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Reviewed from Physical, Chemical and Microbiological Aspects Sold in The Sayur Market of Magetan Denok Indraswati¹, Djoko Windu P. Irawan², Sunaryo³, Susi Nurweni⁴, Deka Akbar Prambudi⁵ 1,2,3,4&5 Health Polytecnic of Surabaya, Indonesia; windu_irawan@yahoo.co.id

Abstract Traditional snacks are one component in culinary heritage. Traditional snacks have a good taste and appearance that tempts consumers, so that the value of quality and food safety needs to be considered. HASH(0x7f0523bc2a98) traditional snacks sold at the Sayur Market in Magetan Regency from physical, chemical and microbiological aspects. This type of research is a descriptive study which is designed based on a cross sectional approach, using descriptive analysis of the data in the table and expressed in narrative form. Samples of traditional snacks are janggolan, lopis, cenil, jongsong and petolo. Data collection was carried out by organoleptic observation HASH(0x7f0523bc5a18) food additives namely borax, formalin and rhodamine-B, and the number of germs. Three types of traditional snacks (janggolan, petolo and lopis) were found to be safe for consumption because they met the requirements. Based on the examination the number of germs, there were 2 types of traditional snacks found an average of 11,500 col / gr in Jongsong food and in Cenil food found an average of 27,733 col / gr, so that it is not in line with the quality standards in Decree of the Head of the Republic of Indonesia Food and Drug Supervisory Agency Number HK.00.06.1.52.4011 in 2009, concerning the determination of the HASH(0x7f0523bc5bf8) namely 10,000 colonies / gram. It means that based on the number of germs found in Jongsong and Cenil foods, the foods is not safe to consume because it does not meet the requirements. Keywords: Traditional food quality, physical, chemical, microbiological aspects

I. INTRODUCTION

Traditional snacks are important component in Indonesian culinary heritage. Not only because traditional snacks are delicious or unique in color and appearance, but also very full with elements of symbolism. In the past, many traditional dishes had special meanings and became part of offerings in rite of passage ceremonies, such as: pregnancy, birth, birthday, and death (Yuyun Alamsyah, 2006). The positive value of traditional snacks is that they contain enough nutrients, and the quality of traditional snacks is much safer when compared to modern foods. Traditional snacks are more balanced in their nutritional composition (Anwar, F, 1999). But traditional snacks in general also have weaknesses in terms of their safety against physical, chemical and biological or microbiological hazards. The existence of such contamination is HASH(0x7f0523bde9b8) producers who are handling traditional snacks (Nanuwasa, Franklin and Munir, 2007). For this reason, food safety support is needed, namely the HASH(0x7f0523bc6210). While the quality of food is the value determined on the basis of food safety criteria, nutritional content and trade standards for food and beverage ingredients. In principle, food quality and safety is the responsibility between the government, food industries, society (producers) and consumers. Food quality and safety not only has a direct effect on human health, but also affects economic productivity and social development, both individuals and the state. Efforts to disseminate information on food security need to be made to the wider community because the increasingly tighter competition at the local, national and international levels. The Government has tried to protect the public from food that does not meet the requirements of food quality and safety, by issuing the HASH(0x7f0523bc66d8), and HASH(0x7f0523bca1c8) problems encountered in the framework of developing food quality include unstable institutions, weak and not effective regulations and legislation, incompetent human resources, limited infrastructure, limited information on food quality and safety (Kepmenkes RI 942, 2003). HASH(0x7f0523bca3f0) Traditional snacks are still very likely to be the cause of disruption in the consumer's body so that consumers fall ill. HASH(0x7f0523bc5fb8) clean and avoid wholesomeness. There are so many things that can cause traditional snack foods are unsafe, one of which is due to contamination (Hermawan Thaheer, 2005). Contamination that occurs in traditional snacks can cause these foods to become a medium for a disease. Diseases caused by contaminated food are called food-borne diseases (Susanna, Dewi and Budi Hartono, 2003). Foodborne illness is one of the most numerous and most burdensome public health problems found in modern era. The disease has caused a lot of HASH(0x7f0523bcab10) consumers whose immune systems were disrupted. From a number of surveys of the extraordinary incidence of foodborne illnesses that have spread worldwide show that most cases of foodborne illness occur as a result of errors handling at the time of preparing the food either at home, catering services, canteen, school or in the market and others (WHO, 2006). Based on the HASH(0x7f0523bcae70), there are several aspects that are regulated in handling snacks, namely: food handlers, equipments, water, food ingredients, food additives, serving and peddling facilities. Some of these aspects greatly affect the quality of food. Some HASH(0x7f0523bcc58) temperature both in raw food and cooked food, and the behavior of food handlers themselves (Zulkifli, H., 2008). The Food and Drug Supervisory Agency found food for fast breaking containing dangerous ingredients. From the sample test there were 13.16% of the types of food containing hazardous ingredients. Sampling and testing were done in 2,256 samples. Samples were taken at traditional markets, shops, supermarkets and places that sell food. A total of 1,959 samples (86.84%) met the requirements, 297 samples (13.16%) were found containing hazardous substances, namely formalin, borax, rhodamine-B, methanyl yellow, and the using of artificial cyclamate sweeteners that exceeded the safe limit in 297 samples (Roy Sparringa, 2013) Food poisoning cases in East Java Province are still high both in terms of frequency of occurrence and number of cases. In 2009 there were 57 cases (18.69%), 2010 as many as 41 cases (9.03%) and 2011 as many as 50 cases (6.31%) (Budi Rahaju, 2011). The results of preliminary studies in the laboratory about the number of germs on traditional snacks sold at the Sayur Market in Magetan Regency are as follows: 1) Cenil: 24,000 col / gram. 2) Jongsong: 75,000 col / gram. 3) Lopis: 125,000 col / gram. 4)

Petolo: 14,000 col / gram. HASH(0x7f0523bcd070) the requirement is 10,000 col / gram, thus traditional lopis, jongkong, cenil and petolo snacks declared to exceed the limit / quality standard. The HASH(0x7f0523bcd580) physical, chemical and microbiological qualities of traditional snacks sold at the Sayur Market in Magetan Regency. HASH(0x7f0523bcd280) study designed based on a cross sectional approach, because data collected at the same time and the variables studied are measured only once (Sastroasmoro Sudigdo & Ismael, S, 2002). Some of the advantages of using a cross sectional approach is that it can reduce research costs, the time needed is relatively short and work efficiency. Weaknesses that often happened in this approach are the weaknesses in maintaining validity (Murti, 2003). B. Research design [Dama International Journal of Researchers, www.damaacademia.com](http://www.damaacademia.com), editor@damaacademia.com 160 HASH(0x7f0523bc61b0).HASH(0x7f0523bd1448) No Sample Examination Colour Aroma Organoleptic Test Texture Tase 2 Pink sour A little soft A little sour 3 Pink sour A little soft A little sour 4. Jongkong Control Black typical Soft Sweet 1 Black Smell of burn A little soft Sour sweet 2 Black Smell of burn Soft Sour 3 Black Smell of burn A little soft Sour sweet 5. Petolo Control Pink typical Soft Tasteless 1 Pink typical Soft Tasteless 2 Pink typical Soft Tasteless 3 Pink typical Soft Tasteless Results of examination on Chemical Aspect of Traditional Snacks Quality Table 2. Borax Examination Results on Traditional Snack Foods No Sample Examination Results Quality Standard Quality 1. Janggalan HASH(0x7f0523bd4890) Good 2. Lopis HASH(0x7f0523bd49c8) Good 3. Cenil HASH(0x7f0523bd4938) Good 5. Petolo HASH(0x7f0523bd7c60) Good Table 3. Formalin Examination Results on Traditional Snack Foods No Sample Examination Results Quality Standard Quality 1. Janggalan HASH(0x7f0523bd8080) Good 2. Lopis HASH(0x7f0523bd9a70) Good 3. Cenil HASH(0x7f0523bd9cb0) Good 5. Petolo HASH(0x7f0523bda2e0). Rhodamine-B Test Results on Traditional Snack Foods [Dama International Journal of Researchers, www.damaacademia.com](http://www.damaacademia.com), editor@damaacademia.com 162 HASH(0x7f0523bda8e0).HASH(0x7f0523bda688) IV. DISCUSSION A. Traditional Snack Food Quality Viewed From Physical Aspects Based on Table 1 shows that the results of organoleptic examination on 5 types of traditional snacks there are 3 types of traditional snacks that have fulfilled the requirements of organoleptic test and there are 2 types of traditional snacks namely jongkong and cenil from organoleptic tests showing results that do not meet the requirements. Traditional snacks that do not meet the requirements are considered haven't fulfilled several factors in maintaining effective food sanitation. These factors are related to: 1). Food Factors. a). Food sources: whether it is obtained from agriculture, livestock, fisheries, or other. Food sources must meet sanitation requirements to prevent contamination or pollution. For example, agricultural products are polluted by human manure or by insecticides. b). Transportation of Foodstuffs: The way to transport food must meet sanitation requirements, whether the means of transportation have refrigeration and cover. The transportation is carried out from the source of foods to the market or from the source to the storage area to ensure the foods are not contaminated by contaminants and not damaged. For example transporting food using refrigeration equipment. c). Food storage: not all food is consumed immediately but maybe some is stored on a small scale at home or on a large scale in a warehouse. Food storage is made in such a way that animals such as mice, insects can not nest. If not using a shelf, under space must be provided to make the compartment easy to clean, the air temperature in the warehouse must not humid to prevent mold growth, has sufficient air circulation, the bottom wall of the warehouse must be painted white so that it makes easier to see mouse tracks, a road must be available in the warehouse. d) Marketing of foodstuffs: the place of sale or market must fulfill sanitation requirements, among others: cleanliness, lighting, air circulation, and having refrigeration equipment. Markets that meet the requirements are supermarkets . e) Food processing: food processing must meet sanitation requirements, especially in the case of kitchen cleanliness and cooking utensils. f). Food serving: serving food must meet sanitation requirements, which are free from contamination, clean and closed, and can meet the appetite of the buyers. g). Food storage: processed food is stored in a place that meets sanitation requirements, in a cupboard or cooling device. 2). Human Factors: people who work at the food processing stage must meet sanitation requirements, such as individual health. The individual does not have an infectious disease, and is not a carrier of an illness. For personal who serves food must meet the conditions such as cleanliness and neatness, have good ethics and manners, good appearance and skills to bring food with special techniques, and take part in a periodic health examination program every six months or every year. 3). Care Factors: cleanliness and storage of food processing equipment must meet sanitation requirements. B. Results of Traditional Snacks Food Quality Checks Viewed from Chemical Aspects i. Borax examination: Based on Table 2 shows that the results of the chemical examination on five types of traditional snacks are all negative containing borax, this result means that these foods meet the quality standard requirements of Health Minister Regulation number 33 of 2012 concerning Food Additives. Borax is one of the HASH(0x7f0523c4d868). According to the Indonesian National Encyclopedias and Encyclopedias, the word borax comes from the Arabic word buraq, and the Malayan term is tingkal which means white, is a soft crystal containing boron, colorless and easily soluble in water. HASH(0x7f0523c4d778). Foods that contain borax consumed in excessive amounts will cause brain, liver and kidney disorders. A great amount of Borax consumption containing in food and absorbed in the body, will be stored accumulatively in the liver, brain or testes. In high doses , borax HASH(0x7f0523c4d4d8) or more. ii. Formalin examination: HASH(0x7f0523c4cff8) chemical tests on five types of traditional snacks are all negative in containing formalin, this result means that the food meets the quality standard requirements based on the HASH(0x7f0523c48cc8). Formalin is

one of the HASH(0x7f0523c4f450). Formalin is the trade name of formaldehyde solution in water with levels of 30-40%. Formalin usually also contains 10-15% methanol alcohol which functions as a stabilizer so that the formaldehyde is not polymerized. Formalin on the market can also be obtained in a diluted form with formaldehyde levels [Dama International Journal of Researchers, www.damaacademia.com, editor@damaacademia.com](#) 164

HASH(0x7f0523c67190).HASH(0x7f0523c67418) 165 [Dama International Journal of Researchers ISSN: 2343-6743, Scientific Journal Impact Factor: 5.968 & ISI Impact Factor: 1.018, Dama Academia Publisher: Vol 3, Issue 08, August, 2018, Pages 159-167, Available @ www.damaacademia.com](#) The results of the study showed that only 6.6% of food handlers who wore aprons at work and found 11.1% of food handlers who had habit of scratching their heads and nose when working. The property of food vendors in the form of food cabinets that are displayed in stalls and canteens are mostly not covered, or the cover is in the form of thin curtain cloth that is rarely closed, [especially when buyers are crowded. Therefore, some flies can easily contaminate](#) the food being sold (Arisman, 2000). In food, known of decaying germs and disease-causing germs (pathogenic germs). Decaying germs may not cause consumers to become ill, but their growth in food will cause damage to food (eg. mucus, changes of smell, color and taste) [so that food is](#) no longer [safe for consumption](#). Pathogenic bacteria are [the cause of food](#) poisoning. Pathogenic germs do not always cause changes in appearance, smell, color or taste of food. So, it is impossible to judge a food contaminated with pathogenic germs by smelling, seeing or tasting it. The only way to protect ourselves from these germs is to apply the principles of sanitation and good food handling (Anonymous, 2001). V. CONCLUSION The quality of traditional snacks food reviewed from physical aspects that meet the requirements are janggolan, lopis and petolo. Those that do not meet the requirements are cenil and jongkong. The quality of traditional snacks from chemical aspects: janggolan, lopis, cenil, jongkong and petolo foods meet the requirements in line [with the Minister of Health Regulation number 33 of 2012 concerning Food Additives](#) that [do not contain borax](#), formalin and rhodamine B. The quality of traditional snacks from microbiological aspects that meet the requirements are janggolan, lopis and petolo. Those that do not meet the requirements are cenil and jongkong, [based on the Decree of the Head of the Indonesian Drug and Food Control Agency No. HK.00.06.1.52.4011 in 2009 concerning the determination of the limits of microbial and chemical contamination](#). Analysis of physical, chemical and microbiological qualities of three types of traditional snacks, namely janggolan, petolo and lopis, meet the quality standard requirements and two types of traditional snack, jongkong and cenil, do not meet the physical requirements and microbiological quality standards [based on the Decree of the Head of Drug and Food Supervisory Agency RI No. HK.00.06.1.52.4011 in 2009 concerning the determination of the limits of microbial and chemical contamination](#). REFERENCES 1. Alamsyah, Yuyun. 2006. Nusantara Culinary Heritage: Wet Cakes and Market Snacks. Jakarta: Gramedia Main Library. 2. Anwar, F. 1999. Identification of Local Food for Food Snacking PMT-AS. Snack Food Safety and Training of Technology Development, Bogor. 3. Anonimous. 2001. Counseling Material for Food Home Industry. Sleman: Sleman District Health Office. 4. Arisman. 2000. Identification of Behavior of Food Handlers on the Risk of a Source of Food Poisoning, Research Results Report. 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