



Public perception toward local food and macronutrient: Content of Kaledo

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ABSTRACT

Objective: Kaledo is a well-known traditional food in Central Sulawesi. This research is aiming to explore the perception of the local community about the status of Kaledo in their life and to analyze its proximate level.

Methods: This study is a descriptive study using a mixed-method (qualitative and laboratory test). The data collected from leaders and the general public with 40 communities and 9 traditional leaders in Palu City, Central Sulawesi with an in-depth interview. The sample was taken purposively. A laboratory test was applied for proximate analysis with Duplo techniques or two repetitions.

Result: The results study reveals that the community considers Kaledo is not a dietary food. The Kaili tribe pretends Kaledo as a special food that can only be consumed at certain times. The energy in one portion of Kaledo is approximately 429.96 kcal and has fulfilled 19–22.6% Nutritional adequacy rate energy for women and 15–18% energy for men.

Conclusion: Kaledo which has high energy content is very appropriate if not consumed every day.

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Introduction

The Kaili tribe is widespread in Central Sulawesi Province. This tribe has a specific culture passed down from generation to generation, especially concerning aspects of society's daily life including traditional food.¹

Kaledo is one of the local foods of the Kaili tribe. Historically, before the dissemination of Islamic doctrines in the 16th century, Kaili and Kulawi ethnicity lived in prehistoric times and embraced animism in Palu in which is dominated by hills and forests, so that many animals lived in this valley. The uniqueness and virtue of Kaledo are on the marrow which is located in the middle of the cow's leg bone. At that time, the animist community of Palu Valley was able to create one recipe, with basic ingredients of animal foot pieces, which were processed simply. Simple, because the main ingredients needed are only young acids, salt, fresh chillies (preferably those are still green color), and one dominant type of plant that lives on the mountain slopes, the Kaili people call with Tava Nusuka. Because of the influence of Islamic doctrines and values which are becoming the beliefs of people, the basic ingredients of Kaledo also change only by utilizing cow's leg.²

Moreover, many society perceptions are developing related to Kaledo in the function and nature of food. Heretofore, the nutrient

content of Kaledo per serving is unknown. To find out the nutritional content of food, we can apply proximate analysis. Nutritional levels need to be known because it relates to food quality.³ In food, the main components generally consist of water content, ash content, carbohydrates, protein as well as fat.⁴

Based on this, this study aims to find out people's perceptions about the position and meaning of Kaledo in people's lives and the nutritional content of Kaledo.

Methods

This study used qualitative and laboratory descriptive design from December 2016 to February 2017. Firstly, data were collected through in-depth interviews of 19 informants from traditional leaders and the society of Kaili tribe aged from 30 to 80 years old with various educational levels, in Palu City, with a purposive sampling technique. The informant was willing to take part in the research and sign informed consent. The validity of the research was carried out using the triangulation source and triangulation method. Data are then processed manually through the process of transcription and matriculation. The final stage is data analysis by comparing information obtained by informants, comparing with existing theories, and grouping data to conclusions.

Laboratory analysis was applied for proximate analysis using Duplo technique or two repetitions at the Makassar Health Laboratory. There were two sources of Kaledo tested; Kaledo from a famous restaurant in Palu and Kaledo which was cooked by researchers based on a recipe from a local book by Abu Bakar, in Poltekkes Culinary Laboratory, Palu. 269 g cow's feet and C1 meat, and 141 g C2 were prepared. The meat was cooked until soft and

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chewy then 3.1 l of water was added for 3 h cooking then added 77 g weighted young acids and 16.96 g mashed green chilies.

There were 5 components measured with different measurement methods; total ash content was measured with drying ash method, total water content was measured with thermogravimetric method (oven method), total protein content was examined by the Kjeldahl method protein, total fat content was carried out using Soxhletasi method, and total carbohydrate content was calculated based on calculation and rough fiber content.

Result

This study involved key informants consisting of traditional leaders and village heads and regular informants:

Community perception related to Kaledo

This study found that perception between key informants and ordinary informants was generally similar. From the in-depth interviews, most people considered Kaledo as a special traditional food which is only served at certain times such as traditional ceremonies, weddings and healing, and Kaledo is presented in any traditional ceremony of the Kaili tribal community.

“If it is Kaledo later if there are invitations or traditional events, it is like a party or custom of marriage with traditional healing” (TL)(L) “It is only a person who has a celebration because we are here almost on average, like that, for generations, there must be only a possible connection with this time, maybe the portion of the Kaledon should be limited”. (S)(AM)

“Kaledo is a special food of the Kaili tribe, so it is incomplete if there is no Kaledo, it is usually sold every day, but if it's on the party it's better because it feels pleasure, hahaha” (AH) (AM)

Although several people consider Kaledo as a traditional food which is always in traditional ceremonies. But there are some who consider that Kaledo is not a necessity in traditional events. Even said that Kaledo is not a mandatory food (mandatory requirement) for traditional rituals. Mandatory foods are *punut*, *uvempoi*, *cucur*, banana and chicken.

“Kaledo is not a traditional food. It is pulut that traditionally recognized, whether it is formed in yellow or sometimes red. This pulut is sometimes cooked to be kolapa. Do you know it, don't you? It is covered by leaves then steamed. Here, in Palu, Kaili people generally consume Banana Danu. Do you know it? It is different from Sepatu Banana consumed by our people from South. But this is combined area, where I frequently being a priest in Mosque. So when people invite me to religious ceremonies, I easily know what kind of banana they will serve. Bugis and Kaili people will serve Sepatu Banana and Danu Banana, respectively” (GL)

“It is not Kaledo that should be served, but anu uvempoi” (R)

“There must be sokko, banana and cucur in the ceremony, not the kaledo” (SN)

The presence of the Kaledo menu in parties especially weddings is because people generally carry out a party by slaughtering cows or purchasing beef.

Kaledo is not daily food

Even though Kaledo is an admirable food, Kaledo is not a daily food because Kaledo is made from meat that can cause health problem if we eat too much. They considered it can cause boredom if it is consumed every day.

“We consume meat maximally in two days or we will feel bored. If we consume too much, like for breakfast, lunch and dinner, we simply spoil our appetite. So better to consume it once a week” (GL)

“Kaledo is not consumed for daily life, just in certain occasions” (R)

Kaledo is not abstinence

In culture or custom, there are no restrictions on consuming Kaledo. But has very much understood the negative impact on health in consuming meat. So that people also understand that consuming excessive Kaledo will also cause high blood pressure and strokes because the main ingredient is meat. However, under certain conditions, for example, pregnant women, as long as there is no special notification from the doctor for the prohibition on meat consumption, pregnant women may consume Kaledo.

There are no restrictions on custom, if there is scientific, disease, if the custom is not; there are people who abstain from it.”(I) (LN)

“If we eat kaledo it can cause a stroke, that's for sure. If for pregnant women there is no effect for the impossible to eat from a doctor who if the doctor wants to eat Kaledo Because the doctor knows the condition of the patient”(TL) (SN)

Proximate analysis of Kaledo

See Table 1.

Discussion

Kaledo cuisine was only served to a certain family of Kaili ethnic families. Then the interest of many people is not limited to the Kaili people, especially since the 1960s began to appear Kaledo stalls, one of the pioneers was Mansyur from Donggala. From that time on, Kaledo was very popular and demanded special food delivery.⁵

Based on the results of in-depth interviews, all informants revealed that Kaledo is a special traditional food that is only consumed on special days. Kaledo which is a typical food of the Kaili

Table 1
Analysis result on water content (%) Kaledo.

Proximate analysis	Test	Kaledo	
		X	Y
Water	1	83.35	89.15
	2	74.57	89.76
	Average	78.96	89.45
Protein	1	5.5	5
	2	7.31	4.69
	Average	6.4	4.84
Fat	1	2.82	2.65
	2	5.31	5.14
	Average	4.06	3.89
Carbohydrate	1	0.52	0.09
	2	0.83	0.49
	Average	0.67	0.29
Ash	1	1.42	1.78
	2	1.24	0.94
	Average	1.33	1.36
Fiber	1	1.74	1.37
	2	2.13	0.81
	Average	1.93	1.09

Source: Primary Data (2016).

tribe must always be served during traditional ceremonies such as the Paboti (wedding party), sambolugana (engagement), suraya pokomonia (among the assets of the prospective groom¹ to the women), aqiqah, balia (treatment/rejecting reinforcements), grief (death), holidays, Maulid, and other events.¹ However, there were informants who saw that Kaledo was a special traditional food, but did not always have to be presented at traditional ceremonies.

In Turkey, there is also a traditional food called Cig Kofte (Raw Meat Ball) which is served as an appetizer especially during folk music meetings in Southeast Anatolia. Cig Kofte usually consists of ground meat, bulgur, tomato paste, peppers, black pepper, onions, parsley and salt in certain proportions.⁶ This mixture is kneaded with water to achieve the desired consistency and there is no heating process (Arzu Cagri, 2018). There are also Sura or *Kaburga Dolmasi* (Stuffed Lamb Ribs) which are usually cooked as party meals on religious holidays, and are generally cooked on sacrificial days. In some areas, finished lamb ribs were made for bridal breakfast on the next morning of the wedding day.⁷ In other countries, India, goshtaba and rista are considered important components for Kashmir parties because the characteristics of taste and texture are very attractive. These products are traditionally processed from heat treated lamb (pre-rigor), consisting of specially ground meatballs formed manually from meat dough and cooked.^{8–11}

Kaledo is a traditional food category of soup in the city of Palu, Central Sulawesi Province, Indonesia. Kaledo is known as a special traditional food but people say that Kaledo is not allowed to be consumed excessively, especially for people who are elderly. Laboratory test results show that the energy of one portion of Kaledo is around 429.96 kcal and has fulfilled 19–22.6% AKG energy for women and as much as 15–18% AKG energy for men. Fulfillment of AKG per day for women is 53–75 g and men are 65–91 g, the adequacy of fat per day through consumption of Kaledo meets about 5.3–7.5% for women and for men around 4.3–6.1%. The thing that causes increased blood cholesterol is to consume foods that contain fat. So that if the Kaledo is consumed excessively it can cause an increase in cholesterol levels in the blood.¹²

Kaledo as traditional food of Palu City when it is compared to other traditional foods, for example, *coto* from Makassar, fat content of 16.00 g – 22.58 g per serving, *coto* fat content is higher than that of Kaledo.¹³ This shows that *coto* fat content is higher than that of Kaledo fat. Another study conducted and presented the nutritional composition of 40 ethnic foods consumed in Europe. The nutritional composition of food varies because of the nature and variety of food analyzed, with energy content (kcal) ranging from 24 (biteku-teku, Belgium) and 495 (nacho, Italia) per 100 g of edible food. Polyunsaturated and monounsaturated fatty acids are generally higher in most ethnic foods consumed in Italy and Spain compared to ethnic foods in other countries.¹⁴

Conclusion

Kaledo was a special traditional food, but did not always have to be presented at traditional ceremonies. Kaledo which has a high energy content is very appropriate if not consumed every day.

Conflicts of interest

The authors declare no conflict of interest.

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