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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



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NEUROBEHAVIORAL CHANGES AMONG WORKERS CHRONICALLY EXPOSED TO ORGANOPHOSPHORUS INSECTICIDES

A thesis submitted for partial fulfillment of the
requirement of M.D. degree in Occupational medicine
and Occup. Health

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INTRODUCTION

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AIM OF WORK

INTODUCTION

The nervous system has been shown to be particularly vulnerable to chemical insult, and major outbreaks of neurotoxicity have emphasized the importance of neurotoxicology as an independent discipline. The majority of modern pesticides ~~own~~ their ability to attack the nervous system as a primary target. The nervous system function should be among the first to be thoroughly assessed in cases of exposure to known or partially hazardous agent (WHO, 1986).

In 1995 more than 15000 tons of pesticides were used in Egypt. However in 1952 the total usage of pesticides was only 200 tons. Since then, pesticides use has been increased to reach its maximum in 1975. Starting from 1980, a shift was made to shorter-acting materials. The ideas of controlling pests and victors by biological programs as an alternative to chemicals or in combination with pesticides become realized. Therefore, chemical pesticides use has been steadily declining. In fact the, Integrated Pest Management program (IPM) in Egypt is still limited until now. Therefore, a relative growth of the major classes of chemical pesticides over the last few years has been achieved.

While the human effects of acute pesticide poisoning are well known, significant date gaps exist with regard to what is known about some of the chronic effects particularly neurobehavioral aspects of

organophosphates exposures (Mearns et al 1994). The extent of this concern is high and is being addressed by World Health Organization and the United Nation Development Program (Davies 1990).

In the United States evidence for chronic neurologic effects have come from case studies, clusters of neurologic and epidemiological reasons. Some Egyptian investigators described neuropsychiatric manifestation in workers occupationally exposed to mixtures of pesticides (EL-Samra et al., 1984), (Amr et al 1990). However, these studies investigated highly exposed workers, not those chronically exposed.

For both toxicological and epidemiological reasons, it is essential that the neurobehavioral potential of low level, prolonged exposure to pesticides and pesticide mixtures be more thoroughly investigated (Davies 1990).

In addition, workers chronically exposed to organophosphates are increasing parallel to the development of agriculture and vector-borne disease control methods with impending chronic exposure of the community and workers in this field.

Hypothesis

Workers chronically exposed to organophosphorus insecticides develop some neurobehavioral disorders in Mood State, motor, sensory and cognitive function.

AIM OF THE WORK

The general aim of this study is to evaluate the neurobehavioral changes that may develop to workers chronically exposed to organophosphorus insecticides.

Specific objectives:

The specific objectives of the study include the following targets:

1-Assessment of the level and duration of exposure to (OP) insecticides.

2- Assessment of some neurobehavioral aspects that may be related to (OP) exposure.

3- Clinical assessment of the nervous system of the study groups.

REVIEW OF LITERATURE