

CHAPTER II

LITERATURE REVIEW

2.1 Ingridient Review

2.1.1 Dates

Dates are rich in nutrients, such as fiber, protein, calcium, sugar, magnesium, iron, phosphorus, zinc, potassium, selenium, vitamins B1, B2, B3 and B6. One of the benefits of dates for sports is that they can provide long-lasting energy for athletes, especially before matches. This is due to the low glycemic index of the Ajwa Dates. At the time before the competition, athletes need foods with a low glycemic index with the aim that blood glucose levels can last longer. These dates can prevent and also repair damaged cells. This is very much needed by athletes. When athletes compete or practice, there are damaged muscle cells or what we often call Delayed Onset Muscle Soreness (DOMS) and dates can handle this problem. In a journal "Effectiveness of Ajwa Date (Phoenix Dactylifera) on Blood Lactate Recovery in Rats (Rattusnorvergicus) with Induced Physical Activity", the study showed that Dates (0.116g/200g) were able to significantly accelerate the recovery of lactic acid in rats made to swim for 30 minutes. This indicates the potential for dates to accelerate recovery and delay fatigue. (Rahmawati & Budiono 2020)

2.1.2 Banana

Banana is a fruit that is widely known in Indonesia. Bananas can be enjoyed in various ways: eaten directly, fried, steamed, or processed with other ingredients. But bananas are not only delicious, they have many benefits. Potassium contained in bananas can help regulate fluid and electrolyte balance so that blood pressure remains stable. The

dietary fiber contained in bananas is able to bind fat, thereby preventing plaque

formation. Plaque can narrow and even clog blood vessels, causing blood pressure to increase. Bananas are rich in vitamins and fiber. When compared with apples, bananas have more than twice as much carbohydrates, and five times as much vitamin A. In addition, bananas are also rich in magnesium and potassium which are important for the body to stay fit. So from this researchers recommend consuming this fruit during sports because it can restore energy quickly and efficiently. (Suherman, 2018)

2.1.3 Gelatin

Gelatin has an important role in the food industry. Gelatin is often used in the manufacture of candies, jams, processed milk, sausages, ice cream and chocolate. The wide use of gelatin is related to its function as a stabilizer, gelling agent, binder, thickener, emulsifier, adhesive, food wrapper in the food industry. The use of gelatin in food can change the chewy texture. The level of elasticity and hardness depends on how much gelatin is used in processing a dish.

2.1.4 Honey

Honey is a natural liquid which generally has a sweet taste produced by honey bees from the essence of plant flowers (floral nectar) or other parts of plants (extra floral nectar) or D. D. Wulandari 2017. Honey contains a number of well-known compounds and antioxidant properties. The antioxidant properties of honey are derived from enzymatic substances (eg, catalase, glucose oxidase and peroxidase) and non-enzymatic substances (eg, ascorbic acid, α -tocopherol, carotenoids,

amino acids, proteins, Maillard reaction products, flavonoids and fatty acids). phenolic). The amount and type of antioxidants is very dependent on the source of flowers or varieties of honey, and there have been many studies showing that there is a relationship between antioxidant activity

and total phenol content (Khalil, 2012). Indonesian people use honey as a mixture in traditional herbal medicine to increase the healing properties of diseases such as infections of the digestive and respiratory tracts, as well as improve body fitness. Honey also has the ability to increase the speed of new tissue growth (Wineri, 2014). Honey contains many minerals such as sodium, calcium, magnesium, aluminum, iron, phosphorus and potassium. The vitamins contained in honey are thiamin (B1), riboflavin (B2), ascorbic acid (C), pyridoxine (B6), niacin, pantothenic acid, biotin, folic acid, and vitamin K. While the enzymes that are important in honey are diastase, invertase, glucose oxidase, peroxidase, and lipase enzymes. Apart from that, another ingredient in honey is that it has antibiotic or antibacterial substances (Adji, S, 2004). The following is the chemical composition of honey per 100 grams.

2.2 Product Review

2.2.1 Sport Nutritional Food

In the sports industry, they are very familiar with the supply of food when exercising. The food eaten is not arbitrary / with other signs that must meet the nutritional needs of an athlete. Usually the food that is eaten must have certain processing stages that are long enough to produce a food that is simple, small but contains lots of nutrients that athletes need. Apart from having to contain lots of nutrients, sports food must also be able to increase endurance, strength, and various other things such as VO₂max.

2.3 Proses Review

2.3.1 Sport Nutritional Food

In making this sport food, I used the ingredients, namely bananas with dates, which were made in such a way, that is, they took the extract from the two ingredients, then added honey as a natural sweetener and cooked it using gelatin and jelly powder, then molded it and then left it in the refrigerator to make it set.