

Do Pesticide Sellers Increase Farmers Health Risks? A Case Study

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1. BACKGROUND

Agriculture is one of the most significant types of work in the world. Around half of world population depends on agriculture for employment(Karunamoorthi, Mohammed, & Wassie, 2012). The green revolution in the 1960s resulted in booming of agricultural sector across the world(Devi P, 2010). The use of chemicals as fertilizers and pesticides started during this period. Though their use increased the productivity, later it was realized that these chemicals can cause dangerous adverse effects (Abhilash & Singh, 2009; Devi P, 2010; Dowdall & Klotz, 2016). Over the years, the use of pesticides has been increased in an uncontrollable manner, posing threats to environmental and human health, making it an issue of public health concern. Five billion pounds of pesticide are using in a year. Future of agriculture is expecting agribusiness which tends to increase the use of chemicals and health problems further(Devi, 2009; WHO, 2014) . The application of pesticides reduced the crop loss and attained better yielding which invariably led to their irregular and uncontrolled use across the world(Dasgupta, Meisner, Wheeler, Xuyen, & Lam, 2007).

India ranks 10th in world pesticide consumption and its total consumption accounts 500 million tons(Bhandari, 2014; India, 2012).World's 12th largest pesticide market is in India with worth of 0.6 US dollars(Hundal & Singh, 2006). The first incident of pesticide poisoning in India occurred in Kerala in the year 1958(Dasgupta et al., 2007). The knowledge and practices of farmers about pesticides usage and selection are very less. Nowadays developing countries becomes the dumping ground yards of pesticides by the developed countries. The recommended amount of pesticide per hectare in India is 0.5kg/ha, it's very less compared to developed countries (Taiwan (17.0 kg/ha), Japan (12 kg/ha) and Korea (6.6 kg/ha) (WHO,1990), eventhough the health risks occur more.

The pesticide sellers are the group of people where farmers seek more advice rather than Government agriculture offices in the locality. Lack of education status is the main cause of seeking such advices by the farmers(Özer, 2014). Agriculturists collect information in many ways such as by asking pesticide sellers, contact with peer groups, reading the labels of chemicals and through agriculture extension workers .Pesticide dealers are the main source of information and also supplies fertilizers and seeds(Alam & Wolff, 2016). Sellers misguide the farmers in order to bring in more profit. Large productivity intensifies farmer's trust on pesticide dealers. This opportunity is taken over by dealers and hazardous and highly poisonous agrochemicals are supplied by the sellers to them. Even the financial growth persuaded to neglect the health risks. It leads to acute and chronic pesticide poisoning increase dramatically in developing countries.

2. DISCUSSION

Prescribing pesticides by the dealers creates lots of health risks. In order to tackle the problems some of the solutions need to be taken. Farmers never take initiation to change this practice even they are aware about the health risks. It's the duty of public health professionals to solve the issues which never impair the two halves. Currently, pesticides are becoming essential and unavoidable to the society. A world without pesticides can't be imagined in future. Hence appropriate awareness and reduction in the prescription in terms of dosage and toxicity is the means of approaching the problem.

Creating awareness on pesticide use and behavior is mainly managed by the Department of Agriculture. They conduct the training programme on a regular basis, however the percentage of people attending the programme is very less(4% based on a study conducted in Kerala)(Devi, 2009).Agriculture extension workers are in urban areas to oversee it. In rural area lack of such department workers to get involve with these problems. Training makes them aware of the necessity of using personal protective measures; gloves, goggles, full sleeve shirts, masks etc. The idea of selection of agrochemicals based on crops what they are cultivated should be given by the Agriculture Department. The quantity which is needed for mixing and toxicity of the chemicals are to be mentioned to avoid a chance to get high exposure of chemicals; oral, dermal or even inhalation.

Nevertheless pesticides are brought to the market is done by dealers. Profit build up is the aim of each and every retailer to survive. Farmers are having an existing practice of following their opinions. It shows the necessity of attending trainings by the dealers. The

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permit to bring agrochemicals to the market is possible only if dealers complete their regular training classes. One of the difficulty is the Agriculture department in every village is ready to give awareness to them.

3. RECOMMENDATIONS

Two approaches goes hand in hand to solve this problem; Supply side regulations and demand side regulations. One is regulations to the dealers or suppliers. Profit making is the ultimate aim of dealers. They prescribe whatever toxic chemicals without checking its health risk to agriculture laborers. From the demand side it is necessary to use the personal protective measures to reduce the effects of health risks. Studies support the personal protective equipments are minimizing the health effects(Karunamoorthi et al., 2012; Kumar, Kaushik, & Villarreal-Chiu, 2016).Suppliers can incorporate the selling of protective equipments along with the sales of chemicals. It is directly raise the profit of dealer and indirectly guide the users. However to speak regarding the personal protection and hygiene measures it is necessary to attend a training by the dealers.

4. IMPLEMENTATIONS

Pesticide sellers are the main source of information for farmers. Use them as a policy instrument to disseminate information and advocates the importance of personal protective equipments. Policy should be strong enough to regulate the selling of banned products as well as checking for training attained by the dealers from Agricultural Department. Policy creates a situation where lack of protecting equipments in the pesticide selling shops cancels its license.

Policy should be strong in demand side regulations. All the farmers are insisted to attend the training without fail on regular basis. Agriculture officers should take initiation by considering the worth of lives..

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