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QUALITATIVE STUDY MOM'S KNOWLEDGE AND PERCEPTIONS ABOUT THE USE OF MUSHROOM BROTH AS A SUBSTITUTE OF MSG.

AM Chikmah, E Zulfiana

Midwifery Diploma Program, Politeknik Harapan Bersama, 9 Mataram Street, Tegal City, Indonesia

ABSTRACT

Monosodium glutamate has developed into one of the most popular food additives in the world. When added to food, MSG gives food its delicious taste. However, consuming too much MSG is also not good for health. For example, it can increase heart rate and suffer from headaches and can cause hyperactivity and attention deficit disorders in children. One way to replace artificial flavoring is to use local plants as natural flavoring agents. The use of mushrooms as an alternative to natural seasonings in addition to providing a savory and delicious taste in cooking also provides various health benefits so that mushrooms are often referred to as functional foods.

The purpose of this study was to identify the knowledge and perceptions of mothers about mushroom broth as a substitute for MSG as the first step in optimizing child growth and development. The method that will be used in this research is qualitative with phenomenological design, to obtain depth of data through collecting the deepest data from respondents to determine Mother's Knowledge and Perceptions About Using Mushroom Broth as a Substitute for MSG. The sample of this research is 4 mothers who have children.

The conclusion of this study is that respondents do not know much information about mushroom broth as a substitute for MSG. Respondents know the health hazards of using too much MSG, but respondents still use MSG in every dish. Respondents thought that mushroom broth was not as good as MSG.

Keywords: Knowledge, Perception, Mushroom Broth, MSG

1. Introduction

Monosodium Glutamate or commonly known as MSG has long been used to flavor food and strengthen flavors. Usually, this MSG is added to chicken or beef broth powder which is very practical to use. Not surprisingly, many housewives consider this MSG ingredient as an effective and efficient way to enrich the taste of a dish. However, consuming too much MSG is also not good for health. Because MSG has a harmful impact on the body. For example, it can increase heart rate and suffer from headaches¹.

Life style in the form of consumption patterns of foods containing MSG affects the risk of attention deficit disorder and hyperactivity in children². Consumption of artificial flavoring in large quantities for a long time will have a bad effect on body health. Effects that can occur include brain damage, damage to neurons, trigger cancer, slow the development of children's intelligence, and are not good for the health of the fetus³. Thus, it is necessary to develop alternative flavorings

obtained from nature in order to reduce the use of MSG⁴. One way to replace artificial flavoring is to use local plants as natural flavoring agents⁵.

Mushrooms have a special taste, produce a delicious and savory taste in food so they are in great demand. The type of amino acid that is glutamic acid found in mushrooms is a substance that causes the same taste as that found in meat. Glutamic acid is used as a neurotransmitter in the brain and neurons. The glutamic acid content in mushrooms will be higher when the mushrooms are fully mature and ready to be harvested⁶.

The use of mushrooms as an alternative to natural seasonings in addition to providing a savory and delicious taste in cooking also provides various health benefits so that mushrooms are often referred to as functional foods. Mushrooms contain low sodium and high potassium so they can maintain stable blood pressure. Mushrooms also help prevent chronic disease, diabetes and reduce weight because they contain no cholesterol, are low in calories, contain antioxidants, and dietary fiber such as chitin and betaglucans. Mushrooms are also very useful for a vegetarian diet because mushrooms contain high protein compounds in the form of essential amino acids which are indispensable for human health. In addition to these benefits, mushrooms are plants that contain high vitamin B complex and are the only non-animal food ingredients with vitamin D content that are used for bone health⁷.

⁷Based on the above phenomenon, the authors are interested in taking the title "Knowledge and Perception of Mothers About Using Mushroom Broth as a Substitute for MSG Efforts to Optimize Children's Growth and Development".

2. Methods

⁹The research method used is a qualitative research method with a phenomenological design, to obtain depth of data through collecting the deepest data from respondents to find out how mothers' knowledge and perceptions about the use of mushroom broth as a substitute for MSG are the first step in optimizing children's growth and development. Respondents ¹⁰in this study are mothers who have children and cook almost every day. The research tool uses interview guidelines. Respondents in this study were 4 main informants, namely mothers who have children and cook almost every day. The sampling technique was purposive sampling technique. The research was conducted in November 2021.

3. Results and Discussion

a. Mother's Knowledge of Mushroom Broth as a Substitute for MSG Efforts to Optimize Children's Growth

The Use of MSG and Its Purpose

The results of interviews with 4 mothers said that each cook should be given MSG so that it adds to the delicacy of the food, so that the food becomes delicious and savory. 4 mothers also always use MSG in every dish. This is based on in-depth interviews with 4 mothers.

I give a little MSG when cooking, it's better to give MSG so it's delicious, the food is better (IU 1)

Not every cooking is given MSG, so there is taste. Not using micin or other brands but using Royco (IU 2).

Just use Royco, just to add flavor (IU 3)

Every cooking is given MSG, so the food is delicious (IU 4)

The results of interviews from 4 respondents showed that every time they cooked they were given MSG, although with a different brand, but the contents of the flavoring contained MSG. Respondents added MSG to their food with the aim of making it delicious, flavourful, savory and adding a good taste to the dish.

¹ Monosodium L-glutamate (MSG) and 5'-ribonucleotides such as disodium 5'-inosinate (IMP) and disodium 5'-guanylate (GMP) are the source of the umami taste (as the fifth basic taste) found in food and act on soy receptor cell membranes as well as sugar, salt, vinegar and coffee. These flavors are present in a wide variety of foods and have an important role in enhancing taste and taste. For example, in Japanese broth known as dashi and some fish sauce from Southeast Asia. With small amounts, the addition of MSG, IMP and GMP can strengthen the umami (savory) taste in dishes⁸.

The Effects Of Consuming Too Much MSG For Health And Child's Growth And Development

Respondents do not know the dangers that can be caused by excessive consumption of MSG. Respondents only know that it is dangerous if given in excess, but they do not know what dangers are caused, especially the dangers caused by giving to children.

It seems that MSG is not good for health, I heard that it can cause disease, but I don't know what disease. MSG is not good for children, but I don't know the info (IU 1).

MSG is not good for health can cause coughing, sore throat. Can interfere with growth and development of children often sick (IU 2).

If you have too much MSG, something can happen, it's not good for the brain, I don't know that MSG can interfere with children's growth and development (IU3).

Not good for health, can make tonsils. It can interfere with a child's growth and development if it is excessive, what tissue damage can be done... organs (IU4).

¹ Monosodium has been shown to be toxic to humans and experimental animals. The side effects reported by various studies can be summarized as the appearance of metabolic/digestive, respiratory, circulatory, and nervous system anomalies. It was found that MSG exposure of mice in the neonatal stage can severely damage their hypothalamic nuclei (arcuate nucleus and ventromedial nucleus), resulting in increased body weight, fat deposition, decreased motor activity, and growth hormone secretion⁹. Life style in the form of consumption patterns of foods containing MSG affects the risk of attention deficit disorder and hyperactivity in children²

Mushroom Broth Instead Of MSG

³ Based on the results of in-depth interviews, it was found that MSG can be replaced with salt or sugar.

MSG can be replaced with sugar (IU 1).

Never used a substitute for MSG, namely mushroom broth (IU 2).

Sometimes parents use sugar, give it a little sugar if it's for small children, they say that (IU 3).

If you don't use MSG, just use salt (IU 4)

There is only 1 respondent who knows that mushroom broth can be used as a substitute for MSG. Based on Wang's research (2019) which aims to compare the effect of MSG and its alternatives on the taste characteristics of chicken soup, it was found that mushroom extract had an umami flavor concentration equivalent to MSG¹⁰.

Information About Mushroom Broth

Researchers dig deeper into the mother's knowledge about mushroom broth that can be used as an alternative to MSG.

I don't know, I don't know any information about mushroom broth and I've never used it either (UI 1).

Yes, I got info on mushroom broth as a substitute for MSG from Facebook. Never used and for my children's cooking. I don't know the content of mushroom broth (UI 2)

I've never heard of mushroom broth, I've tried it from a relative's dish, but I just tried it a little... (UI 3)

I have ever received information that mushroom broth can be a substitute for MSG from Facebook, Instagram. I don't know what mushroom broth is made of... (UI 4)

Respondents' knowledge about mushroom broth as a substitute for MSG is still lacking because mothers have never received proper information from experts. As for respondents who know about information from mushroom broth, information obtained from social media.

Sensing occurs through the five human senses, namely: the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through eyes and ears. Knowledge is a very important domain for the formation of one's actions. Behavior that is based on knowledge and awareness will be more lasting than behavior that is not based on knowledge. The umami taste is a type of taste attribute that is very different from the traditional four flavors. This addition of umami substances such as mushrooms will change the taste characteristics of the food. Not only the umami taste but also other sensory characteristics such as continuity, full mouth, impact, softness, and thickness will increase. Overall, they improve the palatability of foods. The EUC values of the commercially available mushroom fruiting bodies and mycelia summarized here are of great value for their further use as food or food flavoring agents and in health food formulations¹¹.

b. Mother's Perception of Mushroom Broth as a Substitute for MSG

³ Based on the results of in-depth interviews with 4 respondents, various perceptions regarding mushroom broth were obtained. They think that MSG is tastier than mushroom broth, but the benefits of mushroom broth are better than MSG.

I've never used mushroom broth and don't know the info, but it's not good to cook if you don't use MSG (UI 1)

Have you ever heard of mushroom broth from Facebook, that's why now if you cook for children using mushroom broth, it's better for health than MSG (UI 2)

I don't like using mushroom broth, I like using Royco (UI 3)

Mushroom broth is good for health, I know from Facebook and Instagram but I don't know the taste yet... (UI 4).

Perception is a process that is preceded by sensing, namely the process of receiving a stimulus by the individual through the senses or can be called a sensory process. However, the process does not just stop, but the stimulus is continued and the next process is called the perception process. The process includes sensing after the information is received by the senses, the information is processed and interpreted into a perfect perception¹².

Respondents have never received proper information from experts regarding mushroom broth, so the perceptions obtained from respondents come from their experiences. Respondents already know that MSG if consumed in excess will cause health problems, but respondents still use MSG in every dish.

Besides having a savory taste, mushrooms also have many benefits for the body. For example in shitake mushrooms, can prevent cancer because it contains lentinan. In straw mushrooms, good for diabetics because it contains natural insulin. The benefits of button mushrooms are to increase the number of red blood cells because button mushrooms contain folic acid, also known as vitamin B9. The use of natural flavoring ingredients from mushrooms has been discovered by graduates of the Teacher Training and Education Institute PGRI Jember using oyster mushrooms and has been produced in large quantities¹.

Mushrooms contain low sodium and high potassium so they can maintain stable blood pressure. Mushrooms also help prevent chronic disease, diabetes and reduce weight because they contain no cholesterol, are low in calories, contain antioxidants, and dietary fiber such as chitin and betaglucons. Mushrooms are also very useful for a vegetarian diet because mushrooms contain high protein compounds in the form of essential amino acids which are indispensable for human health. In addition to these benefits, mushrooms are plants that contain high vitamin B complex and are the only non-animal food ingredients with vitamin D content that are used for bone health⁷.

4. Conclusion

Respondents do not know much information about mushroom broth can be a substitute for MSG. Respondents know the health hazards of using too much MSG, but respondents still use MSG in every dish. Respondents thought that mushroom broth was not as good as MSG.

5. Acknowledgments

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