

CHAPTER I

INTRODUCTION

1.1 Background of The Study

According to (Rehan, 2009), "Maag is a disease that attacks the stomach due to excess stomach acid levels to cause pain, heartburn and pain in the stomach as well as a burning feeling in the solar plexus". Ulcer can be caused by the wrong diet such as eating irregularly and not paying attention to the type of food consumed. Gastritis is an acute, diffuse, or local inflammation of the gastric mucosa. Characteristics of this inflammation include anorexia, fullness or discomfort in the epigastrium, nausea, and vomiting. Local inflammation of the gastric mucosa will develop if the mucosal protective mechanism is filled with bacteria or other irritant materials (Ida, 2017).

This disease arises due to many causative factors including long-term consumption of painkillers, irregular diet, alcohol consumption, smoking, physical stress, psychological stress, autoimmune disorders, cbrone disease, bile reflux disease, belicobacter pyloricus bacterial infection (H. Pylor), other diseases such as HIV/AIDS, parasitic infections and liver or kidney failure (Smeltzer and Bare, 2002).

Imatsier (2005:112) states that the types of food recommended for ulcer sufferers are sources of easily digestible carbohydrates (Bread, biscuits, krekers), sources of protein that are processed by boiling and baking and sauteing, vegetables that are not gassed and not much fiber (spinach, chayote, carrots while the types of foods that are not recommended are sources of carbohydrates that are difficult to digest (hard rice, glutinous rice, noodles,

corn, cassava, taro, cake, tarts), protein sources that are processed by frying and frying, sardines, corned beef and cheese, rice vegetables and lots of fiber (cassava leaves, cabbage) Fruit that are high in fiber (kedondong, guava, durian, jackfruit and sour fruits), spicy foods, high-fat and fatty foods (tapai, chocolate, fried foods, offal).

Due of Sources of carbohydrates in Indonesia are quite a lot and some of them come from tubers. Carbohydrates derived from tubers have the potential to replace the role of rice and wheat in meeting the staple food needs of the Indonesian population. One type of tuber that is quite a lot in Indonesia is the arrowroot tuber (*Marantha arundinacea* L). Arrowroot production is quite a lot, because arrowroot plants easily grow in almost all types of soil. Our society still rarely uses arrowroot flour to meet the needs of snacks and staple foods (Slamet, 2019).

Arrowroot flour made without pre-treatment will produce flour that is less white (brighter). Cai in Slamet (2004, p. 96) reports that arrowroot flour which is processed by pre-treatment will produce arrowroot flour which is brighter. Pre-treatment includes blanching, soaking in a solution of salt and sodium bisulfite. Arrowroot flour so that its benefits are wider, with the hope that it can replace carbohydrate sources from rice and wheat, it is necessary to study its amylograph properties. Given that arrowroot cultivation is relatively easy, the production is quite a lot, and the flour processing process is easy and simple, the arrowroot plant deserves to be developed as an effort to maintain food security.

Starch or arrowroot flour has a fine texture and is easy to digest, making it suitable for food for babies or sick people. The tubers can be used as a cosmetic ingredient (alcohol raw material), glue, traditional medicine which has the effect of curing diarrhea and eczema, increasing breast milk, as an

antidote for bee venom, snake venom, wound medicine, and as an ingredient in alcoholic beverages. Arrowroot tubers are also good for diabetics because of their low glycemic content. Arrowroot flour can be processed into traditional food or other processed foods like flour, such as noodles, ice cream ingredients or can be boiled or steamed and eaten immediately. Garut chips or chips are starting to become a mainstay commodity for snack food craftsmen around Garut, Tasikmalaya, Ciamis and Sragen. Based on research in America, arrowroot tuber processed waste can be used in the tear and fuel-resistant paper industry (Center for Research and Development of Biotechnology and Agricultural Genetic Resources).

One of the foods that can be made from arrowroot starch is cendol. According to Chandraningsih (1997), cendol is one type of traditional Indonesian food whose main raw materials are grains and nuts. Es Cendol is a sweet iced dessert drink containing drops of green rice flour, coconut milk and palm sugar syrup. Es Cendol is popular in Indonesia and other Southeast Asia such as Brunei, Cambodia, Malaysia, Singapore, Thailand, Vietnam and Myanmar. Cendol as a traditional Indonesian drink was previously made from hunkwe flour, but now cendol is made from rice flour, served with grated ice and liquid brown sugar and coconut milk (Muh. Adam,2022)

Cendol itself is made from rice flour or glutinous rice flour, usually mixed with tapioca flour and green bean flour. The color of cendol is usually green because it uses pandan leaf extract. A number of countries in Southeast Asia have cendol dishes with their own special ingredients. Singapore cendol with added red beans, Indonesia with added cassava, and Malaysia with added jackfruit (Yuharrani Aisyah,2021)

Utilization of one of the food ingredients in Indonesia, namely arrowroot. Where arrowroot is used to make cendol which is usually made from rice

flour, using arrowroot allows ulcer sufferers to drink cendol ice without fear of getting an ulcer. According to Rukmana (2020) the nutritional content of arrowroot flour per 100 grams is 355.00 kcal calories; protein 0.7 g; fat 0.2 g; carbohydrates 85.2 g; calcium 8 mg; phosphorus 22 mg; iron 1.5 mg 0.09; vitamin b1 0.09 mg; and water 12 g. According to Marsono (2020) cit Djaafar, et al., (2019) arrowroot tubers have health benefits because their glycemic index is lower (14) than other tubers, such as gembili (90), kimpul (95), canna (105), and sweet potatoes (179). This can have a positive effect on the health of people with ulcers.

Using non-dairy creamer as a substitute for coconut milk for cendol gravy. According to Gunardi (2018) the danger of excessive consumption of coconut milk can cause disease. This is related to the various ingredients in it which are not good for health if consumed too much. According to Faynara (2021) consuming excessive coconut milk in food can increase LDL or bad cholesterol in the blood, thereby increasing the risk of heart disease and stroke, this is caused by fat or bad cholesterol which makes plaque buildup and clogs blood vessels.

Non-dairy creamer is creamer derived from vegetable fat, so it is lactose free, gluten free and low in sugar (Krisanti, 2019). However, products that are low in fat and high in fiber are still lacking to become functional food, meaning that these products must have properties or benefits for the health of the body. non-dairy creamer is a multifunctional and high fiber, non-dairy creamer that can be used as a substitute for milk or coconut milk.

1.2 The Objective of The Study

The objectives of this study are following below:

1. In order to create Cendol from Arrowroot starch and non-dairy creamer which are good for those who are have a ulcer sufferers
2. To replace rice flour where the manufactur of cendol using rice flour is replaced by arrowroot starch which has more benefits
3. Cendol is good for consumption by ulcer sufferers who were previously afraid to drink cendol beacuse of the coconut milk