



## DESCRIPTIVE STUDY TO ASSESS THE PRACTICES AND HEALTH RELATED TOXIC SYMPTOMS OF PESTICIDES USE AMONG FARM WORKERS AT SELECTED VILLAGES OF BUDGAM KASHMIR.

**Mr. Masood Ahmad Sheikh (Ph.D Scholar Nursing)**

**Nursing Tutor, BGSBU University (J & K)**

**Mrs. Bilqis Yasmin ( M.sc Nursing )**

**Nursing Tutor MMINSR SKIMS Soura**

### Abstract

*As the population is increasing in a high pace which generates pressure on whole world including consumption and production. The demand of occupying land is increased day by day which lessens the land for farms and yielding. Nowadays farmers plays vital role in producing the food material in order to prevent the people from hunger and starvation. This implies that the farm workers are supposed to use high quality pesticides in order to provide better agriculture based food items and other material. But meanwhile the use of pesticides in agriculture for crop protection and pest control has been associated with environmental contamination and human health problems. Prolonged pesticide exposure may lead to liver malfunction, immune malfunction, cardiovascular, respiratory, neurologic impairment, and reproductive effects yielded inconclusive results. A descriptive study design was used to assess the practices and health related toxic symptoms of pesticide use among farm workers at selected villages for which 100 subjects were selected by convenience sampling technique. After data collection the tool was analysed by descriptive and inferential statistics using chi-square and standard scale. The result revealed that 13%, 68%, 19% of farm workers had good, average and poor practices respectively with an average mean and SD of  $22.85 \pm 5.83$ . The results showed that 65% skin rash, 53% itching, 27% burning sensation, 7% numbness of hands were having health related toxic symptoms. The results also revealed that 27% sneezing, 13% running nose, 11% cough, 7% difficulty in breathing and 6% irritation of throat were having respiratory symptoms. The findings also revealed that 37% sweating, 14% headache, 13% vomiting, 6% excessive salivation, 5% abdominal pain, 15% Lacrimation, 13% eye irritation, 11% burning sensation, 9% blurred vision and 5% difficulty in seeing, 9% anxiety and 7% irritability were having systemic symptoms. The study concluded that there was statistically significant association between practices on use of pesticides and health related toxic symptoms among farm workers.*

**Key words:** Pesticides, farm workers, toxic symptoms.



## **1. INTRODUCTION:**

Pesticide is defined by FAO (1986) comprise any substance or mixture of substance intended for preventing, destroying, or controlling any pest, including vectors of human or animal disease, unwanted species of plants or animals causing harm during, or otherwise interfering with, the production processing, storage, transport, or marketing of food, agricultural commodities (including commodities such as raw cereals, sugar beet, and cottonseed) wood products, or animal feedstuff, or which may be administered to animals for the control of insects, arachnids, or other pests on or their bodies. The term include substance intended for use as plant-growth regulator, desiccant, fruit-thinning agent or an agent for preventing premature fall of fruit, and substance applied to crops either before or after harvest to prevent deterioration during storage or transport<sup>1</sup>.

By 2006, global pesticides sales reached to US \$ 32.9 billion, and are expected to grow by 0.8% per annum Asia dominates the global market for agrochemicals accounting for 43.1% of global agrochemical revenue in 2008. China is the world's biggest user, producer and exporter of pesticides and India is the second largest pesticide producer in Asia and ranks in the 12th position globally (WHO, 2009) with a value of US \$ 0.6 billion, which is 1.6% of the global market. Also, India is the second largest user of pesticides after China in Asia<sup>2</sup>.

The production of pesticide started in India in 1952 with establishment of plant for production of BHC Calcutta and India now second largest manufacturer of pesticides in Asia after China and ranks 12 globally. There has been a steady growth in the production of technical grade pesticide in India, from 5000 metric tons in 1958 to 102240 metric tons in 1998. In 1996-97 the demand for pesticides in terms of value was estimated to be around Rs.22 billion, which is about 2 percent of total world market. The pattern of pesticide usage in India is different from that for the world in general. In India 76% of pesticides used is insecticide, as against 44% globally. The use of herbicides and fungicide is correspondingly less heavy. The main use of pesticides in India is for cotton crops (45%), followed by paddy and wheat. In India together they account for around 57% of the total pesticide consumption. While the wheat and pulses contribute of about 4 %, vegetable 9 % and the other plantation crops 7 % (Ministry of Agriculture, 2009). State wise Andhra Pradesh is the highest pesticides consuming state (23%) followed by Punjab & Maharashtra<sup>3</sup>.

Pesticides pose significant occupational health and environmental risks throughout the world (WHO 1990). It is widely recognized that agriculture workers are the largest occupational group at risk of adverse health effects. Although most agriculture workers may be facing pesticide hazards, spray men are usually the most highly exposed group because of inadequate clothing, drift of spray droplets, leaks and other defects in the spray equipment, or other reasons. The general population, on the other hand, is at risk of pesticide poisoning through non-agriculture pesticides e.g. household pesticide use, contaminated food, water, soil, and through air, dust, or accidental pesticide ingestion.<sup>4</sup>



Researchers at the New Delhi based Centre for Science and Environment have found alarmingly high levels of pesticides in blood samples of villagers in Punjab, the showpiece state of India's green revolution. India needs to urgently take a tough look at the indiscriminate and careless use of pesticides. A study of randomly selected blood samples from four Punjab villages viz, MahiNangal, Jajjal and Balloh in Bhatinda district and Dher in Ropar district revealed six to thirteen pesticides in virtually all the blood samples, some of them include HCH, Aldrin, DDT, Monocrotophos, Endosulfan, Phosphamidon, Chlorpyrifos and Malathion. Cancer cases are rampant in the villages of Punjab due to prolonged exposure of pesticides<sup>5</sup>.

Pesticides represent widely used chemical substances in agriculture to increase production and quality through controlling pests and pest-related diseases. The widespread use of pesticides is a significant source of air, water and soil pollution. Pesticides are also very important risk factors on human life not only effects on health as a result of misuse or accident, but also via leave a lasting harmful chemicals into the environment<sup>6,7</sup>.

Based on the review of literature and statistics as well as based on community survey the researcher felt that it is very clear and extremely important that inappropriate use of pesticide is very harmful for farm workers. During Community survey the investigator felt that there is utmost need to assess the knowledge regarding the practices and health related toxic symptoms of pesticides among farm workers in villages of Budgam Kashmir.

## **2. OBJECTIVES OF THE STUDY:**

- To assess the practices of pesticide use among farm workers.
- To assess the health related toxic symptoms of pesticide use among farm workers.
- To find out the association between practices and health related toxic symptoms of pesticide use among farm workers.
- To find out the association between practices and health related toxic symptoms with selected demographic variables.

## **3. MATERIALS AND METHODS:**

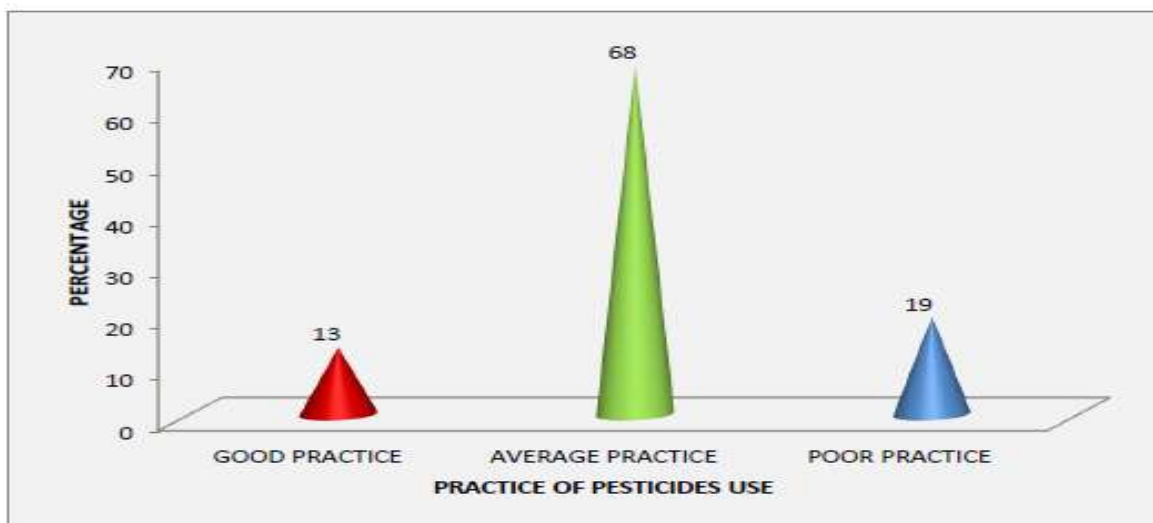
A descriptive study design was conducted to assess the practices and health related toxic symptoms of pesticide use among farm workers. 100 subjects were selected by using convenience sampling technique. Self-structured interview schedule was adopted to collect the information from farm workers at villages of Budgam Kashmir. The tool consists of demographic variables, practice of pesticide use and health related toxic symptoms scale was



used to collect the data from farm workers. Prior to data collection informed consent was obtained from the participants. The data was analyzed using descriptive and inferential statistics.

#### 4. RESULTS:

**Figure3: Cone diagram showing the percentage distribution of study subjects according to their level of practices.**

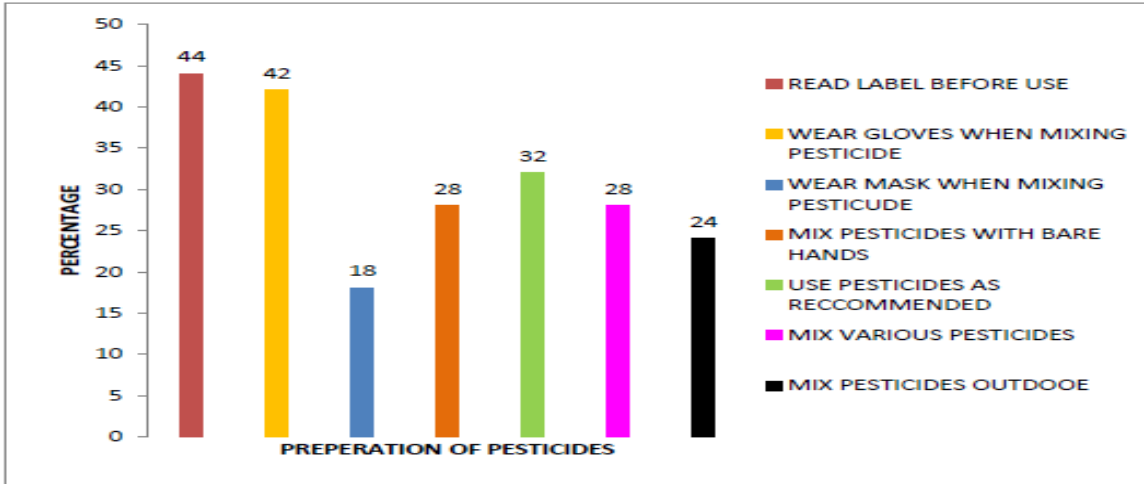


**Fig 3: Level of practices of pesticides use among farm workers**

The data presented in figure 3 revealed that 13% of farm workers had good practice, 68% had average practice and 19% of farm workers had poor practice regarding practices of pesticides use with an average mean and SD of  $22.85 \pm 5.83$  respectively.

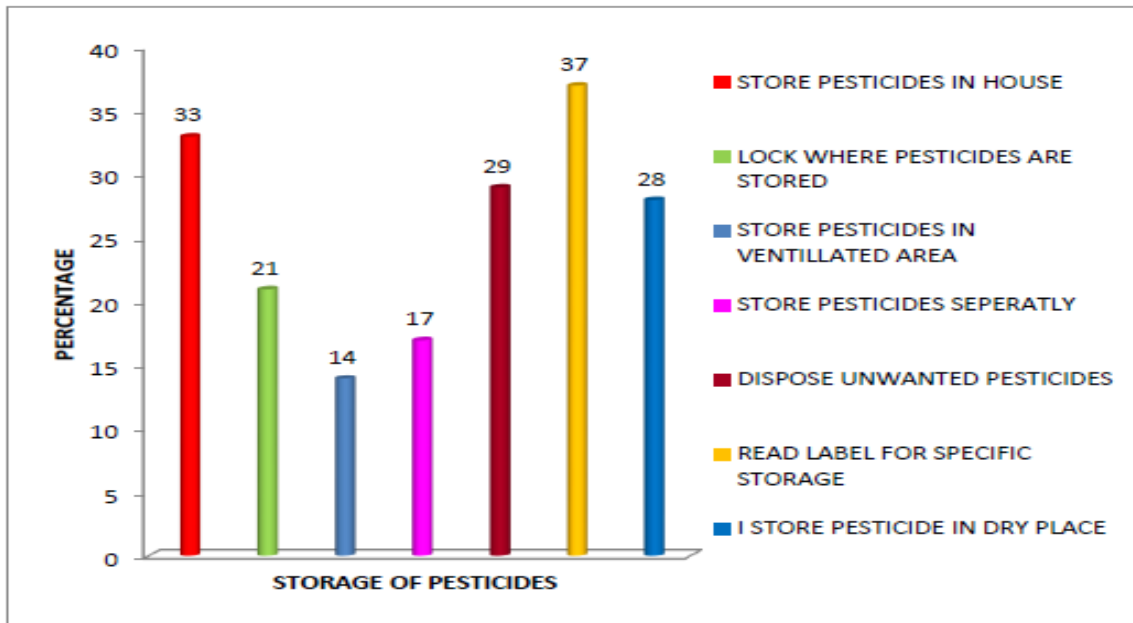


**Figure: 4 Bar Diagram showing percentage and preparation of pesticides.**



**Fig 4: Percentage distribution of preparation of pesticides by farm workers**

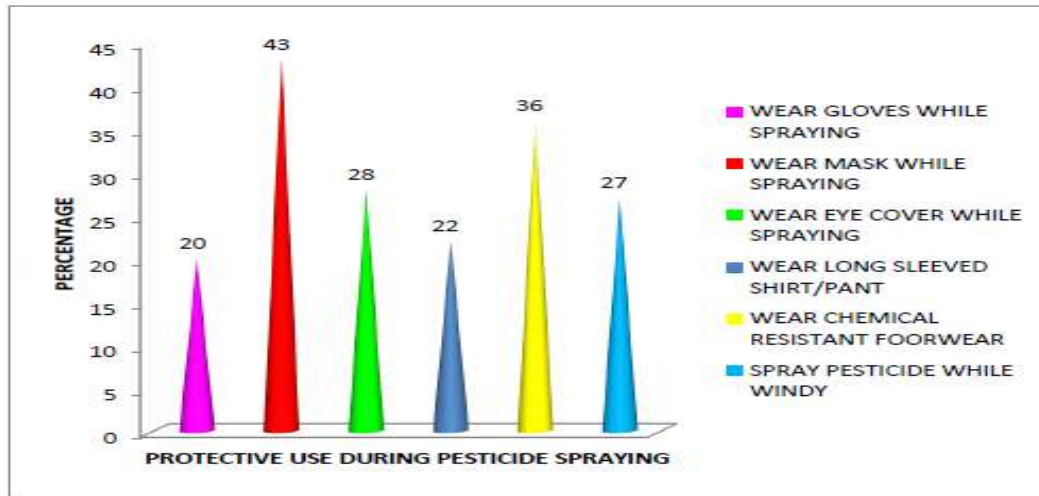
**Figure 5. Bar Diagram showing percentage of storage of pesticides.**



**Fig 5: Percentage distribution of storage of pesticides by farm workers**

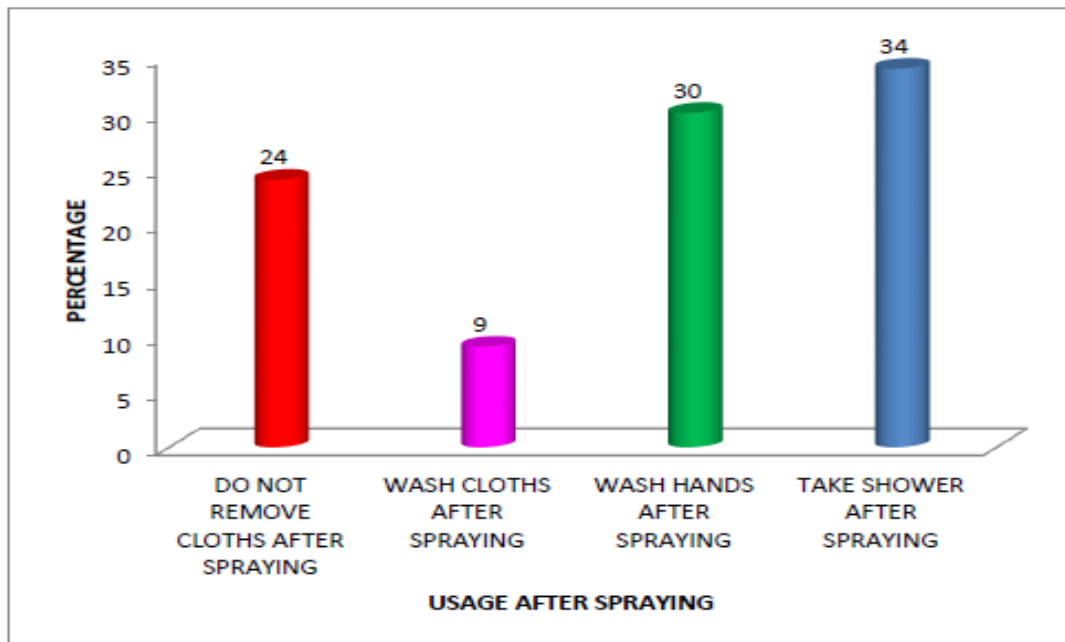


**Figure 6. Corediagram showing percentage protective safety equipments.**



**Fig 6: Percentage distribution protective use during pesticides spraying by farm workers**

**Figure 7. Bar Diagram showing percentage and distribution of usage after spraying.**



**Fig 7: Percentage distribution of usage after spraying pesticides by farm workers**



## **5. RECOMMENDATIONS:**

- A case control study can be conducted to assess the knowledge of safe practices among farm workers.
- A similar study can be recommended to compare the effectiveness of the planned teaching programme on practices of pesticide use.
- A comparative study can be conducted to assess the knowledge and attitude regarding pesticide use among farm workers in two rural areas.
- A comparative study can be conducted between practices and health related toxic symptoms of pesticide use among farm workers.
- A similar study can be conducted in another setting.
- An correlational study can be conducted on practices of actual pesticide use among farm workers in different states in india.

## **6. CONCLUSION:**

The study concludes that farm workers had average practices on preparation, storage and usage of pesticides which can be improved by creating awareness among farm workers. The education among farm workers regarding safe practices on use of pesticides can help them to prevent health hazards of pesticide use and able to prevent the skin diseases.

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