

# A Study of Pesticides and Its impacts on Human Health of Pamgarh Tehsil Janjgir-Champa (Chhattisgarh)

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**Abstract:** Pesticides are chemicals that are broadly used to protect crops, livestock and other animals and plants from pests and diseases. The use of pesticides is one of the essential measures of modern agriculture practices in protecting the crops from different pests. Pesticides residue may cause an adverse impact on non-target organisms including water, biota and humans. Humans can be posed to pesticides residues via contaminated water and contaminated food. The long-term health effects from exposure to pesticides to human include cancer and other tumors; brain and nervous system damage; and other reproductive problems. A regular pesticide residue monitoring program would help to assess and protect the agriculture and human health as well as the production of high-quality food for domestic and export markets. The monitoring will further ensure compliance with maximum residue limits of pesticides in agriculture by national and international legislations or guidelines.

**Keywords:** Pesticides, Human health, Agriculture, Human health Diseases and Effect of nervous system

## 1. INTRODUCTION

Pesticides use in modern agriculture practices is one of the essential measures for protecting crops from the pests. A pesticide is the general term for insecticides, acaricides, rodenticides, molluscicides, herbicides, fungicides and similarly active compounds. Agricultural pesticides are used on farms, greenhouses, and orchards and consumers eating produce and other food products ingest them. Pesticides used domestically or in agriculture runoff into ground and surface water, exposing entire populations.

There are numerous health effects on human due to pesticides. The most frequent reported health outcomes were neurological symptoms (40%), including headache and dizziness, respiratory symptoms (40%), including upper respiratory track pain and irritation and gastrointestinal symptoms (35%), and including nausea and vomiting.

Various epidemiological studies indicate that, despite premarket testing current exposures are associated with risk to human health. Better understanding of the patterns of exposure, the underlying variability within the human population, and the links between the animal toxicology data and human health effects will improve the evaluation of the risks to human health posed by pesticides.

## 2. STUDY AREA AND METHOD

In this area (Pamgarh Tehsil) like they will get idea about the quantity of the pesticides they can use for proper growth and development of their crops. Pamgarh Tehsil is a town in Janjgir-champa district, Chhattisgarh state. Pamgarh is on National Highway 200(India). It is located at an altitude of 288m above MSL. Pamgarh has a population of 1, 66,176 Peoples.

### **Pesticides uses and its impact of human health in Pamgarh**

Pesticides are classified into three categories- Insecticides, Herbicides and Fungicides on basis of the type of pests they control. The use of Pesticides in Pamgarh Tehsil in comparison to other developing are about 60% of pesticides are used on crops. Pesticides used crop consist almost exclusively of insecticides, but fungicides are used occasionally. In Pamgarh Tehsil insect pest outbreak is frequent in crop losses occurred due to paddy insect pest attack up to 70%.

Most of the farmers of Pamgarh Tehsil are not capable of taking decision on pesticides application, often they apply pesticides when there is no real need or they use wrong chemicals at wrong doses, method and times. As a result adverse effects on the health of farm workers as well as other exposed to the pesticides. Health problems may occur in workers that handle pesticides, such as abdominal pain, dizziness, headaches, nausea, vomiting, as well as skin and eye problems.

### **Data Collection-**

The farmers, who were using Pesticides as a pest control measure, were purposively selected as the respondent of the study area. The face to face interview of the farmer was taken using a structure and pretested questionnaire on the following aspects. The respondents have been asked to mention the name and amount of pesticides used for a unit area. We selected survey that considered all health related issued faced by the farmer and farm work around the world by the very much use of pesticides and effects caused due to exposure while being utilized in the crop field.

### Laboratory analysis-

Pesticide in selected agricultural, biological and Environmental samples and sampling of various toxic pesticides from selected areas will be done. Collected samples will be then treated in laboratory as required and Analysis of various samples and to identify different insects killer used in various areas. The study will be conducted to identify the inert ingredients present in pesticides responsible for causing toxicity. AAS method is a spectroanalytical procedure for the Quantitative determination of chemical using the absorption of optical radiation by free atom in the gaseous state. It is based on absorption of light by free metallic ions. AAS can be used to determine different elements in solution and issued in toxicology research.

Effects of the use of Pesticides on Human health					
S.No.	Chemical Name	Trade Name	Classification	value mg/kg (r at)	Effects
1	Alphacypermethrin	Fastac, Concord, Rene gade	Pyrethroids	187 to 326	effect of central nervous system
2	Carbofuran	Furadan, Niagara	Carbamate	6 to 18	Nausea, Dizziness, respiratory paralysis
3	Chlorpyrifos	Brodan	Organophosphate	95 to 270	Nausea, affect of nervous and respiratory system
4	Fenoxycarb	Insegar, Varikill	Carbamate	10,000	Carcinogenic, skin and eye irritation
5	Hexazinone	DPX3674, Velpar	Triazine	1690	Damage liver and heart
6	Mancozeb	Dithane	Carbamate	>5000	Reproductive and development toxicity
7	Monocrotophos	Nuvacron	Organophosphate	23	Inhibit action of cholinesterase
8	Permethrin	Ambush	Pyrethroids	50 to 220	Nausea, Headache,
9	Profenopos	Prahar	Organophosphate	867.5	Inhibit action of cholinesterase

### 3. RESULT

A total of 15 active ingredients were used by the respondent farmer of Pamgarh tehsil in their summer crop of theyear2020. The results show that different diseases were present among farmer due to use of pesticides effects. The diseases are chest pain, liver-damage, diarrhoea, dizziness, eye irritation, fever, hypertension, skin diseases and other. Result also indicated to

introduce awareness to the farmers about the quantity of pesticides they can use so that it,can't affect the human health in a negative way.

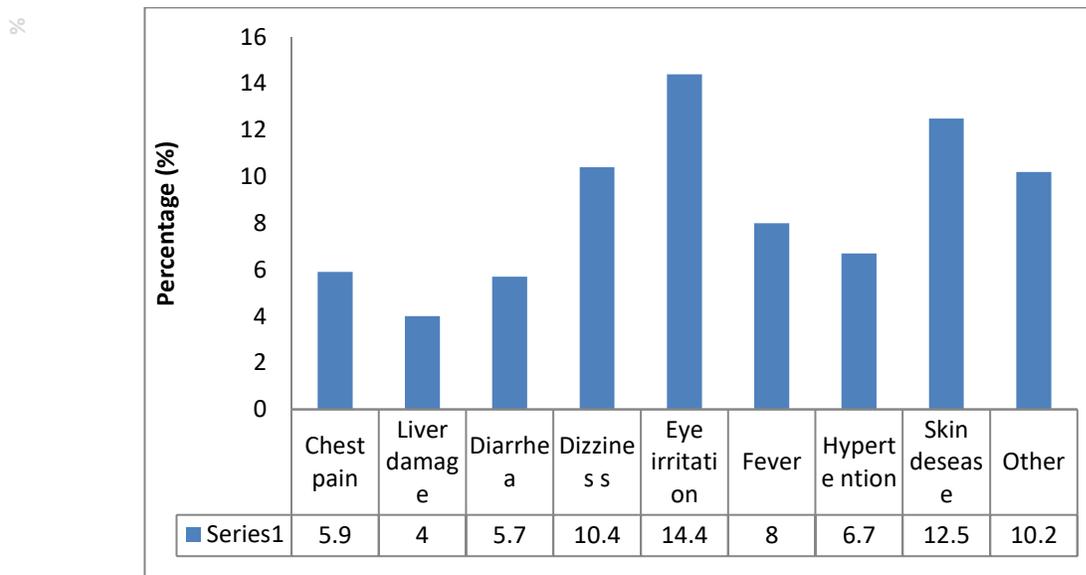


Fig-1: - Graphical Representation the symptoms after use of Pesticides

#### 4. CONCLUSION

All pesticides have the potential to be harmful to human health if used incorrectly. Our result indicates significant negative externalities of pesticides on the Paddy. Long term indiscriminate pesticide use could have a negative impact on pesticide productivity because of its effect on human health. This research work founds that when the quality of pesticides decrease it gives harmful effect in human body. The experimental scientific advantages of the proposed reduce a low toxicity Pesticides when available. Reading the label and practicing safe work habits will minimize hazard from the use of pesticides.

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