Implementation of food labelling policy in small, medium and micro food businesses in West Nusa Tenggara

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ABSTRACT

Background and purpose: The government has adopted policies regarding food labelling to ensure food quality and safety, but the implementation has not yet optimal. This study identifies resources, knowledge, and facilities that affect food labelling implementation in small, medium, and micro food-businesses (SMMF-B) in West Nusa Tenggara, Indonesia.
Methods: We conducted a mixed method study. The qualitative data was collected through in-depth interviews with informants from the West Nusa Tenggara Provincial Office of National Agency of Drug and Food Control and the Mataram City Health Office, and a focused-group discussion involving SMMF-B owners. The quantitative data was collected with a survey to 30 respondents using questionnaire and observation of the label of 36 SMMF-B products to determine the presence of product's label, composition, net-weight, producer's name and address, production code, expiry date and distribution license.
Results: We found SMMF-B owners' knowledge on food labelling was low, however, they expressed supports to the implementation of food label controlling. Of the 36 food labels, the two highest number of violations were the absence of production code (88.9%) and net weight (86.1%). Meanwhile, of the 30 surveyed respondents, the majority (96.6%) stated the importance of labels on SMMF-B products and almost two third (63.4%) read food labels before purchasing the product.
Conclusion: This study reveals that SMMF-B in West Nusa Tenggara has not implemented food labelling policies optimally. The lack of implementation was influenced by the government's lack of funds and minimal information and monitoring efforts. Therefore, government should increase budget allocation for food label controlling, number and capacity of food label controllers and strengthen the enforcement.

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INTRODUCTION

Food safety in Indonesia is regulated under the Law Number 18 Year 2012 concerning food, which mandates that everyone is prohibited from selling food products that do not meet food quality requirements and the food packaging must be labelled. This regulation also states that individuals who disregard the law will be assigned administrative penalties or even revocation of their production license.

The government has determined various food labelling policies to ensure food safety by placing clear and correct information on the food labels. However, implementation of the policy is not optimal, especially for food that was produced by small, medium, and micro food-businesses (SMMF-B). Food label is a necessary communication media between the producer and the consumer,[1] which may influence consumer decisions to purchase the product.[2,3] Therefore, it is essential to provide clear and correct information in their labels. Meanwhile, the ability of the community to understand the information on the labels also plays a significant role.[1,3]

The National Agency of Drug and Food Control (BPOM) monitors food labels through its provincial offices throughout Indonesia. Specific for SMMF-B, the monitoring involves the City Health Office. Results from monitoring performed by BPOM in 2016 showed that Mataram is one of the cities with a high rate of violations. The high rate of food packaging violations reflects low compliance to the food labeling policy by the producers that may occur as a result of various factors. The primary factors that inhibit the implementation of this policy include the lack of monitoring and the lack of resources.[4] Literature reviews also revealed that the factors include human resources, technology, knowledge, and facilities.[5] This research intended to analyze resources, knowledge, and facilities which affect food labelling implementation in SMMF-B in West Nusa Tenggara, Indonesia. The results of the analysis are expected to provide policy recommendations for improving implementation and overcoming various

obstacles to the implementation of food labelling.

METHODS

This study is a policy analysis to explore how food labelling policy was applied in West Nusa Tenggara Province. The analysis process was carried out using the Van Meter and Van Horn Theory, which is an appropriate approach to analyze the implementation of top-down policies. The framework includes communication, structural, and bureaucratic variables from the central government to the provinces, clarity, readiness, and availability of human resources for implementation, social, political, and economic environment.[6] All of these variables were used to determine the effectiveness and obstacles of the food label policy implementation.

The data collection and analysis process were conducted in October-November 2019. The data collection was started with an in-depth interview with the Provincial Office of National Agency of Drug and Food Control in Mataram and the Mataram City Health Office to explore their perspectives in the policy implementation. The data collection process continued with Focus Group Discussion with 7 SMMF-B owners affected by the policy. In this case, the most important stakeholders were the community because they were the main beneficiaries of food label policy's impact.

The food label policy was determined by the central government; hence it is crucial to see how the policy is adopted and understood by not only policymakers but also the community at the sub-national level. The analysis process was complemented by observing food products released by various SMMF-B from traditional markets and obtaining 36 labels. This study continued with data collection on whether the community had the same perception about the urgency of food labelling. Hence, a quick survey of 30 respondents was carried out to determine the importance of food labels and what aspects were considered essential when buying food. An analysis was conducted to see the similarity between the interview results, FGD, and the analysis of food products and public perception. The stages of this research can be seen in **Figure 1**.

The results of the interviews and FGDs were transcribed and continued with content analysis, to determine the thematic phenomena, referring to the study objectives. Data on product label observations were collected from several markets and FGD participants, for observation and analysis, namely the presence or absence of information related to composition, net weight, producer's name and address, production code, expiry date, and distribution license. From the quick survey respondents, we collated their perceptions on the importance of labels on SMMF-B products, whether they read or not the food labels prior to purchasing the product, benefits of reading food labels on home industry food, and completeness of the food labels. Descriptive analysis was carried out for the survey data.

This study was approved by The Research and Community Engagement Ethical Committee, Faculty of Public Health, Universitas Indonesia (Ethical Approval: 53/UN2.F10/PPM.00.02/2018).

RESULTS

From in-depth interviews, we found that the knowledge of the SMMF-B owners about food label policy was relatively low due to limited training which is only once a year. The informants also stated this fact that there was limited budget allocation to train the SMMF-B owners, specifically about food labels. The training was conducted in collaboration between the City Regional Health Office, The Provincial Office of National Agency of Drug and Food Control in Mataram, and the City Industrial Office. Although the coordination between those sectors is good, it remains not optimal due to the limited budget and human resources.
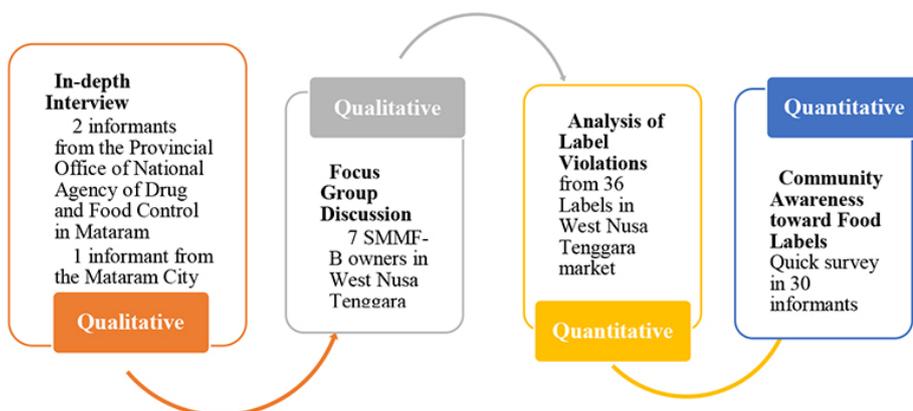
> *"The SMMF-B owners seem to have a lack of knowledge about food labels. This could be due to lack of training, especially those related specifically to food labels."*

> *"Indeed, training is not carried out continuously because this is a budget constraint. The training for SMMF-B was carried out jointly between the Provincial Office of National Agency of Drug and Food Control, the Health Office and also the Industry Office. Coordination with the three agencies is good in the implementation of the training, but yes, it is limited by budget and personnel."*

There is also a concern on the capacity of staff who provide training. While the staff are competent, they seem to rarely receive training, especially related to food labels.

> *"As for employees who provide training, they are competent, but it seems they still rarely receive training on food labels."*

Information dissemination regarding food labelling policies had been done by providing education through technical training or information distribution to the community through the car-free day program, held together with the communication and information team every week according to Provincial Office of National Agency of Drug and Food Control in Mataram. In addition, information had also been given to the

Figure 1. Flowchart of the research stages

SMMF-B owners through *Desa Pangan Aman Program* (Safe Food Village Program) activities, though it is done less than 20 times every year.

"In addition to training, there are also information dissemination activities during car free days, or through the Program Desa Pangan Aman (Safe Food Village Program)."

The political factors that may affect the implementation of food labels are concerning the allocation of budget and human resources. In addition, one of the driving factors that improve the implementation of proper food labelling is the fact that West Nusa Tenggara is a tourism destination with rich foods variation. These economic aspects should gain serious attention.

"That's why this food label program also needs to be supported politically, especially for its budget allocation and human resource needs."

"This is a tourist area, of course a lot of food is sold. You also need to pay attention to the label."

From the viewpoint of incentives for compliance of SMMF-B owners, informants from the Provincial Office of National Agency of Drug and Food Control in Mataram stated that there was only a budget for monitoring, but not for providing rewards. The informant from the Mataram City Health Office also said that rewards to the SMMF-B were given in the form of an ease license. They hoped the incentives would influence and encourage their attitude towards the food labelling policies implementation, by easing the process to gain or renew their license.

"Well, for compliance of SMMF-B, we give rewards, in the form of ease licenses, but still fit with existing regulations"

Focus group discussion with 7 SMMF-B owners showed that the owners support the policy. They stated that the information provided in the training was straightforward and supported by the standard operating procedures (SOP) availability. However, for SMMF-B owners, apart from information regarding the prohibition of food labels, they also want to be given a solution if there are limitations in fulfilling the food label policy.

"The information from the officers was clear, and there was an SOP to be conveyed, but sometimes we felt that the information provided was only a warning, in fact, we also need a solution if we have limitations."

Analysis of 36 food labels was performed based on the observation of sampled food products brought from markets in West Nusa Tenggara. The highest number of violations were not mentioning the production code (88.9%) and followed by not mentioning net weight (86.1%), expiry date, producer's name and address, distribution license, composition and product's label (**Table 1**).

Based on the survey, most of the informants were female (66.7%), with educational background was more than high school, and the informants' occupation was as an entrepreneur (**Table 2**). It was found that 83.3% of them

mentioned the importance of labels on SMMF-B products, while 6.7% of the informants always read food labels before purchasing the product, and more than half of them (56.7%) often read the labels. All informants also expressed the benefit of reading food labels on home industry food. In terms of information provided on the food labels, all respondents stated it should be including the name, expiration date, and halal info of the product (**Table 3**).

Based on the research finding, several obstacles faced in implementing food labelling policies in West Nusa Tenggara were identified (**Figure 2**). Based on the results of FGDs and in-depth interviews, several obstacles were found in the implementation of food label policies, namely limited resources in the form of controlling resources, training for controllers, funding, and the limited frequency of information dissemination and implementation of monitoring and evaluation. In addition, there are also obstacles related to the lack of

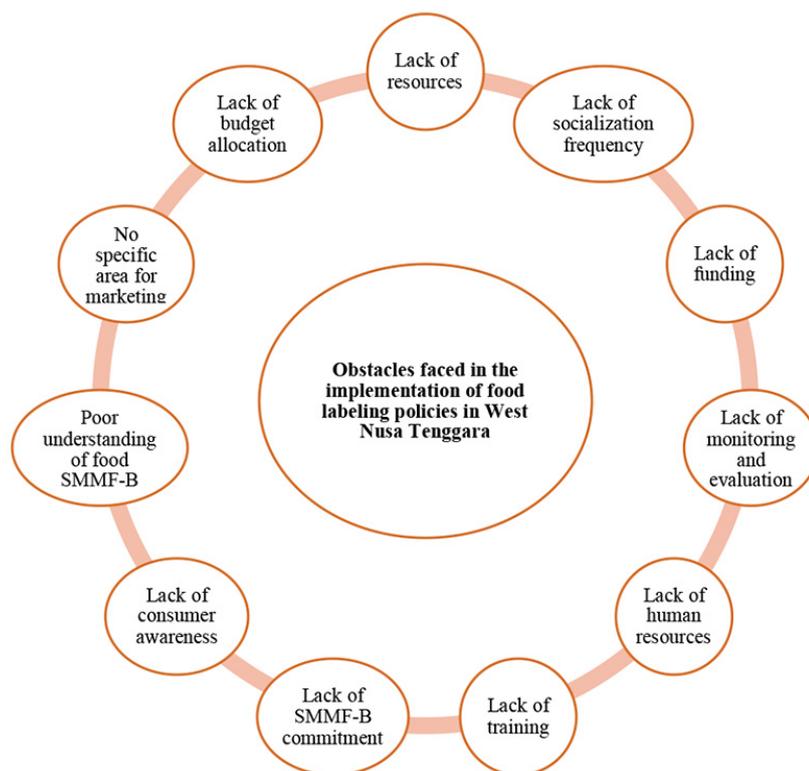**Table 1.   Label information violations**

Information not mentioned on the labels (n=36 labels)	f	%
Product's label	13	36.1
Composition	23	63.9
Net weight	31	86.1
Producer's name and address	26	72.2
Production code	32	88.9
Expiry date	26	72.2
Distribution license	23	63.9

Table 2.   Characteristics of informants in the quick survey

Characteristic	No.	%
Gender		
Male	10	33.3
Female	20	66.7
Education		
<High school	4	13.3
High school	9	30.0
>High school	17	56.7
Occupation		
Housewife	6	20.0
Taxi bike	4	13.3
Student	5	16.7
Government employee	1	3.3
Entrepreneur	14	46.7

Table 3. Distribution of perception and behaviors of informants in the quick survey

Variables	f	%
Importance of labels on SMMF-B products		
Very unimportant	0	0.0
Unimportant	1	3.3
Important	25	83.3
Very important	4	13.3
Read food labels prior to purchasing the product		
Never	2	6.7
Rarely	9	30.0
Often	17	56.7
Always	2	6.7
Benefit of reading food labels on home industry food		
Very useless	0	0.0
Useless	0	0.0
Useful	27	90.0
Very useful	3	10.0
Completeness of food labels		
Product's name	30	100
Producer's name	24	80.0
Production code	16	53.3
Registration number	20	66.7
Price	29	96.7
Halal info	30	100
Composition	25	83.3
Net weight	16	53.3
Expiry date	30	100

Figure 2. Obstacles faced in the implementation of food labelling policies in West Nusa Tenggara

understanding for food MSME business actors and consumer awareness of the importance of food labels.

DISCUSSION

The findings obtained from various stages of in-depth interviews, FGDs, quick surveys and observation of product labels indicate several obstacles in implementing food label policies, as illustrated in **Figure 2**. Basically, from the government side, the most basic obstacle is the availability of resources, meanwhile, for consumers and SMMF-B owners, it is related to knowledge of the importance of food safety.

Almost all SMMF-B owners stated that the information provided was clear and supported by the SOP availability. Availability of the SOP was theoretically associated with increased communication between stakeholders, thus reaching the policy targets and aims. However, they claimed that the information given by the employees during monitoring of the production facility is more likely in the forms of warning instead of solutions.[7] For this reason, it is necessary to increase training for employees to provide education for SMMF-B to include good food labels.

All SMMF-B owners said that they supported the food labeling policy by placing information on the food labels. However, the commitment of the SMMF-B according to the determined standards was lacking. It was proven by the high number of violations found on food labels. Another factor that influenced this finding was the lack of consumer knowledge, which is similar that consumer knowledge is an obstacle in food safety policy implementation in Europe.[8]

All informants in in-depth interviews understand the standards used as a guide for the labelling policy—however, the understanding of the SMMF-B owners was relatively low. Consequently, further intensive training by the government is required. This assertion goes along with the statement made by informants because of their lack of understanding of the regulation. Mataram City Health Office has provided training through integrated education delivered by the Provincial Office of National Agency of

Drug and Food Control in Mataram and other associated sectors. Other strategies implemented included synergizing every unit to ensure correct and continuous activities through *Desa Pangan Aman* and dissemination of the information at the car free day event. *Desa Pangan Aman* is one of the government programs to encourage community involvement in implementing food safety independently. For this reason, various strategies are carried out through strengthening village capacity, empowering village communities, and controlling village food safety, including controlling food labels.[9]

These information distribution activities mentioned before, were deemed to be of insufficient frequency. The Provincial Office of National Agency of Drug and Food Control in Mataram emphasized that the training of the SMMF-B owners that has been delegated to the regional office is not intensively conducted. This was proven right by the informant who stated that training is only done once a year due to the lack of funds. The informants from Provincial Office of National Agency of Drug and Food Control in Mataram also mentioned that the training budget for the SMMF-B owners not specifically for training regarding food labels. The lack of funds and resources including human resources were obstacles to the implementation of a policy, especially in reaching their targets and aims.[4,10-13] The frequency of information distribution with various activities needs to be increased in order to be able to reach SMMF-B owners in increasing understanding regarding compliance with food label policies. For this reason, it is necessary to advocate for an increase in the budget to related institutions, such as Ministry of Planning (Bappenas), Ministry of Finance, and representative council (DPR/DPRD).

Similarly, other theories stress the importance of human resources as the main influencing factor of policy implementation. Failure in policy implementation might occur if the employee/staff were incompetent or did not specialize in their field.[14] However, according to The Provincial Office of National Agency of Drug and Food Control in Mataram and the Mataram City Health Office, the available staffs were

competent. Despite the staff competency, the informant stated that employees rarely receive training, especially for food labels. Therefore, the employees need to enhance their knowledge regarding food labelling standards.

The government's effort in providing support through inter-sector cooperation or partnering with private sectors in West Nusa Tenggara needs an advanced approach, especially in ensuring the SMMF-B compliance to food label regulations. However, the support given by the government remains not optimal, particularly regarding budget and facilities.[15,16]

Apart from the limited resources, another obstacle in the implementation is the lack of monitoring and evaluation. In fact, these activities are very important to see the program that has been running and become a follow-up if there is a violation, in the form of giving sanctions. For this reason, the government needs to carry out the role of monitoring and evaluation consistently.

According to the informants, economic factors are the most influential aspect in the implementation of the food labeling policy. Furthermore, given that the West Nusa Tenggara Province is a tourism spot, the provision of a central shopping centre that sells these food products is required. However, besides economy, informants from Provincial Office of National Agency of Drug and Food Control in Mataram say that political factors may also affect policy implementation, specifically budget and human resources.

The researcher realizes that this study has several limitations, namely the limited number of observations of product label samples and surveyed respondents, the need to directly see the production process, especially labeling, and the need for a policy forum to present the results of these findings to policy makers as a follow-up in the form of advocacy. For this reason, further research and the next steps are needed to have a beneficial impact on the wider community in general.

CONCLUSION

This study found that the implementation of food labelling policies by SMMF-B in Mataram was not optimal. There were

high number of violations towards the information provided on the food labels. The lack of government support leads to the limited frequency of information dissemination, provision of resources, also monitoring and evaluation, which resulting in the lack of success in the monitoring and training of SMMF-B. Several recommendations to improve the implementation of food label policies are increasing the frequency of information dissemination, increasing budget allocation by advocating to the financial institutions, increasing other resources for monitoring and evaluation, and enforcing the law and sanctions to individuals who violate the regulation.

CONFLICT OF INTERESTS

The authors have no conflict of interests with the material presented in this manuscript.

AUTHORS' CONTRIBUTIONS

DA, as the first researcher, formulated the idea, prepared the research, and analyzed the data. **IF** and **RRMU** prepared, collected and analyzed the data, also drafted the manuscript. **SB** analyzed the data and revised the manuscript. **SM** revised the manuscript.

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