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ANALYSIS OF FACTORS RELATED TO THE IMPLEMENTATION OF BALIKPAPAN MAYOR REGULATION NO. 9 OF 2020 CONCERNING THE PREVENTION AND CONTROL OF DENGUE HEMORRHAGIC FEVER IN BALIKPAPAN CITY

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ABSTRACT

Dengue Hemorrhagic Fever (DHF) remains a pressing health concern in Balikpapan, with 1,081 reported cases in 2022, despite the enforcement of Mayor Regulation No. 9/2020 aimed at prevention. This study analyzed the influence of communication, resources, and disposition on the regulation's implementation in South Balikpapan through an analytical cross-sectional survey of 189 jumantik cadres, using chi-square tests and multivariate logistic regression. Findings revealed significant relationships between implementation and communication (p = 0.008), resources (p = 0.000; OR = 8.272), and disposition (p = 0.001), with resources identified as the most influential factor. The results highlight the importance of improving resource allocation, establishing structured communication, and motivating cadres to enhance dengue prevention efforts, while recommending future studies to incorporate technological tools like GIS and assess long-term policy outcomes.

KEYWORDS *Communication, Resources, Disposition, DHF*

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INTRODUCTION

In East Kalimantan Province, dengue cases varied significantly across cities and regencies between 2020 and 2022. In 2020, Balikpapan City recorded the highest number of cases with 758 infections and 6 deaths, while Mahulu Regency had the lowest with just 40 cases and 2 deaths. By 2021, Samarinda City surpassed

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Balikpapan with 1,366 cases and 8 deaths, whereas PPU Regency reported the fewest cases at 27 with 1 death. The trend continued in 2022, with Samarinda City still leading at 1,688 cases and 9 deaths, while PPU Regency remained the lowest at 76 cases and 2 deaths (East Kalimantan Provincial Health Office, 2022). Balikpapan City ranked second in 2022 with 1,081 cases and 7 deaths (East Kalimantan Provincial Health Office, 2022), despite having a population of only 695,278 (Balikpapan City Population and Civil Registration Office, 2021).

The rapid economic growth and urbanization in Balikpapan, driven by its status as a provincial capital and central transportation hub, have contributed to its high dengue incidence (Ghozali & Yanti, 2017; Nuralam, 2018; Sitinjak et al., 2022; Wahyullah, 2021). The city attracts migrants from across Indonesia, leading to dense population conditions that facilitate the spread of dengue (Balikpapan City Population and Civil Registration Office, 2022). With a population density of 1,368.6 people per square kilometer in 2021, the urban environment provides an ideal breeding ground for *Aedes aegypti* mosquitoes, the primary vector for dengue (Sutriyawan & Habibi, 2020). South Balikpapan District consistently reported the highest dengue cases, with Sepinggan Village alone recording 293 cases and 4 deaths from 2020 to 2022 (P2P Division of the Balikpapan City Health Office, 2023).

To address the rising dengue cases, the Balikpapan City government issued Mayor Regulation No. 9 of 2020, which introduced measures such as water mosquito nets and larval monitoring. These efforts aim to disrupt mosquito breeding cycles by preventing eggs from hatching and trapping adult mosquitoes. The policy's success depends on four key factors: clear communication, sufficient resources, strong disposition (commitment from implementers), and an efficient bureaucratic structure (Nawawi, 2019). However, challenges remain, including inconsistent community participation and low public awareness of preventive measures like mosquito nest eradication (PSN).

Community involvement is crucial for long-term dengue control, yet many residents still neglect PSN activities (Banasik et al., 2022; Convertino et al., 2021; Sharma & Bhat, 2023; South et al., 2005). The city relies on *Jumantik* (larval monitor) cadres to conduct inspections and educate neighborhoods, but their effectiveness varies due to irregular participation and reporting (Nabila, 2023). Previous studies, such as Iqbal's (2018) research in Semarang, emphasize the importance of policy enforcement and community engagement in reducing dengue cases. Similarly, Suwarta's (2020) study in Cirebon found that communication, resources, and bureaucratic structure significantly influence policy effectiveness.

Despite these efforts, dengue cases in Balikpapan remain high, indicating gaps in policy implementation. Observations suggest that many residents still do not practice PSN, and larval-free rates remain low. This study aims to analyze the factors affecting the implementation of Mayor Regulation No. 9/2020, focusing on communication, resource availability, and the disposition of health workers and cadres. By identifying these barriers, the research seeks to improve dengue prevention strategies and reduce case numbers in Balikpapan City.

Building on previous research (Iqbal, 2018; Wardati, 2020; Messi, 2019), this study offers several novel contributions, including a comprehensive factor analysis

that simultaneously evaluates the combined effects of communication, resources, and disposition on policy implementation, identifying resources as the most dominant factor (OR: 8.272, $p = 0.000$). It uniquely focuses on Balikpapan Mayor Regulation No. 9/2020, unlike earlier studies centered on Semarang and Jakarta, thus providing localized insights into dengue control in East Kalimantan. Employing multivariate logistic regression (Dahlan, 2019) and cross-sectional surveys of 189 Jumantik cadres (P2P Division, 2023), the study enhances methodological rigor compared to prior bivariate analyses. Additionally, it introduces practical innovations such as the implementation of water mosquito nets and cadre-based monitoring, distinguishing it from broader approaches in earlier works (Messi, 2019).

RESEARCH METHOD

This study employed an analytical survey with a cross-sectional approach to examine factors influencing the implementation of Balikpapan Mayor Regulation No. 9/2020 regarding dengue prevention. Conducted from January to March 2023 in South Balikpapan District, the research focused on 372 larval monitoring cadres (jumantik), with 189 selected through consecutive sampling techniques. The sample size was determined to be 189 after rounding calculations. The cross-sectional design allowed simultaneous examination of multiple variables to assess their relationships with policy implementation outcomes in the target area.

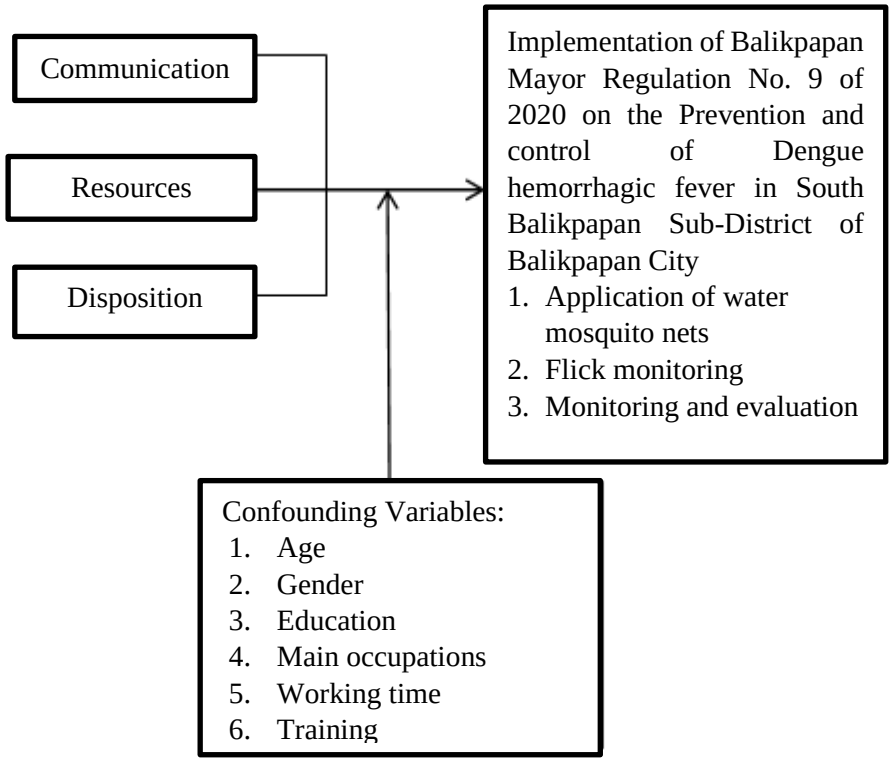

Figure 1. Concept Framework

Source: Processed by Researchers (2023)

This study examined several key hypotheses regarding the implementation of Balikpapan Mayor Regulation No. 9/2020 on dengue prevention in the South Balikpapan District. The research tested whether effective communication, adequate resources, and positive staff disposition each contributed to successful policy implementation, measured through the application of water mosquito nets, larval monitoring activities, and evaluation processes. Additionally, it investigated the combined impact of these factors on the regulation's overall effectiveness.

The analysis utilized both dependent and independent variables to assess these relationships. Policy implementation served as the dependent variable, operationalized through specific prevention activities like mosquito net usage and monitoring procedures. Three independent variables were examined: the clarity and effectiveness of communication channels, the availability of necessary resources, and the commitment levels of implementing staff (disposition).

Researchers followed a structured data analysis approach beginning with careful data preparation. Questionnaire responses underwent editing for completeness before being coded and entered into statistical software. The analysis progressed from basic frequency distributions to more complex tests, starting with univariate examination of response patterns. Normality testing using Kolmogorov-Smirnov revealed non-normal distributions requiring log transformations of the data. Bivariate analysis employed chi-square tests, with Fisher's exact test applied where appropriate, using a significance threshold of $p<0.05$. The final stage involved multivariate logistic regression to identify the most influential factors, with variables meeting a $p<0.25$ criterion included in the model assessing combined effects on policy implementation.

This comprehensive analytical approach allowed researchers to determine which individual factors influenced dengue prevention efforts and how these elements worked together to affect the overall success of the local health regulation. The findings provide valuable insights for improving policy implementation strategies in urban public health initiatives.

RESULT AND DISCUSSION

Bivariate Analysis

The relationship between communication and the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in Balikpapan City.

It was obtained among respondents who had poor implementation; the highest proportion was found among respondents who had sufficient communication (55%), then among respondents who had good implementation, the highest proportion was found among respondents who had good communication (65%). Bivariate analysis because the data is not normally distributed, it is possible to use the chi square test and the spearman test because they have the same results, namely the chi-square test shows a p value of 0.008 ($p < 0.05$) and the spearman test shows a p value of 0.006 ($p < 0.05$) so that the hypothesis is accepted, meaning that there is a communication relationship with the implementation (application of

water mosquito nets, larval monitoring, monitoring and evaluation) in the Regulation of the Mayor of Balikpapan No. 9 of 2020 in South Balikpapan District, Balikpapan City.

The relationship between resources and the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in Balikpapan City

It was obtained among respondents who had less implementation; the highest proportion was found in respondents who had sufficient resources (85.3%), then among respondents who had good implementation, the highest proportion was found in respondents who had good resources (61.3%). Bivariate analysis is because the data is not normally distributed, so it can be used chi square test and spearman test because the chi-square test and spearman test both show a p value of 0.000 ($p < 0.05$) so that the hypothesis is accepted, meaning that there is a resource relationship with the implementation (application of water mosquitoes, larval monitoring, monitoring and evaluation) in the Balikpapan Mayor Regulation No. 9 of 2020 in South Balikpapan District, Balikpapan City.

The relationship between disposition and the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in Balikpapan City.

It was obtained among respondents who had poor implementation; the highest proportion was found among respondents who had sufficient disposition (85.3%), then among respondents who had good implementation, the highest proportion was found among respondents who had sufficient disposition (67.5%). Bivariate analysis because the data is not normally distributed, it can be used chi square test and spearman test because they have the same results, namely the chi-square test shows a p value of 0.001 ($p < 0.05$) and the spearman test shows a p value of 0.000 ($p < 0.05$) so that the hypothesis is accepted, meaning that there is a disposition relationship with the implementation (application of water mosquito nets, larval monitoring, monitoring and evaluation) in the Regulation of the Mayor of Balikpapan No. 9 of 2020 in South Balikpapan District, Balikpapan City.

Multivariate Analysis

Multivariate analysis in this study used multiple logistic regression because the data were categorical and not normally distributed. In this multivariate selection, the variables included are independent variables (communication, resources, and disposition) and confounding variables (age, gender, education, main occupation, working period, and training). According to Dahlan (2019), the multiple logistics regression analysis results have a p-value of 0.25, meaning variables that meet the criteria can be included in the next analysis stage. Multiple logistic regression analysis at the first stage can be seen in the following table:

Table 1. Multivariate Analysis Candidates

No	Variable	*P value**	Information
1	Age	0,737	Non-candidate

2	Gender	0,669	Non-candidate
3	Education	0,245	Candidate
4	Main Occupations	0,190	Candidate
5	Tenure	0,249	Candidate
6	Training	0,489	Non-candidate
7	Communication	0,008	Candidate
8	Resources	0,000	Candidate
9	Disposition	0,001	Candidate

*Data analysis based on multiple logistic regression tests with a p-value of < 0.05 for the relevant

In the table above, it is known that after the selection of candidates using multiple logistic regression stage 1, variables that meet the criteria have a p value of p< 0.25, namely the variables of education, main job, working period, communication, resources, and disposition. Then the variable was analyzed in phase 2 of the multiple logistics regression test to see the dominant variables that could be related to the implementation of Balikpapan Guardianship Regulation No. 9/2020 in South Balikpapan District, Balikpapan City in 2024. In the phase 2 logistic regression analysis, if the variable with a p-value of > 0.05 is excluded, the variable is excluded from the analysis. In addition, looking at the dominant variable or the variable that has power can be seen from the OR value. The higher the OR, the more dominant or strong the variable is (Dahlan, 2019). The results of the phase 2 multiple logistics regression analysis are obtained in the table below:

Table 2. Multivariate Early Modeling

No	Variable	*P value**	OR	95%CI
1	Education	0,300	1,200	0,850-1,694
2	Main Occupations	0,700	0,913	0,576-1,448
3	Tenure	0,550	0,807	0,401-1,628
4	Communication	0,584	1,211	0,611-2,397
5	Resources	0,000	6,992	3,135-15,593
6	Disposition	0,494	1,359	0,564-3,273

*Data analysis based on a multiple logistic regression test with a p-value of < 0.05 for the relevant

In the table above, the p value of the variables of education, main occupation, working period, communication, and disposition has a p value of > 0.05, and the next step is to remove the variable from the modeling. After being issued, a phase 3 multiple logistics regression test was carried out, with the following results:

Table 3. Modeling 1 (Variables of education, main occupation, working life, communication, and disposition are excluded)

No	Variabel	*P value**	OR Awal	OR Baru
1	Education	-	1,200	-
2	Main Occupations	-	0,913	-
3	Tenure	-	0,807	-

4	Communication	-	1,211	-
5	Resources	0,000	6,992	8,272
6	Disposition	-	1,359	-

*Data analysis based on multiple logistic regression tests with a p-value of < 0.05 for the relevant

In the table above, after the variables of education, main work, working period, communication, and disposition are issued, it is found that the resource variable has a p value of 0.000 < 0.05 which means that the resource variable is the dominant variable related to the implementation of Balikpapan Guardian Regulation No. 9/2020 in South Balikpapan District, Balikpapan City in 2024. It can also be seen based on the highest resource OR value compared to other variables.

Based on the bivariate test, it is known that there is a relationship between all independent variables, namely communication, resources, and disposition, with the implementation of Balikpapan Guardian Regulation No. 9/2020 in South Balikpapan District, Balikpapan City. However, after conducting multiple logistics regression tests, it was found that only the resource variable had the most dominant relationship with the implementation of Balikpapan Guardianship No. 9/2020 in South Balikpapan District, Balikpapan City. The next stage is a multiple logistics regression test using the overall fit model test. Through the overall fit model test, it was found that the simultaneous relationship of communication, resources, and disposition with the implementation of Balikpapan Guardianship No. 9/2020 in South Balikpapan District, Balikpapan City, with the following results:

1. Evaluating the Overall Model Fit

The overall test of the fit model or the overall test of this model is to test the independent variables in the logistic regression simultaneously or simultaneously related to the dependent variables, in the following table:

Table 4. Value - 2LL consisting only of Constants

Iteration		-2 Log likelihood*	Coefficients Constant
Step 0	1	257,543	0,307
	2	257,542	0,309
	3	257,542	0,309

*Data analysis based on multiple logistic regression tests.

The table above shows the results of the logistical regression analysis of the simultaneous test stage between communication, resources, and disposition. The output of SPSS in Table 4 is a value of -2 likelihood logs consisting of constants only. The value of -2 likelihood logs that only include the constant is 257.543.

1. Value - 2LL consisting of constants and independent variables,

Table 5. Value - 2LL consisting of constants and independent variables

Iteration		-2 Log likelihood*	Coefficients Constant	X1	X2	X3
Step 1	1	212,656	-3,076	0,126	1,617	0,229

2	211,319	-3,799	0,199	1,901	0,327
3	211,313	-3,857	0,206	1,919	0,338
4	211,313	-3,857	0,206	1,919	0,338

*Data analysis based on multiple logistic regression tests

The table above shows the results of the logistical regression analysis of the simultaneous test stage between communication, resources, and disposition. The output result of Table 4.15 is a value of -2 likelihood consisting of constant and independent variables. The value of -2 likelihood logs that include constants and independent variables is 211.313. The comparison of the two values—the 2 likelihood logs—is 46,229, as shown in the Chi Square table in Table 4.15.

Table 4.16. Value comparison - 2LL

Chi-Square	**df**	***p*-value***
(1)	(2)	(3)
46,229	3	0,000

*Data analysis based on multiple logistic regression tests

Table 4.16 above shows that the chi square value is 46.229 with df 3 and the Sig. Model value of 0.000 < 0.005, so it can be concluded that the accepted hypothesis means that there is a simultaneous relationship between communication, resources, disposition and bureaucratic structure with the implementation (application of water nets, larval monitoring, monitoring and evaluation) in the Balikpapan Mayor Regulation No. 9 of 2020 in South Balikpapan District, Balikpapan City.

Discussion

Communication relationship with the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City

Based on the study's results, there is a communication relationship with implementation (application of water mosquitoes, larval monitoring, monitoring, and evaluation) in Balikpapan Guardianship No. 9/2020 in South Balikpapan District, Balikpapan City.

The results of this study agree with Riswandi's (2020) research, which shows that communication has greatly influenced the implementation of integrated traditional health service policies in Puskesmas in Cimahi City.

Based on conditions in the field, communication is said to be good. Good communication is because jumantik cadres convey about the Dengue Disease Prevention and Control program by applying water mosquito nets to each family in their work area, communication using language that is easy for the community to understand in conveying the application of water mosquito nets and communication with cadres regarding the application of water mosquito nets has a good interaction. Meanwhile, communication is lacking because jumantic cadres are not routine coming to the KK one by one to convey the application of water nets, cadres only check whether water nets have been applied or not without providing information

on the benefits of applying water nets and do not monitor larvae and only convey information on the application of water nets and larvae monitoring only once. Where to invite the community to change, in the process, requires communicators from relevant stakeholder elements. This communication fundamentally requires habituation in setting a communication environment by all parties involved in health service practice (Javier et al., 2018).

The success of communication through the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever may be due to the aspect of not being easily affected and obeying the rules. This strength is determined by the strength of the measured aspect, which includes consistent or unaffected health service delivery conditions. They are not easily swayed by information that does not support the success of the health care program. Likewise, data from the community, which is very confident in the solutions obtained from health service programs that are good enough to provide services, shows the strength to obey the rules (Warmling & Souza, 2018).

Consistency in the message delivery process is one indicator of the success of the overall communication process. Suppose it is associated with the context of the power of messages about integrated traditional health service policies. In that case, the strength of this consistency will be one of the references for how all instructions issued by the message source must be at least a reference in implementing all communication models practiced (Riswandi, 2020).

The first requirement for policy implementation is that those who implement the decision must know what to do. Policy decisions and orders must be passed on to the appropriate personnel before they can be followed. Of course, communication must be accurate and carefully understood by the implementers. Decisions have often been made, and orders have also been issued, but the implementation of the decision does not go as expected. It could be that the decision was ignored and there was a misunderstanding, or they had the freedom to impose their views on the decision that may differ from those of their superiors or the views of reference. This may occur due to obstacles in the distribution of communication to a decision or obstacles made (Widodo, 2020).

The relationship between resources and the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City

Based on the results of the study, it was obtained that there was a relationship between resources and implementation (application of water mosquitoes, larval monitoring, monitoring, and evaluation) in Balikpapan Guardianship Regulation No. 9/2020 in South Balikpapan District, Balikpapan City. The results of this study are in accordance with Iqbal's (2018) research, showing a relationship between human resources and the success of health policy implementation. Wirna's research (2023) shows that health worker information is related to dengue prevention measures. Riswandi's research (2020) shows that resources influence the implementation of integrated traditional health service policies in Puskesmas in Cimahi City.

Based on conditions in the field, most resources say that is enough. Sufficient resources are due to the fact that Jumantik cadres provide socialization about efforts to prevent and control Dengue Hemorrhagic Fever, drive the eradication of Dengue Hemorrhagic Fever mosquito nests in the community, and monitor and evaluate the implementation of the prevention and control of Dengue Hemorrhagic Fever in the community. The resource factor will discuss the staff/employee side, information, authority, and facilities. Without resources, the personnel responsible for implementing the policy will work ineffectively, even though orders have been given clearly and consistently and disseminated appropriately. Important resources include adequate staff and capabilities, appropriate information on how orders are implemented, authority to ensure policies are implemented as expected, and facilities that can provide services such as buildings, equipment, land, and supplies (Warmling & Souza, 2018).

Human resources in the health sector, supported by information systems and leadership authority in health institution organizations, will be interconnected in achieving service goals, so integrated health services will produce a strategic plan for the implementation of policies that have not been optimal so far. The challenge for the program stakeholders is the aspect of providing sanctions and rewards to the implementers from their superiors. This may still be homework to be more transparent and communicative. Considering the strength of authority in terms of responding to superiors and policy implementers, policy implementation is an important aspect in determining the success of the comprehensive program (Marión & Otálora, 2017).

The resource factor has an important role in the implementation of policies. No matter how clear and consistent the provisions and rules are and how accurate the delivery of these provisions or rules is, if the policy implementers responsible for implementing policies do not have the resources to implement them effectively, then the policy implementation will not be effective. Resources in public policy are related to all sources that can be used to support the successful implementation of policies. By karena itu sumber daya meliputi sumber daya manusia, anggaran, fasilitas, informasi dan kewenangan (Widodo, 2020).

The relationship between disposition and the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City

Based on the study's results, it is known that there is a relationship between disposition and implementation (application of water mosquito nets, larval monitoring, monitoring, and evaluation) in Balikpapan Guardian Regulation No. 9/2020 in South Balikpapan District, Balikpapan City.

The results of this study are in accordance with Nabila's (2023) research, showing a relationship between attitude and dengue mosquito nest eradication behavior in Karangan Hamlet. Riswandi's research (2020) shows that disposition has a moderate influence on the implementation of integrated traditional health service policies in Puskesmas in Cimahi City.

Based on conditions in the field, the most common disposition is sufficient. The disposition is sufficient because Jumantik cadres receive tasks related to the

Dengue Disease Prevention and Control Program from Puskesmas officers, carry out their duties in accordance with the recommended procedures, and receive incentives for the program.

The implementation program of the Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever has been running according to the direction that has been determined. The influence of disposition is a main force in itself. Indicator of Disposition as an aspect of Staffing in the placement of human resources needed in the service environment requires the support of honesty, commitment, and responsibility in carrying out duties. Suppose these three aspects are in good condition and can be realized by stakeholders and the implementers in an integrated manner. In that case, it is assumed that the program's success will produce the best service for the community. However, in his work, aspects are still happening in staffing interest groups (Javier et al., 2018).

The disposition or attitude of the implementers in the implementation of public policy is the willingness to accept and implement a policy without coercion as a measure of success in implementing a policy (Tangkilisan, 2018). Factors that also contribute to the successful implementation of dispositions in policy implementation include the appointment of implementers and incentives (Winarno, 2018).

Simultaneous communication, resources, and disposition relationship with the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City.

Based on the results of the study, it is known that there is a simultaneous relationship between communication, resources, and disposition with implementation (application of water mosquito nets, larval monitoring, monitoring, and evaluation) in Balikpapan Guardian Regulation No. 9/2020 in South Balikpapan District, Balikpapan City. The results of this study are in accordance with the research of Messi (2019), showing that the implementation of Dengue Hemorrhagic Fever (DHF) disease control policies has not been effective in reducing the number of dengue disease sufferers due to communication factors, resources, and bureaucratic structure. Communication factors include inconsistent socialization of dengue control and ineffective transmission methods. Resources include minimal financing allocation and centralized mosquito control equipment. The bureaucratic structure is a cross-program that does not carry out responsibilities in dengue disease control activities. Wardati's research (2020) shows that policy implementation is still ineffective; there needs to be the same interpretation regarding the relationship between dengue disease control in each Regional Apparatus and policy implementers.

Communication, resources, and disposition affect the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City. This shows that there is a very strong and significant influence with a positive direction, meaning that the higher the intensity of communication, resources and disposition,

the higher the effectiveness of the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City, and vice versa.

Based on the conditions in the field, the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District requires at least the implementation of guardianship. The implementation of this regulation has been well carried out by jumantic cadres in the form of jumantic cadres making reports on the results of monitoring and evaluating dengue prevention and control programs according to the time that has been determined by the health center every month and jumantic cadres monitor larvae according to the schedule that has been determined by the health center every month. Meanwhile, what has not been implemented properly in the form of the number of target families in the RT area where Jumantik cadres work has all been implemented with water mosquito nets.

As for the communication variables, resources and disposition, which is the most dominant factor related to the implementation of Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City, namely resources, are the most significant compared to other variables. This is because supporting resources can help the Balikpapan Mayor Regulation No. 9 of 2020 concerning the Prevention and Control of Dengue Hemorrhagic Fever in South Balikpapan District, Balikpapan City, such as having experience as a jumantic cadre, getting training from the Health Center related to tasks in the implementation of water mosquito nets and larval monitoring, mobilizing independent businesses in the procurement of water mosquito nets as one of the sources income and helping to reduce the number of mosquito populations in the environment, driving the eradication of Dengue Hemorrhagic Fever mosquito nests in the community and understanding the tasks given.

The role of jumantics is very important in the early warning system for dengue outbreaks because it monitors the presence and inhibits the early development of dengue transmission vectors. The activity of jumantic cadres in monitoring their environment is expected to reduce the number of dengue cases. One of the factors that drives the increase in dengue cases is the limitation of health workers to conduct counseling on an ongoing basis and public concern for dengue prevention efforts through PSN, so there is a need for increased counseling from health workers to the community, both individuals, families, and the community (Messi, 2019).

CONCLUSION

The study found statistically significant relationships ($p<0.05$) between effective communication, adequate resources, and staff disposition with the successful implementation of Balikpapan's dengue prevention policy (Mayor Regulation No. 9/2020), particularly in water mosquito net application, larval monitoring, and evaluation processes, with the combined model showing strong predictive value (Sig. 0.000). These findings suggest future research should investigate optimal communication strategies, cost-effective resource allocation

models, motivational factors for jumantik cadres, long-term policy sustainability through longitudinal studies, comparative regional analyses to assess generalizability, and technological integration (e.g., mobile apps, GIS mapping) to enhance dengue prevention program efficiency and effectiveness.

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