KNOWLEDGE ON EPIDEMIC DROPSY AMONG THE HEALTH WORKERS OF SUNSARI, NEPAL

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ABSTRACT

Epidemic dropsy is caused by consuming vegetable oil contaminated with argemone mexicana, grows as a weed along with mustard seeds and is similar to it in appearance. This has been seen commonly in this part of the world. The recent outbreak in India and Nepal clearly underline the need for disseminating knowledge to health workers about being prepared to tackle and control the outbreaks of epidemic dropsy. This study talks about the knowledge and perception about epidemic dropsy among the health workers in Sunsari. The knowledge about epidemic dropsy among the health workers was poor. Health education about epidemic dropsy, reasons for outbreak and control and preventive measures were given to the health workers of Sunsari district.

Key Words: Epidemic Dropsy, Out Break, Nepal Health Worker.

INTRODUCTION

Epidemic dropsy is an acute, non-infections disease characterized by pitting edema of the extremities, specially of the lower limbs, cutaneous esythema and local tenderness. Severe cardiac decompensation resulting into the congestive cardiac failure may cause death^{1,2,3,4} and glaucoma leading to blindness remains most severe sequel.^{5,6}

Epidemic dropsy is caused by consuming vegetable oils contaminated with argemone mexicana, which grows as a weed along with mustard seeds and is similar to it in appearance. The argemone seeds oil contains toxic alkaloids known as sanguinarine and dihydro" sanguinarine. Toxic effects of argemone oil due to its adulteration with vegetable oils have been reported from time to time. Epidemic dropsy has been identified as a social problem with legal implications. It has been seen

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commonly in India particularly in Bengal, Bihar, Orisha, Madhya Pradesh and Uttar Pradesh. It was also reported in Mauritius, Fiji and South Africa. It was reported recently from Delhi⁶ and Nepal.^{7,8} The case totality rate varies from 5 to 50%.¹

The recent outbreaks in 1998 in India and Nepal clearly underlined the need for disseminating knowledge to health workers about being prepared to tackle and control the outbreak of epidemic dropsy. The outbreak creates a panic among the population. The nature of outbreak being due to adulteration has a good amount of legal overtone. It is therefore necessary that all health professionals should be updated with knowledge about different aspects of epidemic dropsy.

It was found necessary to assess the knowledge about epidemic dropsy among the health workers of Sunsari, So that deficiencies in knowledge and problem areas in tackling can be identified. Similarly corrective measures can be suggested to tackle and control the outbreak of epidemic dropsy in future.

METHODOLOGY

The study was conducted among the health workers of sunsari district during 1998 outbreak of epidemic dropsy in Nepal. There are 48 Sub-Health Post, 8 Health Post, 3 Primary Health Centers, 1 District Hospital, 1 Teaching Hospital (B.P. Koirala Institute of Health Sciences, Dharan, Nepal) and 1 Private Hospital (Lunkaran Das Charity, Duhabi) in Sunsari District. All health workers of district health system in sunsari district were divided into three groups. Each group was called at their nearest place. Before talking about epidemic dropsy to the participants by the investigators, they were subjected with a pre-tested proforma containing questions regarding identification data, signs and symptoms of epidemic dropsy and its preventive

measures. Investigator gave health education to health workers of Sunsari about epidemic dropsy, reasons for outbreak, their control and preventive measures. Data were collected and analyzed.

RESULTS

A total of 57 participants participated in this study. Among them 42 (73.6%) were Auxiliary Health Workers (AHW), 4 (7.1%) Health Assistant (HA) and 11 (19.3%) others (Auxiliary Nurse Midwife, Village Health Worker, Public Health Nurse, Staff Nurse and Medical Officer). The total number of the male were 50 (88.7%) and 7 (12.3%) females. Among the participants, 29 (50.9%) were in age group of 40 to 49 years, followed by 14 (24.6%) in 30 to 39 years, 9 (15.8%) in 20 to 29 years and 5 (8.8%) in 50 to 59 years.

Majority of them (95%) expressed that inclusion of epidemic dropsy in the curriculum during their basic training program. Only one fourth mentioned that they have heard about epidemic dropsy. Less than 50% mentioned about one or more signs and symptoms of epidemic dropsy (Table 1). Only 14

Table 1. Awareness of sign and symptom of epidemic dropsy among health workers

Sign and Symptoms of Epidemic Dropsy	No. of Participants (n = 57)
Vomiting	6
Diarrhoea	8
Oedema in feet	9
Fever	3
Headache	1
Itching in the body	1
Total	28 (49.4%)

(24.6%) health workers were aware about cause of epidemic dropsy. Among them 6 (10.6%) and 4 (7.1%) health workers had some knowledge about the plant and its seeds responsible for epidemic dropsy and process of contamination of argemone in mustard cooking oil.

Only 9 (15.8%) health workers knew about the local agencies and laboratories for the testing oil to detect argemone contamination. Fifty percent health worker could identify the preventive measures of epidemic dropsy (Table 2).

Table 2. Knowledge regarding preventive measures of epidemic dropsy among the health workers

Knowledge of Preventive Measures for Epidemic Dropsy	No. of Participants (n = 57)
Tested oil should be used	5
Do not use the contaminated oil	5
Do not use the adulterated oil	6
Symptomatic treatment of the disease	5
Prevent the contamination of argemone from the edible oil	4
Do use certified oil only	4
Total	29 (50.6%)

DISCUSSION

Argemone seeds and oil contain toxic alkaloid sanguinerine identified half a century back by Sarkar.⁹ The review shows that there have been sporadic outbreaks from time to time.^{6,7,8} The repeated epidemic shows our casual attitude towards public health problem, which occurs in families coming from low socio-economic groups. The diet of affected persons is deficient in proteins and consists mainly carbohydrate.¹⁰

A simple epidemiological principle is that it is impossible to reduce a health problem in total populations without focusing on the people who are at greatest risk. These health personnel who are in constant touch with the population who needs nutritional education to make aware about food adulteration deficiency diseases and nutrition gap, balance diet and low cost nutrition diet etc. The mixing of these seeds though regarded as accidental, has been shown to be more often-willful adulteration.⁸

In this study only one-fourth participants have heard about epidemic dropsy and less than 50% were able to mention one or two signs and symptoms of epidemic dropsy. In this way only 25% participants were aware for the cause of epidemic dropsy, among them not more than 10% knew the plant and its contamination. It may be due to lack of training on this topics in their basic training, because the cause of epidemic dropsy was not reported in the Nepal before 1996.^{7,8} This study shows the need of training on preventive and curative aspects of epidemic dropsy for all the health workers and to all the students of AHW, ANM, HA and others health professionals.

CONCLUSION

1. Epidemic dropsy is a public health problem, so its preventive and curative knowledge to the health professionals is essential. So the preventive and curative measures should be taught during the training of ANM, AHW, Staff Nurse and HA etc.
2. Farmers and Social/ Political leaders should be trained for the identification of argemone seeds and plants. They should also be making aware for its contamination and toxic effects. There should be a campaign to eradicate the plant of argemone from the farmer's land. It will be better to eradicate the plants at the time of its flowering, because in this period it is easy to identify and eradication at this period also minimize the re-generation of argemone.
3. Food quality control system should be made more effective and all the cooking oil mainly mustard oil should be compulsorily tested for argemone adulteration at both factory and retailers level.

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