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THE EFFECT OF BOOKLET MEDIA ON FOOD HANDLER HYGIENE PRACTICES, ATTITUDES, AND KNOWLEDGE DURING THE COVID-19 PANDEMIC

Pengaruh Media Booklet Terhadap Pengetahuan, Sikap, dan Praktik Higiene Penjamah Makanan pada Masa Pandemi COVID-19

Khartini Kaluku[1], Martha Puspita Sari[2*]
[1]Department of Nutrition, Politeknik Kesehatan Kemenkes Maluku, Ambon, Maluku, Indonesia,
[2]Department of Nutrition, Politeknik Kesehatan Kemenkes Yogyakarta, DIY, Indonesia
*Email: martha.puspita6@gmail.com

ABSTRAK

Tantangan besar untuk menjaga rantai produksi dan distribusi pangan olahan yang bermutu secara konsisten, termasuk pada masa status darurat wabah COVID-19. Penelitian ini bertujuan untuk mengetahui efektivitas penggunaan media booklet untuk meningkatkan pengetahuan, sikap, dan praktik penjamah makanan. Jenis penelitian ini adalah kuantitatif dengan desain pre-post test design. Lokasi penelitian di rumah makan di Kota Ambon, yang akan dilaksanakan pada bulan Maret 2021. Subjek penelitian adalah seluruh penjamah makanan yang berjumlah 70 orang. Pengambilan sampel penjamah makanan dilakukan dengan menggunakan simple random sampling. Variabel bebas adalah media booklet tentang penyuluhan gizi seimbang, sedangkan variabel terikat adalah pengetahuan, sikap dan praktik penjamah makanan. Pada awal penelitian, pengetahuan penjamah makanan diukur dengan menggunakan kuesioner. Hari kedua penelitian, penjamah makanan mendapatkan perlakuan berupa penyuluhan dan pada akhir penelitian dilakukan post test. Data dianalisis dengan menggunakan uji Wilcoxon. Media booklet secara signifikan dapat meningkatkan pengetahuan dan sikap penjamah makanan. Penyuluhan dengan menggunakan booklet dapat mempengaruhi praktik penjamah makanan namun tidak signifikan. Hasil penelitian diharapkan dapat memberikan pengaruh terhadap pengetahuan, sikap dan praktik penjamah makanan terkait penyediaan makanan yang berkualitas pada masa pandemi COVID-19.

Kata Kunci: *booklet, COVID-19, higiene, penjamah Makanan*

ABSTRACT

The big challenge to maintaining the production chain and distribution of quality processed food consistently, including during the emergency status of the COVID-19 outbreak, is that food handlers stay healthy and maintain health protocols. This study aimed to determine the effectiveness of using booklet media to improve the knowledge, attitudes, and practices of food handlers. This type of research was quantitative with a pre-post design test. The research location is in a restaurant in Ambon City, which will be held in March 2021. The subjects are all food handlers, totaling 70 people. The sampling of food handlers was done using simple random sampling. The independent variable was the booklet media on balanced nutrition counseling, while the dependent variable was the knowledge, attitude, and practice of food handlers. At the beginning of the study, the knowledge of food handlers was measured using a questionnaire. On the second day of the study, food handlers received treatment in the form of counseling and at the end of the study a post-test was carried out. Data were analyzed using the Wilcoxon test. Media booklets can significantly increase the knowledge and attitudes of food handlers. Counseling using a booklet can influence the practice of food handlers but not significantly. The results of the study are expected to have an influence on the

knowledge, attitudes, and practices of food handlers regarding the provision of quality food during the COVID-19 pandemic.

Keywords: booklet, COVID-19, food handler, hygiene

INTRODUCTION

The coronavirus family includes SARS-Cov-2, a novel virus that causes respiratory tract illness. This viral infection leads to a disease known as COVID-19, which can cause mild to severe illness. The COVID-19 virus can bring on acute pneumonia, respiratory system problems, and possibly mortality. On January 30, 2020, the World Health Organization (WHO) designated this COVID-19 case as a Public Health Emergency of International Concern (PHEIC). The WHO declared COVID-19 to be a pandemic on March 11, 2020, as a result of the disease's international spread and sharp increase in cases[1].

A person can be infected/infected with COVID-19 in a number of ways, including sneezing or coughing into the saliva of someone who is infected with the virus; holding your mouth or nose without first washing your hands after handling an object that the saliva of a COVID-19 sufferer splashed, or making close contact with people with COVID-19, for example, touching or shaking hands. COVID-19 can infect anyone, but people who are elderly, pregnant women, sick or have congenital diseases, and people who have weak immune systems are at greater risk [2].

COVID-19 can survive on the surface of objects for several hours to several days, depending on the type of material, temperature, and humidity. The chance of transmitting COVID-19 through food packaging is relatively low as long as good processed food production practices are implemented. Special treatment is required in food production and distribution facilities to ensure the availability of safe and quality processed food and reduce the spread of COVID-19. This is in line with national policies regarding physical contact restrictions, personal hygiene practices, and surface sanitation of all shared facilities. In line with the WHO's decision, the President has set countermeasures in the form of Government Regulation No. 21 of 2020 concerning Large-Scale Social Restrictions (PSBB) in the Context of Accelerating Handling of Corona Virus Disease 2019 (COVID-19) by emphasizing that PSBB is carried out while still paying attention to the fulfillment of the basic needs of the population. Under the PSBB rules, cafe, restaurant, and restaurant owners are prohibited from serving meals on the spot. Business owners can only serve customers who buy food to be wrapped and taken home [3], [4]

In addition, the Agency of Drug and Food Control (BPOM) issued a Circular Number: Hk.02.02.1.2.04.20.12 of 2020 concerning Efforts to Maintain the Availability of Quality Drugs and Food During Certain Emergency Statuses of the COVID-19 outbreak in Indonesia. This is to support business actors to ensure a consistent quality chain of processed food production and distribution, including during the emergency status of the COVID-19 outbreak in Indonesia, because food safety emergencies can occur due to outbreaks/disasters [3]. In food service institutions, working from home is challenging, so there is a big challenge to keep food handlers healthy and produce food that is safe for consumption [5],[6].

Health education is defined as a set of instructional practices that encourage people to embrace healthy lifestyle choices and behaviors on their own will [7], [8]. To induce attitudinal and behavioral changes, educational media such as booklets, brochures, and instructional sessions are frequently provided. It is intended that instructional tools of this type would encourage patients to engage in health-seeking activities and participate in the development of personalized healthcare plans [7]. Media is needed to convey information to the public regarding the prevention of COVID-19. The instructional

pamphlet was selected as the approach because it is a take-home resource that is simple to access and comprehend. [9]. Previous studies showed that after counseling using booklet media there was an increase in the average knowledge, attitudes, and hygiene practices of food handlers. Before and after schooling, there were variations in personal hygiene knowledge and practice (p = 0.002). Before and after schooling, there was no difference in attitudes regarding personal hygiene (p = 0.059) [10]. This is in line that there was a difference between groups in terms of knowledge; however, the booklet's influence was delayed, growing after reassessments. In the two- and four-month reassessments, there was a difference between groups in attitudes compared to the baseline. At two, four, and six months after baseline, there was a difference in the intervention group compared to the control group in practices [9]. This study aims to reveal the effect of booklet media on the knowledge, attitudes, and hygiene practices of food handlers in food service institutions in Ambon City during the COVID-19 pandemic.

No studies have examined food safety in Ambon during the COVID-19 pandemic. A previous study conducted in Ambon examined the Hygiene Behavior of Street Food Vendors in the Batu Merah Shopping Area, Rijali Village, Ambon City. The results of the study were 21 food handlers (56.8%) had hygiene practices in the poor category even though knowledge and attitudes were in the good category [11].

METHODS

This type of research is quasi-experimental, with a research design of one group pre-test and post-test in the control and treatment groups. The group was given intervention in the form of counseling using booklet media.

The data collected consists of primary data and secondary data. The primary data in this study consisted of knowledge, attitudes, and practices of hygiene, identity, and characteristics of the subject, including age and gender, which were obtained through a questionnaire. The intervention provided was in the form of counseling using booklet media developed by the Ministry of Health with personal hygiene material for food handlers [12]. This booklet contains cleaning and sanitizing procedures, understanding COVID-19, the importance of hand washing, hand washing facilities, 6 steps of hand washing. Counseling is done with two sessions (60 minutes per session) [13].

Secondary data includes data about the general description of the research location obtained through interviews and documentation. The research instrument consisted of a questionnaire on the identity of the respondents, and validated questionnaires on knowledge, attitudes, and hygiene practices. The trial of the questionnaires was conducted on 30 samples who had the same characteristics but in a different location from the research site. The results of the validity test for the perception, attitude, and behavior instruments consisting of 30 question items, there are 2 items that are invalid, which are items number 3 and 8. Question items are considered valid if r results > r table. The r table value used is 0.361. From the reliability test results, it is known that the perception, attitude, and behavior instruments have a Cronbach Alpha value of 0.726; 0.744; and 0.747, so it can be said that the instrument is reliable (Cronbach Alpha> 0.6).

The population of this study was food handlers at food service institutions in Ambon City. For sampling, inclusion and exclusion criteria were determined.

The sample size is determined by the following Slovin formula [14]:

$$n = \frac{N}{1 + Ne^2}$$

Description:
n: Sample size

N: Population size = 55,750 (Number of the working-age population (15 years and over) who work in Ambon City Restaurants in 2020) [15]
e: Allowance for inaccuracy due to tolerable sampling error (12% used)

$$n = \frac{55.750}{1 + 55.750(0{,}12)^2} = 69{,}3 = 70$$

Based on the Slovin formula, the sample used in this study amounted to 70 food handlers. The sampling of food handlers was done using simple random sampling. The variables studied included the independent variable, namely the use of booklet media in counseling. The dependent variable is the knowledge, attitude, and hygiene practice of food handlers in food service institutions. This research was conducted at a food service institution in Ambon City. Data collection was carried out from March to November 2021.

Data analysis in this study used the SPSS version 28 (IBM Company) program with $p < 0.05$. Before analyzing the research variables, a Wilcoxon test will be carried out because the number of samples is more than 50. The effect of educational media on knowledge, attitudes, and practice scores was tested using the Wilcoxon test. Data will be presented using a p-value [16].

The research has received a letter of ethical clearance or ethical clearance from the ethics committee of the Politeknik Kesehatan Kemenkes Maluku with the number LB.02.01/6.2/3541/2021.

RESULTS

1. Characteristics of subjects

Characteristics of research subjects in gender, age, and education were obtained from questionnaire data (Table 1).

Table 1. Characteristics of Research Subjects

Characteristics	n	%
Gender		
Male	19	27.1
Female	51	72.9
Age		
15-29	48	68.6
30-64	22	31.4
Education		
Graduated from elementary school or equivalent	7	10
Graduated from junior high school or equivalent	1	1.4
High school graduate or equivalent	54	77.2
Diploma or Bachelor	8	11.4

From Table 1. it is known that most of the respondents are female and young adults. Most of the respondents had graduated from high school or its equivalent.

2. Media Booklet on Knowledge, Attitudes, and Hygiene Practices of Food Handlers

Media booklet on knowledge, attitudes and hygiene practices of food handlers was obtained from questionnaire and observation data (Table 2).

Normality of the data was tested using t-tests ($p > 0.05$). Based on Table 2. it is known that most of the handlers' knowledge before the intervention was good (48.6%), while after the intervention, 80% of the touchers had good knowledge. Most of the attitude of the handlers before the intervention was good (58.6%), while after the intervention, 74.3% of the touchers had a good attitude. Before the intervention, most of the handlers' practice was lacking (78.6%), while 71.4% of the touchers had less training after the intervention.

Table 2. Differences in Knowledge, Attitudes, and Hygiene Practices of Food Handlers Before and After Extension with Booklet

Variable	Pre-test		Post-test		p-value	Normality test
	n	%	n	%		
Knowledge of handlers					0.001	0.21
Less	18	25.7	0	0		
Enough	18	25.7	14	20.0		
Good	34	48.6	56	80.0		
Handler's Attitude					0.004	0.431
Less	29	41.4	18	25.7		
Good	41	58.6	52	74.3		
Handling Practice					0.008	0.146
Less	55	78.6	50	71.4		
Good	15	21.4	20	28.6		

In Table 3, there was an increase in the average knowledge of food handlers, on the pre-test it was 70.42±22.22, and on the post-test, it was 83.85±19.35. The average score of knowledge of food handlers increased by 13.43 after being given counseling using a booklet. Test results Wilcoxon show p-value= 0.001, it can be concluded that there is a difference in knowledge before and after counseling with booklet.

There was an increase in the average attitude of food handlers, on the pre-test it was 26.74±4.15 and on the post-test, it was 31.52±3.77. The average score for the attitude of food handlers increased by 4.78 after being given counseling using the booklet. Test results Wilcoxon show p-value= 0.003, it can be concluded that there are differences in attitudes before and after counseling with booklet.

There was an increase in the average practice of food handlers, on the pre-test it was 3.52±1.13 and on the post-test, it was 3.92±1.45. The average score of the practice of food handlers increased by 0.4 after being given counseling using a booklet. However, the Wilcoxon shows p-value= 0.118, it can be concluded that there is no difference in practice before and after counseling with the booklet.

Table 3. Differences in Knowledge, Attitudes, and Hygiene Practices of Individual Food

Food Handlers	Pre-test			Post-test			p-value
	Mean±SD	Min	Max	Mean±SD	Min	Max	
Knowledge	70.42±22.2	20	100	83.85±19.3	60	100	0.001
Attitude	26.74±4.1	20	39	31.52±3.77	25	38	0.003
Practice	3.52±1.13	2	6	3.92± 1.45	2	7	0.118

DISCUSSION

We conducted an investigation into the extent of food hygiene practices among food handlers employed in food establishments during the COVID-19 pandemic, using a quasi-experimental design comprising a single group pre- and post-test in the control and treatment groups. The study discovered that food workers' average expertise has increased by 13.43 after being given counseling using a booklet. The percentage of food handlers with good knowledge has increased after counseling by 31.4%. The level of education of the subject, which is mostly high school equivalent, can significantly increase the level of knowledge of the subject. In terms of education, the majority of the participants (57.9%) went to high school, while 40.4 percent only went to elementary school. These levels of education are consistent with the profile of these professions, as evidenced by other Brazilian research [17], [18] and international studies [19]. Food handlers in Brazil are not required to have a specified degree of education, but they are required to get training regularly. This aspect has a detrimental impact on food service

training and treatments because it might reduce worker motivation and, as a result, interfere with the adoption of suitable attitudes and behaviors [20], [21].

Based on Table 3. there was an increase in the average attitude of food handlers by 4.78 after being given counseling using a booklet. The percentage of food handlers with a good attitude has increased after counseling by 15.7%. The Wilcoxon test shows that attitudes pre-test and post-test results have a p-value media booklet. This result is also in line with previous research, which shows that there is a significant influence between the provision of counseling and personal hygiene attitudes. The majority of students have a good attitude toward hand washing (62.8%), which is based on their knowledge and well-developed daily practices. Repetitive behaviors that are progressively absorbed by individuals, such as the patterns employed by parents to raise their children, are one approach to mold and modify attitudes. The individual's behavior will be affected as a result of the conduct [18].[18].This matches the findings of a prior quantitative research in Jordanian hospital food service settings [23], but varies from those of studies in India [24] and Ghana [25]. About a third of the topics were unfavorable in terms of hygiene and sanitation, and the items not followed by most food handlers included the use of personal protective equipment while dishwashing and wearing masks when handling foods, among other things.

Based on Table 3. there was an increase in the average practice of food handlers by 0.4 after being given counseling using a booklet. The percentage of food handlers who have less practice has decreased after the counseling was carried out by 7.5%. The results of the Wilcoxon attitudes pre-test and post-test have a p-value= 0.008, and it can be concluded that there is no difference in attitudes before and after counseling with a booklet. This outcome is consistent with a prior study's findings, which showed that 33.33% of food handlers lacked sufficient experience wearing gloves, masks, and caps [20]. Ideally, food handlers' knowledge and attitudes about hygiene and sanitation are rated as high quality, and this also applies to the practices of hygiene and sanitation. Under such circumstances, the variables will show a positive, unidirectional relationship. [25], [26].

Along with another study that also found that greater knowledge of food hygiene practices does not always translate into a positive change in food-handling behavior, this study also demonstrated that knowledge of these practices does not always translate into a change in behavior. Variations in how food service employees understand SOPs, managers' tolerance for using PPE in specific situations, and individual traits that managers found restrictive while conducting inspections functions were all mentioned by study participants as possible factors that might prevent the best implementation of food hygiene and sanitation practices. According to the observations, food handlers were following SOPs to the letter, except for wearing masks, which was often disregarded by supervisors due to the uncomfortably high temperature in the kitchen. According to a study of food handlers in Malaysian primary schools, the government should emphasize the necessity of wearing a mask and performing appropriate hand washing through hands-on instruction [27]. Preventive–training and the necessity to build age-aware human resource policies and practices are proposed as some of the most effective activities to sustain older workforces and their employability in the workplace in terms of managerial function [28].

Activities related to food service operations involve coming into direct touch with food or with food packaging (trays, utensils, packets/pouches, etc.). Nonfood surfaces like door knobs, doorbells, handrails, and the like come into contact with one another along the supply chain. Food handlers are therefore required to uphold stringent sanitation standards in their day-to-day activities. The Centers for Disease Control and Prevention (CDC) states that constantly washing hands with soap and sanitizing them with 70% alcohol is the most crucial and critical step in avoiding the spread of the coronavirus during a food service operation [29], [30]. In addition to the measures listed

above, food workers should practice good kitchen hygiene by washing and sanitizing their hands often, especially after a bio break [31]. All staff should be equipped with appropriate PPE such as gowns, gloves, masks, hair nets, and other items that can be changed as needed to avoid the spread of infections [32].

The Regulation of the Minister of Health No. 1096 of 2011 concerning hygiene and sanitation requirements for catering services describes that food handlers should use aprons and work hats. Food handlers are not allowed to carry out activities other than processing food, such as scratching their heads, wearing jewelry other than plain wedding rings (not engraved), eating or drinking in public places, or work areas, and chatting while preparing food [33].

People have avoided eating out due to the COVID-19 epidemic. To reduce the risk of transmission and draw in customers, several restaurants now provide no-contact meal ordering and home delivery. These days, most customers choose contactless delivery than eating in. All proprietors of food businesses must uphold and abide by the rules and legislation established by food safety authorities in order to continue operating their businesses [34].

Hand sanitizers should be accessible in appropriate numbers at entrances and in restaurant waiting rooms, according to the directive. After each usage, sterilize the dining room tables and chairs. High-touchpoints, such as doors, toilets, and computers, should be cleaned and sanitized on a regular basis [30]. Weblink or mobile applications should be used to place contactless orders. Each table should maintain social distance so that the virus spreads less, especially during busy hours. Avoid handling cash or credit cards; instead, use contactless payment gateways. implemented, else the new coronavirus might spread.

CONCLUSION

Media booklets can significantly increase the knowledge and attitudes of food handlers. Counseling using a booklet can influence the practice of food handlers but not significantly. The extension time can be done longer to affect the practice of food handlers. The results of this study are expected to be taken into consideration for food service providers to evaluate food handlers.

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