariably in minute subclinical doses through environmental and food contamination. The poisoning may be intentional, accidental or occupational: acute or chronic. Some of the chemicals although may be absorbed in small quantity may reach toxic concentrations in the tissues of the exposed individuals. Such exposures can occur from toxic substances naturally present in the environment as fluorides, arsenic, selenium, lead, poisonous plants and animals or from man made chemicals and wastes which may contaminate food, water, air, or soil as polychlorinated biphenyls, cadmium, nitrates, dioxins and halogenated hydrocarbons.

The commonest cause of poisoning in India and other developing countries are pesticides (Fernando, 1995). Although the toxic risk of pesticides reach all over the world but in developing countries as estimated in 1982, the incidence of pesticide poisoning was 50% of the world incidence while these countries had only 15% of the worldwide use of pesticides (Seth, 1991). Jeyaratnam et al (1987) investigated the magnitude of acute pesticide poisoning in selected agricultural communities in developing countries e.g. Indonesia, Malaysia, Sri Lanka, Thailand. Their study postulated that the organophosphate compounds contributed as a major class of chemicals causing poisoning and the contributing factors largely responsible are, inadequate knowledge of the safe practices in the use of pesticides among users.
Due to the lack of suitable protective clothing for use by agricultural workers in hot and humid climates.

Bami (1981) reported the extensive data on poisoning cases in 10 states and 2 union territories in India and found higher incidence of poisoning by insecticides followed by vegetable poisons and synthetic drugs.

In India, organophosphorus compounds form the largest bulk of pesticide poisoning (Singh 1984; Adlakha 1988; Goel 1998). In view of paucity of data on the organophosphorus poisoning in India, the present study has been undertaken which is based on indepth study of clinical manifestations, impairment in organ functioning, biochemical indices, diagnosis and formulation of guidelines for respective management.

AIMS AND OBJECTIVES

1. To evaluate indepth the occurrence of organophosphorus poisoning in relation to different socio-economic groups.

2. To study the clinical presentations, ChE inhibition pattern and changes related to organophosphorus poisoning.

3. To elucidate the various precipitating and influencing factors in cases of suicidal poisoning cases.

4. Follow up of representative cases after 25-50 weeks in relation to clinical findings and cholinesterase enzyme activity.

5. To study the prognosis of cases after treatment.

6. To identify measures to minimize health risk from abuse of pesticides.