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Perception on poisoning among adult urban community members

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Abstract. Household poisoning is a public health issue in developing countries. This study was conducted to determine the perceptions of residents in Pasay City towards household poisoning, using a quantitative descriptive design, through a survey-interview data collection method. The study found that 58% of the respondents perceived improper food preparation as the most common source of poisoning, while 14% reported the absence of poisonous substances in their homes. Only 64% reported seeking medical consult as a priority intervention. Lastly, 83% identified proper labeling as a prevention method for poisoning. The researchers recommend increased public awareness regarding household poisoning, more visibility of the role of NPMCC in the community, and a second interventional phase of the study.

Keywords: poisoning, perception, practice, household products, community

Introduction

Poisoning is a fast-rising health-related problem in the developing countries. Poisoning incidences are steadily decreasing in most developed countries because of improvements in consumer awareness and education, technological advancements in storage and packaging, and increased telecommunication accessibility. However, in the Philippines, there are still incidences of poisoning among groups of individuals in schools and communities. Hundreds of different new products have found their way into the homes, presenting as potential hazards to both human and animals. In the 2009 Annual Report of the National Poison Management & Control Center (NPMCC) of the University of the Philippines College of Medicine, Philippine General Hospital, it is listed that the top two locations of poisoning exposure are first in hospitals and clinics (69%), and secondly, in the home (27%). The top three agents can all be found in the homes such as caustics (sodium hypochlorite, silver jewelry cleaner, hydrochloric acid, sodium hydroxide), kerosene, and insecticides. Meanwhile, in the 2010 Annual Report of the NPMCC, 77% of the admitted patients came from Metro Manila while only 18% came from the provinces. For the telephone referrals, 80% of calls came from Metro Manila and the Greater Manila Area. This means that most poisonings occur in the urban communities.

According to a study done by Brewer, Weinstein, & Cuite on risk perceptions and health behavior (2004), a high perceived risk of harm is directly related to a higher incidence and encouragement of protective behavior to reduce the perceived risk. Therefore, to increase the perception of the risk of poisoning at home, parents and caregivers should be knowledgeable of the possibility that poisoning may occur due to seemingly harmless materials that can be found at home. Several researches previously done (Osagbemi, Abdullahi, & Aderibigbe, 2010, Polivka, 1999) concur that the level of knowledge about the different types of poisoning is low among home caregivers. For both studies, it was concluded that the public was generally aware of the risk of poisoning, but

had difficulty identifying possible causes, and more importantly, measures to prevent this from occurring. Children six-years old and below is the population age that is especially prone to this because they explore their surroundings, act very quickly and are able to crawl under and reach small spaces. According to a study done in the United States (Roddy, O'Rourke, & Mena, 2005), almost 50% of households have at least one toxic substance accessible to children, and from this, 18.5% are stored very unsafely (very accessible, or not in their original containers). Accidental poisoning also happens to adults, especially if the older persons in the homes cannot read and/or have difficulty reading labels. Medications and household cleaners should be stored away, because they are very potent once ingested. There is the non-accidental poisoning using these household products and medications committed by adults who want to end their lives, which often have more severe outcome.

In the Philippines, there was a similar study done regarding the belief system of farmers from Nueva Vizcaya on pesticide safety by Palis, Flor, Warburton, & Hossain (2006). The study reported that among farmers, pesticide was not perceived as a threat or poison because of several reasons: they believed they are immune, it was believed to be "medicine" for the plants, and lastly, they believed poisoning from pesticides was only through inhalation and ingestion, and not through dermal contact. Due to these reasons, farmers used inadequate protection and safety precautions because they did not believe it was needed. No study on perceptions on household poisoning has been done in the country yet, highlighting the need for a baseline study on the issue.

Although not every poisoning incident results in death of the child or the adult, nonfatal incidences may cause neurological and esophageal damages that may leave the person with a lifetime of physical, emotional, and psychological problems. Parents and caregivers should be made aware of the presence of harmful substances in their homes, their potential as poisons, and the measures to prevent poisoning from occurring. However, the knowledge base of the caregivers in the community must first be determined to know how big the gap is between what is presently known, and what should be known. This is where interventions to prevent poisoning incidences and complications can later be done. Because no similar research has yet been done in the Philippines, this may serve as an initial study on the perceptions and practices of residents in an urban community regarding poisoning.

Materials and Methods

This study utilized a quantitative descriptive design to investigate the perceptions and practices of adult residents in Pasay City about poisoning. Data gathered through interview questions was analyzed quantitatively through identification of common answers. The stated research problems were answered in quantitative means.

Participants

There were 112 adult respondents in this study from the eleven (11) barangays covered by the MIA Health Center in Pasay City, namely barangays 191 up to 199. The area is an urban poor community situated near the Ninoy Aquino International Airport. This was specifically

chosen because according to the 2010 report of the National Poison Management & Control Center, Pasay City has the third most number of reported poisoning cases, next to Mandaluyong City and Manila. Due to convenience and accessibility of the area to the investigators, Pasay City was the selected area of the study. The respondents' ages range from 18 to 71, of which there were 70 males and 42 females.

Convenience sampling was used in this study. The data collection period was intended to coincide with the annual clinical practicum of the UP College of Nursing in Pasay City since the two investigators were following up students there. Collection of data happened in the months between January and April, 2011.

Instruments

A structured questionnaire-interview instrument was used to collect the information needed. Initially, an instrument with twenty-three (23) close-ended questions was constructed. The questions were based on the poisoning handout that was developed by medical residents of the Poisoning Center in Philippine General Hospital regarding the most Frequently Asked Questions of call referrals on poisoning. The instrument underwent pretesting that involved 60 adult respondents from the same community but a different group from this the study, although the two groups were comparable in terms of age and area. This pretesting of instrument was done to determine the instrument's ability to draw out meaningful and useful inferences on perceptions on household poisoning. Based on the data gathered from the pretesting and the comments of individual respondents and data-gatherers, the first instrument limited the possible responses of the participants. Because of this, the tool was modified to have open-ended questions instead, so that the respondent can freely answer each item. The resulting modified second instrument was a structured 10-item questionnaire-interview, which was the actual data collection tool used for study.

Procedure

A letter of permission was sent to the health center. The survey-interview procedure of data collection was carried out to ensure rapid and complete data collection. Three interviewers administered the 10-item questionnaire-interview form. The forms were answered by the interviewers since having the respondents write their answers would take a longer time. Data were encoded and analyzed with Microsoft Excel 2007. All the answers of the respondents were written down verbatim, encoded, and then the answers were categorized into themes. After the identification of themes, the data was then subjected to quantitative analysis. Tabulation, frequency and percentage of responses that identified each theme were done.

Results and Discussion

Perceptions on What Poisoning Is

A single respondent mentioned several, and most of them perceived poisoning as ingestion of spoiled or inedible food (29.46%), followed by its notion of being lethal (22.32%), and accidental ingestion or inhalation of poisonous substances (19.64%). Other answers included ingestion of chemicals (10.71%), signs and/or symptoms of poisoning,

such as stomachache, vomiting and difficulty breathing (17.86%), while 1 (0.89%) answered suicide. From this, it can be observed that the perception of poisoning is still strongly limited to that of food poisoning.

Perceptions of Poisonous Substances

Respondents were asked to identify as many causes of poisoning as they know. More than half of the respondents (58.93%) identified spoiled or poorly cooked food as a cause of poisoning. This was followed by chemicals (32.14%), expired medicines or overdose of medication (16.96%), accidental inhalation (10.71%), and poisons (8.93%). In relation to this, the respondents were also asked to identify as many specific substances that can be found in the home that could potentially cause poisoning. Notably, 14.29% of the respondents mentioned that they had no potentially poisonous substances kept in their houses. The most common item in the home identified to be potentially poisonous were detergents, cleaning solutions, and bleaching agents (65.18%), followed by insecticides (45.54%). Other answers were kerosene (12.50%), drugs or medicines (7.14%), and personal care products such as cologne/perfume/facial cleanser (7.14%).

Respondents were asked further how these substances can cause poisoning, or by which route they can become poisonous. The most common answer noted was ingestion of the substance (55.36%), followed by inhalation (31.25%), incorrect usage (9.82%) and skin contact (8.93%), while 24.11% had no answer.

Signs and Symptoms of Poisoning

The most frequent answer was vomiting or frothing from the mouth (82.14%), followed distantly by headache (39.29%) and stomachache (25.89%). Diarrhea and note of change in skin color both have 12.50% each, while difficulty of breathing was mentioned by 11.61% of the respondents, and weakness have 9.82%.

Treatment and Prevention, and Information Sources of Poisoning

The respondents were asked what their first action would be should they witness poisoning in the home or in the community. Most of them mentioned several initial actions. Specifically, 64.29% mentioned taking the patient to the hospital/doctor. Other initial measures mentioned were feeding the patient with sugar, or anything sweet (33.04%), and making the patient drink water (17.86%) or milk (12.50%). Furthermore, respondents were asked about ways on how poisoning can be prevented. Most of the answers were focused on proper storage of food and chemicals (83.93%). The responses are summarized in the table below:

Perceptions on Ways to Prevent Poisoning

What are the things to do to prevent poisoning?	Freq	%
No answer	2	1.79
Proper storage (hiding, putting in a higher place)	94	83.93
Cooking thoroughly	11	9.82
Proper reading of food labels	7	6.25
Correct labeling of poisons	7	6.25
Environmental cleanliness	6	5.36
Proper Waste Disposal (especially of chemicals)	5	4.46
Watchfulness and guidance of children	5	4.46
Avoid using poisons at home	4	3.57
Covering of noses	3	2.68
Proper hand washing	2	1.79
Health teaching about poisons	1	0.89

Sources of Poisons

Half of the respondents answered the television as source or medium of information (50.89%), followed by health professionals (26.79%), and relatives or neighbors (23.21%).

Information sources on Poisoning

Of the 112 respondents, 99 (88.39%) had no idea that there was such an institute. When asked to explain the purpose of the NPMCC, only 5 (4.46%) answered management of poisoning cases. Ten respondents (8.93%) identified it as a source of information, but majority had no answer (83.93%).

Conclusions

Poisoning from food sources is the type most people in the community are familiar with. Also, the primary source of information was the television, followed by clinics/doctors, and some others from relatives and friends. Thus, future interventions on prevention of poisoning should be geared toward maximizing the power of media combined with the accurate information-sharing by health professionals. Interventions should be tailor-fit and in accordance with the educational/learning capacity and needs of the person or the population. A training program for community health nurses on the proper identification of poisons and management of these cases.

This research is only an initial study to assess how the people in an urban community perceive poisoning, the management of poisoning, and the risks associated with it. Even with the relatively small sample size, it is apparent that there is a significant gap that divides between what is known and practiced by the community, and what they should know and practice.

It is recommended by the authors of this study to conduct a second phase of this study, with greater use of the quantitative method. There were several themes that this initial study was able to identify. Using Likert Scale as an instrument, the second phase will hopefully be able to determine specific areas of focus for future interventional studies.

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