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Food Safety Assessment through Observation of Environmental Hygiene and Sanitation in Small Business in Yogyakarta City

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ABSTRACT

Yogyakarta city supports the increased development of regional micro businesses by offering culinary services known as "Nglarisi". The Nglarisi Group provides food and beverage products for banquet activities within the Yogyakarta City government. However, interviews with the Yogyakarta City government revealed that the product quality of Nglarisi Group was inconsistent, with some products not meeting food safety principles due to contamination and inappropriate food packaging. To address this issue, implementing a food safety system is crucial to ensure the production of quality, healthy, and safe food products. Hygiene and sanitation are key factors in the food safety system, and the standardization of safety quality of ready-to-eat food is carried out through certification based on the Minister of Health Regulation. A study was conducted in September 2024 to assess the fulfillment of food safety requirements in the Nglarisi Group based on hygiene and sanitation observations. The study involved 15 respondents from five Nglarisi Groups in the Danurejan Subdistrict, Yogyakarta City, selected through purposive sampling. Data were collected through observation using the Sanitation Hygiene Inspection form for Catering Service. The mean sanitation hygiene inspection score was 30.9%, with a maximum of 46.47% and a minimum of 13.23%. The value of fulfillment of sanitary hygiene principles is included in the insufficient group. The study found that all catering service establishments in the Nglarisi Group failed to meet food safety standards based on the regulations of the Minister of Health of the Republic of Indonesia.

Keywords: food safety, micro business, culinary service, catering service

INTRODUCTION

The quality of a food product is determined by various evolving characteristics in response to widespread consumer needs. Some common characteristics used to measure food product quality include shelf life, ease of use, sensory characteristics, and safety features¹. Sensory evaluation of food products is typically done through affective tests involving panelists before the product is marketed². Applying food safety systems to products is crucial for producing high-quality, healthy, and safe food products. One important factor in the food safety system is the application of food hygiene, including good hygiene practices, zoning of production areas, control of suppliers, storage, distribution and transportation, personnel hygiene, and other basic conditions necessary to maintain a hygienic processing environment³⁻⁵. The safety standardization of ready-to-eat foods is achieved by certification of food control labels, based on Minister of Health Regulation number 14⁶.

Yogyakarta City is committed to supporting the development of small and medium enterprises (MSMEs). One of the initiatives is the introduction of a buying and selling service for culinary practitioners called Nglarisi through an application or website, part of the Yogyakarta City Government's Gandeng Gendong program. Launched in 2018, this program aims to reduce poverty and inequality and improve community welfare. The Nglarisi application is an e-commerce platform for economic actors in the culinary sector who provide food and beverage products for various banquet activities within the Yogyakarta City Government. This strategy is designed to ensure that the consumption budget can be directly absorbed by the community through culinary MSMEs that are members of the Nglarisi group, resulting in economic turnover.

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MATERIAL AND METHOD

This study was carried out in September 2024 and focused on 15 catering service providers (offering snack boxes and lunch boxes) that are part of the Nglarisi group in the Danurejan Subdistrict of Yogyakarta City. The research was conducted using a descriptive observational design. A purposive sample was selected based on the groups' classification as ready-to-order entities according to by the Economic and Micro Business Department of Yogyakarta City.

The research involved the use of both primary and secondary data. The primary data consisted of sanitary hygiene scores, while the secondary data encompassed the number of catering services in the Danurejan sub-district from the Economic and Micro Business Department of the City of Yogyakarta. Data was collected by conducting interviews with catering service owners and direct observation of food preparation practices in their place of business. Sanitary hygiene practices were assessed using the Sanitation Hygiene Inspection Form (IKL), following the regulations set forth by the Ministry of Health of the Republic of Indonesia⁶. The evaluation of the IKL form was conducted through direct observation and assessment of the fulfillment of sanitary hygiene principles by food service establishments. This was accomplished by first observing the production site and then evaluating compliance with the requirements in the IKL form checklist. If a requirement cannot be observed, it will be evaluated through an interview.

The initial stage of data processing entails the conversion of the values documented on the checklist based on the observations made. Subsequently, the value of sanitary hygiene

fulfillment on all criteria must be calculated (i.e., the total value). The total value was then expressed as a percentage, ranging from 0-100%. The categorization of the fulfillment of sanitary hygiene in each culinary business was divided into "good" if the value was $\geq 80\%$, "sufficient" if the value was 60-79%, and "insufficient" if the value was $< 60\%$ ⁷. The data collection for the sanitation and hygiene assessment was carried out by enumerators with a background in nutrition, who were trained by the Yogyakarta City Health Office.

RESULTS AND DISCUSSION

The Nglarisi Group members are part of Group A, a culinary business that caters to the general public and operates from a household kitchen. The business is family-owned or employs labor based on the services provided⁸. Food management encompasses receiving fresh/processed food ingredients, food production, shaping, packing, transportation, and serving. Therefore, according to the 2011 Regulation of the Minister of Health, catering companies must manage food and adhere to sanitary hygiene principles to ensure safe food production for consumers⁸.

The Sanitation Hygiene Inspection (IKL) form is used to assess hygiene sanitation and food safety in food service establishments. The assessment involves direct observation of the fulfillment of sanitary hygiene principles at the production site and the implementation of checklist requirements. If certain requirements cannot be observed, they will be evaluated through interviews. A food service establishment is considered to have met the principles of sanitary hygiene if it scores 80% or higher⁷.

The hygiene assessment was conducted at all facilities used for food production. Out of the five business units included in the study, 15 production sites were assessed and monitored. The highest IKL score was 46.47%, the lowest was 13.23%, and the average score was 30.9%. (Figure 1). The findings indicate that the sanitary hygiene level at the 15 production sites does not meet the requirements ($< 80\%$). The fulfillment of sanitation and hygiene principles in food management in the Nglarisi group is categorized as insufficient, with a score of less than 60%. This result is less favorable than the IKL score observed in catering businesses in Bogor City and Banyuwangi. This may be attributed to the fact that a proportion of the respondents in this study originated from economically disadvantaged families in the Yogyakarta city area ^{7,9,10}.

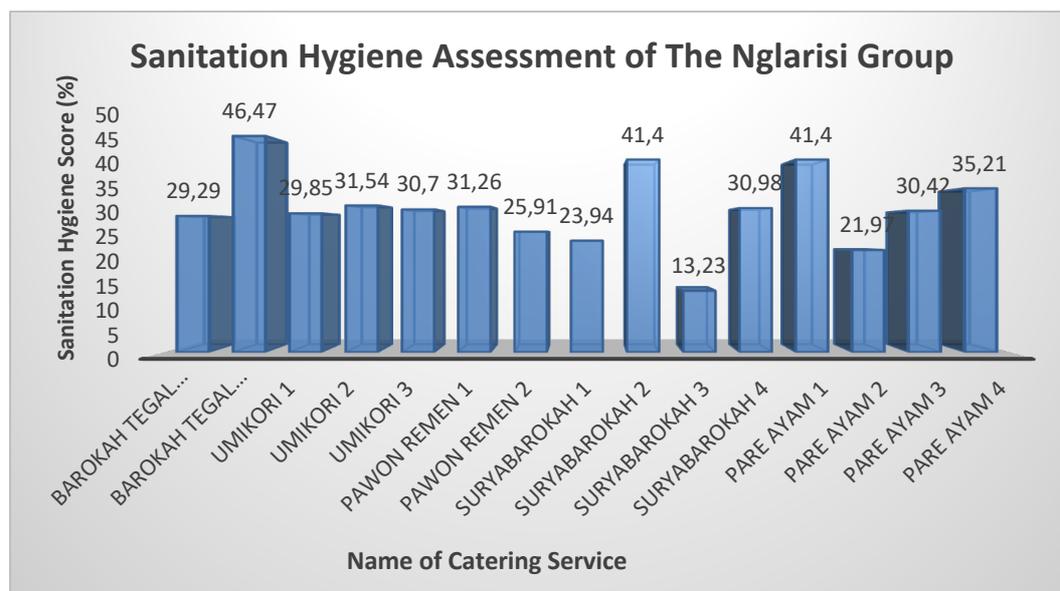


Figure 1. Results of Sanitation Hygiene Assessment of The Nglarisi Group

The assessment of sanitary hygiene using the IKL form for Group A food services evaluates two main criteria, namely the inspection of the external and internal food processing

area. The evaluation of the external area includes: 1) location; 2) building and facilities; 3) food handling; 4) raw material receiving area; 5) raw material requirements. While the evaluation of the internal food processing area includes: 1) General storage areas (raw material storage, packaging storage, non-food chemical storage); 2) Washing areas; 3) Preparation, processing, and packaging areas; 4) Documentation and record; 5) Occupation health. A summary of the fulfillment of the principles of sanitary hygiene in the research sample can be seen in Table 1.

In the inspection assessment of the external area, it was found that the assessment of the location, raw material receiving area, and food handling were 13.3%, 13.3%, and 13.3% of the business premises that met the required assessment score. While the assessment of the building and its facilities and raw material requirements, no catering service business can meet the required criteria. Meanwhile, of the five sub-criteria of the external food processing area, it is known that no food service business meets the required score. Even the achievement of scores in each food service only fulfills one-third to one-half of the total score of each evaluation criterion. Based on the results of the sanitation and hygiene observation, all members of the Nglarisi Group have failed to meet the requirements. These findings are consistent with those of prior research on catering entrepreneurs in Yogyakarta City, which indicates that catering managers who engage in poor sanitary hygiene practices ^{11,12}. The results of the assessment of the food processing site have not met all of the assessment criteria. This is the case concerning food storage, washing area, preparation, processing and packaging, occupational health, and documentation. These results are in line with research on catering entrepreneurs in other cities, which also revealed poor sanitary hygiene practices ¹³⁻¹⁶.

The results of the assessment of sanitary hygiene practices in the Nglarisi group indicate a moderate to high risk level, necessitating regular follow-up supervision. A further recommendation is that educational initiatives should be implemented for food handlers and business owners with a focus on food safety and health aspects ¹⁷.

Table 1. Fulfillment of Sanitary Hygiene Principles in the Nglarisi Group

Requirements (total score)	Food Service Implementation														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Outside Food Processing Area Inspection (56)															
1) Location (5)	5	2	2	0	0	2	1	0	5	0	1	2	0	2	4
2) Building and facilities (23)	8	13	8	11	5	11	5	7	12	2	7	14	2	14	13
3) Food handling (6)	0	6	0	3	6	0	0	0	0	0	3	0	0	0	0
4) Raw materials receiving area (3)	0	3	0	3	0	2	1	2	0	0	0	0	0	2	0
5) Raw material requirements (19)	1	5	11	7	7	9	6	0	11	5	3	9	15	3	7
Inspection of Food Processing Area (299)															
1) General storage area (food, packaging, non-food chemicals) (64)	16	31	10	13	16	12	14	12	18	5	9	16	2	11	16
2) Washing area (16)	5	9	8	9	13	8	10	9	7	4	4	8	6	8	7
3) Preparation, processing, and packaging areas (general, personnel hygiene and sanitation, equipment, coked food storage,	56	89	52	53	52	52	45	41	84	26	68	87	39	59	71

cooked food packaging, cooked food transport (201)															
4) Documentation and record (12)	9	2	10	7	4	10	10	10	5	5	10	7	10	5	2
5) Occupation health (6)	4	5	5	6	6	5	0	4	5	0	5	4	4	4	5

Description of culinary business:

A: Barokah Tegal Panggung 1

B: Barokah Tegal Panggung 2

C: Umikori 1

D: Umikori 2

E: Umikori 3

F: Pawon Remen 1

G: Pawon Remen 2

H: Suryabarokah 1

I: Suryabarokah 2

J: Suryabarokah 3

K: Suryabarokah 4

L: Pare Ayam 1

M: Pare Ayam 2

N: Pare Ayam 3

O: Pare Ayam 4

CONCLUSION

The value of fulfillment of sanitary hygiene principles is included in the insufficient group. The study found that all catering service establishments in the Nglarisi Group failed to meet food safety standards based on the regulations of the Minister of Health of the Republic of Indonesia.

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