



Systematic Review

Knowledge and Attitude Relationship with 3M Plus Mosquito Nest Eradication Actions in Surabaya: Systematic Review

Muhammad Rifqo H. Farid¹ | Muhammad Farid Dimjati Lusno^{2*} | Margarita Maria Maramis¹ | Sulistiawati¹ | Budi Utomo¹ | Abdul Fattah Farid³

¹Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

²Faculty of Public Health, Universitas Airlangga, Surabaya, Indonesia

³Faculty of Pharmacy, Universitas Airlangga, Surabaya, Indonesia

*Corresponding Author:

Muhammad Farid Dimjati Lusno,
Department of Environmental Health,
Faculty of Public Health, Universitas
Airlangga, Surabaya, Indonesia.
Email: faridlusno@fkm.unair.ac.id

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ABSTRACT

Dengue is a viral disease transmitted by the Aedes mosquito that causes Dengue Haemorrhagic Fever (DHF), a major public health problem. One of the critical factors for the success of DHF eradication is community behaviour which includes knowledge, attitudes, and actions. This study aimed to conduct a systematic review by analysing the relationship between knowledge and attitudes with the act of eradicating mosquito nests which were called 3M Plus. This study were based on 7 (seven) journal articles that have been selected from the selection process measured using the quality assessment from the Effective Public Health Practice Project (EPHPP). There was no relationship between knowledge and actions related to DHF disease and mosquito nest eradication which is called PSN activities. There was a relationship between attitudes and actions related to dengue disease and PSN activities, but this needs to be reviewed because the literature supporting this statement is not very strong. The recommendation is to improve housewives' ability and coordination with local larva monitoring called jumantik. Further research is expected to add search engine references, and expand areas that still need data.

Keywords: Attitude, dengue prevention, DHF, knowledge, practice

INTRODUCTION

In 2017, Surabaya had 451 dengue cases (Dinas Kesehatan Kota Surabaya, 2019). This figure is the second largest in East Java after Sampang regency which had 506 cases in the same year (Dinas Kesehatan Provinsi Jawa Timur, 2018). Of course, this is a problem for the area, especially the city of Surabaya. The government-regulated Dengue Haemorrhagic Fever eradication program involves many parts of the community. Some of the factors that affect the

spread of dengue fever include climate change (Maulana et al., 2022), global, economic growth, population density (Yudhastuti et al., 2022), clean water availability and community behavior (Trisandy et al., 2021). Community behaviour is one of the key factors of eradicating dengue fever (Yudhastuti & Lusno, 2020). The behaviour of society in this case, includes the knowledge, attitudes, and actions of society (Elsinga et al., 2018).

As mentioned by Savayong (Martina et al., 2018), knowledge can influence a person's attitude and actions in terms of Mosquito Nest Eradication. The level of attitude shown by a person can influence his actions (Albarracin & Shavitt, 2017). A person's attitude toward a problem can affect the person's willingness to act (Damianus et al., n.d.; Reviana et al., 2020).

This study aims to analyze the relationship between knowledge and attitudes regarding the eradication of mosquito nests measures. The benefit of this research is to enrich the library and prove the relationship between knowledge and attitudes toward mosquito larvae eradication actions and to find out the behavior of the community towards the eradication of mosquito larvae. Thus, they can provide feedback to the Surabaya City Health Office so that the area is achieved free of dengue fever.

METHODS

The type and design of this research was a comprehensive literature review identifying, assessing, and analyzing all relevant studies on the given topic (Snyder, 2019). Meanwhile, the method used in this study was about assessing the relationship between knowledge and attitudes with 3M plus mosquito nests eradication measures in Surabaya in different demographic groups. It could be a cross-sectional or case-controlled approach. These researched reviews were based on the results of scientific analysis, differences, and similarities of knowledge, attitude, and practiced (KAP), even though there were differences in instruments in data collection and methods for data analysis.

Data was collected from the literature found through the Google Scholar search engine written in Indonesian. The literature found would then be filtered with inclusion and exclusion criteria (Condron, n.d.).

Inclusion criteria:

1. The type of study chosen was primary research studies. Single-group case studies, and experimental designs were reviewed and discussed to be helped provided explanations for positive or negative outcomes, a basis for future research. 14)
2. The subject and place of research was the community, especially mothers in the Surabaya city area.
3. Studies have been conducted between 2014 - 2019.

Exclusion criteria: literature that did not meet the predetermined keywords. In-depth searches for studied and researched were searched using the keywords "knowledge", "attitudes" and "dengue prevention measures in Surabaya".

The electronic database used a search for this study used Google Scholar, only includes journals. The last search was in June 2020. Then there was a need for selection with an assessment of the quality of the literature. EPHPP (effective public health practice project) was used to assess the literature quality in this study. There were seven assessment items with three assessment tiers.

RESULTS AND DISCUSSION

Literature Search Results

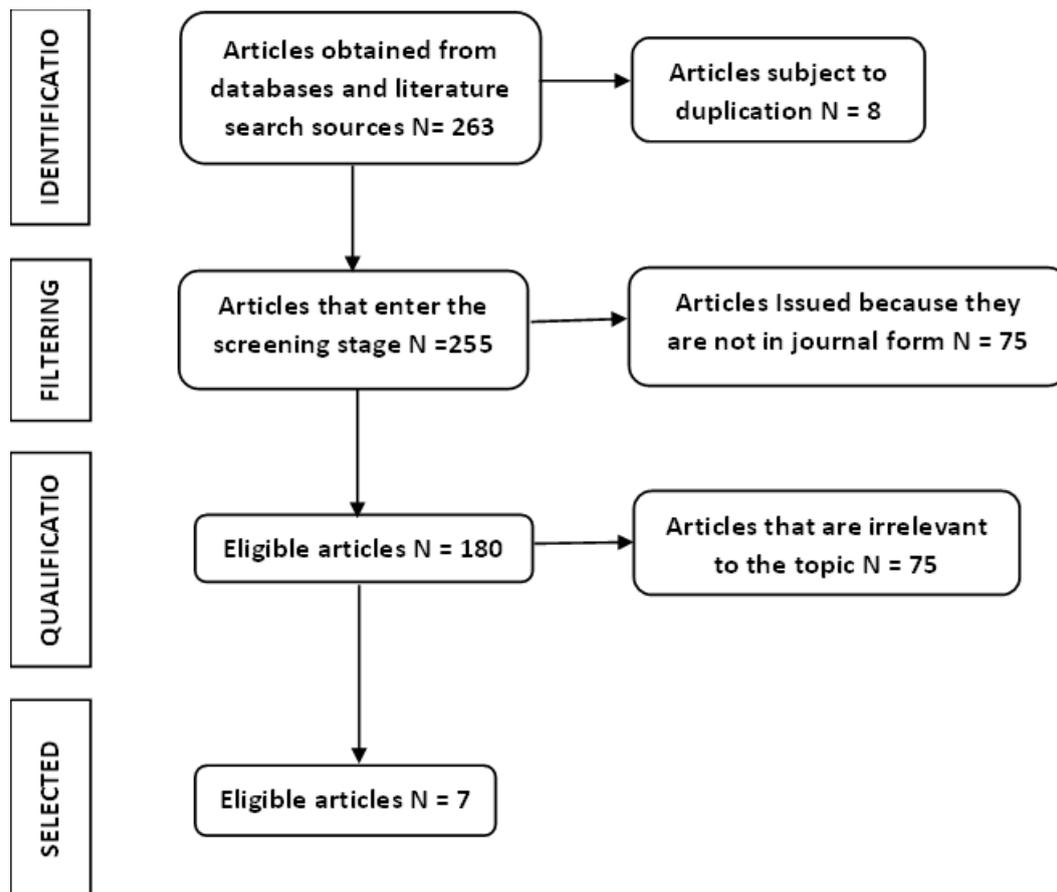


Figure 1Diagram of the process of determining the source of literature to be analyzed

Based on figure 1, it have been explained the stages of literature selection that had been analyzed in this literature review. The selected literature was searched based on the word "knowledge relationships, attitudes and precautions of DHF" on Google scholar from 2014 to 2019. The search was conducted in June 2020.

From the first stage of the search, 263 articles were obtained. The following selection was carried out by issuing duplicate literature because the title was the same but was published by different media, and then 8 literatures were obtained that experienced duplication so that there were 255 articles.

From the selection, 123 articles were obtained that had been issued because the research was carried out outside the city of Surabaya. The focus of the researched area was carried out to obtain literature review results that were more focused and reduced variations in researched variables. So that researchers could conduct a more objective analysis. Up to 7 articles are left to proceed to the analysis process.

Literature Quality Assessment

In this study, the literature quality assessment used the quality assessment tool for quantitate study from the effective public health practice project (EPHPP) which assessed selection bias, studied design, confounders, blinding, data collection methods, and withdrawals and dropouts so that the quality of the journals reviewed would be visible (Crosby & Salazar, n.d.). The journal quality assessment yielded three values: strong, moderate, and weak.

Table 1 Journal Quality based on the Effective Public Health Practice Project (EPHPP)

<i>Author</i>	<i>Selection Bias</i>	<i>Study Design</i>	<i>Confounders</i>	<i>Blinding</i>	<i>Data Collection Method</i>	<i>Withdrawals and Dropout</i>	<i>Rating</i>
Prastiani, et al. (Prastiani & Prasasti, 2020)	1	1	2	2	2	1	1
Muda, et al. (Muda & Nasirul Haqi, 2019)(2019)	1	1	3	2	2	1	1
Ristia et al. (Agustin, 2019) (2019)	1	1	2	2	2	1	1
Rismawati , et al. (Rismawati & Nurmala, 2017)	1	1	3	2	2	1	1
Sari R, Utami (Utami, 2015) (2015)	1	1	3	2	2	1	1
Fauziah, et al. (Fauziah et al., 2019) (2019)	1	1	2	2	2	1	1
Jayawardhana, et al. (Jayawardhana et al., 2019) (2018)	1	1	3	2	2	1	2

Information: 1 = *Strong*, 2 = *Moderate*, 3 = *Weak*

The critical appraisal assessment revealed that there were 6 (six) journals with a high rating, 1 (one) journal with a moderate rating, and no journals with a low rating. Table 1 contains the assessment details for each component of the assessment.

Five cross-sectional studies and two case-controlled studies were among the seven studies that met the inclusion criteria for this literature review (table 2). The studies used in this study were published between 2015 and 2020. Gunung Anyar village, Rungkut Menanggal village, Rangkah Buntu village, Tenggilis health center area, Wonokusumo village, Putat Jaya village, and Jambangan village were all studied in Surabaya. As shown in table 2, the seven studies chosen for this review used independent variables of knowledge, attitudes, and actions/behaviors, with the dependent variables being larvae detection, larvae presence, and DHF incidence/incidence.

The selected study's research instruments included interviews with questionnaires and observation sheets, as well as the examination of the presence or density of larvae.

Literature Characteristics

Socio-demographic overview of the article

The characteristics of respondents were often used as variables related to analyzing the

relationship between knowledge, attitudes, and behaviors for dengue fever prevention or eradication of mosquito nests (PSN).

Characteristics of Inclusion Studies

Table 2 Characteristics of the inclusion study methodology

Literature (Year)	Types of Studies and Sampling Techniques	Implementation Location	Independent Variables	Dependent Variables	Research Instruments
Prastiani, et al. (2020) (Prastiani & Prasasti, 2020)	<i>Cross-Sectional Study, Cluster Random Sampling</i>	Gunung Anyar Village and Rungkut Menanggal Village,	Air temperature, occupancy density, knowledge, and attitude toward DHF and PS	House Index (HI)	Interview (questionnaire), observation, Container Index
Muda, et al. (2019) (Muda & Nasirul Haqi, 2019)	<i>Cross-Sectional Study, Simple Random Sampling</i>	Rangkah Buntu Village	Education, income, knowledge, and attitudes	The presence of larvae	Interview (questionnaire), observation
Agustin (2019) (Agustin, 2019)	<i>Case-Control, Purposive Sampling</i>	Tenggilis Health Center Area	Knowledge, attitudes, and actions	DHF incidents	Interview (questionnaire), observation
Rismawati, et al.(2017) (Rismawati & Nurmala, 2017)	<i>Cross-Sectional Study, Simple Random Sampling</i>	Wonokusumo Subdistrict,	Host and environment behavior	DHF incidents	Interview (questionnaire), observation, Flick-Free Number
Sari, et al. (2015) (Utami, 2015)	<i>Cross-Sectional Study, Simple Random Sampling</i>	Putat Jaya Village, Surabaya	Knowledge and actions	DHF incidents	Interview (questionnaire)
Fauziah, et al. (2019) (Fauziah et al., 2019)	<i>Case-Control, Purposive Sampling</i>	Tenggilis Health Center Area,	Knowledge and actions	DHF incidents	Questionnaires, observations
Jayawardhana, et al. (2017) (Jayawardhana et al., 2019)	<i>Cross-Sectional Study, Simple Random Sampling</i>	Jambangan Village,	Family behavior	DHF incidents	Questionnaire

Some of the variable characteristics of respondents include age (Jayawardhana et al., 2019; Prastiani & Prasasti, 2020; Rismawati & Nurmala, 2017; Utami, 2015), gender (Muda & Nasirul Haqi, 2019; Prastiani & Prasasti, 2020), employment (Muda & Nasirul Haqi, 2019), and income

(Jayawardhana et al., 2019; Muda & Nasirul Haqi, 2019). However, some studies did not include the characteristics of respondents as variables in the research results because they were not discussed in the study (Agustin, 2019; Fauziah et al., 2019).

Variable respondents aged 41 - 50 years, at least 23 years, maximum of 80 years (Prastiani & Prasasti, 2020), 30 - 35 years (Rismawati & Nurmala, 2017), aged > 40 years (Utami, 2015), 41 - 65 years (Muda & Nasirul Haqi, 2019), aged 24 people (Jayawardhana et al., 2019). Most housewives (Prastiani & Prasasti, 2020; Rismawati & Nurmala, 2017; Utami, 2015) and most private workers reported employment variables (Jayawardhana et al., 2019).

Discussion

Knowledge of PSN with 3M

Knowledge, as one of the research variables consists of being spelled out with several questions. It consists of 5 questions (Agustin, 2019), seven questions (Muda & Nasirul Haqi, 2019), and ten questions (Utami, 2015). Variables of knowledge are categorized into three, namely less, sufficient, and good (Agustin, 2019; Fauziah et al., 2019; Muda & Nasirul Haqi, 2019) and bad, sufficient, and good (Rismawati & Nurmala, 2017; Utami, 2015). Some do not discuss knowledge regarding dengue incidents (Yusuf et al., 2018).

Most respondents needed more category knowledge (Muda & Nasirul Haqi, 2019). In some studies, the results were obtained that most respondents had good knowledge (Fauziah et al., 2019).

Some studies have also compared knowledge from case and control groups (Agustin, 2019; Rismawati & Nurmala, 2017). Most respondents in the study group had good knowledge (31.82 %). Most respondents in the comparison group needed better knowledge (40.91%). The percentage of respondents with good knowledge was higher in the control group than in the case group (Jayawardhana et al., 2019).

Attitude about PSN with 3M

With 11 questions, the attitude regarding dengue illness and the elimination of mosquito nests (PSN) was evaluated (Prastiani & Prasasti, 2020). The attitude also examines respondents' opinions about 3M (Fauziah et al., 2019). Ten questions were used to gauge attitude (Agustin, 2019).

Three categories of attitude variables were used: less, sufficient and good (Fauziah et al., 2019; Prastiani & Prasasti, 2020). Additionally, some attitudes were not considered research factors (Jayawardhana et al., 2019; Utami, 2015). Additionally, there were categories of attitude factors that were divided into two groups, good and poor (Muda & Nasirul Haqi, 2019). Most respondents had good attitudes (Prastiani & Prasasti, 2020; Rismawati & Nurmala, 2017). Most respondents were optimistic (Fauziah et al., 2019).

Actions about PSN with 3M

In this context, preventive actions such as the elimination of mosquito nests are necessary (Fauziah et al., 2019; Jayawardhana et al., 2019; Prastiani & Prasasti, 2020). The action also examined its relationship to dengue disease cases (Prastiani & Prasasti, 2020). The activities described include draining the bathroom once a week, not allowing garments to be hanging in the house, using mosquito repellent (burn, rub, spray), and sprinkling abate powder on the watered reservoir/bathroom (Muda & Nasirul Haqi, 2019; Rismawati & Nurmala, 2017).

Included is transporting DHF-affected family members to health institutions and reporting to RT, RW, or Lurah (headmen) (Rismawati & Nurmala, 2017). The discussion of actions also included *jumantik* steps to empower the community in implementing programs to eradicate mosquito nests with the introduction of 3M plus. 17 questions were used to assess performance (Agustin, 2019).

Included in the measures are first aid efforts for those with DHF. In addition, hand-washing activities and mosquito-repellent plants are implemented. Actions were classified as either high or low (Prastiani & Prasasti, 2020), doing 3M+ actions or not doing 3M actions, respectively (Muda & Nasirul Haqi, 2019). Categorization was also divided into three categories: less, sufficient and good (Fauziah et al., 2019; Utami, 2015) or good, sufficient, and poor (Agustin, 2019). Most respondents' behaviors had low categories (Prastiani & Prasasti, 2020), which is poor (Agustin, 2019). Nonetheless, most respondents had sufficient actions (Utami, 2015) and good actions (Fauziah et al., 2019) in the active category.

One hundred fifteen individuals drained the bathtub at least once every week, while 96 people did not; 105 people hung their dirty clothing for more than one day, while 106 people did not; 184 people cleaned the house, while 28 people sometimes did so; and so on (Muda & Nasirul Haqi, 2019). The action was also based on whether to encounter the incidence of DHF, with the outcome that the majority had never experienced DHF (Rismawati & Nurmala, 2017; Utami, 2015).

The categories of behavior were excellent, adequate, and deficient (Jayawardhana et al., 2019). Most residents behave quite 54% (Jayawardhana et al., 2019). The proportion of responders with positive action was more significant in the case group compared to the control group (Fauziah et al., 2019). The incidence of DHF was classified as suitable, sufficient, or inadequate. The percentages in the three categories were nearly identical, but the percentage in the adequate group was the greatest (Jayawardhana et al., 2019).

The Relationship of Knowledge with the Actions of PSN

After sensing an object, a person acquires knowledge because of knowing it (Yussof et al., 2018). Information had a significant role in the creation of conduct because behavior based on knowledge was more durable than behavior not based on knowledge (Prastiani & Prasasti, 2020). This study's chosen inclusion criteria would test respondents' knowledge of DHF disease, mosquito nests elimination, and 3M+ measures. In Rismawati's research (Rismawati & Nurmala, 2017), a significant relationship ($p = 0.00$) was found between knowledge and DHF incidence, where most respondents who had never experienced DHF had a sufficient level of knowledge (44.9%), and a significant relationship ($p = 0.00$) was also found between actions and the incidence of respondents who had never experienced DHF (54%). From the research, it is possible to conclude that the level of respondents' knowledge influences their activities concerning DHF and PSN disorders.

The research contradicted the findings of Agustin (Agustin, 2019), Muda (Muda & Nasirul Haqi, 2019), Utami (Utami, 2015), and Fauziah et al. (Fauziah et al., 2019), who found no correlation between knowledge and actions regarding DHF disease and PSN activities in their respective studies. A significant link was found between knowledge and the occurrence of domestic violence ($p = .009$), with most respondents who had never experienced domestic violence having a lower level of knowledge (Agustin, 2019). The research by Muda & Nasirul Haqi, 2019, discovered a significant association between knowledge and the occurrence of DHF

($p = 0.001$) among respondents who discovered larvae in their homes; most of them had a high level of knowledge. According to research by Fauziah et al., 2019, there was no correlation between knowledge and behavior and the incidence of dengue fever.

The Relationship of Attitude to Action

The attitude is a still-closed reaction or response from a person to a stimulus or object (Soekidjo Notoatmodjo, 2014). The manifestation of an attitude may or may not have materialized immediately into an action or activity. However, an individual's mindset is a predisposing element for their behavior. This study, evaluated respondents' perspectives regarding mosquito nests eradication (PSN), 3M behavior, and DHF disease. In the meantime, a review of respondents' actions related to draining the bathroom once per week, not allowing clothes to accumulate in the home, using mosquito repellent/mosquito repellent drugs (burn, rub, spray), and sprinkling abate powder on the tub of the watered storage container/bathroom was conducted.

According to a study by Rismawati & Nurmala, 2017, respondents who had never encountered DHF tended to have good attitudes (56.4%; $p = 0.00$) and good actions (54%; $p = 0.00$). According to the study, most responders who had never contracted DHF had good attitudes and behaviors. This research was backed by Fauziah et al., 2019, who discovered a statistically significant association between respondents' attitudes and the incidence of DHF, with a p -value of 0.013, where most respondents had a positive attitude. In addition, his research revealed that most respondents had valuable acts. Consequently, based on the two studies, there was a correlation between the attitudes and behaviors of respondents on the occurrence of dengue.

The two studies contradicted the findings of Muda & Nasirul Haqi, 2019 and Fauziah et al., 2019, in which there was no correlation between attitudes and behaviors and the incidence of DHF and the number of larvae present. The public's awareness of preventing and overcoming dengue fever occurrences was believed to remain low. For a person's actions to be consistent with the knowledge he or she possesses, he or she must act with a high degree of awareness. PSN DHF efforts to avoid and overcome the occurrence of dengue cases would not operate ideally if not for a high level of awareness (Utami, 2015). Consequently, predisposing factors to the manifestation of an individual's actions in the prevention of DHF not only affect his attitude and knowledge regarding DHF and PSN diseases, but a high sense of awareness was able to provide maximum efforts in preventing and overcoming the occurrence of DHF cases.

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CONCLUSION AND RECOMMENDATIONS

Based on the results obtained from the processing of researched data, it was concluded that:

1. There was no relationship between knowledge and actions related to DHF disease and PSN activities.
2. There is a relationship between attitudes and actions related to dengue disease and PSN activities. However, this needs have been reviewed because the literature that supports this statement is not very strong.

From this research, it is expected that this study will add search engine references and add journal language, expand areas that still need data.

REFERENCES

- Agustin, E. (2019). Breeding sites eradication program and Dengue fever incidence reduction in Tenggilis Public Health Center Surabaya: An Association Study. *Jurnal Kesehatan Lingkungan*, 11(1), 35–44. <https://doi.org/10.20473/JKL.V11I1.2019.35-44>
- Albarracin, D., & Shavitt, S. (2017). *Attitudes and Attitude Change*. <https://doi.org/10.1146/annurev-psych-122216>
- Condron, P. (n.d.). *Library Guides: Systematic Reviews: 5: Inclusion and exclusion criteria*. Retrieved December 22, 2022, from <https://unimelb.libguides.com/sysrev/inclusion-exclusion-criteria>
- Crosby, R. A., & Salazar, L. F. (n.d.). *Essentials of Public Health Research Methods-Jones & Bartlett (2021)*.
- Damianus, A., Luciano, A., Ubasa, A., Magallanes, T., Encarnacion, M. J., & Ranay, F. B. (n.d.). *Attitude toward the work and its influence on the Individual work performance of employees: Basis for Attitude Management*. <https://hal.archives-ouvertes.fr/hal-03195389>
- Dinas Kesehatan Kota Surabaya. (2019). *Profil Kesehatan Kota Surabaya 2018*. <https://dinkes.surabaya.go.id/portalv2/dokumen/Profil%20Kesehatan%20Kota%20Surabaya%202018.pdf>
- Dinas Kesehatan Provinsi Jawa Timur. (2018). *Profil Kesehatan Provinsi Jawa Timur Tahun 2018*.
- Elsinga, J., Schmidt, M., Lizarazo, E. F., Vincenti-Gonzalez, M. F., Velasco-Salas, Z. I., Arias, L., Burgerhof, J. G. M., & Tami, A. (2018). Knowledge, attitudes, and preventive practices regarding dengue in Maracay, Venezuela. *American Journal of Tropical Medicine and Hygiene*, 99(1), 195–203. <https://doi.org/10.4269/ajtmh.17-0528>
- Fauziah, N., Rahayu, U., & Thohari, I. (2019). Perilaku 3M bagi Penghuni Rumah Mempengaruhi Kejadian Penyakit Demam Berdarah Dengue. *GEMA LINGKUNGAN KESEHATAN*, 17(1). <https://doi.org/10.36568/KESLING.V17I1.1053>
- Jayawardhana, A., Permana, R. A., & Kogoya, Y. (2019). Hubungan Perilaku Keluarga Dengan Pencegahan Kejadian Demam Berdarah Dengue (DBD) Di Kelurahan Jambangan Kota Surabaya. *NERSMID: Jurnal Keperawatan Dan Kebidanan*, 2(1), 55–65. <https://nersmid.unmerbaya.ac.id/index.php/nersmid/article/view/59>
- Martina, S. E., Bratajaya, C. N. A., & Ernawati, E. (2018). Dengue hemorrhagic fever: Knowledge, attitude, and practice in Palmeriam, Jakarta, Indonesia. *GHMJ (Global Health Management Journal)*. <https://doi.org/10.35898/ghmj-21184>
- Maulana, M. R., Yudhastuti, R., Lusno, M. F. D., Mirasa, Y. A., Haksama, S., & Husnina, Z. (2022). Climate and visitors as the influencing factors of dengue fever in Badung District of Bali, Indonesia. *International Journal of Environmental Health Research*. <https://doi.org/10.1080/09603123.2022.2065249>
- Muda, A. S., & Nasirul Haqi, D. (2019). Determinan yang Berhubungan dengan Keberadaan Jentik di Kelurahan Rangkah Buntu Surabaya. *Jurnal Promkes: The Indonesian Journal of Health Promotion and Health Education*, 7(1), 22–33. <https://doi.org/10.20473/JPK.V7.I1.2019.22-33>
- Prastiani, I., & Prasasti, C. I. (2020). Densidad residencial, comportamiento, e incidencia de fiebre hemorrágica del dengue en Surabaya, Indonesia / Residential density, behavior and dengue haemorrhagic fever (dhf) incidence in Surabaya. *Medicina Social / Social*

- Medicine*, 13(1), 10–16.
<https://www.socialmedicine.info/index.php/medicinasocial/article/view/1085>
- Reviana, A., Priatna, N., & Martadipura, B. A. P. (2020). Attitude towards problem-solving as the effect of problem-posing approach. *Unnes Journal of Mathematics Education*, 9(2), 83–91. <https://doi.org/10.15294/ujme.v9i2.38776>
- Rismawati, S. N., & Nurmala, I. (2017). Relationship Host Behavior and The Environment of DHF Incidence in Wonokusumo Surabaya. *Jurnal Berkala Epidemiologi*, 5(3), 383–392. <https://doi.org/10.20473/JBE.V5I32017.383-392>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, pp 104, 333–339. <https://doi.org/10.1016/J.JBUSRES.2019.07.039>
- Soekidjo Notoatmodjo. (2014). *Promosi Kesehatan dan Perilaku Kesehatan* (Revisi). Rineka Cipta.
- Trisandy, A. Y., Azmi Maruf, M., Yudhastuti, R., Lusno, M. F. D., & Notobroto, H. B. (2021). Large-Scale Social Restriction (LSSR) Policy and Dengue Hemorrhagic Fever Cases during COVID-19 Pandemic in Indonesia (Case Studies: Five Cities/Districts in East Java Province). *Kesmas: Jurnal Kesehatan Masyarakat Nasional (National Public Health Journal)*, 0(0), 49–52. <https://doi.org/10.21109/KESMAS.V0I0.5008>
- Utami, R. (2015). The Association Knowledge and Community Practice with the Incidence of DHF (Study in the Village of Putat Jaya Surabaya on 2010–2014). *Jurnal Berkala Epidemiologi*, 3(2), 242–253. <https://doi.org/10.20473/JBE.V3I22015.242-253>
- Yudhastuti, R., & Lusno, M. F. D. (2020). Overview of Cases of Dengue Hemorrhagic Fever (DHF) in Bali Province 2012-2017. *Jurnal Kesehatan Lingkungan Indonesia*, 19(1), 27. <https://doi.org/10.14710/jkli.19.1.27-34>
- Yudhastuti, R., Lusno, M. F. D., Mirasa, Y. A., & Husnina, Z. (2022). Dengue Fever Dynamics in Bali, Indonesia 2010-2018: An Interplay of Population Density and Climatic Factors. *Acta Medica Iranica*, 60(6), 366–374. <https://doi.org/10.18502/ACTA.V60I6.10042>
- Yussof, F. M., Hassan, A., Zin, T., Hussin, T. M. A. R., Kadarman, N., & Umar, R. (2018). Knowledge of dengue among students in Universiti Sultan Zainal Abidin (UNISZA), Terengganu, Malaysia, and the influence of knowledge of dengue on attitude and practice. *Journal of Fundamental and Applied Sciences*. <https://doi.org/10.4314/jfas.v9i2s.15>