

## ***Lifestyle Phenomena Of South Kalimantan Communities That Contribute To Stroke Incidents : Mixed Method Research***

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### ABSTRACT

Stroke incidence in South Kalimantan ranks 6th out of 34 provinces in Indonesia. The incidence of stroke in this province continues to increase every year. In 2016 the stroke rate reached 739 cases; in 2018, it increased to 9,361 stroke cases in 13 districts in South Kalimantan. The purpose of this study is to identify in detail the description of the lifestyle of the people in South Kalimantan. The research design is *Mixed Method* with *The Explanatory Sequential Design model*. Quantitative research samples totaling 426 samples spread across 13 districts in South Kalimantan were selected with the *Probability Sampling technique* with the type of *Stratified Random Sampling*. Qualitative data collection involved 10 participants from 6 districts in South Kalimantan. The majority of respondents in this study were aged 36-45 years (32.9%), male (52.6%), worked as office workers (39%), and had a tertiary level of education (48.8%). The people of South Kalimantan have a habit of consuming foods high in sodium and fat (90.8%), moderate activity patterns (62.0%), the majority are light smokers (25.4%), and those who consume alcohol (16.7%), stress category mild (39.9%), and low health control at the nearest health facility (68.8%). The living habits of the people in South Kalimantan are still low health, where eating habits are high in sodium and fat, low daily physical activity, smoking and consuming alcohol, stress, and low routine check-ups at the nearest health facility. This is because the pattern that has been followed has become a habit since childhood. Community knowledge and obedience are also originators of the bad habits of people's days.

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### 1. INTRODUCTION

Basic Health Research Data (RISKESDAS, 2018) shows an increase in the incidence of stroke nationally from 7‰ per mil in 2013 to 10.9‰ per mil in 2018. The incidence of stroke in Indonesia has reached the age of 15-24 years (0.6‰ ) permit. The incidence of stroke in South Kalimantan is ranked 6th out of 34 provinces in Indonesia. Where the incidence of stroke continues to increase every year. In 2016 the stroke rate reached 739 cases. In 2017, it increased to 4,603 cases, and in 2018 it increased again to 9,361 cases spread across 13 districts in South Kalimantan (DINKESPROV-KALSEL, 2019).

As is well known, where a stroke causes damage to brain cells and can result in a sufferer experiencing disability, making stroke sufferers less productive (Irfan, 2012) and disrupting all life functions of sufferers (Goldszmidt & Caplan, 2013). These disorders include disturbances in communication, disturbances in consuming food, sexual dysfunction, limitations in self-care, problems with sensory sensitivity and pain, as well as disturbances in memory, mood, and sleep patterns (Arum, 2015). So this illustrates a person's quality of life after a stroke (Basit & Rahmayani, 2017).

A stroke causes many impacts if it affects one of the family members. Family members of stroke sufferers tend to experience stress by showing an unsupportive attitude when providing care at

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home (Oktovin, Elly, & Syafwani, Phenomenological Study: Experience of Banjarese Families while Caring for Family Members with Stroke Conditions in Banjarmasin, 2020). Besides that, emotional stress, social welfare disturbances, health problems, and financial burdens also appear in the family (Gbiri, Olawale, & Isaac, 2015). Stroke also adds to the burden of health financing in Indonesia's National Health Insurance (JKN) (Aprianda, 2019). Therefore, the number of stroke sufferers needs to be reduced to control the impact on sufferers or families. One way is to identify in detail the description of the current lifestyle of the people in South Kalimantan. The findings of lifestyle research, such as consumption of high-fat foods and smoking habits, have proven to have an effect on the incidence of ischemic stroke at the age of fewer than 45 years (Iskandar, Hadisaputro, Pudjonarko, Suhartono, & Pramukarso, 2018). This follows the Research Roadmap for the STIKES Banjarmasin, which focuses on the problem of Medical-Surgical Nursing in the Neurovascular field, such as stroke. The number of incidents in South Kalimantan is quite high. The purpose of this research is to identify the current lifestyle of the people in South Kalimantan.

## 2. METHODS

This study uses a Mixed Method research design with The Explanatory Sequential Design model. This research model was carried out by collecting quantitative data and analyzing the results. Qualitative data were collected afterward. The Explanatory Sequential Design is used when the purpose of the research is to describe, elaborate, or explain quantitative findings (Mahrizal, 2012).

Quantitative data were obtained from a sample of people of productive age, totaling 426 samples spread across 13 districts in South Kalimantan. The participants who conducted in-depth interviews were 10 participants from 6 districts in South Kalimantan. The sampling technique used is the Probability Sampling Technique with the Stratified Random Sampling type.

Statistical tests for the quantitative data are by looking at the values of the Frequency Distribution, Mean, Median, and Minimum-Maximum. Qualitative data testing was carried out using Thematic Analysis.

## 3. RESULTS AND DISCUSSION

In general, from table 1.1, it can be seen that the majority of respondents in this study were aged 36-45 years (32.9%), male sex (52.6%), worked as office employees (39%), and with college education level (48.8%).

From table 1.2, it can be seen that the majority of the people of South Kalimantan have a bad habit of consuming foods high in sodium and fat (90.8%), with moderate activity patterns (62.0%). Most people in South Kalimantan who smoke are also the majority in light smokers (25.4%) and those who consume alcohol 16.7%. For the stress felt by the people of South Kalimantan, the majority are in the mild category (39.9%), with low health control at the nearest health facility (68.8%).

Table. 1 Table of Frequency Distribution of the Lifestyle of the People of South Kalimantan

TEM	Means	Median	std. Dev	Min	Max
<b>Food Consuming Patterns</b>					
<b>Bad Consumption Patterns</b>	1.09	1.00	.289	1	2
<b>Good Consumption Patterns</b>					
<b>Activity Patterns</b>					
<b>Light</b>					
<b>Currently</b>	1.86	2.00	.601	1	3
<b>Heavy</b>					
<b>Smoke</b>					
<b>Do not smoke</b>					
<b>Light Smoker</b>	1.77	1.00	.913	1	4

<b>Moderate Smoker</b>					
<b>Heavy Smoker</b>					
<b>Alcohol consumption</b>					
<b>Yes</b>	1.17	1.00	.373	1 - 2	426
<b>Not</b>					
<b>stress</b>					
<b>Normal</b>					
<b>Light Stress</b>					
<b>Moderate Stress</b>	1.50	1.00	.591	1 - 3	426
<b>Heavy Stress</b>					
<b>Very heavy</b>					
<b>Health Control</b>					
<b>Yes</b>	1.31	1.00	.464	1 - 2	426

## Discussion

### 1. Food consumption patterns

The lifestyle of the people in South Kalimantan is included in the unhealthy category. This is illustrated by the findings of this study, where the pattern of consuming most people's food is not optimal in terms of health value. Most people are very fond of consuming foods high in sodium and fat every day, such as salted fish, instant noodles, biscuits, canned food, sauces, soy sauce, foods containing MSG, soft drinks, packaged coffee, chicken/duck eggs, quail eggs, fried foods, and fish. With the frying process and more. These findings can form the basis for the findings of the 2018 Basic Health Research (RISKESDAS) data, where 34.1% of Indonesian people aged  $\geq 18$  were diagnosed with hypertension, and South Kalimantan Province ranked 5th out of 34 provinces regarding the prevalence of hypertension in the community (KEMENKES RI, 2018). As is well known, consuming foods high in sodium can cause problems in blood vessels, such as hypertension (Hurst, 2015). The recommended daily sodium intake should be less than 2,300 mg (Ozimek, Tiwari, Sabbahi, Carbone, & Lavie, 2020).

The findings are the same as in the study of Mantuges, Sri., et al. (2021), which revealed that consumption patterns of high-sodium foods such as soy sauce are related to blood pressure problems in hypertension sufferers in Banggai District, Central Sulawesi. Uncontrolled hypertension over time will cause damage to other organs (Hurst, 2015) and increase heart disease and stroke (Ozimek, Tiwari, Sabbahi, Carbone, & Lavie, 2020). Hypertension is even said to be a comorbidity that increases the incidence of stroke and even worsens stroke conditions (Cipolla, Liebeskind, & Chan, 2018).

From the interviews, the consumption of high-sodium foods by people in South Kalimantan is related to food consumption habits. The pattern of food consumption habits occurs because they like the distinctive taste of this type of food. As stated by the following participants:

P1 (Mr. A)	"Favourite food..., so it's a hobby to eat it."
	(Favourite food... so like to consume these foods) "When luck plays, you must be in trouble looking for a shop... We eat meat soup, meatballs, that must be it, at least four times a week for us." (if after you finish playing (exercise), then go to find a shop, eat, eat meat soup or meatballs, that's for sure, at least four times a week)
P2 (Mr. Z)	"Taste according to taste ... because this run will taste savory-savory sweet like that."
	(Taste according to taste... because I like the savory sweet, savory

	<i>taste like that)</i>
P7 (Mrs. K)	<i>"If Mama Ulun said, the food is not tasty, but the taste is not good." (my mother said food is not tasty if there is no flavoring)</i>
P9 (Mrs. I)	<i>"Kada kawa Alun eats Kada soy sauce...clear vegetables, just Alun kecap..." (laughs) (I can't eat it if I don't get soy sauce... I'll give clear vegetables) (laughs)</i>

This finding is in line with a study by Hendriyani et al. (2016), where some junior high school (SMP) children have been fond of foods high in sodium from an early age. This certainly needs to be watched out for because the preference for the taste of food starts from childhood. Research on high school students in Japan also shows a similar thing where hypertension develops, especially related to obesity in children. However, there are not many cases of hypertension in this age group (Kawabe et al., 2019).

In addition to the high consumption of sodium, high-fat foods also contribute to problems with blood vessels. High consumption of fat can cause an increase in blood cholesterol levels which leads to plaque buildup in blood vessels (atherosclerosis) (Yoeantafara & Martini, 2017). From the results of the interviews, it was also found that the consumption of high-fat foods is because it is a characteristic of the food of the Banjar people. As stated by the following participants:

P1 (Mr. A)	<i>"Basic urang Banjar food is rich in coconut milk, preserved, but comfortable." (The Banjar food is like that, coconut milk, preserved..but delicious)</i>
P6 (Mrs. L)	<i>"Typical characteristics already, vegetable blank, was blank, hintalu belamak....." (Special dishes, coconut milk vegetables, coconut milk side dishes, coconut milk eggs)</i>
P9 (Mrs. I)	<i>"The difference between Javanese yellow rice and Banjar, if it's Banjar, it's sure to be savory with coconut milk..." (Javanese yellow rice is different from Banjar yellow rice; if it is Banjar, the taste is savory, coconut milk)</i>

Apart from the special characteristics of Banjarese food, long-lasting types of food are also one of the reasons people consume, such as eggs, instant noodles, and canned fish. Several participants in the study said that eggs were one of the foods that were always available at home because they were easy and cheap to find. One large egg yolk contains 237 mg of cholesterol, higher than a beef burger with bacon and cheese, which only has 265 mg of cholesterol (Spence, 2019). Apart from consuming eggs, the people of South Kalimantan have a habit of consuming other high-fat foods such as coconut milk and fried foods. The fat contained in coconut oil or palm oil contains saturated fat, which has the risk of increasing cholesterol levels in the blood. Research in Japan found that saturated fat increases the risk of stroke, such as intracerebral hemorrhage, compared to ischemic stroke (Muto & Ezaki, 2018). The ease of processing food by frying is one of the reasons people consume high-fat foods.

## 2. South Kalimantan Community Activity Patterns

Most people of South Kalimantan have physical activity in the moderate category (Moderate Activity) and light activity (Low Activity). This relates to the work done by most people. RISKESDAS results for South Kalimantan Province (2018) found that most South Kalimantan people in the moderate category mostly live in rural areas. Based on the results of interviews, activity is associated with some people's activities, namely farming or gardening. On average, the garden location is far from the residence without being able to be passed by vehicles, so it must be traversed on foot. Meanwhile, many light activities are carried out by homemakers.

The body needs physical activity to reduce fat levels and maintain muscle mass (Reyes et al.,

2019). However, several factors, such as knowledge, influence physical activity habits. In this study, qualitative knowledge related to a healthy lifestyle is still quite low. People's understanding of physical activity is only related to sports. Similar to research conducted in Colombia, some people with primary school education will show a low adherence to physical activity. Not only that, people who live in small towns and have low social status also tend to be low in compliance with recommendations for controlled physical activity (Coppola, Restrepo, Freile, & Moncada, 2021).

Physical activity generally benefits the body, one of which is controlling obesity. Obesity is also one of the health problems in the world, which will risk. Regular physical activity benefits cardiovascular health and body fat in people with Type 1 Diabetes Mellitus (DMT1) (Wu et al., 2021).

### 3. Smoking and drinking behavior of the people of South Kalimantan

Smoking is a behavior that can cause health problems for the body. Cigarette chemicals contribute to cardiovascular problems (Lee, Hwang, Choi, & Kim, 2017). Some studies even revealed that cigarettes that are currently in trend, such as hookahs or waterpipe cigarettes, have a negative impact on health. Smoking hookahs in the long term can increase plasma levels of fibrinogen which has an impact on the incidence of atherosclerotic formation and the risk of stroke (Qasim et al., 2019). This is something to worry about, given that smoking behavior, especially in South Kalimantan, has become common. In this study, some respondents smoked, the majority category being light smokers, moderate smokers, and fewer heavy smokers (see Table 1.2). This finding is in line with the RISKESDAS findings of South Kalimantan Province (2018), where around 20.55% of the public are daily smokers, and 3.87% are occasional smokers. While 4.62% were former smokers, and 70.96% did not smoke. In addition, the majority of people in South Kalimantan who smoke actively every day live in rural areas

Apart from smoking, the findings of this study also reveal that the behavior of consuming alcohol in South Kalimantan is quite high. This finding is in line with the RISKESDAS findings for South Kalimantan Province (2018), where the proportion of alcohol consumption behavior in the last month was mostly male, aged 20-24 years, living in urban areas.

### 4. Stress felt by the people of South Kalimantan

Stress is a life experience that must be experienced by everyone that can have a positive or negative impact on the individual who experiences it. The impact can be divided into three levels, namely, mild, moderate, and severe stress. To the findings of this study, the stress felt by most of the people of South Kalimantan is mild. According to Rasmussen (2004) in the book Oktovin & Basit (2021), mild stress is stress that does not damage a person's physiological aspects. Many people generally feel mild stress within a few minutes or hours. The stress response that tends to be felt by many people in South Kalimantan is easily tired and anger. Based on the results of interviews with several participants, the stress response to daily work was obtained, as expressed by the following participants:

P1 (Mr. A)	<i>"After working all day, it's stressful.. stress." (After working all day, I feel tired..stress)</i>
	<i>"If you're stressed, don't disturb it, bro..." (if you're stressed, don't disturb it first...)</i>
P6 (Mrs. L)	<i>"Take care of the house, the children, meurs stress, lots of tupang, a lot more than even the men." (taking care of the house, taking care of the children, taking care of the garden. A lot..more than the husband's work)</i>
P2 (Mr. Z)	<i>"Mikiri is a servant, sir... you have to be a worker. If you don't eat, you can't eat..." (think about work... must work. Otherwise, you can't eat..)</i>

One of the causes of stress is work, study, or household chores, where you don't have time to do work, too many tasks, and little appreciation from the workplace or people around you can be one of the factors that cause stress (Oktovin & Basit, Psychological Stress Monograph Nurses During the Covid-19 Pandemic, 2021). Even though the stress on the people of South Kalimantan is mostly mild, if individuals continuously face it, it will certainly impact their health. The body's response to stress is evidenced by increased levels of stress hormones in the body which cause autonomic imbalance and dysfunction, inflammation (Hahad, Prochaska, Daiber, & Muenzel, 2019), and oxidative stress, where there is an imbalance of oxidants and antioxidants (Ren et al., 2021) which then has an impact on the development of risk factors for cerebrovascular diseases such as stroke (Hahad, Prochaska, Daiber, & Muenzel, 2019) (Ren et al., 2021). Several studies in Europe, the United States, and Japan have shown that work stress, both tension at work and long working hours, is associated with the risk of coronary heart disease and stroke (Kivimaki & Kawachi, 2015).

1. The behavior of controlling health at the nearest health facility by the people of South Kalimantan

The government's program to increase public health is through the Healthy Living Community Movement program, one of which is periodic health checks (Ratnaningrum & Prihandani, 2002). This activity's benefit is making it easier to detect diseases or health problems earlier (Directorate of Health Promotion and Community Empowerment, 2017). However, in the findings of this study, the behavior of controlling health tends to be low, as evidenced by the high number of people who do not carry out health control. This is consistent with the RISKESDAS findings of South Kalimantan Province (2018), where the majority of access to hospital facilities is in the difficult category (39.80%), and this finding is felt more by rural communities (50.06%). However, in contrast to access to hospital facilities, access to Puskesmas/Pushtu/Pulling/Village Midwives facilities is perceived by the community as quite easy (46.71%). This finding is certainly a phenomenon that needs to be considered in depth. Availability and easy access to the nearest health facility does not guarantee that people will carry out routine health checks. One that might influence is the compliance of the community itself. Affordability of access to health services does not affect community compliance in utilizing health facilities (Alam & Jama, 2020).

#### 4. CONCLUSION

The living habits of the people in South Kalimantan are still low regarding health. This can be seen from people's eating habits which are high in sodium and fat, low daily physical activity, smoking and alcohol consumption habits, stress, and low routine check-ups at the nearest health facility. This habit tends to be low because the pattern that has been followed has become a habit since I was a child. Communities tend to find it difficult to change patterns, especially related to food consumption patterns. In addition, community knowledge is also one of the originators of the bad habits of people's days.

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