

*Regional Case Study***Identifying Factors Influencing Sanitation Condition in Homes within Jatisari Urban Village, Semarang City****Lutfyana Herawati^{*}, Yuni Wijayanti¹**¹ Department of Public Health, Faculty of Medicine, Universitas Negeri Semarang, Postgraduate Building, Jalan Kelud Utara III, Semarang, Indonesia^{*} Corresponding Author, email: Lutfyanaherawatio8@students.unnes.ac.id**Abstract**

The condition of the sanitation environment within households is a crucial aspect of community health, ensuring the adoption of behaviors conducive to cleanliness and well-being. Inadequate sanitation conditions within homes pose risks and facilitate the transmission of various diseases. This research aims to explore factors associated with household sanitation conditions, including knowledge, attitudes, income, and education. The study employs an observational analytics approach, utilizing a cross-sectional design. The sample comprises 95 respondents, with research instruments including questionnaires and observational sheets. Data analysis involves both univariate and bivariate analyses, utilizing chi-square tests. Univariate analysis reveals that 42 respondents (44.2%) possess good knowledge, 48 (50.5%) exhibit positive attitudes, 54 (56.8%) have higher education levels, and 53 (55.8%) earn less than Rp. 3,060,000. Moreover, 80 respondents (84.2%) have adequate sanitation conditions at home. Bivariate analysis demonstrates significant relationships between knowledge ($p = 0.000$), attitude ($p = 0.022$), income ($p = 0.019$), education ($p = 0.018$), and household sanitation conditions. The findings suggest that enhancing awareness and promoting hygiene practices among the residents of Jatisari Village, Semarang City, can mitigate disease transmission and improve overall community health.

Keywords: Knowledge; attitude; income; education; sanitation House**1. Introduction**

Sanitation is a crucial component of maintaining a healthy environment and promoting healthy behaviors in daily life. It involves efforts to mitigate diseases by minimizing direct contact with hazardous waste materials and ensuring cleanliness, thereby improving overall health status (Sa'ban et al., 2020). Basic sanitation facilities are considered essential for home hygiene, including access to clean drinking water, family latrines, and proper household waste disposal. (Suryani et al., 2022).

Data Health Profile Indonesia in 2021, found that problems related to the health of the home environment, including access to sufficient drinking water (90.78%), access to adequate sanitation (80.29%), and households that are uninhabitable (20.10%) (Kemenkes RI, 2022). Based on the 2021 Semarang City Health Profile, household sanitation conditions in Semarang City are deemed adequate, with (93.67%) of households having access to clean drinking water and (98.42%) having access to proper sanitation facilities). The condition of adequate household sanitation has not yet reached 100% due to ongoing issues with access to proper sanitation facilities for a number of residents. Feasibility of housing based on the 2021 Semarang City Health Profile (67.45%) adequate sanitation conditions House stairs and sanitation conditions house stairs inadequate (32.55%) (Profil Kota Semarang, 2021). The sanitary condition of a house that is habitable has several criteria, such as a minimum living area of 7.2 m², the availability of drinking water and sanitation that meets predetermined criteria (Dinas Kesehatan Kota Semarang, 2022).

Population growth continues to increase every year causing population density, one of which is Mijen District (1388 people/km²) with an area of 2.21 km² there are 13 RWs consisting of 116 RTs. Based on the data of Semarang City Health Profile (2021), there are still many health problems that occur in the community, both infectious and non-communicable diseases that occur in Semarang City (Semarang City Health Office, 2022). Home sanitation conditions are influenced by several factors such as clean water facilities and access to quality drinking water. The availability of drinking water facilities in Semarang City (2021) has (26.1%) facilities with moderate and low pollution risk (91.9%) (Semarang City Health Office, 2022). One of the environmental health problems that currently surrounds Semarang City is caused by poor and unqualified home sanitation conditions.

Factors that influence unhealthy home sanitation conditions are caused by physical, biological and social environmental conditions such as the physical environment which influences home ventilation, air storage (TPA), house density and house distance. The biological environment influences the availability of land for domesticated animals (Dewi et al., 2018). Conditions of temperature, lighting, humidity, wall floors, availability of clean water, waste and sewage disposal, as well as poor wastewater drainage (SPAL) will influence the increase in the incidence of disease in families and communities (Ismiati et al., 2021). Prasetyaningtyas, (2017) said that poor lighting conditions, humidity, temperature, ventilators, housing density and poor personal hygiene will influence the increase in the incidence of disease in the family and community. Other factors that influence the sanitary conditions of healthy homes are income, knowledge and attitudes (Anggrayni et al., 2022).

Knowledge and understanding factors, income, education, and family attitudes will be related to the community's understanding of PHBS and healthy home conditions (Christiyani et al., 2019). Based on the results of preliminary studies on the sanitary condition of houses in Semarang City, there are still obstacles in maintaining environmental health, which according to previous research is influenced by several factors, namely environmental conditions both in terms of physical and human conditions in terms of knowledge, attitudes, income, and education. This study aims to determine the relationship between factors that influence healthy home sanitation conditions, namely knowledge, attitudes, income and education factors with home sanitation conditions. This study has several significant contributions to the understanding and improvement of home sanitation conditions in Jatisari Village, Semarang City. The purpose of this study is to help broaden the understanding of the factors that cause constraints in home sanitation by identifying factors such as home sanitation conditions, knowledge, attitudes, income and education.

2. Methods

This research method used an analytic observational study with a cross sectional design. This research was conducted in Jatisari Village, Semarang City. The research was conducted in July-August 2023. The population of this study was all people in Jatisari Village, Semarang City, totaling 7655 families. The sample used in this study was 95 respondents using the Lameshow calculation formula. The sampling technique employed was Simple Random Sampling, adhering to the specified inclusion and exclusion criteria. Data collection involved using instruments containing variables related to the study, including knowledge (pertaining to home sanitation, water management, types of latrines, wastewater management, ventilation, residence cleanliness, and trash management), attitudes (reflecting habits in maintaining home hygiene such as water storage, ownership of trash bins, home ventilation, and healthy latrine management), income adjusted to the Semarang city minimum wage, education, and home sanitation conditions encompassing house components and sanitation facilities, gathered through direct interviews. Data analysis techniques included univariate and bivariate analyses. Univariate analysis was utilized to depict the frequency of each studied variable, while bivariate analysis aimed to establish relationships between independent variables (knowledge, attitude, income, and education) and the dependent variable (home sanitation conditions). The statistical test employed was the Chi-Square test. In cases where the Chi-square test did not meet the requirements, the Fisher test was utilized.

3. Results and Discussion

3.1 Analysis Univariate

Variables used in study covers characteristics respondent, type gender, educational history, employment, income, knowledge, attitudes and conditions sanitation house in the sub-district area Semarang City Jatisari. Based on the results of the respondent's, it can be seen in Table 1:

Table 1. Analysis results univariate

Gender	Frequency (F)	Percentage (%)
Man	32	33.7
Woman	63	66.3
Total	95	100
Education	Frequency (F)	Percentage (%)
No school	3	3.2
SD	6	6.3
SMP	7	7.4
SMA/SMK	25	26.3
Bachelor	54	56.8
Total	95	100
Work	Frequency (F)	Percentage (%)
Housewife	6	6.3
Student	9	9.5
Self-employed	63	66.3
Businessman	17	17.9
Total	95	100
Income	Frequency (F)	Percentage (%)
<Rp. 3,060,000	53	55.8
> Rp. 3,060,000	42	44.2
Total	95	100
Knowledge	Frequency (F)	Percentage (%)
Low	33	34.7
Medium	20	21.1
High	42	44.2
Total	95	100
Attitude	Frequency (F)	Percentage (%)
Positive	48	50.5
Negative	47	49.5
Total	95	100
Condition sanitation	Frequency (F)	Percentage (%)
House		
Fulfil	80	84.2
Does not meet the	15	15.8
Total	95	100

Based on Table 1, more than half of the respondents were female (66.3%) and male (33.7%). Most of the respondents had a bachelor's degree (56.8%). Most respondents worked as self-employed with various professions (66.3%). More than half of the respondents have an income in line with the 2023 Semarang City minimum wage of <Rp 3,060,000 (55.8%). About 44.2% of respondents had a good level of knowledge. More than half of the respondents had a positive attitude toward maintaining home sanitation

(50.5%). Most of the respondents had fulfilled the requirements of home sanitation, which amounted to 84.2%.

3.2 Analysis Relationship of Factors with Condition Home Sanitation

Table 2. Factors associated with home sanitary conditions

Knowledge	Sanitary condition of the house						P = value
	Does not meet the		fulfil		Total		
	N	%	N	%	N	%	
Low	12	36.4	21	68.6	33	34.7	0,000
Medium	1	5.0	19	95.0	20	21.1	
High	2	4.8	40	95.2	42	44.2	
Total							

Attitude	Sanitary condition of the house						P = value
	Does not meet the		fulfil		Total		
	N	%	N	%	N	%	
Negative	12	25.5	35	74.5	47	49.5	0.022
Positive	3	6.3	45	93.8	48	50.5	
Total							

Income	Sanitary condition of the house						P = value
	Does not meet the		fulfil		Total		
	N	%	N	%	N	%	
Low	13	24.5	40	75.5	53	55.8	0.0 19
High	2	4.8	40	95.2	42	44.2	
Total							

Education	Sanitary condition of the house						P = value
	Does not meet the		fulfil		Total		
	N	%	N	%	N	%	
Low	6	37.5	10	62.5	16	16.8	0.0 18
High	9	11.4	70	88.6	79	83.2	
Total							

Based on Table 2, the research results show that respondents who have insufficient knowledge about the sanitary conditions of their homes, causing the sanitary conditions to not meet the requirements (36.4%), on the other hand have high knowledge about sanitary conditions. houses (95.2%) with sanitary conditions that meet the requirements. The results of statistical analysis obtained a p-value of 0.000 (<0.05). So, there is a significant relationship between knowledge and healthy home conditions in Jatisari Village, Semarang City. Meanwhile, 12 respondents had a negative attitude towards healthy home sanitation, and 25.5% of respondents had home sanitation conditions that did not meet the requirements. The results of statistical analysis obtained a p-value of 0.022 (<0.05), which means that attitudes and house sanitation conditions have a significant relationship in Jatisari Village, Semarang City. At the respondent's income level, as many as 24.4% had healthy home sanitation conditions that did not meet the requirements. On the other hand, the respondent's income is relatively high (95.2%), and the sanitary condition of the house is healthy and meets the requirements. The results of statistical analysis obtained a p-value of 0.19 (<0.05), meaning that income and the sanitary condition of the house have a significant relationship. In terms of education level, 6 respondents with a low education level (37.5%) had home sanitation conditions that did not meet the requirements, compared to 70 respondents with a high education level (88.6%) who had home sanitation conditions that met the requirements. condition. The

statistical test results obtained a p-value of 0.018, which means there is a significant relationship between the level of education and the sanitary conditions of houses in Jatisari Village, Semarang City.

3.3 Factors Associated with Home Sanitary Conditions

The results of the chi-square test obtained p-value = 0.000 where (p-value < 0.05) which means that knowledge of home sanitation has a significant relationship with the community in Jatisari Village, Semarang City in 2023. A high level of community knowledge will have an impact on increasing sanitation. A healthy home that meets the requirements. Based on the results of observations of community knowledge in Jatisari Village, Semarang City, many people have a high level of knowledge about healthy house conditions, with house conditions meeting the requirements at 95.2% compared to low levels of knowledge with house sanitation conditions meeting the requirements. 68.6% requirement. These results indicate that the level of knowledge influences satisfaction with the sanitary conditions of the house.

Knowledge refers to an individual's comprehension or awareness of various topics such as health, diseases, and services, including maintaining a healthy household environment and practicing proper sanitation and cleanliness (Suryani et al., 2022). Community knowledge in understanding the sanitary conditions of healthy homes will influence perceptions and increase their active role in encouraging behavior (Christiyani et al., 2019). Notoatmojo, (2007) in Ariga, (2022), found that there are six levels of knowledge, namely curiosity aimed at recalling stimuli that have been received by studying them again for certain analysis. The second level is related to understanding, which is defined as the ability to explain an object then draw conclusions and analyze the material and objects that have been studied. The third level assesses the ability to use previously studied material. The fourth level concerns analytical skills. Fifth level, systematic ability with make plans and adapt them to theory. The sixth level in the form of evaluation is related to the ability to assess materials and objects according to available criteria.

Knowledge can influence a person's actions so that the individual's understanding can be formed. Lack of knowledge will have a negative influence on actions and vice versa (Arsyad et al., 2020). A high level of knowledge will increase the acquisition of information and positive behavior to have home sanitation conditions that meet the requirements (Arifin et al., 2020). The level of knowledge regarding the provision of healthy housing conditions, one of which is sanitation facilities that need to be considered, such as the availability of water, healthy latrines, waste water management and waste processing, will have an impact on the provision of conditions (Fibrianti et al., 2021). The knowledge that every family member, especially the head of the family, has regarding the sanitary conditions of the house will increase the availability of advice and services as well as support from health workers by conducting outreach and regular sanitation checks (Warseno, 2019).

Anggrayni (2022) said that the level of knowledge is related to basic sanitation in healthy homes in coastal areas (Anggrayni et al., 2022). Suryani, (2022) found that the level of knowledge has a significant relationship with ownership of basic household sanitation facilities. Families who have a low level of knowledge are more at risk of not having basic household sanitation facilities (Suryani et al., 2022). Other research conducted by Puspita (2023) which shows that good knowledge will influence the sanitary condition of the house so that it can improve health status and can be used as a means of prevention (Dwi et al., 2023).

Amana and Wulandari, (2019), found that namely that there is no significant relationship between knowledge and action in providing sanitary conditions at home. The relationship between the level of knowledge and actions to provide sanitation at home is not significant if the head of the family and family members have a good understanding, followed by good policy actions to provide sanitation conditions at home to prevent other health problems from occurring (Yulianti et al., 2021).

The importance of the level of public knowledge for lower risk preventing the emergence of disease in the community caused healthy housing conditions do not meet the requirements. Application efforts made as step prevention and improvement condition sanitation a fulfilling home condition with

participation public road activity confirmation health about condition sanitation base house given by the officer health local for increase understanding and knowledge society to prevention factor risk diseases caused by sanitation environment.

The results of the chi-square test analysis obtained $p\text{-value} = 0.022$ where ($p\text{-value} < 0.05$) which means that attitudes towards home sanitation have a significant relationship in the community in Jatisari Village, Semarang City in 2023. Community attitudes based on the results of observations are classified as positive because the majority have ideas about improving or maintaining home sanitation, such as cleaning water channels and the home environment regularly, and think that before drinking water it must be treated first, such as cooking. At a certain temperature and process waste properly and correctly. In implementing the community's positive attitude towards the sanitary conditions of healthy homes, healthy home sanitation has met the requirements of 93.8%. Meanwhile, the implementation of a negative attitude towards the sanitary conditions of healthy homes with the fulfillment of sanitary requirements for healthy homes was 74.5%. Applying a positive attitude has an impact on the conditions for fulfilling the sanitary conditions of the house to be better.

Attitude is a change in an individual by expressing opinions and providing assessments regarding several things such as health, factors related to health risks, health, and disease conditions. (Suryani et al., 2022). Attitude is defined as a social psychology concept which has an important role in shaping character and social relationships with groups and individuals, as well as determining several choices in certain conditions which are influenced by the social environment towards change. Attitude has several levels, including acceptance, response, respect, and sense of responsibility (Purba et al., 2020).

The level of individual, family and community attitudes in acceptance and willingness to maintain environmental and home sanitation as a response to respect and invite other individuals to implement environmental sanitation and maintain a healthy home by maintaining sanitation cleanliness and implementing clean and healthy living behavior (Sawika et al., 2021). The role of attitudes in determining a person's actions and decisions in prevention and treatment efforts. Application A positive attitude will influence decisions regarding healing and treatment of health problems as well on the contrary (Arifin et al., 2020). The low adoption of attitudes towards sanitation conditions is influenced by several factors such as the level of knowledge regarding access to information, culture, socio-economics, facilities and experience. Applying an attitude towards fulfilling sanitary condition requirements in cleaning the house, and maintaining sanitary conditions at home will have an impact on negative habits that cause health problems for individuals and families (Rangkuti et al., 2020). The application of an individual's positive attitude encourages individuals to carry out desired healthy habits, while the application of an individual's negative attitude encourages individuals to carry out undesirable unhealthy habits (Arsyad et al., 2020).

Anggrayni (2022), found that attitudes have a strong relationship with basic sanitation in healthy homes in coastal areas (Anggrayni et al., 2022). Other research that supports the results of research conducted by Faidah and Sunarno (2020) showed that almost more than 90% of respondents had a positive attitude, this influenced the availability of suggestions and infrastructure for home sanitation conditions such as healthy latrines. The results of statistical analysis obtained a $p\text{-value} < 0.05$ so that there is a significant relationship between attitude and ownership of a healthy latrine (Faidah et al., 2020). The attitude of people who have not improved and maintained healthy home sanitation is caused by several factors, namely garbage ownership, wastewater treatment, clean water treatment, and lack of maintenance of home environmental conditions. This lack of attention can result in unfulfilled home sanitation conditions. The application of positive community attitudes can be used as an effort to improve basic home sanitation by implementing adequate sanitation availability and established clean water requirements.

The results of the chi-square test analysis obtained $p\text{-value} = 0.019$ where ($p\text{-value} < 0.05$) which means that between income and house sanitation there is a significant relationship in the community in Jatisari Village, Semarang City in 2023. The results of the observation analysis show that the community

or Families that have high socio-economic conditions are characterized by an income level that is influenced by the profession or job the individual is involved in. The results of the research show that the level of income on the sanitary conditions of the house shows that a high level of income can meet the requirements for sanitary conditions of the house 95.2. Meanwhile, communities and families with low socioeconomic status, characterized by low-income levels, had 75.5% of their homes sanitized. The amount of income is caused by the jobs that communities and individuals have. In this study, many people did not have a permanent job with a fixed income received every month.

Income is a financial condition obtained by each individual or family which is received regularly every month (Sembiring et al., 2019). Income is individual income which is used as a benchmark in assessing the level of community participation and awareness in improving healthy home sanitation facilities that meet the requirements (Suryani et al., 2022). Based on the Decree of the Governor of Central Java Number 561/54 of 2022 concerning the Minimum Wage for Semarang City in 2023 is 3.060.349 (Gubernur, 2022). The income earned by each family below the minimum wage will influence the behavior of providing fewer home sanitation facilities due to economic constraints compared to family income above the minimum wage (Sembiring et al., 2019). Income level is related to community welfare and socio-economic conditions. A high level of community income can have an impact on increasing community welfare, while a low level of community income will have an impact on decreasing community welfare. Differences in income can indirectly be linked to declining levels of public health, which can have both positive and negative impacts.

Anggrayni et al. (2022), said that there is a significant relationship between income and healthy home sanitation conditions, where the phi value = 0.437. High income can have an impact on optimizing health services and improving environmental sanitation and healthy homes. Suryani (2022), found that income and income received influenced household ownership of basic sanitation facilities as evidenced by the results of statistical analysis p- value of $0.000 < 0.05$ (Suryani et al., 2022). Income has a significant relationship with ownership of a healthy home which can be used to meet primary, secondary and tertiary needs (Hidayat, 2021). Hastuti (2023), found that a significant p-value of $0.000 < 0.005$, which means there is a relationship between income and the availability of healthy home sanitation in North Sangatta Village, East. Kutai (Hastuti et al., 2023).

The level of community income is related to the assistance and willingness of the community to participate in funds in efforts to improve the sanitary conditions of healthy homes and increase the level of health. Christiyani et al. (2019), said that where there is no significant relationship between income level and healthy home sanitation conditions. The sanitary condition of the house is determined by community participation in creating interaction and communication to improve and fulfill the requirements for the sanitary condition of a healthy house. Community fund allocations are used more to meet living needs than to participate in improving the sanitary conditions of homes. The level of community income is one of the factors that influences the improvement and maintenance of sanitary conditions at home, because community income determines the fulfillment of daily needs, one of which is maintaining, repairing and improving sanitation at home, requiring sufficient funds. (Hastuti et al., 2023). Apart from that, socio-economic conditions are related to income as fulfillment supporting facilities that support improving the sanitary conditions of healthy homes and the level of public health. (Ulva & Janna, 2021). The high income of communities and families whose income exceeds the minimum wage indicates that sanitation requirements are better.

The results of the chi-square test analysis obtained h p-value = 0.018 where (p-value < 0.05) which means that education and home sanitation have a significant relationship in the community in Jatisari Village, Semarang City in 2023. A higher level of education will influencing improved sanitation in healthy homes that meet the requirements and vice versa. The findings show that the majority of respondents have a history of higher education up to achieving a bachelor's degree. The high level of education of respondents with the sanitary condition of the house meeting the requirements has a percentage of 88.6%. Meanwhile, at low education levels, respondents with sanitary conditions at home that met the

requirements were 62.3%. These results indicate that increasing the level of education achieved by the community can have an impact on improving the sanitary conditions of homes that meet the requirements by improving sanitation maintenance.

Notoatmodjo (2017), said that education is used as an effort to provide learning to individuals and society to be able to determine and take action to overcome problems. Education is also used to improve and maintain the health of individuals and community groups (Notoatmojo, 2017). A person's level of education will influence the ease of obtaining and understanding information in solving a problem. Education is an important factor that is taken into consideration to be able to think rationally in making decisions. Education is an effort to change attitudes and behavior and shape individual knowledge about health (Meri & Dewi., 2021). Education is a process stage in storing and translating understanding in the form of knowledge of someone who has received learning for human growth and development in spiritual and physical maturation, in addition to increasing skills and experience to meet life's needs. Types of education include formal and formal education, as well as levels of school education, including primary school education, secondary education and higher education. Educational attainment is required in accordance with regulations and the type of education pursued (Ariga, 2022).

The level of education can influence a person's understanding because a high level of knowledge will make it easier for individuals to understand or accept the information provided compared to individuals with low education. One piece of information that is easy to receive is regarding the requirements for providing healthy home sanitation carried out by individuals, families and the surrounding community. The role of individuals and families plays an important role in efforts to maintain sanitation and cleanliness of the home and environment as well as making decisions to maintain and improve healthy home sanitation to prevent health problems caused by a lack of maintaining home and environmental sanitation (Pujiyanti & Anggraeni, 2022). Education has an influence in increasing people's understanding of the sanitary conditions of homes. Low education can affect the availability of poor-quality home sanitation facilities due to a lack of public understanding of the availability of sanitation facilities, which do not meet standards statutory regulations for sanitary requirements for healthy homes (Kusparlina et al., 2021).

Kurniawati (2022), said that which states that the level of education can influence the sanitation quality of healthy homes in Tosari District, Pasuruan Regency (Kurniawati et al., 2022). Christiyani (2019), found that education and housing conditions do not have a significant relationship, as evidenced by the statistical results obtained by a p-value of $0.480 > 0.05$ (Christiyani et al., 2019). Increasing education can have an impact on the easier acceptance of information by the public and the availability of implementing positive behavior with clean and healthy living behavior in daily life (Kosasih & Indiani, 2022). Hastuti (2022), found that which linked the level of education to household sanitation. The results showed that the level of education and the availability of household sanitation did not have a significant influence. The importance of education level has an impact on fulfilling the requirements for healthy home sanitation conditions. A higher level of education will influence the level of understanding and availability to receive the information obtained and make it easier to apply and have a higher chance have house sanitation conditions that do not meet the requirements.

Based on the steps to improve home sanitation as a prevention effort by increasing public knowledge and understanding through counseling and socialization, the availability of home sanitation facilities and infrastructure, increasing public awareness to improve the sanitary conditions of eligible homes, collaborating between the community and the government in meeting the sanitary conditions of homes in the community, and implementing monitoring and evaluation by local health workers on the condition of home sanitation (Mirnawati et al., 2023).

4. Conclusions

Based on the results of statistical analysis, it can be concluded that there is a relationship between factors related to the sanitary condition of the house, namely knowledge ($p = 0.000 < 0.05$), attitude ($p =$

0.022 < 0.05), income ($p = 0.019 < 0.05$), and education ($p = 0.018 < 0.05$) with the sanitary condition of the home. There is a relationship between the factors of knowledge, attitude, income and education with the condition of home sanitation that meets the requirements in Jatisari Village, Semarang City. Meanwhile, low levels of knowledge, attitudes, income and education will have an impact on unqualified sanitation conditions due to lack of availability in receiving information and less positive implementation to meet home sanitation conditions. The importance of implementing educational programs and increasing public awareness in Jatisari Village, Semarang City regarding healthy home sanitation is needed to improve healthy and clean home sanitation conditions.

References

- Amanda, Y.P. & Windi, S.K.M. 2019. Hubungan Antara Pengetahuan Dan Peran Anggota Keluarga Dengan Perilaku Ibu Dalam Penyehatan Rumah Di Kelurahan Semanggi Surakarta (Disertasi Doktoral, Universitas Muhammadiyah Surakarta).
- Anggrayni, V.S., Kamalia, L.O. and SURIANTO, T. 2022. Faktor yang Berhubungan dengan Kondisi Rumah Sehat di Wilayah Kerja Puskesmas Nambo. *Jurnal Healthy Mandala Waluya*, 1(3), 230-243.
- Ariga, S. 2022. Hubungan antara tingkat pendidikan dan tingkat pengetahuan dengan perilaku hidup sehat, berkualitas di lingkungan rumah. *Masyarakat Pendidikan: Jurnal Pendidikan, Ilmu Sosial Dan Pengabdian Kepada Masyarakat*, 2(3), 723-730.
- Arsyad, R.M., Nabuasa, E. & NDOEN, E.M. 2020. Hubungan antara Perilaku Sanitasi Lingkungan dengan Kejadian Demam Berdarah Dengue (DBD) di Wilayah Kerja Puskesmas Tarus. *Media Kesehatan Masyarakat* 2(2), 15-23 .
- Arifin, S., Marlinae, L., Husaini, L.K. & Waskito, A. 2020. Penerapan Program Bina Rumah Sehat Untuk Percepatan Status Kesehatan Anak Tb. In PRO SEJAHTERA (Prosiding Seminar Nasional Pengabdian kepada Masyarakat), 2, No. 1.
- Christiyani, B.R., Sulistiyani, Budiyono. 2019. Analisis Kondisi Rumah Berdasarkan Tingkat Pemahaman Rumah Sehat di Kelurahan Rowosari Kecamatan Tembalang Kota Semarang. *Media Kesehatan Masyarakat Indonesia* 18(3), 32.
- Semarang, Dinkes Kota. Profil Kesehatan 2022 Dinas Kesehatan Kota Semarang. Dinas Kesehatan Kota Semarang. 2022;6(1):1-6.
- Diandra, N., Afla, M.N., Saputra, M.,O. 2020. Tinjauan Rumah Tinggal Berdasarkan Konsep Rumah Sehat Menurut Regulasi Pemerintah. *Jurnal Teknologi dan Desain* 1(2), 45-54.
- Dewi, A.A.K., Sukendra, D.M. 2018. Indeks Maya dan Karakteristik Lingkungan Rumah dengan Kejadian Demam Berdarah Demam Berdarah. *Jurnal HIGEIA* 2(4), 531-42.
- Dwi, P.H., Sulistyorini, L., Afidi, S. 2023. Hubungan Pengetahuan Orang Tua Tentang Pencegahan ISPA. *Jurnal Pustaka Kesehatan* 11(2), 2023.
- Dyah, A., Hastuti, W. 2022. Kepala Keluarga Terhadap Ketersediaan Sanitasi Rumah Tangga di Desa Sangatta Utara. *Studi Kesehatan Masyarakat Surakarta UM*.
- Faidah, D.A., Sunarno, J.M. 2020 Analisis hubungan pengetahuan, sikap dan perilaku tentang jamban sehat terhadap kepemilikan jamban sehat di Desa Pesodongan Kecamatan Kaliwiro Kabupaten Wonosobo 6(02), 14-21.
- Fibrianti, E.A., Thohari, I., Marlik, M. 2021. Hubungan sarana sanitasi dasar dengan kejadian stunting di Puseksmas Loceret, Nganjuk. *Jurnal Kesehatan* 14(2), 127-32.
- Gubernur. Keputusan Gubernur Jawa Tengah Nomor 561/54 Tahun 2022 tentang Upah Minimal pada 35 (tiga puluh lima) Kabupaten/Kota di Provinsi Jawa Tengah Tahun 2023. 2022.
- Hidayat, R., Dina, D.N., Nurul, A. 2021. Hubungan Pengetahuan dan keterjangkauan dengan kepemilikan rumah sehat. *Jurnal Isu Kesehatan Masyarakat* 42-50.
- Ismiati, A.T., Wijayanti, Y. 2021. Kondisi kamar hunian, sanitasi dasar, dan keluhan kesehatan di asrama mahasiswa. *Jurnal HIGEIA*. (1), 101-13.
- Kementerian Kesehatan RI. 2021 Profil Kesehatan Indonesia Tahun 2021. Jakarta.

- Kosasih, A.L. & Indiani, D. 2022. Penentu kepemilikan jamban sehat di Banten (Analisis Data SDKI Tahun 2017).
- Kusparlina, E.P. 2021. Faktor yang berhubungan dengan kepemilikan jamban sehat di Desa Nambangan Kidul Manguharjo Kota Madiun. *Jurnal Delima Harapan* 8(2), 1-7.
- Mari, S. B., Veronika, D., Handayani, L. F. 2019. Hubungan pendapatan dan pengetahuan kepala keluarga dengan ketersediaan jamban sehat di Desa Gunung Merlawan Kecamatan Tiganderket Kabupaten Karo Tahun 2019. *Jurnal Penelit Kesehatan masyarakat* 2(1), 35-9.
- Meri, F., & Dewi, R.R.K. 2021. Faktor-Faktor Yang Berhubungan Dengan Kepemilikan Jamban Sehat Oleh Rumah Tangga Di Indonesia. *Jurnal Jumantik* 7(2), 1-15.
- Mirnawati, Haidah, N. & Juherah. 2023. Hubungan perilaku masyarakat dengan kondisi sanitasi dasar di Kelurahan Antang Makassar. *Media Komunikasi Sivitas Akademika dan Masyarakat* 23(2), 280-286.
- Notatoatmojo. 2017. Pendidikan dan Perilaku Kesehatan. Jakarta. Rineka Cipta.
- Nur, F., Swari, I., Kurniawati, R.A., Hutasoita, A.A., Nurrani, P.G., Amilia, R. 2022. Geografi Pendidikan 10(2):45-50.
- Profil Kesehatan Kota Semarang. 2021. Dinas Kesehatan Kota Semarang 2021 30.
- Prasetyaningtyas, A.Y. 2017. Karakteristik, Kondisi Fisik Rumah dan Personal Hygiene Penderita Kusta. *Jurnal Higeia*(1):51-7.
- Pujiyanti, B.R. & Anggraeni, A.D. 2022. Hubungan ketersediaan keanekaragaman pangan dan lingkungan rumah sehat terhadap status gizi Pada Balita usia 24-59 bulan di Desa Cindega Kecamatan Kebasen Kabupaten Banyumas. *Jurnal Ilmu Penelitian Kesehatan* 2(02), 155-165.
- Purba, E.S.H. 2020. Hubungan pengetahuan dan sikap ibu tentang perilaku hidup bersih dan sehat (PHBS) dengan kebersihan rumah tinggal tahun 2020 (Disertasi Doktoral, Politeknik Kesehatan Kemenkes Medan).
- Rangkuti, A.F., Musfirah, M. & Febriyani, F. 2020. Kajian pengetahuan, sikap dan persepsi pedagang tentang kualitas kesehatan lingkungan pasar. *Jurnal Kesehatan* 227-239.
- Sa'ban, L.M.A., Sadat, A., Nazar, A. 2020. Meningkatkan Pengetahuan Masyarakat Dalam Perbaikan Sanitasi Lingkungan. *Jurnal Pengabdian Kepada Masyarakat* 5(1), 10-6.
- Satwika, S.W., Putro, S. & Sriyono, S. 2021. Pengetahuan, sikap dan perilaku masyarakat dalam pemeliharaan sanitasi lingkungan di Kelurahan Bandarharjo Kecamatan Semarang Utara Kota Semarang. *Jurnal Geografi Pendidikan* 9(3), 223-228.
- Sembiring, B.M., Veronika, D. & Lubis, F.H. 2019. Hubungan pendapatan dan pengetahuan kepala keluarga dengan ketersediaan jamban sehat di Desa Gunung Merlawan Kecamatan Tiganderket Kabupaten Karo Tahun 2019. *Jurnal Penelitian Kesehatan masyarakat* 2(1), 35-39.
- Suryani, D. 2022. Kepemilikan fasilitas sanitasi dasar rumah tangga di Desa Air Selumar Kecamatan Sijuk Kabupaten Belitung. *Jurnal Kesehatan Masyarakat* 6(3), 164-72.
- Ulva, S.M. & Jannah, S. 2021. Analisis Faktor Kepemilikan Jamban Sehat di Daerah Pesisir Kelurahan Lapulu Kota Kendari. *Miracle Journal Of Public Health* 4(1), 29-37.
- Warseno, A., Aryanti, T.D. 2019. Tingkat kepala pengetahuan keluarga memiliki hubungan dengan status kesehatan rumah. *Jurnal Kesehatan Madani* 10(1), 8-12.
- Yulianti, I., Shalahuddin, I. & Sumarni, N. 2021. Gambaran tingkat pengetahuan kepala keluarga tentang rumah sehat di Kampung Cibogo desa Rancabango Kecamatan Tarogong Garut. *Holistik Jurnal Kesehatan* 15(1), 8-17.