



Health secrets hidden in guava leaves: Guava tea, a delicious and natural solution to treat diarrhea in children!

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Abstract

This study aims to increase public knowledge about the processing of guava leaves as herbal medicine to treat diarrhea. Prior to counseling and training, the results of the pretest showed that most of the participants (70.5%) had known the utilization and processing of guava leaves as herbal medicine. After attending the training, participants were given a post-test questionnaire to measure the increase in their knowledge. The results showed that there was a significant increase in the participants' knowledge after attending the training. The knowledge percentage increased from 70.5% to 89.0%, representing an increase of 18.5%. This training provides information on how to process guava leaves into herbal medicines that are effective in treating diarrhea. Some of the processing methods taught in the training include making guava leaf tea, guava leaf extract, and decoction of guava leaves. Participants were also given knowledge about the active ingredients in guava leaves, such as quercetin, which has an anti-diarrhea effect. This study showed that the counseling and training program was effective in increasing participants' knowledge about processing guava leaves as a herbal medicine to treat diarrhea. With the knowledge gained, it is hoped that the community can properly process guava leaves and use them effectively in maintaining health and treating diarrhea with simple medication. This program also empowers garden plants in the environment around the village as an easily accessible source of herbal medicines.

Keywords: processing, guava leaves, herbal medicine, diarrhea, counseling

1. Introduction

Diarrhea is a health problem and is still the main cause of high morbidity and mortality in children in developing countries, including Indonesia. According to WHO, the diarrhea morbidity rate in 2010 was 411 sufferers per 1,000 population. 213,435 sufferers with a death toll of 1,289, and around 70 – 80% of that number are in children, especially those under 5 years of age (Fратиwi, 2015; Farhana et al., 2017).

Diarrhea is one of the most common health problems in children. This digestive disorder is characterized by increased frequency of bowel movements, loose stools, and may be accompanied by symptoms such as stomach cramps, nausea, and vomiting. Diarrhea in children can be caused by a variety of factors, including viral, bacterial, or parasitic infections, food intolerances, or reactions to medications (Bultman & De Vries, 2018).

Diarrhea can be caused by a variety of factors, including amoebae and bacteria. Some examples of amoebae that can cause diarrhea are *Entamoeba histolytica* and *Naegleria fowleri*. Meanwhile, several bacteria that can cause diarrhea include *Escherichia coli* (ETEC and EHEC), *Salmonella*, *Campylobacter jejuni*, and *Vibrio cholerae*. However, it is important to remember that there are also other causes of diarrhea such as viruses, parasites, unsuitable foods, medication side effects, or stress. Proper diagnosis and treatment of diarrhea should be carried out by a doctor or a qualified healthcare professional (Ojewole et al., 2008).

In the treatment of diarrhea in children, it is important to pay attention to adequate hydration so that the child does not become dehydrated. Apart from that, there are various natural methods that can help overcome the symptoms of diarrhea in children, one of which is using the guava plant (Akila et al., 2018; Takahashi et al., 2015).

Guava (*Psidium guajava*) is a plant that comes from Central America and South America. Guava fruit has various properties that are beneficial to health, including in overcoming diarrhea in children. Here are some of the benefits of guava in treating diarrhea in children (Wang et al., 2018):

1. High fiber content: Guava is high in fiber, so it can help treat diarrhea by increasing stool volume and improving stool consistency. Fiber also aids in the digestive process and helps reduce the transit time of food through the intestines, thereby reducing the frequency of excessive bowel movements.
2. Antimicrobial properties: Guava has natural antimicrobial properties, which means it can help fight infections that may be causing diarrhea. Compounds like ascorbic acid (vitamin C) and other phytochemicals in guava help fight the growth of bacteria and viruses that can cause digestive infections.
3. Anti-diarrheal effect: The tannin content in guava has an anti-diarrheal effect which can help reduce the frequency of excessive bowel movements. Tannins work by forming a protective layer in the digestive tract, which helps reduce inflammation and prevent excess water absorption by the intestines.
4. Source of electrolytes: Diarrhea can cause loss of important fluids and electrolytes in the body. Guava contains electrolytes such as potassium, magnesium and sodium, which can help replace electrolytes lost due to diarrhea and improve fluid balance in the body.

Guava can help cure diarrhea in children caused by bacterial infections, viral infections, parasitic infections or food intolerances. Guava contains antimicrobial compounds that fight the growth of bacteria and parasites, as well as boost the child's immune system to fight viral infections. In addition, guava does not cause food intolerance, so it is safe to use as an alternative in dealing with diarrhea due to certain food intolerances (Sriwilajaroen et al., 2012; Deguchi, & Miyazaki, 2010). However, if the diarrhea persists or the symptoms are severe, it is important to seek medical attention for proper diagnosis and treatment.

However, it is important to remember that guava may not cure all types of diarrhea. If diarrhea in a child persists or is accompanied by severe symptoms such as high fever, excessive vomiting, or signs of dehydration, it is important to seek medical advice immediately for proper diagnosis and treatment. Doctors or health professionals can provide more specific guidelines based on the child's condition (Joseph & Priya, 2011).

Residents of Cibungur Parungponteng Village, Tasikmalaya Regency are residents who live in the village which is located in Tasikmalaya Regency, West Java, Indonesia. Programs are needed to increase knowledge, skills and healthy behavior in dealing with diarrhea with simple medication. The aim of this program is for the community to experience an increase in knowledge, skills and attitudes in protecting, preventing and treating diarrhea easily. In addition, this program also aims to empower yard plants in the environment around the village.

Through this program, the public will be provided with better information and understanding of diarrhea, including its causes, symptoms and how to treat it. They will be taught about the importance of maintaining cleanliness, sanitation, and a healthy diet to prevent diarrhea. Training will also be provided to teach practical skills such as proper hand washing, safe drinking water treatment and proper food storage.

In addition, this program will also empower garden plants in the environment around the village. Communities will be taught about the benefits of garden plants in overcoming diarrhea, such as guava. They will be trained in planting, caring for, and processing this plant to become an effective diarrhea medicine. This will provide a double benefit, namely increasing the knowledge and skills of the community in simple medicine and utilizing natural resources around the village.

With this program, it is hoped that the community will experience increased knowledge, skills and positive attitudes in maintaining health and dealing with diarrhea. Communities will be better able to handle diarrhea with simple medication and adopt healthy practices in their daily lives. In addition, by empowering garden plants, the community will have alternative natural treatments that are cheap, safe and easily accessible.

2. Methodology

In the early stages of activities for residents in Bageneng village, Cibanteng village, Parungponteng sub-district, Tasikmalaya district. introduced to the symptoms of diarrhea, its causes, and prevention. Then in the second stage, residents were introduced to various local plants that can be used to treat diarrhea. Furthermore, they are reminded again about the benefits of guava leaves and an explanation of why guava leaves are different from other leaves. Here are the steps in making guava tea:

2.1. Materials needed:

- Fresh or dried guava leaves
- Water
- Pot or teapot
- Strainer or tea strainer
- Sugar or other sweetener (optional)

2.2. Steps:

- Clean guava leaves: If using fresh guava leaves, wash the leaves thoroughly with clean water to remove dirt or other residue. If using dried guava leaves, make sure to buy leaves that are clean and free of dirt.
- Prepare the water: Put the water in a saucepan or pitcher. The amount of water used can be adjusted according to how much guava tea you want to make.
- Heat the water: Place a pot or pitcher over the fire and bring the water to a boil.
- Add guava leaves: Once the water is boiling, add fresh or dried guava leaves to a pot or pitcher filled with hot water. The amount of leaves added can be adjusted according to your taste, but generally one teaspoon of dried guava leaves per cup of water is sufficient.
- Soak guava leaves: Let guava leaves soak in hot water for about 5-10 minutes. This will aid in the extraction of the active compounds from the leaves and produce a tea with good taste and properties.
- Strain the tea: After steeping, strain the guava tea using a strainer or tea strainer to separate the leaves from the tea water. You can discard the filtered leaves.
- Serve the guava tea: Pour the guava tea that has been filtered into a serving cup or teapot. You can add sugar or other sweeteners according to taste. Guava tea can be served warm or cold, depending on your preference.

Guava tea is ready to be enjoyed as a natural diarrhea remedy. However, it is important to remember that the use of guava as a medicine for diarrhea can only help with symptoms of mild to moderate diarrhea. If the diarrhea persists or the symptoms are severe, accompanied by high fever, signs of dehydration, or other worrying symptoms, consult a doctor immediately for proper medical diagnosis and treatment.

3. Results

Counseling and training to teachers and guardians of students and children at SDN NANGO, about diarrheal diseases and how to make guava tea properly because it is very important to maintain the efficacy of the guava plant and ensure that its benefits are not diminished.



Figure 1: Making Guava Tea

The results of the pre-test prior to counseling and training showed that 70.5% of the participants knew about the use and processing of guava leaves as herbal medicine to treat diarrhea. After the training, the participants were given a post-test questionnaire which showed an increase in knowledge of up to 89.0%. There was an increase in knowledge of 18.5%.

Participants' knowledge increased after attending training on the use of guava leaves as an herbal medicine to treat diarrhea. Several ways of processing guava leaves that were presented in the training included:

- Use 30 grams of fresh guava leaves and about 10 grams of rice flour. Guava leaves and rice flour are roasted until they turn yellow. Then boiled for 15 minutes in two cups of water until boiling. The filtered water is ready to drink.
- Using 30 grams of guava leaves that have been washed and finely ground. Add 5 grams of NaCl (sodium chloride salt) and half a cup of warm water. Stir until homogeneous. Filtered water can be drunk.
- Use 6 pieces of young guava leaves that are washed. Boil in 600 mL of water until it remains half.

This processing method can help process guava leaves so that they can be used as herbal medicines to treat diarrhea. The trainees are provided with the knowledge and skills that will enable them to utilize the guava plant effectively.

The increase in knowledge of 18.5% shows the effectiveness of the counseling and training programs carried out. Participants managed to gain new knowledge about the utilization and processing of guava leaves as herbal medicine to treat diarrhea. This can have a positive impact on the participants' ability to maintain health and overcome diarrhea with simple treatments using garden plants.

This increase in knowledge can also mean that participants understand the benefits and proper processing methods to maintain the efficacy of the guava plant as a medicine for diarrhea. With this increase in knowledge, it is hoped that participants will be able to apply healthy practices in their daily lives and benefit from their garden plants (Chassagne et al., 2022)

This counseling and training program has had a positive impact in increasing participants' knowledge about processing guava leaves as a herbal medicine to treat diarrhea. With better knowledge, participants can take appropriate steps in maintaining health and dealing with diarrhea with simple remedies using plants in their garden.

4. Conclusion

This study shows that counseling and training programs regarding the processing of guava leaves as an herbal remedy for treating diarrhea have provided significant benefits. Before the program was carried out, most of the participants already had basic knowledge about the use of guava leaves as herbal medicine. However, after attending the training, there was a significant increase in the participants' knowledge.

This program succeeded in increasing the participants' knowledge by 18.5%, with the percentage of knowledge increasing from 70.5% to 89.0%. This shows that counseling and training programs are effective in providing more detailed information about the processing of guava leaves into herbal medicines that are effective in treating diarrhea.

Through this program, participants learn various methods of processing guava leaves, such as making tea, extracts, and decoctions. They also gained knowledge about the active ingredients in guava leaves, such as quercetin, which has an anti-diarrhea effect. With this knowledge, participants can use guava plants available in their surroundings to treat diarrhea in a simple and natural way.

This program also empowers the community to take better care of their health and prevent diarrhea through the use of herbal medicines from their own garden plants. In addition, the increase in participants' knowledge and skills also had a positive impact on maintaining the health of their family as a whole.

In conclusion, this program succeeded in increasing the knowledge, skills and attitudes of the community in maintaining, preventing and treating diarrhea easily through the processing of guava leaves. This program provides real benefits in utilizing garden plants as a source of herbal medicines that are easily accessible. It is hoped that a similar program can be implemented more broadly to increase knowledge and use of herbal medicinal plants in an effort to maintain public health holistically.

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