

CHAPTER I

INTRODUCTION

1.1 Background Of Research

Water is the main component contained in the human body. Average water composes 60% of the composition of the adult body are spread as the liquid intracellular or extracellular body (Mangku, 2010). The functions of water for the body are to help the process of digestion, regulates metabolism, transporting food substances in the body, and keep the body from dehydrated (Asmadi, 2011). Ministry of health of Indonesia (2010) recommend water consumption for adults is 2 litres or equivalent to eight glasses per day. Inadequate intake of fluids in the body can cause dehydration and impaired organ function.

A survey in Singapore conducted by Temasek Polytechnic and the Asian Food Information Center showed most teenagers aged 15-24 years did not drink enough. Water average male drinks 1.5 litres of water per day, while female drinks 1.6 litres per day (Briawan, 2011). Indonesian research conducted on students showed that 61% consumed less drinking water. Similar research was also conducted in Bogor and stated the results of 37.3% of teenager drinking less than eight glasses of drinking water per day (Rosmaida, 2012).

The tasteless of plain water, makes some people do not like to consume it. The most peoples drinks beverages such as instant juices, refreshments, instant powders, coffee, tea and soda because it is to be easy to obtain and practical in consuming them. Similar research was also conducted on the population adults in the USA showed that 28% of total water intake comes from food, 28% plain water, and 44% from other drinks (Briawan, 2011) In addition, all of these beverages are added with chemicals such as preservatives, synthetic dyes and sweeteners which if consumed sustainably can cause carcinogens and digestive disorders such as kidney

disorders. One processed on beverage that is known and consumed by some Indonesian people is Infused water because the manufacturing process is simple (Handini, 2018).

Infused water is combination of water with additional pieces of fruits, vegetables or herbs that are left to stand for several hours in a container before being drunk, with the aim that the elements in the added ingredients are extracted out to give nutrient, taste and aroma to the water (Wassalwa 2016). The fruit used by the community in making infused water is lemon because lemon has a high vitamin C content (Sidauruk, 2018).

Infused water is different from juice, because it does not use added sugar or other additives so, infused water is more natural for consumption and has no side effects. Infused water is a reference for the community whose do not like to consume plain water. This method of simmering plant-based foods called infused water was popularized by Amy Pogue through her website on the internet around 2012 (Hazrina 2015). In the past, the infused water was applied by the Prophet Muhammad, was called Nabeez water. The Prophet soaked a few dates in drinking water overnight and drank in the morning. As in the hadith of Muslim as below :

حَدَّثَنَا شَيْبَانُ بْنُ فَرُّوحٍ حَدَّثَنَا الْقَاسِمُ يَعْنِي ابْنَ الْفَضْلِ الْحُدَّانِيَّ حَدَّثَنَا ثُمَامَةُ يَعْنِي ابْنَ حَزْنِ الْقُشَيْرِيِّ قَالَ لَقِيتُ عَائِشَةَ فَسَأَلْتُهَا عَنِ النَّبِيدِ فَدَعَتُ عَائِشَةَ جَارِيَةً حَبَشِيَّةً فَقَالَتْ سَلْ هَذِهِ فَإِنَّهَا كَانَتْ تَبْدُ لِرَسُولِ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَقَالَتْ الْحَبَشِيَّةُ كُنْتُ أَنْبُدُ لَهُ فِي سِقَاءٍ مِنْ اللَّيْلِ وَأُوكِيهِ وَأُعَلِّقُهُ فَإِذَا أَصْبَحَ شَرِبَ مِنْهُ

Hastoldus Shaykh bin Farruh had told us Al-Qasim-Ibn Fadl Al Huddani - has told us the Tsumamah - Ibn Hazn Al Qusyairi - he said; I went to Aisha and asked her about Nabidz, then Aisha called her servant from the land of Habyi. Ayesha then said, «Ask him, because he is the one who used to make a soaking for the Prophet sallallaahu alaihi wasallam, then the servant from the land of Habyi replied,» I used to make a soaking for him at night in a container of

drinking water, then I tied it and hung it , then he drank it's morning.
 «(HR Muslim)

The fruit used to make Rasulullah's infused water is dates or raisins, but dates used more often. Dates has many nutrients and health benefits, including: increasing platelet counts, preventing blood clots, preventing strokes and heart attacks, preventing uterine bleeding, increasing energy, inhibiting the aging process, preventing constipation and launching bowel movements, reduce cholesterol in the blood, both for the nervous system, increase stamina, overcome obesity, maintain eye health and maintain bone health (Rostita, 2009).

The basic ingredient for making infused water is plain water so, the water used must be considered the quality. Normal pH values for drinking water are usually between 6 to 8.5. The pH threshold for plain water is in accordance with Regulation of the Ministry of Health of the Republic of Indonesia No. 492 / Menkes / Per / IV / 2010 which is 6.5 - 8.5.

Rasulullah SAW is a role model for humans, every thing that is done by the Prophet Muhammad is a good example for ummah to follow. According to the verse of Al-Qur'an as follows:

لَقَدْ كَانَ لَكُمْ فِي رَسُولِ اللَّهِ أُسْوَةٌ حَسَنَةٌ لِمَنْ كَانَ يَرْجُو اللَّهَ وَالْيَوْمَ الْآخِرَ وَذَكَرَ اللَّهَ
 كَثِيرًا (٢١)

“There has certainly been for you in the Messenger of Allah an excellent pattern for anyone whose hope is in Allah and the Last Day and [who] remembers Allah often”(QS: Al-Ahzab: 21).

Imitate the Prophet Muhammad is one way to be moral to him and is one form of love for him (Marzuki, 2008). Nabeez water is a favorite beverages of Rasulullah SAW and currently known as infused water. Infused water has a dual advantage that can encourage someone to consume more water so daily fluid intake can be fulfilled while providing many health benefits because of getting nutrients extracted from the fruit (Soraya 2014).

According to Wikanjati (2014) research on the nutrient content of infused water is still limited, so researcher is interest for examining the content of macronutrients, antioxidants, iron, potassium, and pH value in dates and lemon infused water because, dates is the fruit used by Rasulullah to make infused water and lemon is fruit used by people to make infused water.

1.2 Statement Of The Research Problem

Are there differences content of macronutrients, antioxidants, iron, potassium and pH value in dates and lemon infused water?

1.3 Objectives Research

As for some of the research objectives were to:

1.3.1 General Objectives

Analyze differences of macronutrient, antioxidants, iron, potassium and pH value in dates and lemon infused water.

1.3.2 Specific Objectives

1. Analyze of macronutrients, antioxidants, iron, potassium, and pH value in dates and lemon infused water.
2. Analyze differences of carbohydrate content in dates and lemon infused water.
3. Analyze differences of fat content in dates and lemon infused water.
4. Analyze differences of protein content in dates and lemon infused water.
5. Analyze differences of vitamin c content in dates and lemon infused water.
6. Analyze differences of total phenol content in dates and lemon infused water.
7. Analyze differences of iron content in dates and lemon infused water.
8. Analyze differences of potassium content in dates and lemon

infused water.

9. Analyze differences of pH value in dates and lemon infused water.

1.4 Benefits of Research

1.4.1 Practical Benefits

1. Provide information about variations of infused water.
2. Provide information about the content of macronutrients, antioxidants, iron, potassium and pH value in dates and lemon infused water.
3. Provide solutions to increase society's fluid intake.

1.4.2 Theoretical Benefit

Provide scientific information that is beneficial for the development of science and food technology especially regarding healthy beverage.

1.5 Authenticity and Formers Research

Some of the previous research that has been conducted relating to infused water is presented in the following table

Table 1.0.1. Authenticity and Formers Research

Research	Result	Difference
Rafif Aditio. 2018. The content of vitamin C, total phenolic, and antioxidant capacity of infused water drinks on different immersion time.	There were no significant differences between immersion time toward antioxidant capacity and vitamin C content in this experiment.	The variables studied were vitamin c content, total phenol, and antioxidant capacity and the fruits used in making infused water were strawberries, star fruit, tamarind, cinnamon and salak.

Haitami, Annisa Ulfa, Akhmad Muntaha. 2017. Vitamin C content in squeezed Sunkist oranges and infused water.	there was significant difference of vitamin C content on freshly squeezed orange Sunkist with infused water of orange Sunkist with the value of significance 0.000.	The variables studied were differences in vitamin c content in squeezed Sunkist oranges and infused water.
Selly Handini. 2018. Infused Water with Combination of Chayote, Lemon, Deglet Nour Dates, Red Ginger and Mint Leaves as Alternative Antihypertensive Drinks	An intervention of infused water to 12 respondent showed infused water has significantly effect of reducing blood pressure	Discusses the effect of infused water on reducing blood pressure