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Knowledge, attitudes, practices and sociodemographics determinants toward foot and mouth disease

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Abstract: *This work addresses to study the small holder farmer's knowledge, attitudes, and practices (KAP) related to foot and mouth disease (FMD) control programme and farmer's characteristics determinants of FMD infections. Nine hundred sixty seven farm households in Yogyakarta province in Indonesia were included in the multiple and logistic regression. Our results showed that joining farmer group demonstrated higher levels of knowledge (β = 1.58, P < 0.01) and practice FMD control programme (β = 1.33, P < 0.01). Among the influencing factors of FMD, only farmers with higher education have a positive attitude toward FMD control programme. Furthermore, the present work empirically showed that the farmers' characteristics, including land size, women's decisions, income, farmer group and cattle ownership, determine the likelihood of FMD infection. Nevertheless, farms in a communal shed have five times higher risk than individuals. Hence, to increase precautionary behaviors among the small holder farmers, animal health officials and policymakers must promote animal disease control programme. Future interventions and policies should also be developed in a 'group-centered' approach, targeting vulnerable small holder farmers, and closing the gap of KAP toward animal disease.*

• Introduction

Foot and Mouth Disease (FMD) is one of the most socially and economically devastating diseases affecting animal agriculture worldwide (González Gordon et al., 2022). Indonesia has been proclaimed free of FMD since 1986 (Soehadji & Setyaningsih, 1994; Windsor, 2015). Despite nearly four decades without an FMD outbreak, Indonesia was unable to prevent eventuating the infection.

The suspected recurrence of FMD can be attributed to inadequate border surveillance. Indonesia, the largest archipelagic state in the world, has a very long coastline (Afriansyah, Darmawan, & Pramudianto, 2022) and poor livestock management practices among smallholder farmers. Poor disease knowledge and attitude associated with disease prevalence can propel underreporting and awareness deficits (Govindaraj et al., 2016).

Currently, there is a lack of information on the social and economic impacts of FMD in Indonesia. Furthermore, it is unknown which farmer's characteristics render their livestock the most vulnerable to FMD. Hence, This study aims to analyse the small holder farmer's knowledge, attitudes, and practices (KAP) related to foot and mouth disease (FMD) control programme and farmer's characteristics determinants of FMD infections.

• Material and method

This research is a survey implementing a cross-sectional design. Nine hundred sixty seven farm households (199 infected and 767 non-infected FMD) in Yogyakarta province in Indonesia were sampled using a stratified random sampling technique and analyzed with multiple and logistic regression.

A scoring system comprising eleven questions regarding the illness, prevention, and treatment of FMD was utilized to measure the knowledge. Six questions overall about how farmers respond to FMD outbreaks were incorporated to evaluate the attitude utilizing a 6-point Likert scale. Furthermore, practice is measured using a scoring method with nine behavioral assertions of appropriate disease management programs.


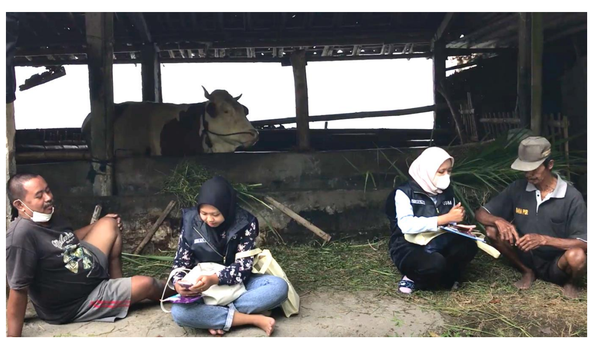

Figure 1. Interviewing Farmers

• Results and discussions

Table 1. Multiple Regression

Variables	Knowledge		Attitude		Pratices	
	β	Sig	β	Sig	β	Sig
Constant	**4.962**	**.000**	**4.552**	**.000**	**5.404**	**.000**
Age	-.015	.054	-.005	.272	-.012	.055
Education	**.147**	**.000**	**.034**	**.013**	**.086**	**.000**
Household size	-.091	.095	.007	.819	-.078	.091
Land size	**.001**	**.000**	.004	.250	.006	.274
Women Decision	-.151	.402	.064	.541	-.225	.145
Income	**0.00**	**.028**	-.001	.390	.001	.158
Joining Farmer Group	**1.578**	**.000**	.118	.205	**1.328**	**.000**
Cattle ownership	.057	.506	-.014	.778	-.015	.843
Farming system types	-.116	.250	-.054	.355	.030	.731
Farming experience	-.007	.245	-.002	.562	**.017**	**.000**

Table 2. Logistic Regression

Variables	β	Sig	Exp (β)
Constant	**-2.667**	**.000**	**.069**
Age	-.001	.871	.999
Education	.034	.211	1.034
Household size	-.075	.251	.928
Land size	.000	.011	1.000
Women Decision	**-.483**	**.009**	**.617**
Income	**.000**	**.003**	**1.000**
Joining Farmer Group	**1.578**	**.000**	**4.846**
Cattle ownership	.171	.058	1.186
Farming system types	.020	.856	1.020
Farming experience	.006	.387	1.006

The showed that joining farmer group demonstrated higher levels of knowledge and practice FMD control programme. Among the influencing factors of FMD, only farmers with higher education have a positive attitude toward FMD control programme (Table 1).

Table 2 showed that the farmers' characteristics, including land size, women's decisions, income, farmer group and cattle ownership, determine the likelihood of FMD infection. Nevertheless, farms in a communal shed have five times higher risk than individuals.

• Conclusions

This study concluded that different farmer characteristics result in different knowledge, attitudes, practices, and probabilities of infected foot and mouth disease. Therefore, animal health officials and policymakers need to promote animal disease control programs in order to increase precautionary behaviors among smallholder farmers.

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