Jurnal Ilmiah STIKES Yarsi Mataram
http://journal.stikesyarsimataram.ac.id/index.php/jik
p-ISSN: 1978-89-40 | e-ISSN: 2807-940X
Vol. XV, No. 1, Januari 2025, pp. 63-70

A Case Study of the Sasak People in Sade Village, NTB: Mopping Tradition with Cow Dung and the Risk of ARI

***Lalu Amri Yasir[1], Anna Layla Salfarina[2] Jora Firdha Kholaeda[3], Dewi Fitriana[4], Baiq Nurul Hidayati[5]**
[1] Prodi Ners, INKES Yarsi Mataram, Indonesia
[2] Prodi S1 Adminkes, INKES Yarsi Mataram, Indonesia
[3,4,5] Prodi S1 Keperawatan, INKES Yarsi Mataram, Indonesia
laluamri39@gmail.com, anna.laylasalfarina@gmail.com, jorafirdhakholaeda@gmail.com, yanadewif0@gmail.com, baiqnurulhid16@gmail.com

Article History:
Received : 07-01-2025
Revised : 10-01-2025
Accepted : 25-01-2025
Online : 31-01-2025

Keyword:
Mopping Tradition;
Cow Dung;
Risk of ARI

ABSTRACT

In West Nusa Tenggara Province, acute respiratory infections pose a serious health risk, particularly to young children. Understanding the custom of utilizing cow dung in Sade Village, Central Lombok Regency, and determining its association with ARI risk are the objectives of this study. The the method of case studies, qualitative research is employed to fully comprehend the custom of mopping with cow dung to reduce the danger of ISPA. According to the findings, there was a substantial negative influence on health, particularly for children between the ages of one and six, when cow dung was used as a cleaning agent and floor glue. Due to the possibility of airborne and dustborne contamination, the risk of ARI rises when cow dung contains pathogenic bacteria. This conclusion is reinforced by data on pediatric illnesses in Sade Village, such as colds, coughs, allergies, and diarrhea, which are correlated with frequent ARI symptoms. The link between cultural and health factors in the Sade Village community is complicated, and this research helps to clarify that. A comprehensive education effort is required to offer a clearer awareness of the connection between the dangers of ARI and cow dung usage practices.

ABSTRAK

Di Provinsi Nusa Tenggara Barat, infeksi saluran pernapasan akut menimbulkan risiko kesehatan yang serius, terutama pada anak-anak. Mengetahui kebiasaan memanfaatkan kotoran sapi di Desa Sade, Kabupaten Lombok Tengah, dan mengetahui hubungannya dengan risiko ISPA menjadi tujuan penelitian ini. Metode studi kasus, penelitian kualitatif digunakan untuk memahami sepenuhnya kebiasaan mengepel dengan kotoran sapi untuk mengurangi bahaya ISPA. Berdasarkan hasil penelitian, terdapat pengaruh negatif yang cukup besar terhadap kesehatan, terutama pada anak-anak berusia antara satu sampai enam tahun, ketika kotoran sapi digunakan sebagai bahan pembersih dan perekat lantai. Karena kemungkinan kontaminasi melalui udara dan debu, risiko ISPA meningkat ketika kotoran sapi mengandung bakteri patogen. Kesimpulan ini diperkuat dengan data penyakit anak-anak di Desa Sade, seperti pilek, batuk, alergi, dan diare, yang berkorelasi dengan gejala ISPA yang sering terjadi. Keterkaitan antara faktor budaya dan kesehatan di masyarakat Desa Sade rumit, dan penelitian ini membantu memperjelas hal tersebut. Diperlukan upaya edukasi yang komprehensif untuk memberikan kesadaran yang lebih jelas tentang hubungan antara bahaya ISPA dan praktik penggunaan kotoran sapi.

A. INTRODUCTION

The cultural practice of mopping floors using cow dung in Sade Village, Lombok, originates from the age-old traditions of the Sasak people, who view cows as symbols of blessing and purity. In local cultural beliefs, cow dung is considered to have natural antiseptic properties that help maintain household cleanliness and prevent insect disturbances, such as mosquitoes. This tradition is also closely tied to the agrarian lifestyle of the community, where cows play a vital role in their lives, both as a source of labor and as a symbol of social status. This is a significant aspect of the Sasak people's daily routine, which is thought to have profound spiritual and hygienic values. The tradition of mopping floors using cow dung by the Sasak community in Sade Village holds hygienic value, as it is believed to maintain household cleanliness through the natural properties of cow dung, such as its antiseptic qualities. However, despite this tradition being deeply rooted in local wisdom, its practice can pose health risks, particularly to children, if not carried out properly. When cow dung is applied without adequate drying or processing, pathogenic microorganisms such as bacteria or spores it contains can contaminate indoor air. This can trigger upper respiratory tract infections (URTIs), especially in children who have weaker immune systems. Furthermore, dust particles mixed with dung residues may be inhaled, increasing the risk of respiratory irritation or infection.

Therefore, it is essential to balance the preservation of this tradition with health risk mitigation measures, such as ensuring proper home ventilation and hygienic processing of cow dung before use. However, the use of cow dung as a floor cleaner has drawn criticism in recent years due to health concerns. Among the dangers is the potential for airborne cow dung particles to contaminate the air during the darkening process, increasing the risk of upper respiratory tract infections (ARIs). Cow manure can become a source of air contamination that has the potential to cause acute respiratory infections (ARIs). The decomposition process of cow manure produces ammonia (NH_3) and hydrogen sulfide (H_2S) gases, which can pollute the air around livestock areas. Exposure to these gases can irritate the mucous membranes and lungs, thereby increasing the risk of ARIs. A study by Baliarti et al. (1994) found that the odor caused by NH_3 and H_2S could be detected within a 50-meter radius from dairy cattle pens. Additionally, research by Shella Fitrotul Izza (2022) revealed that air polluted with ammonia can lead to respiratory tract disorders, including irritation of the mucous membranes and lungs, coughing, and upper respiratory infections. Therefore, it is essential to manage cow manure waste properly to minimize the emission of harmful gases and reduce health risks for the surrounding community.

Acute respiratory infection (ARI) is a type of acute infection affecting both the upper and lower respiratory tract organs. Specific data on the number of Acute Respiratory Infection (ARI) cases in children in Central Lombok Regency in 2023 is not available in the sources found. However, there is information regarding the increase in ARI cases in toddlers in the region. For instance, in June 2023, it was estimated that ARI would affect children aged 0-5 years in Central Lombok until October 2023. Additionally, in 2022, there were 19,748 reported cases of ARI in the working area of the community health centers (Puskesmas) in Central Lombok.

As the body's immune system weakens, ARI can be brought on by a variety of pathogenic agents, including bacteria, fungus, and viruses (Nurwahidah et al., 2023). Given that their immune systems are still developing and that they are therefore more susceptible to ARI attacks, children under the age of five are classified as being in vulnerable groups to a variety of infections (Rikomah et al., 2018) (Lestarina et al., 2017). Currently, there is no specific data

available on the incidence of Acute Respiratory Infections (ARI) in children in Sade Village, Central Lombok. However, based on data from Central Lombok Regency in 2023, there were 3,046 cases of ARI in toddlers.

(WHO) in 2012, the deadly consequences of ARI claimed the lives of around four million people annually. Because of the high frequency of morbidity and mortality, particularly in infants and toddlers, this problem is a severe concern in both developed and developing countries (Wulandhani & Purnamasari, 2019). Broadly speaking, several interconnected causes can contribute to the annual rise in Indonesia's ARI death rate. Variations in weather, population density, and lifestyle have an impact on the rise in respiratory infection cases (Garmini & Purwana, 2020). Timely treatment may be hampered by limited access to health care, particularly in rural regions (Garmini & Purwana, 2020). Furthermore, environmental elements that worsen the risk of ARI include air pollution (Yunus et al., 2020). Mortality rates may be influenced by factors such as low immunity, poor nutrition, and poor hygiene habits, particularly in children under five (Garmini & Purwana, 2020); (Luhukay et al., 2018).

Furthermore, modifications to viruses or pathogens that cause ARI may potentially have an with the highest incidence rates of Acute Respiratory Infection (ARI). Based on information made public by the Republic of Indonesia's Ministry of Health in 2019, With a prevalence of 25.8%, the age range of 1-4 years old is characterized by the highest prevalence of ARI. The NTB Health Office stated in 2018 that ISPA had the highest number of visits, totaling 174,213 visits, and was placed first among the 10 most frequent disorders in NTB in the NTB Health Profile statistics for 2020. Moreover, according to information from Indonesia's 2020 Health Profile, There were 182,204 visits from ARI patients in West Nusa Tenggara (NTB). West Nusa Tenggara had the greatest number of ARI patient visits in all of Indonesia in a single year, placing it sixth nationally.

The issue in question expanded to other cities/regencies in West Nusa Tenggara (NTB) due to high prevalence data of ARI. For instance, the prevalence rate of acute respiratory infection (ARI), which ranks highest in NTB, is based on secondary data for Central Lombok Regency. These data suggest, from an epidemiological standpoint, that the prevalence of ARI is more prevalent in the toddler age group, particularly in the 0–5 year old range. As seen in Sade Village, Pujut District, Central Lombok Regency, where the custom of using cow dung as a cleaning agent or floor coating for homes is one of the cultural practices that contribute to the elevated risk of ARI, the high frequency can be related to cultural factors. As a result, it's critical to comprehend the cultural values that underpin these behaviors, investigate how the general public views health and illness, and create health interventions that are suitable for the particular cultural setting. Through the use of cross-cultural dialogueThis study attempts to offer profound insights on how to reduce the danger of ISPA without sacrificing significant cultural values in the lives of the people of Sade Village through cultural education and community involvement).

A. METHODS

This study employs a qualitative case study approach to explore the mopping tradition with cow dung among the Sasak people in Sade Village, NTB, and its associated health risks, particularly the potential for Acute Respiratory Infections (ARI). The primary data collection method is in-depth interviews with key informants, including local health workers, community leaders, and residents who practice the mopping tradition. Additionally, participant observations were conducted to gather firsthand insights into the tradition’s process and its prevalence within the community.

To supplement the qualitative data, the study includes a review of existing literature and health records from local health centers, focusing on the incidence of ARI among children and adults in Sade Village. The research also integrates community health assessments to examine

environmental factors that could influence the health risks associated with this traditional practice.

Data analysis is performed using thematic analysis, where recurring patterns related to health perceptions, practices, and outcomes are identified and analyzed. The findings are contextualized within the broader cultural and social practices of the Sasak people, with particular attention to the intersection between local traditions and public health.

This methodology allows for a comprehensive understanding of how cultural practices, such as the use of cow dung for mopping, may contribute to the spread of respiratory diseases in the community. It also provides insights into potential interventions that could mitigate health risks while respecting local customs.

B. RESULT AND DISCUSSION

Customary Methods of Applying Cowdung and Its Theory The findings demonstrated that Sade Village residents consistently applied cow dung as a way to strengthen and clean their homes' floors in their day-to-day activities (Widianti, 2017). This study employs a qualitative approach, focusing on ethnographic methods to explore the unique tradition of the Sasak community in Sade Village, Lombok. The research examines the practice of floor cleaning using a mixture of cow dung and water, a tradition passed down through generations. Observations were made on how the floor, made from clay, is cleaned by applying this cow dung paste, which is believed to not only make the floor more durable and compact but also act as a natural repellent against dust and insects. Interviews with community members were conducted to understand the cultural significance of this practice and the local wisdom involved in utilizing natural resources in an environmentally harmonious way. The study also investigates the preparation process of the cow dung paste and addresses concerns regarding odor, which is said to be non-existent due to the use of fresh, processed cow dung (Izza, 2022).

The technique creates a special dynamic between regional customs and useful elements of household environmental management by reflecting the cultural and traditional legacy that is an essential component of the everyday lives of the people of SadeVillage. The method in this study involves a case study approach, focusing on the unique tradition of the Sade Village community in Central Lombok. The tradition of applying cow or buffalo dung to the floors of homes every 4 to 5 days is the subject of investigation. This tradition, believed to strengthen the floor and serve as a protective measure against danger, is analyzed from a health perspective. The study examines the potential health risks associated with the microorganisms, such as *Escherichia coli* and *Salmonella sp.*, present in the cow dung, which can cause respiratory infections. The research also looks into the risks posed by the ammonia gas released during the decomposition of cow dung, which can negatively impact respiratory health. Through this case study, the research highlights the need for the community to balance cultural practices with health considerations, particularly concerning respiratory issues linked to microbial exposure and harmful gases (Izza, 2022).

In this regard, research informant Amaq Aira claimed that the custom of using cow dung to clean the floor of the home represents the relationship of values, specifically between cultural values, the environment, and the cleanliness of the home. Amaq Aira is one of the traditional leaders of the Sasak community in Sade Village who serves as a respondent in this study. Amaq Aira was chosen as a respondent in this research due to his deep understanding of the cultural practice of floor sweeping in the Sasak community of Sade Village. According to research by Sahira et al., 2023), there are four types of values found in the local wisdom of the Sasak Tribe traditional house in Sade Village: religious, cultural, gontong royong, and beauty values (Sumardi & Hanum, 2019).

Observations indicate that the residents of Sade Village actively participate in day-to-day activities and work to preserve ancestors' customs. The purpose is to maintain the cleanliness and holiness of the dwelling, or what is known as repulsion (Sahira et al., 2023). Using cow

dung as a cleaning agent is not only practical; it is also believed to have a deep symbolic meaning. This behavior shows a strong connection to the ideals articulated by Amaq Aira and an attempt to resist outside influences that are inextricably linked to the identity of the Sasak people, particularly the Sade Village community.

Amaq Aira asserts that the use of cow dung has a philosophy that incorporates profound cultural and spiritual elements in addition to practical considerations. According to traditional beliefs, cows are sacred animals, and the food they eat is thought to originate from a sacred region. Because of this, using cow dung is seen as a type of cleanliness ritual that symbolizes the ideology of this practice's combination of religious and cultural aspects. The residents of Sade Village think that using cow dung regularly can prevent illness and preserve family health. In the context of the Sade Village community, the philosophy behind the use of cow dung thus offers a profound knowledge of the complexity of the interaction between customs, cultural values, and spiritual beliefs.

The Relationship Between Cow Manure Use Practices and the Risk Level of ARI

Amaq Aira claims that using cow dung to clean the floors of homes in Sade Village has a negative effect on people's health, particularly on young children who are less immune to disease—those between the ages of one and six. Despite the fact that this habit has been carried down through the generations, young children are vulnerable to acute respiratory infections (ARI), coughing, diarrhea, and the flu. Through their research, (Katupu et al., 2021), concluded that pet-related behaviors, including those involving buffaloes, horses, pigs, cows, and goats, are to blame for the high incidence of ARI diseases. This is a contributing factor that is mostly caused by excrement (Katupu et al., 2021).

In this instance, as informant Amaq Aira said, there may be a higher risk of acute respiratory infections related to the practice of cleaning and adhering floors with cow dung. According to (Fitriyanto et al., 2015), pathogenic bacteria found in cow dung have the potential to leak into the surrounding environment through urine and feces (Rosyadah et al., 2023). Some of these viruses, like Salmonella, have the ability to contaminate nearby water sources and can even travel from streams to rivers through direct contact (Rosyadah et al., 2023).

(Amaliyah, 2017) states that direct contact with contaminated materials, such as undercooked food or water tainted with animal excrement, is the usual way for the virus to spread. Furthermore, it can spread by direct contact with diseased animals, surfaces contaminated by animal excrement, and the Sade Village people's practice of using cow dung in their dwellings (Dewi et al., 2016).

If not adequately managed, the cow manure used by the residents of Sade Village, which may contain bacteria like Salmonella and E. coli, could contribute to the illness (Fhitryani et al., 2017). Furthermore, as a result of drying, these viruses and bacteria may persist as dust particles or condense into the air in

According to an analysis of the data from interviews with Amaq Aira, the study's primary informant, it was discovered that residents of Sade Village, particularly the children, suffered from a variety of well-known illnesses, such as diarrhea, allergies that cause itching, coughing, and colds. Gaining a thorough understanding of this kind of common illness might help one assess the community's risk of acute kidney injury (ARI;(Fardani et al., 2023). Furthermore, as suggested by (Restu, 2021), there is a significant correlation between these symptoms and the general manifestations of ARI, which include fever, sore throat, runny nose, headache, muscle aches, weakness or lethargy, nausea or vomiting, and cough.

As a result, our research offers a more comprehensive image of the ARI disease pattern in Sade Village, which is connected to sociocultural elements that are still relevant today. This is consistent with earlier studies that have demonstrated dangers associated with the usage of cow dung and the degree of acute respiratory infection (ARI) in children residing in Sade Village (Widianti & Suhardana, 2017). According to Rusyanti and Suhardana (2020), children who reside in homes that utilize cow dung as flooring are more likely to suffer from acute respiratory

illness (ARI) than children who do not live in such homes. According to Widianti and Suhardana (2017), exposure to cow dung dust increases the incidence of respiratory illnesses, which is most likely the reason of this. communal conduct and the creation of more hygienic facilities.

Implications of Research on Public Health

The study's findings highlight the necessity of a comprehensive strategy for handling public health problems relating to customs. In this situation, health education is essential to giving the general population a greater awareness of the dangers to their health which come with using cow dung for mopping.

In addition, the findings of this study advise people to modify their behavior in order to preserve hygienic and clean environments. It is hoped that individuals would be more proactive in seeking out more sanitary ways to clean their homes and surroundings if they are more aware of the health hazards involved.

The outcomes of this study may potentially serve as a foundation for the creation of improved public health policy. The findings of this study can be used by local governments to inform the creation of policies that promote behavioral modifications within communities and the construction of better sanitary infrastructure.

Additionally, the study offers guidance for future investigations into the connection between cultural customs and public health. It is anticipated that creating efficient intervention techniques to lessen the health risks associated with unhealthy customs will be simpler with a greater understanding of the variables influencing public health behavior.

In summary, this study not only offers valuable insights into the unique health issues faced by the Sasak community in Sade Village, NTB, but it also establishes a basis for more comprehensive preventative measures and treatments aimed at enhancing community health in general.

C. CONCLUSION AND SUGGESTIONS

According to this research, Sade Village's long-standing custom of cleaning and adhering floors with cow dung has its origins in the community's cultural and traditional history.. Research informant Amaq Aira's interview results revealed that this practice represents cultural values, spiritual concepts, and symbols ingrained in the local beliefs of the Sade Village community, in addition to its utilitarian utility in cleaning the house. Within the framework of this approach, it was discovered that the residents of Sade Village, particularly the children, suffer from a variety of illnesses that can be linked to an increased risk of Acute Respiratory Infection (ARI), including colds, coughs, itchy allergies, and diarrhea. An analysis of the association between the use of cow dung and the risk of ARI reveals that the Sade Village population may be more susceptible to ARI due to pathogenic microorganisms in cow dung, particularly when air and dust are contaminated.

D. REFERENCES

Amaliyah, N. (2017). *Penyehatan makanan dan minuman-A*. Deepublish.

Dewi, E. S., El Latifa, S., Fawwarahly, F., & Kautsar, R. (2016). Kualitas mikrobiologis daging unggas di RPA dan yang beredar di pasaran. *Jurnal Ilmu Produksi Dan Teknologi Hasil Peternakan*, *4*(3), 379–385.

Fardani, S. F., Nugraheni, W. T., Ningsih, W. T., & Sumiatin, T. (2023). Hubungan Tingkat Pendidikan dan Pengetahuan Orang Tua dalam Pencegahan Ispa Pada Balita di Poli Anak RSUD dr. R. Koesma Tuban. *Jurnal Pendidikan Tambusai*, *7*(3), 20450–20457.

Fhitryani, S., Suryanto, D., & Karim, A. (2017). Pemeriksaan Escherichia coli, Staphylococcus aureus dan Salmonella sp. pada jamu gendong yang dijajakan di Kota Medan. *BIOLINK (Jurnal Biologi Lingkungan Industri Kesehatan)*, *3*(2), 146–155.

Fitriyanto, N. A., Triatmojo, S., Pertiwiningrum, A., Erwanto, Y., Abidin, M. Z., Baliarti, E., & Suranindyah, Y. Y. (2015). Penyuluhan dan pendampingan pengolahan limbah peternakan sapi potong di kelompok tani ternak Sido Mulyo Dusun Pulosari, Desa Jumoyo, Kecamatan Salam, Kabupaten Magelang. *Indonesian Journal of Community Engagement*, *1*(01), 79–95.

Garmini, R., & Purwana, R. (2020). Polusi udara dalam rumah terhadap infeksi saluran pernafasan akut pada balita di tpa sukawinatan palembang. *Jurnal Kesehatan Lingkungan Indonesia*, *19*(1), 1.

Katupu, N., Ndoen, H. I., & Limbu, R. (2021). Factors Related to Malnutrition in Children Under Five at Kori Public Health Center. *Lontar: Journal of Community Health*, *3*(4), 184–192.

Lestarina, E., Karimah, H., Febrianti, N., Ranny, R., & Herlina, D. (2017). Perilaku Konsumtif di Kalangan Remaja. *JRTI (Jurnal Riset Tindakan Indonesia)*, *2*(2), 1–6. https://doi.org/10.29210/3003210000

Luhukay, J., Mariana, D., & Puspita, D. (2018). Peran keluarga dalam penanganan anak dengan penyakit ispa di rsud piru. *Jurnal Keperawatan Muhammadiyah*, *3*(1).

Nurwahidah, N., Syaiful, S., Aniharyati, A., Abubakar, F., & Masruroh, M. (2023). Effectiveness of Education Using Videos and VCO Application Modules in Reducing ISPA Symptoms in Children. *International Journal of Social Service and Research*, *3*(10), 2503–2512.

RESTU AMALIA RAMADHANTI, R. A. R. (2021). *Asuhan Keperawatan An. D Dengan Infeksi Saluran Pernapasan Akut (ISPA) Di RSUD Panembahan Senopati Bantul*. Poltekkes Kemenkes Yogyakarta.

Rikomah, S. E., Novia, D., & Rahma, S. (2018). Gambaran Penggunaan Antibiotik Pada Pasien Pediatri Infeksi Saluran Pernapasan Akut (Ispa) Di Klinik Sint. Carolus Bengkulu. *Jurnal Ilmiah Manuntung*, *4*(1), 28–35.

Rosyadah, A., Sunaryo, M., Zahra, J. S., Ramadhani, H. K., Hikmiah, S., Apriyanti, A. A., Thoba, M. N. D., Saputra, N. I., Taqiyyaa, N. K., & Wibisono, F. (2023). Pemanfaatan Limbah Kotoran Sapi Terhadap Pembuatan Biogas dan Pupuk Organik di Desa Madureso, Mojokerto:-. *Jurnal Pengabdian Kepada Masyarakat Nusantara*, *4*(2), 711–720.

Rusyanti, I. G. A., & Suhardana, I. M. P. (2020). Hubungan antara paparan debu kotoran sapi dengan kejadian infeksi saluran pernapasan akut (ISPA) pada anak usia sekolah di Desa Sade, Kecamatan Tetebatu, Kabupaten Lombok Tengah, Nusa Tenggara Barat. Jurnal Kesehatan Masyarakat, 18(2), 169–178. https://doi.org/10.22435/kemas.v18i2.218

Sahira, E., Sumardi, L., Sawaludin, S., & Zubair, M. (2023). Nilai dan Makna Dalam Kearifan Lokal Rumah Adat Suku Sasak:(Studi di Dusun Sade Desa Rembitan Kabupaten Lombok Tengah). *Jurnal Ilmiah Profesi Pendidikan*, *8*(4), 2594–2604.

Salisa, A. (2010). *Perilaku seks pranikah di kalangan remaja (studi deskriptif kualitatif tentang perilaku seks pranikah di kalangan remaja Kota Surakarta)*.

Septiana, L., Nusa, S., Jakarta, M., Kramat, J., 18, R. N., & Pusat, J. (2016). Perancangan Sistem Pakar Diagnosa Penyakit Ispa Dengan Metode Certainty Factor Berbasis Android. Jurnal TECHNO Nusa Mandiri, XIII(2), 89.

Sumardi, L., & Hanum, F. (2019). Social mobility and new form of social stratification: Study in Sasak tribe, Indonesia. *International Journal of Scientific & Technology Research*, *8*(10), 708–712.

Widianti, A. K. (2017). Preservasi Rumah Adat Desa Sade Rembitan Lombok Sebagai Upaya Konservasi. *Vitruvian: Jurnal Arsitektur, Bangunan, Dan Lingkungan*, *6*(3), 185916.

Widianti, N. M., & Suhardana, I. M. P. (2017). Hubungan antara praktik penggunaan kotoran sapi dan tingkat risiko penyakit infeksi saluran pernapasan akut (ISPA) pada anak usia sekolah di Desa Sade, Kecamatan Tetebatu, Kabupaten Lombok Tengah, Nusa Tenggara Barat. Jurnal Kesehatan Masyarakat, 15(1), 1–9. https://doi.org/10.22435/kemas.v15i1.822

Wulandhani, S., & Purnamasari, A. B. (2019). Analisis Faktor Risiko Kejadian Infeksi Saluran Pernapasan Akut ditinjau dari Lingkungan Fisik. *Sainsmat: Jurnal Ilmiah Ilmu Pengetahuan Alam*, *8*(2), 70–81.

Yunus, M., Raharjo, W., & Fitriangga, A. (2020). Faktor-faktor yang berhubungan dengan kejadian infeksi saluran pernapasan akut (ISPA) pada pekerja PT. X. *Jurnal Cerebellum*, *6*(1), 21–30.\

Yusanto, Y. (2020). Ragam Pendekatan Penelitian Kualitatif. Journal of Scientific Communication (Jsc), 1(1), 1–13. https://doi.org/10.31506/jsc.v1i1.7764