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Policy Brief

Improving the Health Level of Farmers During the Use of Pesticides: Policy Brief

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Abstract

According to the World Health Organization (WHO), the number of unintentional acute poisoning cases is between 3.5 and 5 million cases worldwide. Among these, 3 million cases were severe, leading to the death of 20 000 people per year. In addition, 7.4 million years of life had lost every year due to diseases caused by agricultural toxins. Based on the previous evidence, the development of unauthorized supply stores and lack of proper monitoring of the permissible limit of poisons, as well as the sale of poisons without a prescription, the ignorance of farmers, the indiscriminate planting of products not resembling traditional agriculture, can be due to various factors related to the improper and indiscriminate use of pests. Pesticides and agricultural poisons have short- and long-term health effects. Globally, it is recommended that a policy brief be compiled for decision-making cases based on evidence. Therefore, to demonstrate evidence-based policy options, taking into account the existing obstacles and opportunities, it seems necessary to use strategies and intervention plans to reduce the consumption of pesticides while increasing the level of protection of farmers.

Keywords: Farmers, Pesticide, Health literacy, Policy brief

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The Necessity of Writing a Policy Summary

The importance of environmental factors in health and well-being is becoming clearer every day (1,2). In recent decades, the presence of harmful chemicals in the environment has become a serious issue (3). To control pests and increase the production of agricultural products, pesticides have been widely used, which is the main problem in many countries (4). These poisons have been reported as the third most common cause of poisoning and the main cause of death due to poisoning in Iran (5). The average consumption of poisons per hectare is 400 g in Iran, while the average consumption of poisons in the world is 1.7 kilograms; in other words, the consumption of poisons in Iranian agricultural products is a quarter of the world average (6). The World Health Organization (WHO) estimates that there are between 3.5 and 5 million cases of acute unintentional poisoning worldwide each year. Among these, 3 million cases are severe, resulting in 20 000 deaths per year (7). Further, 7.4 million years of life are annually lost due to diseases caused by agricultural toxins (8). Pesticides that are used for agricultural products may lead to poisoning, the occurrence of cancers, an increase in the incidence of cardiovascular disorders up to three times, an increase in the probability of Parkinson's occurrence up to four times, and an increase in the incidence of hydrocephalus up to three times. In developing areas, unauthorized supply stores, a lack of proper supervision regarding the permissible limit of poisons and the sale of poisons without a prescription, ignorance of farmers, and indiscriminate planting of crops that are not typical of traditional agriculture and require high amounts of poisons can be related to various reasons (9). The incorrect and indiscriminate use of pesticides and agricultural poisons can produce short- and long-term health effects. Based on various studies, it is clear that all the management processes of poisons and pests in the country need quality improvement. It is globally recommended that a policy brief should be compiled for such decision-making cases based on the previous evidence (10). The study was developed to represent evidence-based policy options, taking into account the existing obstacles and opportunities, to decrease the consumption of pesticides while increasing the protection level of farmers so that health planners and policy-makers implement strategies and intervention plans with more confidence.

Criticism of Current Conditions

Based on the studies conducted in this field, the general

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level of the health of farmers at the time of using pesticides in Iran, as well as the skills of searching, understanding and evaluating, and applying health information and services, is low (10).

Policy Recommendations

1. Increasing the monitoring of pesticides and their consumption limits
2. Using modern equipment to accurately identify residues in products
3. Informing farmers about how to maintain and use pesticides from certified supply centers
4. Using certified herbal supplements during using pesticides in order to reduce secondary complications.

First Recommendation

Planning and implementation level – Jihad Agriculture Organization: It is recommended that the safe limit of exposure to pesticides should be determined for each product and periodically evaluated by monitoring; in addition, experts should be exposed to each product.

Second Recommendation

Planning and Implementation Level – Food and Drug Organization and Standards Department: It is suggested that advanced devices such as LC-MASS/MASS and GC-MASS/MASS be used in periodical and field evaluations of the prepared samples in terms of the permissible limit and residual pesticide concentration.

Third Recommendation

Planning and implementation level – Jihad Agriculture and Environment Organization: Periodic training should be provided by environmental experts and toxicology to farmers and poisoning workers to increase their awareness of health problems for consumers and their health risks.

Fourth Recommendation

Planning and implementation level – University of Medical Sciences: It is recommended that clinical and laboratory experimental studies be conducted for the production of safe herbal supplement products for the use of spraying workers and farmers exposed to periodic contact with pesticides.

Competing Interests

The authors declare no conflict of interests.

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