Community Service Article

Education Based on the Health Belief Model Theory for River Utilization in Muara Bangkal Village

Asnawati[1], Maria Ulfah[1*)], Lena Rosida[1], Dewi Indah Noviana Pratiwi[2], Ellen Ayuningtyas Pratidina[3], Siti Ratna Jinan[3], Muhammad Ihrammuf Tezar[3]

[1]Department of Biomedical of Medical Education Study Program, Faculty of Medicine, University of Lambung Mangkurat, Banjarmasin, Indonesia

[2]Department of Clinical Pathology, Ulin Hospital Banjarmasin, Indonesia

[3]Medical Education Study Program, Faculty of Medicine, University of Lambung Mangkurat, Banjarmasin, Indonesia

Correspondence Email: maria.ulfah@ulm.ac.id

ABSTRACT

Among rural communities in South Kalimantan, rivers are still the primary source of activities, such as in Muara Bangkal Village in Banjarmasin. Rivers are used for bathing, washing, defecating, and urinating or MCK (mandi-cuci-kakus). These activities pose significant health risk due to water pollution. This study applied the Health Belief Model (HBM) in Focus Group Discussions (FGD) to evaluate its effectiveness for improving health perceptions. The HBM framework emphasized perceived susceptibility, severity, benefits, and barriers related to river usage, aiming to foster behavioral change through targeted education.The community service program involved 25 participants who completed pre- and post-intervention questionnaires to assess perception changes. There was an improvement in scores from 34.76 to 39.24 after participants filled out questionnaires regarding river usage as a means of toilet and bath. All participants (100%) also said they used the river for bathing and washing. This community service education was published on the online mass media, the website, and on the YouTube channel. Participants' perceptions regarding river usage improve, which can be a stimulus in helping to alter the behavior of communities in utilizing the river for MCK.

Keywords: River, health belief model, behavior, MCK

INTRODUCTION

Banjarmasin is one of the cities in South Kalimantan that is based on water culture, which leads the Banjar tribes on the banks of the river to have a river-based culture.[1] Muara Bangkal Village is a village with a river cultural heritage. Muara Bangkal Village, located in Kecamatan Tanjung Pagar, South Banjarmasin District, is a densely populated area with residential areas along rivers and narrow alleyways. A majority of Muara Bangkal's villagers are small traders and casual laborers.[2,3] The river serves as the primary facility for the community in Muara Bangkal for bathing, washing, defecating, and urinating. Muara Bangkal village residents still use riverbank latrines, with 1 latrine serving 3-4 households. Most rivers are polluted by household waste. Wagiono's (2022) research found that economic factors and proximity to the river contribute to the use of river water for MCK activities.[3,4]

River pollution from household waste not only harms aquatic ecosystems but also poses serious health risks to humans. Organic and non-organic waste discharged into rivers can leach into the water system and contaminate clean water sources. In many cases, people use contaminated water sources for their daily needs without being aware of the dangers that lurk. This is in line with the findings revealed by Jumaidin et al. (2018) WHO recorded an increase in the incidence of infectious diseases due to water pollution in urban areas.[5,6]

Unsanitary fecal discharge spreads diseases. Waterborne diseases such as diarrhea, cholera, and typhoid are a direct result of consuming water contaminated by pathogenic bacteria. In addition, exposure through bathing and washing in polluted water can lead to skin diseases and other infections. Fakhriadi (2018) reported that diarrhea can lead to dehydration, it can be life-threatening, especially if people are not aware the importance of hygiene habits, indicating he necessity for further education

on how to manage personal and environmental hygiene.[7,8]

In this context, research by the Ministry of Health of the Republic of Indonesia (2019) shows that areas with poor sanitation have a high prevalence of infectious diseases including diarrhea and respiratory infections.[7] According to WHO (2022), poor environmental conditions, including water pollution, contribute to an increase in the number of malaria cases, especially in areas with poor drainage.[9] Scabies and trachoma, which result from parasitic and bacterial infections, can be exacerbated by a lack of access to clean water and adequate sanitation facilities. Research by Rinaldi et al. (2020) also confirms that trachoma is directly related to sanitation conditions and heterogeneity in the use of sanitation facilities by the community.[10,11]

Waterborne diseases include those caused by pathogenic bacteria in contaminated water and those caused by water-dwelling insects, such as malaria. Other diseases, such as scabies and trachoma, can also be caused by untreated water sources.[11,12]

Increase in driving force leads to behavior change. External stimuli can prompt behavior changes. The stimulus is counseling or information related to the behavior topic.[13] The community service team proposes providing health education to solve the issue.

To address this urgency, the community service (PKM) team implemented a health education program grounded in the Health Belief Model (HBM), which targets behavioral drivers such as perceived susceptibility, severity, benefits, and barriers. Drawing on Hasyim et al.'s (2010) framework cited in Hasibuan (2016), the intervention emphasized stimuli including counseling and informational campaigns to strengthen driving forces for behavioral change. Preliminary findings indicate heightened community awareness of health risks, though systemic challenges like entrenched cultural norms and infrastructural gaps persist. Sustained efforts are vital to transform knowledge into actionable practices, ensuring long-term reductions in river pollution and disease prevalence. This study underscores the necessity of culturally sensitive, education-based interventions to disrupt harmful traditions and align community behaviors with public health priorities. Perceived susceptibility is the perception of responsiveness about the likelihood of developing a disease or disease condition, perceived severity is the feeling about the seriousness of contracting a disease or not being treated, including the evaluation of medical and clinical consequences and possible social consequences (such as the effects of conditions at work, family life, and social relations), and perceived benefits are the person's beliefs about the perceived benefits of various available actions to reduce the threat of disease, and perceived barriers, namely, individuals weigh the expected benefits of these actions with perceived barriers.[14,15] Community service by Fitriyani & Dwijayanati in 2023, concluded that providing education using the Health Belief Model theory was effective in increasing public awareness of the prevention and control of tuberculosis.[16]

METHOD

This community service program provided education based on the Health Belief Model, incorporating both social support formation and Focus Group Discussion (FGD) coaching. There were 25 people from Muara Bangkal Rt 14 village provide social support for this activity. Coaching focused on increasing social support and awareness regarding perceived susceptibility, severity, benefits, and barriers in the use of rivers for sanitation (MCK).

Respondent's opinions regarding the use of rivers for bathing, washing, and latrines were surveyed using a Likert scale. Initially, the self-administrated questionnaire contained 13 items, however, following an assessment of its validity and reliability, it was determined that three statements were invalid. Therefore, the final questionnaire, administered during the execution of activities, had a total of 10 items. Validity and reliability tests were performed using Cronbach's alpha and Pearson correlation. The results showed that all 10 items had significant validity coefficients ($p < 0.05$) and Cronbach's alpha values > 0.7, confirming their validity and reliability. The classification of statements is based on a dichotomy separating positive and negative statements.

Each positive statement (No. 1, 2, 4, 5, 6, 7, and 8) has 5 answer choices, namely:

- strongly disagree (SDA) : scored 1
- disagree (DA) : scored 2
- Undecided (U): scored 3
- agree (A) : scored 4
- strongly agree (SA) : scored 5

Each negative statement (No. 3, 9, and 10) has 5 answer choices, namely:

- strongly disagree (SDA) : scored 5
- disagree (DA) : scored 4
- Undecided(U): scored 3
- agree (A) : scored 2

RESULT AND DISCUSSION

Community service activities have been carried out, the Community Partnership Program (PKM) in Muara Bangkal village. Muara Bangkal Village is located in Tanjung Pagar Village, South Banjarmasin District with an area of 1.59 km2.

DOI: 10.20527/jbk.v11i1.20982 2025; 11(1): 41-48

Muara Bangkal Village is located between 3'15 to 3'22 LS and 114'32 to 114'98 E with the boundary in the North bordering Murung Raya sub-district, in the East bordering Pemurus Baru and Pemurus Dalam, in the South bordering Banjar Regency, and in the West bordering West Kelayan. Most of the livelihoods of Muara Bangkal villagers are small traders and freelance workers.[2,3]

This PKM activity was held on Saturday, July 10, 2021 at 09.00 – 13.00 WITA with the resource person dr. Lena Rosida, M. Kes. The activity was attended by 25 people from RT 14 Muara Bangkal village who live on the riverside, 3 field officers, the head of RT 14, and 2 Environmental Health officers of the Beruntung Raya Health Center.

Figure 1. Implementation of PKM Activities

Figure 2. Documentation with the community (participants) of Muara Bangkal village

Residents of Muara Bangkal Village demonstrate low awareness of environmental hygiene, as many still dispose of garbage and household waste into the river, which poses a health hazard. The tendency and has become a habit of some local village people to defecate in

DOI: 10.20527/jbk.v11i1.20982 2025; 11(1): 41-48

unhealthy latrines, namely latrines that distribute their feces directly into the river. If people use the river as a means of toilets, the waste discharged into the river can reduce the quality of the environment and cause various disease threats that affect health.[10,17] The habit of the people of Muara Bangkal village in terms of using the river as a means of toilets has been carried out from generation to generation from their ancestors. This habit is influenced by the low public knowledge about toilets and the lack of counseling on the good and correct use of toilets.

The 25 residents of RT 14 in Muara Bangkal Village who live along the riverbank served as the target group for social support in this activity. Then the resource person conducted coaching on social support about perceived susceptibility, perceived severity, perceived benefits and perceived barriers about the use of rivers as toilets.

This PKM activity began with remarks from the chairman of RT 14 Tanjung Pagar Village, remarks from representatives of the Beruntung Raya Health Center, and remarks from the chief executive of the program. After that, it was continued with the main event, namely pretest, coaching, and posttest. Before coaching, participants' attitudes were assessed first using a questionnaire, and after coaching, changes in attitudes were seen using the same questionnaire. The questionnaire consists of 10 items on the Likert scale which has 5 answer options and consists of positive statements and negative statements. Thus the minimum score of the questionnaire is 10 and the maximum score is 50. The results of the attitude assessment can be seen in the following figure.

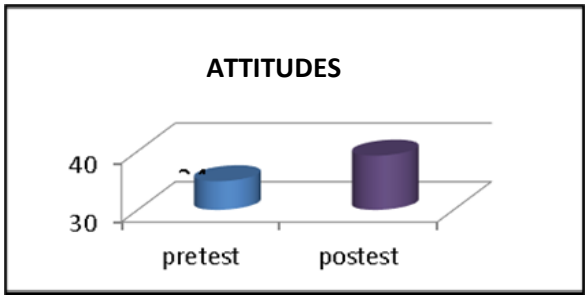

Figure 3. Overview of Attitudes on the Utilization of Rivers as Toilets in Muara Bangkal Village, Tanjung Pagar Village

Table 1. Pretest and Postest Recapitulation of Attitude Assessment of PKM Activity Participants in Muara Bangkal Village, Tanjung Pagar District, Banjarmasin

No	Statement	Pre-test	Pos-test	Mean Diff
1	Doing toilets in rivers can pollute river water	3.68	4.12	0.44
2	River water contaminated with feces and household waste can transmit diseases	4.2	4.16	-0.04
3	The behavior of toilets in the river will not be detrimental to health	2.84	3.72	0.88
4	Not doing toilet activities on the river is very profitable	3.92	4.12	0.20
5	Doing toilet activities on the river has more benefits than disadvantages	2.84	3.48	0.64
6	The reason for not making eligible latrines is due to economic factors	4.04	4.28	0.24
7	The reason for not building wells or subscribing to PDAM is due to economic factors	3.88	4.24	0.36
8	Doing toilets in the river is caused because they do not know the negative impact	3,44	3,8	0.36
9	Toilets on the river are hereditary activities and must be maintained	3,16	3,64	0.48
10	Toilets in the river are cleaner because the water is abundant	2,76	3,68	0.92
	Total	34,76	39,24	

Participants' attitudes toward using the river as a toilet were relatively positive, as their scores exceeded the midpoint of the questionnaire of 34.76 (Figure 3). This attitude improved after receiving coaching on the use of rivers as a means of toilets that can cause

DOI: 10.20527/jbk.v11i1.20982 2025; 11(1): 41-48

negative impacts on health with all its consequences, which is 39.24. This means that participants who live on the riverbank of Muara Bangkal village can take a stance not to use the river as a means of toilets. The items that have been improved are "doing toilets in the river can pollute river water, the behavior of toilets in the river will not be detrimental to health, not carrying out toilet activities in the river is very profitable, doing toilet activities in the river has more benefits than disadvantages, and toilets in the river are cleaner because the water is abundant" as shown in the following table.

The 10 questionnaire items can be categorized into four perception groups related to the use of rivers for bathing, washing, and sanitation (BWS) activities. From the quissioner (Table 1), the community understands that MCK in the river contributes to pollution, more so because of the fecal matter and domestic waste. The contamination of river water by feces and domestic waste can be a vehicle for the spread of infection. Therefore, the community needs to be more educated on the health risks of washing and using the river for toilet purposes. A survey conducted along the Mahaweli River in Sri Lanka revealed community awareness of their role in water pollution, as well as the importance of collective action to mitigate such impacts.[18] In addition, educational programs that emphasize the health hazards due to pollution resulting from river bathing practices have increased community understanding.[19] MCK on the river affects not only personal health, but community health in totality. Studies suggest that ecosystem destruction through the pollution of river waters has a direct correlation with infectious diseases, associated with water pollution, including diarrhea for a lot of people reliant on the contaminated river waters.[20] Considering this, the solutions to pollution of river waters have to focus on changing behavior through social education on better sanitation and use of clean water sources.[21]

Muara bangkal community cites economic factors as an obstacle for them to build a qualified latrine and subscribe to PDAM clean water. Research by Nurhasanah (2022) shows that in difficult economic conditions, people prefer to use existing resources for free, such as rivers, rather than spending money on sanitation facilities. According to Pratiwi et al. (2021), the use of rivers as MCK facilities is often associated with the lack of access to qualified latrines, as well as the lack of adequate sanitation infrastructure.[22,23]

Table 2. Perception Scores Changed Between A Pre-Test and A Post-Test for Different Perception Groups

Perception Group	Average Post-test Score	Average Pre-test Score	Mean Difference
Perceived Susceptibility	4.14	3.94	0.2
Perceived Severity	3.72	2.84	0.88
Perceived Benefits	3.8	3.38	0.42
Perceived Barriers	3.93	3.46	0.47

Table 2 illustrates shifts in participants' average perception scores across different groups between pre-test and post-test. The perceived severity score increased significantly by 0.88, indicating that after the intervention, participants became more acutely aware of the serious consequences linked to unsanitary practices, such as environmental degradation and disease transmission. This substantial rise underscores the intervention's effectiveness in heightening their understanding of the gravity of adverse outcomes. In contrast, perceived susceptibility showed a modest increase of 0.20, reflecting a slight elevation in participants' perceived vulnerability to risks. Notably, while awareness of the severity of threats rose markedly, the perception of personal risk did not escalate proportionally. This discrepancy may stem from sociocultural factors or personal beliefs that modulate individual perceptions of vulnerability.

Participants' perceived benefits of adopting safer sanitation alternatives improved by 0.42, demonstrating enhanced recognition of the advantages of hygienic practices. This suggests the intervention successfully communicated critical information about the positive outcomes of behavioral change. Paradoxically, perceived barriers also increased by 0.47, revealing that the intervention not only raised awareness of benefits but also heightened participants' consciousness of existing obstacles. These barriers include behavioral resistance (e.g., cultural inertia) and structural challenges (e.g., financial limitations). This duality highlights the complexity of behavior modification: education must address both

motivators (benefits) and impediments (barriers) to foster sustainable change. The findings emphasize the need for holistic strategies that combine awareness campaigns with systemic solutions to overcome entrenched socioeconomic and cultural constraints.

Another factor that causes the participant's attitude to not be directly proportional to the behavior is probably because the attitude assessed in this activity is the attitude of the receiving level (receiving), that is, the person (subject) is willing and pays attention to the stimulus given (object) but has not reached a higher level. According to in Hasibuan (2016) and siregar (2022), attitude is a reaction or response of a person who is still closed to a stimulus or object, consisting of various levels: [14, 24]

1. Receiving
   Accepting means that the person (subject) is willing and pays attention to the stimulus given (object).
2. Responding
   Giving answers when asked, doing, and completing the tasks given is an indication of attitude. Because by making an effort to answer a question or do a given task, regardless of whether the work is right or wrong, it is that people accept the idea.
3. Valuing
   Inviting others to work on or discuss a problem is an indication of a third-level attitude.
4. Responsible
   Taking responsibility for everything he chooses at all risks is the highest attitude

Coaching is a form of health education based on the theory of Health Belief Model (HBM). According to the theory of HBM, individuals will take measures to prevent damage to their health, as a monitor for disease or susceptibility, or to control disease, if they: (a) consider themselves as individuals susceptible to certain conditions, (b) believe that certain conditions have serious consequences, (c) believe that good actions will reduce their susceptibility or reduce the severity of the condition, and (d) believing that certain conditions can anticipate barriers (or costs) by taking actions that are proportional to the benefits and (e) a combination of perceived vulnerability and perceived severity or often referred to as a threat (Daulay, 2015), 24. Therefore, it is hoped that health education in the theory of HBM can be a stimulus for behavior change so that they do not use the river as a means of toilets.[25,26, 27]

Another important factor is the impression of behavioral control, or people's beliefs about their capacity to engage in particular actions. People's aim to adopt healthier and more sustainable activities will be supported if they believe they have the means and capacity to utilize better hygienic facilities rather than the river. A problem in this situation is that many people believe they have no other options for getting access to sanitary facilities that are safe and clean.[28]

The stimulus provided by PKM activities to change behavior so as not to use the river as a means of toilets is very important, so that the community can play a role in shaping an environment with good sanitation. An environment with poor sanitation can be a source of various diseases that can interfere with human health. If health is disturbed, then their welfare will also decrease. According to UNICEF data in 2012, poor sanitation and hygiene and unsafe drinking water contributed to 88 percent of child deaths due to diarrhea. Based on the 2007 Riskesdas report, the rate of diarrhea is 66% in children from families who defecate in rivers or sewers.[29,30] A public health initiative focused on enhancing knowledge about the benefits of proper sanitation practices, including discouraging river usage as toilets, could yield considerable health benefits for the community.

This stimulus for change should be carried out periodically, continuously, and involve various related parties such as health centers, health offices, public works and public housing (PUPR) offices, environmental services (DLH), community organizations about the environment, and river cleanliness task forces, and others. This is because according to Fajar et al. Sanitation is a common problem because it can have implications for all communities so that the solution must also be carried out and solved together.[29,31,32] Feedback from the target population can guide the adjustment of educational approaches, ensuring they meet the specific needs and preferences of different demographic groups within the community.[33]

CONCLUSION

The community service (PKM) program in Muara Bangkal Village, Tanjung Pagar Subdistrict, Banjarmasin, has made a beneficial impact on changing community beliefs regarding the usage of rivers for bathing, washing, and sanitation (MCK), according to the comparison of pre-test and post-test data. Misconceptions about using the river for MCK gradually diminished, and participants showed increased awareness of the health risks of pollution and the spread of disease, a greater comprehension of the gravity of these effects, and a greater appreciation of the advantages of healthier alternatives. A crucial first step in implementing better sanitation practices is the advancement of information and changing viewpoints, even though financial

limitations continue to be the main obstacle. Collaboration is necessary with relevant parties to provide MCK facilities that adhere to health standards in Muara Bangkal village.

ACKNOWLEDGMENTS

Thanks to all contributors and specialists involved in this article's research, writing, compilation, and publication. Lambung Mangkurat University's medical faculty supported the community's activities.

REFERENCES

1. Rico, M., Nadilla, D. F., & Riduan, M. (2024). Development transporation river on the past banjar society. Social Sciences, Humanities and Education Journal (SHE Journal), 5(1), 144. https://doi.org/10.25273/she.v5i1.19224
2. BPS, 2020. Kota Banjarmasin dalam Angka (2020). Banjarmasin: Badan Pusat Statistik
3. Ahmad Syahir, Hanafiah, M., Sukarni, S., & Muhajir, A. (2024). Hukum adat banjar dalam legislasi lokal (analisis adat masyarakat banjar dalam pemanfaatan sempadan sungai perspektif fikih dan peraturan daerah kota banjarmasin). Indonesian Journal of Islamic Jurisprudence, Economic and Legal Theory, 2(2): 881-98. https://doi.org/10.62976/ijijel.v2i2.565
4. Wagiono, F., Shaddiq, S., Junaidy, J., Wibowo, D., & Yahya, M. (2022). Community habits in floating houses (lanting) in utilizing the river as an shower, wash, and toilet (mck) facility in the s. parman down area neighborhood 01 hamlet xvii palangka raya. Jed (Jurnal Etika Demokrasi), 7(1): 109-121. https://doi.org/10.26618/jed.v7i1.6770
5. Jumaidin, J., Amalia, R., & Hidayat, M. (2018). Environmental Pollution and Health Risks in Urban Areas: A Case Study of Surabaya, Indonesia. Journal of Environmental Management, 224, 29-37. doi:10.1016/j.jenvman.2018.07.047
6. Njomo, D., Karimurio, J., Odhiambo, G., Mukuria, M., Wanyama, E., Rono, H., … & Gichangi, M. (2016). Knowledge, practices and perceptions of trachoma and its control among communities of narok county, kenya. Tropical Diseases Travel Medicine and Vaccines, 2(1). https://doi.org/10.1186/s40794-016-0029-6
7. Kementerian Kesehatan Republik Indonesia. (2019). Profil Kesehatan Indonesia 2018. Jakarta: Kemenkes RI.
8. Fakhriadi, R., Khairiyaty, L., & Selamat, S. (2018). Analisis perbedaan faktor risiko kejadian diare antara daerah bantaran sungai dan daerah daratan di kabupaten banjar. Jurnal Berkala Kesehatan, 3(2):67 https://doi.org/10.20527/jbk.v3i2.5071
9. World Health Organization (WHO). (2022). World Malaria Report 2022. Geneva: WHO Press.
10. Rinaldi, L., Aruba, M., & Pratiwi, R. (2020). The Relationship Between Sanitation and Trachoma in East Nusa Tenggara, Indonesia. PLOS Neglected Tropical Diseases, 14(10), e0008674. doi:10.1371/journal.pntd.0008674.
11. Stocks, M., Ogden, S., Haddad, D., Addiss, D., McGuire, C., & Freeman, M. (2014). Effect of water, sanitation, and hygiene on the prevention of trachoma: a systematic review and meta-analysis. Plos Medicine, 11(2), e1001605. https://doi.org/10.1371/journal.pmed.1001605
12. Overgaard, H. J., Dada, N., Lenhart, A., Stenström, T. A., & Alexander, N. (2021). Integrated disease management: arboviral infections and waterborne diarrhoea. Bulletin of the World Health Organization, 99(08): 583-592. https://doi.org/10.2471/blt.20.269985
13. Putri, W. E., Meidyta Sinantryana W, Rahayu Anggraini, Esty Puji Rahayu, & Yuriske Agnovianto (2023). Penerapan kamar sehat untuk mengurangi kejadian skabies di pp. al fitrah as salafiyah surabaya. Prosiding Seminar Nasional Pengabdian Kepada Masyarakat, 3(1): 273-7. https://doi.org/10.33086/snpm.v3i1.1255
14. Hasibuan SA. (2016). Pengaruh Metode Ceramah dan Metode Diskusi terhadap Perubahan Perilaku Ibu dalam Pemanfaatan Sungai sebagai Sarana MCK (Mandi, Cuci, Kakus) di Desa Tolang Kecamatan Ulu Pungkut Kabupaten Mandailing Natal Tahun 2016. Tesis. Program Studi S2 Ilmu Kesehatan Masyarakat Fakultas Kesehatan Masyarakat Universitas Sumatera Utara Medan.
15. Kusuma, D. P., Sari, S. P., & Nurhidayah, I. (2015). Hubungan persepsi dengan perilaku ibu membawa balita ke posyandu. Jurnal Keperawatan Padjadjaran, 3(1).
16. Fitriyani, L., & Dwijayanti, F. (2023). Edukasi teori Health Belief Model pada pasien tuberkulosis di Kecamatan Pancoran Mas Kota Depok. Community Development Journal: Jurnal Pengabdian Masyarakat, 4(2), 2586-89.
17. Rahmanto AD dan Suyuti. (2020). Persepsi Masyarakat Desa Pinggirpapas Kecamatan Kalianget Kabupaten Sumenep terhadap Penggunaan MCK. Jurnal Extrapolasi, 17 (2): 26 – 34
18. Kapukotuwa, G., Weerakoon, K., Abayasekara, C., & Rajakaruna, R. (2023).

Community survey on anthropogenic activities affecting the rawan-oya tributary of mahaweli river in kandy district, sri lanka. Acs Es&t Water, 3(6), 1669-1677. https://doi.org/10.1021/acsestwater.2c00432

19. Pasha, A., Nur, M., Mozumder, S., & Parveen, M. (2023). Impact of river water quality on public health in perspective of asian rivers: a case study of buriganga river, bangladesh. Journal of Environmental & Earth Sciences, 5(1): 1-16. https://doi.org/10.30564/jees.v5i1.5132
20. Tubatsi, G., Bonyongo, M., & Gondwe, M. (2015). Water use practices, water quality, and households' diarrheal encounters in communities along the boro-thamalakane-boteti river system, northern botswana. Journal of Health Population and Nutrition, 33(1). https://doi.org/10.1186/s41043-015-0031-z
21. Mavhungu, T. and Mankga, L. (2024). The impact of sewage water overflow (swo): an analysis of zandspruit river in cosmo city, johannesburg, south africa. Asian Journal of Water Environment and Pollution, 21(4): 63-71 https://doi.org/10.3233/ajw240047
22. Nurhasanah, A. (2022). Pengaruh Pendapatan terhadap Kualitas Sanitasi di Daerah Pedesaan. Jurnal Kesehatan Masyarakat, 17(1):1-10.
23. Pratiwi, D., Sari, N., & Rahmawati, R. (2021). Pemanfaatan Sungai Sebagai Sumber Sanitasi di Masyarakat Pinggiran: Sebuah Tinjauan Kualitatif. Jurnal Lingkungan dan Pembangunan, 10(2): 45-58.
24. Siregar, Z., Masruroh, R., Syamsuri, A., Jaya, R., & Adam, D. (2022). Locus of control on pro-environmental behavior: the role of attitude toward pro-environmental behavior. International Journal of Social Science and Business, 6(3), 416-425. https://doi.org/10.23887/ijssb.v6i3.48882
25. Daulay F. (2015). Uji Validitas Konstruk pada Instrumen Health Belief Model (HBM) dengan Metode Confirmatory Factor Analysis (CFA). Jurnal Pengukuran Psikologi dan Pendidikan Indonesia. 4 (4): 1 – 16.
26. Rahmanto AD dan Suyuti, 2020. Persepsi Masyarakat Desa Pinggirpapas Kecamatan Kalianget Kabupaten Sumenep terhadap Penggunaan MCK. Jurnal Extrapolasi, 17 (2):26-34
27. Rahayu SP, Fauzah SN, Nurbaiti, (2020). Efektivitas Penyuluhan Tumor Payudara dengan Pendekatan Teori Health Belief Model terhadap Persepsi dan Perilaku Sadari yang Benar pada Siswi Remaja di SMAN 1 Lemahabang. Tunas Med J Ked & Kes, 6(1): 25-32.
28. Fuady, I., Prasanti, D., & Indriani, S. S. (2020). Penerapan teori plan behavior: faktor yang mempengaruhi niat perilaku hidup bersih dan sehat. Jurnal Berkala Kesehatan, 6(1):24. https://doi.org/10.20527/jbk.v6i1.8638Fajar, N. A., Hasyim, H., & Ainy, A. (2010). Pengaruh metode pemicuan terhadap perubahan perilaku stop BABS didesa senuro timur kabupaten ogan ilir. In Prosiding Seminar Nasional (p. 1633).
29. Kepmenkes RI No. 852/Menkes/SK/IX/2008. Strategi Nasional Sanitasi Total Berbasis Masyarakat
30. Satria, M. H. Y. (2022). Aneka Ragam Kehidupan Masyarakat Banjarmasin Di Tepian Sungai Martapura. (thesis)
31. Hastuti, A. P., & Mufarokhah, H. (2019). Pengaruh health coaching berbasis teori health belief model terhadap tekanan darah pada lansia dengan hipertensi. Journal of Islamic Medicine, 3(2), 1-8.
32. Anhar, V. Y., Saputra, P. H., Khalishah, N., Isnaniah, R., & Nurputri, S. F. S. (2023). Concern for Public Health Education with Hygiene and Clean Water Using Posters and Leaflets. Jurnal Berkala Kesehatan, 9(1): 56-63.