

Effects of Insecticides on Human Health in Pilibanga Region of Hanumangarh District (Rajasthan)

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Abstract - Insecticides are widely used today for protect the crop or food by insects. It plays an important role to brought change and revolution in the agriculture field. Rajasthan is the largest state of India. Pilibanga is a block of Hanumangarh district of Rajasthan situated at 29°45'N 74°08'E. The main objective of the study is to determine the hazardous and harmful effect of insecticides on human health. The present study provides special information about harmful effect of insecticides exposure used in field or crops. Due to the use of insecticides different types of dermatological, reproductive, acute, respiratory, gastrointestinal effects can be seen in study area.

Index Terms - Insecticides, Exposure, Human health, Effects, Pilibanga block, Hanmangarh district, Rajasthan.

INTRODUCTION

The biological or chemical origin which control pest is refers to as "Insecticide". Insecticides are used against insects which feed on crops and different parts of plants. Since the day of synthesis and use of insecticides they saved thousands of animals and human's life. Insecticides play an important role to brought changes and revolution in the field of agriculture. It also prevents insect pest borne disease or insect as a vector of disease for human health. Insecticide accounts a large percentage of total use of pesticides in whole world for productivity of food as well as to prevent insect borne diseases.

Insects are cosmopolitan and most successful group of animal kingdom. These have high fecundity with short life span. They show diapausing under adverse conditions. Globally estimated 13.6% annual loss is done by insects. More than 10,000 species of insects damaged food crop. In the study area there is a good water canal irrigation system so that wheat rice, cotton, mustard and many other crops which require more water are grown in this area. Insecticides are

used on high level to prevent these crops from insect pest.

Besides their importance, insecticides also have negative impact like toxic residues in food, water, air and soil, effect on non-targeted organisms, resistance to insect pest for insecticides, etc. The effects of insecticides on human health are more risky because of their direct or indirect exposure. Millions of people are suffering from insecticide poisoning and become dead. Thousands of people are exposed insecticides every year through agriculture. Besides these all losses the production of insecticides increases continuously. This research tries to identify the current status of effect of insecticides on human health in Pilibanga block of Hanumangarh district of Rajasthan.

AIM OF THE STUDY

1. To identify current status of use of insecticides in study area.
2. To study the hazardous effect of insecticides on human health.
3. To enhance knowledge and public awareness about low use of insecticide.

STUDY AREA

Rajasthan, 'Land of kings' is the largest state of India. It covers 10.4% of India's total geographical areas. The present study was carried out by Pilibanga region of Hanumangarh district of Rajasthan. Hanumangarh is situated on the bank of Ghaggar River (also known as Ancient Sarasvati River). Pilibanga is a block in Hanumangarh district located at 29°45'N 74°08'E. There are long summer and short winter. Winter is very cool and dry whereas summer is very hot, humid and sweltering. Average rainfall of this area is 2.4 inches and most rainy month is July.

MATERIAL AND METHODS

The study was carried out in Pilibanga region of Hanumangarh district, Rajasthan monthly from September 2020 to April 2021. For this research paper Field work, direct observation, questionnaire, survey method, discussion with farmers and local people of the study area and many other procedures were followed by author for data collection. Several agricultural sites were visited by researcher. Author also discussed with staff of Government hospital of Pilibanga region for data collection.

RESULTS AND DISCUSSIONS

1. Acute effect- This is an illness and injuries which appears just after the exposure of insecticides. The symptoms of acute effects are - headache, blurred vision, nausea, difficulty in breathing, etc.
2. Dermatological effect- Due to exposure of insecticides many dermatological effects can be seen. Skin irritation like rashes, eyes and nose irritation such as watery eyes, sneezing, itching, swelling, allergy, etc. are some very common insecticides effects on human health.
3. Respiratory effect- Respiratory system is not functioning well in farm workers who are directly came in the exposure of insecticides. Respiratory symptoms that are reported in studying area include airway irritation, dry throat, respiratory depression or slow heartbeat, cough, chest tightness, etc.
4. Gastrointestinal effect- Human consume a great variety of insecticides residue in everyday's food and beverage such as- instance cooked food, water, fruit juice, salad, etc. by which gastrointestinal effect are caused. For example- diarrhea, abdominal cramps, etc.
5. Reproductive effect – Insecticides exposures are interferes in different stages of human life. By the use of insecticides several undesirable outcomes can be seen such as - low sperm count and decrease sperm function in male, low infertility, more abortion and miscarriages in female, Birth defect in child, etc. Endosulfan exposure is interfered in synthesis of sex hormone and delayed sexual maturity in children.

CONCLUSION

It is concluded that insecticides are hazardous or harmful for human health. This research provides the special information about harmful effects of insecticides used in study area.

More exposure of insecticides cause different types of health issue for human such as - acute effects (headache, nausea), reproductive effect (low sperm count, low infertility), gastrointestinal effects (diarrhea, abdominal cramps), respiratory effects (airway irritation, slow heartbeat, dry throat), dermatological effects (itching, swelling, allergy), etc. Thus this research provides a comprehensive picture about the negative impact of insecticides on human health.

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