



## Implementation of Handling Actions for Health Problems Regarding Food Poisoning

Desi Sri Rejeki<sup>1</sup>, Djunaedi<sup>2</sup>

<sup>1</sup> Pharmacy Study Program, Faculty of Health Sciences, Bhamad Slawi University, Indonesia

<sup>2</sup> Nutrition Study Program, STIKes Salewangan Maros, Indonesia

### ABSTRACT

Poisoning is an emergency that can damage cells and some body functions due to the entry of a substance or food that contains poison, originating from toxic materials formed due to the decomposition of food and bacteria. Food poisoning is an illness that occurs after eating food that contains toxins, originating from toxic materials formed as a result of food decay and bacteria. Research purposes is for know knowledge help first on poisoning food. Research Methods this is study descriptive with use approach cross sectional. Retrieval sample done with accidental sampling and collection data use questionnaire knowledge poisoning food with a analysis data using univariate analysis. Results which obtained majority respondent know definition poisoning, sign and symptom poisoning, and management poisoning. Majority respondent not yet know handling dehydration heavy and diarrhea which due to because poisoning.

**Keyword** : Implementation, Handling Actions, Health Problems, Consequences of Food Poisoning

Correspondent : Desi Sri Rejeki

Email : [djunaedijuned79@gmail.com](mailto:djunaedijuned79@gmail.com)

### 1. Introduction

A poison is a substance that, when swallowed, inhaled, absorbed through the skin (e.g., from a plant), or injected (e.g., from an insect sting), can cause illness, damage, and sometimes death (Jones & Bartlett, 2007). Poison is a substance that has the ability to damage cells and some body functions abnormally (Arisman, 2009). Food poisoning is an emergency situation caused by the entry of a substance or food into the body through the mouth which causes harm to the body (Junaidi, 2011). Food poisoning is an illness that





occurs after eating food that contains poison, originating from toxic materials formed as a result of food decay and bacteria (Junaidi, 2011).

Poisoning is a widespread and dangerous phenomenon in the world (Alnasser et al, 2020). Food poisoning is someone who suffers from an illness with symptoms and signs of poisoning caused by consuming food suspected of containing biological or chemical contamination (Regulation of the Minister of Health of the Republic of Indonesia No. 2 of 2013). Diseases caused by food poisoning contribute to increasing morbidity and mortality rates worldwide. Increasing incidents of food poisoning continue to be reported worldwide and are often linked to food contamination, raising global public concern.

Food poisoning incidents occur quite frequently in several regions of Indonesia with a fairly high incidence rate. In 2017, the Indonesian Food and Drug Administration recorded that the number of people exposed to food poisoning was 5293 people. The cases of Extraordinary Events of Food Poisoning reported in 2017 were 2041 people sick, 3 people died with an Attack Rate of 38.56% and a Case Fatality Rate of 0.15%. This shows that Extraordinary Events of Food Poisoning are still a public health problem that needs to be prioritized for handling (Mustika, 2019).

#### 1) Signs and symptoms of food poisoning.

Symptoms of poisoning vary widely, depending on the point of capture and the manner in which the poison in question enters. Here are examples of signs and symptoms based on the food consumed, including:

##### a) Mushroom poisoning

Some types of mushrooms generally contain a substance called muscarine. This muscarine stimulates the parasympathetic nervous system, so that if poisoning occurs it will cause symptoms of nausea, excessive salivation, vomiting, stomach ache, diarrhea, shortness of breath, headache, starflies, to shock and death.

##### b) Jengkol poisoning





Jengkol poisoning can cause symptoms such as severe stomach pain, inability to urinate or being able to urinate but with blood coming out. These symptoms are apparently caused by the formation of jengkol acid crystals in the urinary tract.

c) Bongkrek tempeh poisoning

In toxic bongkrek tempeh, bongkrek acid is formed which is very toxic to enzymes that play a role in the use of cell energy (inhibiting phosphorylation). Symptoms of poisoning vary, ranging from nausea, vomiting, abdominal pain, seizures and death.

d) Poisoning of cassava, jack bean seeds and certain tubers

This type of food contains cyanide. The levels of cyanide in the material vary so that some are poisoned and some are not, even though they eat the same type of material. Cyanide compounds attack the cell's respiratory enzyme (cytochrome oxidase). Symptoms of this type of poisoning vary from nausea, vomiting to convulsions, depending on the amount of poison that enters the body (Sutawijaya, 2010).

According to Selinawati (2019), food poisoning is a type of poisoning that is often experienced by school- age children. Poisoning comes from several snacks that are not guaranteed to be clean. According to Gupta (2018), the bacteria that cause food poisoning are E. Coli, Salmonella and listeria. E. Coli is the most dangerous bacteria, usually found in contaminated food, food that is not cooked properly. Signs of E. Coli poisoning itself are diarrhea without fever, with 5% of cases worsening to kidney failure. Signs of food poisoning due to Salmonella can be asymptomatic, but can also include nausea, vomiting and diarrhea.

Poisoning is a life-threatening condition, treat it immediately and properly. Therefore, everyone should be able to do first aid (Thygerson, 2011). But before in a general emergency People often panic, chaos and hysterical ignorance, not knowing what to do to solve the problem. This doubt arises between the two because of ignorance and fear of the consequences of the cause (Junaidi, 2010).





People's behavior in providing first aid for food poisoning is still wrong, namely giving cold water to drink and consuming raw bananas when poisoning occurs. Wrong behavior can cause someone to take actions that are not in accordance with first aid for food poisoning (Syahnaz, 2018).

Handling of poisoning is one of the essences of emergency nursing because if not followed up immediately it will cause morbidity and mortality (ENA, 2018). The main treatment when food poisoning occurs is rehydration which aims to restore fluids lost when the patient vomits (Mustika, 2019). This study was conducted to determine the description of students' knowledge about the definition of poisoning, signs and symptoms of poisoning, and first aid measures when experiencing or encountering a poisoning incident.

## 2. Research Methods

This study uses a quantitative method with a descriptive design. The location of the study was in elementary school 1, grades five and six. Sampling using the total sampling method. The single research variable is the description of students' knowledge in handling food poisoning. Data were collected using a knowledge questionnaire containing several questions covering the terms food poisoning, signs and symptoms of poisoning, and first aid measures for food poisoning.

## 3. Results and Discussion

### a. Results

#### 1) Analysis Univariate

Table 1. Distribution Characteristics Respondents

Characteristics	Frequency	Percentage (%)
<b>Age</b>		
9	3	3.8
10	29	36.7
11	46	58.2
12	1	1.3
<b>Type sex</b>		
Man	35	44.3
Woman	44	55.7
<b>Class</b>		





4	33	41.8
5	46	58.2
Total	79	100.0

Based on table 1, the results obtained are that the majority age is 11 years, the majority gender is 11 years. Woman that is 44 Respondent (55.7%) And majority Sit down in class 5 Public Aelementary School.

Table 2.  
Description Knowledge Help First Poisoning Food

	Mean	Min	Max
Knowledge	8.78	5	14

Based on table 2, the average score for knowledge of first aid for poisoning was obtained. food is 8.78. Mark Which obtained Respondent that is the lowest 5 And the tallest 14.

## b. Discussion

Age can affect a person's comprehension and mindset. The older a person is, the more experience and knowledge they gain. So that it can increase mental and intellectual maturity in a person.

Age and adults dominate cases of food poisoning (Arisanti, Indriani and Wilopo, 2018). Food poisoning often occurs in children, this is caused by curious behavior and likes to explore their environment. So it is very vulnerable to taste something and put something in his mouth. Untreated poisoning will become an emergency because it threatens the lives of children (Thaancoody & Anderson, 2020).

In the questionnaire distributed to 79 respondents, the majority of respondents answered correctly the definition of food poisoning, namely the question point "food poisoning is a person who suffers from illness with symptoms and signs of poisoning caused by consuming anything contaminated with chemicals" and the question point "poisoning after consuming chemicals is included in the food poisoning group". Both statements are definitions of poisoning according to PERMENKES No. 2 2013.

Factors that influence cases of food poisoning are food processing related to the survival of pathogens, long preparation before food is served, and errors in storing





food (Arisanti, Indriani and Wilopo, 2018). In developing countries (including Indonesia), food poisoning is usually caused by local products, which are poorly packaged and labeled. The leading causes of death from this poisoning are pesticides and chemical drugs (Thaancoody & Anderson, 2020).

#### a) Signs and Symptoms of Food Poisoning

In the questionnaire distributed to respondents, the majority of respondents answered correctly the signs and symptoms of food poisoning, namely the question point "in victims of food poisoning, saliva production increases" and the question point "food poisoning can cause symptoms of a burning sensation in the throat". From the data obtained, all respondents in this study had never experienced food poisoning. The answers from respondents in accordance with PERMENKES No. 2 2013, the signs of people experiencing poisoning are nausea, vomiting, sore throat and breathing, stomach cramps, diarrhea, visual disturbances, floating sensation, paralysis, fever, chills, discomfort, fatigue, swollen lymph nodes, red face and itching.

The signs and symptoms of food poisoning experienced by research respondents were nausea and vomiting. One of the bacteria that can be present in food is Salmonella. According to Gupta (2018), some signs of food poisoning caused by the presence of Salmonella in food are nausea and vomiting. One of the factors that causes Salmonella to develop rapidly is if the basic food ingredients are not processed properly.

During the production process including processing, packaging, transportation, preparation, storage and serving of food may be exposed to microbial contamination or agents that cause infection or intoxication. If the microbes or toxins produced reach sufficient amounts and are consumed by humans, food poisoning occurs (Mustika, 2019). Handling and processing of street food that is not hygienic and does not comply with regulations can cause food-borne illnesses. This occurs due to cross-contamination or re-contamination that occurs after cooking (Sari, 2017).





b) Food Poisoning Treatment.

In cases of ice cream food poisoning in this study, the first aid that must be done is to remove the poison or dilute the poison. In general, the treatment of food poisoning is divided into two stages, namely life-saving efforts and symptom improvement. Dehydration due to vomiting is treated by stopping the vomiting and diarrhea. Giving rehydration fluids is not just about replacing fluids that have been/are being lost, but also compensating for electrolyte deficits (sodium, potassium, chloride, magnesium) carried along with vomit and diarrhea. If the patient is believed to have consumed a specific toxin (from mushrooms or fish), gastric lavage and administration of activated charcoal are the first steps. Gastric lavage is performed if the toxic substance that was eaten is thought to still be in the stomach. In cases of poisoning with a short incubation period, unless eating mushrooms or chemicals, no specific treatment is required except rehydration (Arisman, 2009).

According to Thygeron (2011), knowledge of first aid is important for the safety of victims, it is better to know about first aid and not need it than to need first aid but not know about first aid. So everyone should know about first aid.

Lack of handling of food poisoning in the community can cause disability or even death. Lack of public knowledge in early handling of food poisoning is a predictive factor for increasing cases of food poisoning (Dwi Wahyudi, 2016). The results of Dwi Wahyudi's study (2016) stated that 63 respondents (82%) had sufficient knowledge, 13 respondents (16%) had insufficient knowledge, and 2 respondents (2%) had good knowledge about handling food poisoning. Health promotion activities about the importance of handling food poisoning should be carried out periodically to the community, this is intended to increase information for the community about handling food poisoning.

Although the majority of poisoning cases can be treated at home, reducing hospital visits is very important to note. The many interventions involved in the





management of poisoning are a major task and a heavy burden for the institutions involved (Alghadeer, et al, 2018).

#### 4. Conclusion

In this study, it can be concluded that the majority of respondents know the definition of poisoning, signs and symptoms of poisoning in the form of nausea and vomiting and burning throat, and management of poisoning. For the management of poisoning, the majority of respondents answered incorrectly regarding the care of poisoning victims who were severely dehydrated and the administration of sugar water to food poisoning victims who had diarrhea.

#### 5. Compliance with ethical standards

##### Acknowledgements

The researcher would like to thank the Elementary School Principal and his staff, as well as all parties who have helped carry out this research. Therefore, the researcher hopes that there will be more services that can help the community become healthier.

##### Disclosure of conflict of interest

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

##### Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

#### Reference

1. Ali Imran, Dr. A.Nursinah, Verawati, Rusnita. Health Communication Textbook (Key to Success in Hospital Administration). ISBN: 978623-10-0088-0. <https://agdosi.com/2024/04/04/buku-ajar-komunikasi-kesehatan-kunci-sukses-administrasi-rumah-sakit/>
2. Alghadeer, S., Alrohaimi, M., Althiban, A., Kalagi, N.A., Balkhi, B., & Khan, A.A. (2018). The patterns of children poisoning cases in community teaching hospitals in Riyadh, Saudi Arabia. *Saudi Pharmaceutical Journal*, 26(1), 93–97. doi:10.1016/j.jsps.2017.10.007.
3. Alnasser, S., Hussain, S.M., Alnughaymishi, I.M., & Alnuqaydan, A.M. (2020). Patterns of food, drug and chemical poisoning in Qassim region, Saudi Arabia from January 2017 to December 2017. *Toxicology Reports*, 7, 1438–1442.





4. Arisanti, RR, Indriani, C., & Wilopo, SA (2018). Contribution of agents and causal factors to food poisoning outbreaks in Indonesia: a systematic review. *Community Medicine News* 34 (3) 99–106.
5. Arisman. (2009). *Nutrition Science Textbook: Food Poisoning*. Jakarta: EGC Medical Book Publishers. *Wound Care And Treatment For Health*. ISBN No.: 978-623-09-8231-6. <https://agdosi.com/2024/01/10/wound-care-and-treatment-for-health/>
6. Daeli, W., Solehudin, S., & Suryadi, B. (2024). Nursing Care for Patients with Loss of Consciousness. *Barongko: Journal of Health Sciences*, 2(2), 267–277. <https://doi.org/10.59585/bajik.v2i2.230>
7. Dwi wahyudi, Agung (2016) *Public Knowledge About Handling Food Poisoning in the Community in RT/RW 02/01 Tosari Hamlet, Munggun Village, Pulung District, Ponorogo Regency*. Thesis, Muhammadiyah University of Ponorogo.
8. Emergency Nurses Association. 2018. *Sheehy's Emergency and Disaster Nursing*.
9. Gupta, P. (2018). Poisonous foods and food poisonings. *Illustrated Toxicology*, 285–307.
10. Kusumawaty, I., Yunike, Y., & Astuti, RD (2023). Enhancing Community Mental Health Achievements Through Health Cadre Development in Talang Buluh Village. *Sahabat Sosial: Journal of Community Service*, 2(1), 28–39. <https://doi.org/10.59585/sosisabdimas.v2i1.212>
11. Ministry of Health of the Republic of Indonesia. 2017. *Indonesian Health Profile 2016*. Jakarta: Ministry of Health of the Republic of Indonesia.
12. MaSekolah Dasar Negeri Arwati, M., Kadir, E., Serli, S., Ruben, SD, Pannyiwi, R., & Rante, A. (2023). Counseling on Complementary Foods with Toddler Nutritional Status. *Sahabat Sosial: Journal Community Service*, 1(2), 58–60. <https://doi.org/10.59585/sosisabdimas.v1i2.28>
13. Gemstone, S. (2019). *Poisoning Food : Prevent, Get to know, Get over it*. Poor : Team UB Press.
14. Rasyid, Djusmadi, & Rante, A. (2022). Joint Pain in the Elderly and How to Overcome It. *Sahabat Sosial: Journal of Community Service*, 1(1), 21–26. <https://doi.org/10.59585/sosisabdimas.v1i1.12>
15. Sari, MH (2017) *Knowledge and Attitude of Food Safety with Elementary School Children's Snack Food Vendor Behavior*. *Journal of Health* 2 (2). Semarang University.
16. Syahnaz, Z. (2018) *Community Behavior in First Aid for Food Poisoning in RT02/RW01 Dukuh Puhcacing, Kori Village, Sawoo District, Ponorogo Regency*.
17. Selinaswati, S. (2018). The Role of Schools in Anticipating Food Poisoning from School Children's Snacks - PJAS. *Jurnal Socius: Journal Of Sociology Research And Education*, 4(2), 126-133.
18. Thanacoody, R., & Anderson, M. (2020). Epidemiology of poisoning. *Medicine*, 48(3), 153– 155.
19. Thygerson, A. (2011). *First Aid*. Jakarta: Erlangga.
20. WHO. *WHO Estimates of The Global Burden of Foodborne Diseases: Foodborne Disease Burden Epidemiology Reference Group 2007-2015*, Switzerland. 2015.

