BUKTI KORESPONDENSI

Judul **:** social support to eradicate open defication: raise awareness and promote healthy behavior

Jurnal : Healthcare in low-resource setting
Publisher : PagePress
Tautan : https://www.pagepressjournals.org/hls/article/view/13381

Lampiran :

1. Make account (13 November 2024)
2. Submission (13 November 2024)
3. Revision (20 November 2024)
4. Respon to Reviewers (26 November 2024)
5. Accepted (11 December 2024)
6. Early Access (11 Februari 2025)

HLS - Healthcare in Low-resources Settings [paper #13381] - Submission Acknowledgement

Teresa Carrara from PAGEPress Publications <sendmail@pagepress.eu> Wed, Nov 13, 2024 at 7:37 PM
Reply-To: Teresa Carrara <teresa.carrara@pagepress.org>
To: Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id>

Dear Muhammad Ikhtiar:

Thank you for submitting the manuscript, "SOCIAL SUPPORT FOR STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR" to Healthcare in Low-resource Settings. With the online journal management system that we are using, you will be able to track its progress through the editorial process by logging in to the journal web site:

Manuscript URL: https://www.pagepressjournals.org/hls/authorDashboard/submission/13381
Username: ikhtiar2024

If you have any questions, please contact me. Thank you for considering this journal as a venue for your work.

Teresa Carrara

Healthcare in Low-resource Settings

HLS - Healthcare in Low-resources Settings [paper #13381] - Revision

teresa.carrara teresa.carrara <teresa.carrara@pagepress.org> Wed, Nov 20, 2024 at 5:16 PM
To: Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id>

Dear Muhammad Ikhtiar:

We have reached a decision regarding your submission the manuscript "SOCIAL SUPPORT FOR STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR" to Healthcare in Low-resource Settings. Please be so kind as to address the comments provided by the reviewers below

Our decision is The paper in question requires major revisions.

Kind regards,
Teresa Carrar

~~~~~~

#Reviewer 1:

1. Add aim in abstract and total sample in research
2. Keywords consists of 3-5 words
3. You should start with global prevalence data on access to basic sanitation
4. Before in paragraph, your make in sentences or words that emphasize the urgency of your research
5. Add aim in study in last paragraph
6. This is a method but it is incomplete in conveying data analysis techniques, please add it
7. Education in sample is very important but you failed to present sample education data
8. Narrative sentences explaining the table need to be completed after the table as an illustration for the reader

#Reviewer 2:

1. Please modification in tittle, option: social support to eradicate open defecation: raise awareness and promote healthy behavior
2. Your mention about novelty and aim your research
~~~~~~

HLS - Healthcare in Low-resources Settings [paper #13381] - Revision

Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id> Tue, Nov 26, 2024 at 6:56 PM
To: Teresa Carrara <teresa.carrara@pagepress.org>

Dear Editor,
We have completed the revision according to the recommendations of the reviewers

Best Regards
Muhammad Ikhtiar
Universitas Muslim Indonesia

response to the reviewer's comments.pdf
24K

13381-R1.pdf
198K

RESPON TO REVIEWER

From Reviewer 1	Respon from author
Add aim in abstract and total sample in research	Ok, Page 1 (Line 3-5 in abstract)
Keywords consists of 3-5 words	Done , social support, ODF, health behavior, cross sectional study (in keywords)
you should start with global prevalence data on access to basic sanitation	Globally, over 1.5 million people are still without access to basic sanitation services, such as private toilets and latrines. (page 1, line 16-18)
Before in paragraph, your make in sentences or words that emphasize the urgency of your research	The provision of triggering and latrine assistance has been conducted in stages. However, it has been, observed that a proportion of the population has not accessed this assistance due to a lack of financial resources to purchase the necessary materials. Additionally, there are individuals within the community who do not perceive latrines as a priority and even construct residences that lack bathroom or toilet facilities. It is therefore evident that a robust commitment and motivation from the community, coupled with the provision of social support, is essential to encourage individuals to adopt healthier behaviours. (Page 2 , paragraph 4)
Add aim in study in last paragraph	Aim of this study is to analyse social support for stopping open defecation, with a view to improving awareness and healthy behaviour among coastal communities. (Page 2, paragraph 5)
This is a method but it is incomplete in conveying data analysis techniques, please add it.	Univariate and bivariate data analysis was conducted (Page 2-3)
Education in sample is very important but you failed to present sample education data	Done add in education item in tabel 1 (Table 1 , chracteristic respondnet)
narrative sentences explaining the table need to be completed after the table as an illustration for the reader	Done, we have added explanations below each table 1,2, and 3
Reviewer 2	**Respon Author**
Please modification in tittle , option: social support to eradicate open defication: raise awareness and promote healthy behavior	Done, new tittle : SOCIAL SUPPORT FOR STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR
Your mention about novelty and aim your research	Aim of this study is to analyse social support for stopping open defecation, with a view to improving awareness and healthy behaviour among coastal communities (Page 2-3)

ANALYSIS STOP OPEN DEFICATION FREE:INCREASE AWARENESS AND HEALTHY BEHAVIOR

ABSTRACT

Indonesia has achieved 100% Open Defecation Free (ODF) status as a wholeThe research was conducted in the catchment area of the Manggarabombang community health centre in Takalar Regency. The data were analysed using both univariate and bivariate techniques.. The results of the statistical tests using

the chi-square test yielded a p-value of 0.000, which is less than 0.05. This indicates that there is a statistically significant relationship between social support, including the role of health workers, community leaders, and religious leaders, and open defecation behavior. Social support is a significant factor in promoting ODF behaviour change. The study's findings indicate that emotional social support and exposure to information about the health risks associated with open defecation motivate individuals to maintain healthy practices in their environment. With knowledge and awareness of the importance of personal health, individuals are more likely to adopt long-term ODF behaviours.

Keyword: social support, ODF,

Jeclin Romero [R11]: Add aim in abstract and total sample in research

Jeclin Romero [R12]: Keywords consists of 3-5 words

INTRODUCTION

419 million people continue to defecate in unprotected locations, including street gutters, vacant lots, and open water (1). Sanitation-related issues have become a global concern, including in Indonesia, which has set the goal of achieving 0% open defecation and 15% access to safe sanitation by 2024 (2–4). The Community-Based Total Sanitation Profile up to 2021 indicates that Indonesia's population of 288.22 million people still includes 32.77 million individuals engaged in open defecation practices (5,6).

Jeclin Romero [R13]: you should start with global prevalence data on access to basic sanitation

The Indonesian government has implemented a series of initiatives with the objective of sustaining a decline in the prevalence of open defecation on an annual basis. It is anticipated that 100% open defecation will be achieved by 2025, while 100% access to improved sanitation is predicted to be achieved by 2027 (7,8). Despite the limitations of the data, it would appear that access to safe sanitation has remained constant at 7% over the past five years, which suggests that there is still much work to be done by all parties (2,9). It remains challenging to alter long-established habits and practices regarding latrine use, particularly in coastal areas, due to deeply entrenched cultural norms and behaviours. Furthermore, there are households that possess latrines but refrain from utilising them, despite convenient access to water, due to the unfitness or unsanitary nature of the latrines (10, 11).

As reported by the Ministry of Health of the Republic of Indonesia in 2022, the prevalence of open defecation in Indonesia has exhibited a declining trend over time, with an estimated 5.69% of the population engaging in this practice (2). This is inextricably linked to the numerous initiatives implemented by the government with the objective of eradicating open defecation, including the provision of latrines and the implementation of awareness-raising campaigns. However, despite these efforts, many individuals and communities continue to exhibit a reluctance to alter their practices, particularly in coastal areas. In such cases, government cooperation across institutions is typically conducted with the objective of providing education to the community with the aim of preventing open defecation. Information, communication and education (ICE) pertains to the domain of knowledge and attitudes that are anticipated to exert an influence on open defecation (ODF) practices. Nevertheless, despite the presence of positive knowledge and attitudes, many individuals persist in engaging in open defecation. This underscores the necessity for an approach that directly engages with the community through social support. Unhealthy behaviours that are unconscious and deeply entrenched necessitate social support due to the absence of robust social norms and the lack of social support for healthy behaviours, including the ownership and utilisation of latrines (12, 13).

It is anticipated that the assistance of local residents, particularly community leaders, will facilitate the government's efforts to establish a healthy environment. The findings indicate that a significant number of residents continue to engage in open defecation due to a lack of social support from community leaders. Additionally, there is a lack of social disapproval or warning from their social environment if someone is caught engaging in open defecation. While many residents are aware that open defecation is unhealthy, this awareness is often disregarded if it is not accompanied by community involvement and commitment to achieving open defecation-free status (14, 15). Open defecation practices are prevalent across Indonesia, particularly in coastal areas, including South Sulawesi.

The province of South Sulawesi has reported and declared that the year 2023 was 100% open defecation free (ODF), although the Central Statistics Agency (BPS) has indicated that there were still 2.26% of households engaging in open defecation. This represents a decrease from the 3.69% of households engaged in open defecation in 2022 (16). The government has invested significant resources in the pursuit of achieving zero open defecation, a goal that has been met in Takalar District by 2023 (17). The 100% ODF status has not necessarily resulted in the complete eradication of open defecation practices among residents in riverine and coastal areas of Takalar. Despite the implementation of triggering and monitoring activities by local health workers, open defecation persists in rivers, gardens, and other open spaces. A 2022 data set from the Takalar District Health Office revealed that 120 households in the Bontomanai village area of the Mangarabombang Community Health Centre continued to engage in open defecation due to a lack of access to latrines. These households exhibited both the practice of open defecation and the presence of latrines, yet the latter were not functioning properly. In the subsequent year, the number of latrine owners increased as a result of the local government's latrine assistance program (18).

This study elucidates the role of social support provided by community leaders in the Mangarabombang area, which has achieved 100% open defecation free status. However, despite this, a significant proportion of residents continue to engage in open defecation practices. It is typically the case that, when an achievement reaches its target, it will be accompanied by sustainable positive behaviour. However, this study has revealed that there are still residents, both children and adults, who are ODF and resort to hitchhiking when defecating because they do not have a toilet.

Jeclin Romero [R14]: Before in paragraph, your make in sentences or words that emphasize the urgency of your research

Jeclin Romero [R15]: Add aim in study in last paragrph

METHODS

A cross-sectional study design was employed to utilise quantitative methods. The research was conducted in the catchment area of the Manggarabombang Health Centre in Takalar Regency. with data presentation utilising narration, distribution tables and graphs. The population comprised 178 households, with sampling conducted using the Slovin formula to obtain 123 households.

Jeclin Romero [R16]: This is a method but it is incomplete in conveying data analysis techniques, please add it.

RESULTS

Table 1. Respondent Characteristics

Jeclin Romero [R17]: Education in sample is very important but you failed to present sample education data

Characteristics	n	%
Umur		
< 20 years	3	2,4
20-29 years	26	21,1
30-39 years	25	20,4
40-49 years	35	28,5
> 49 years	34	27,6
Gender		
Male	54	36.4
Female	69	63.6

Not Working	17	13,8
Occupation		
Trader/self-employed	14	11,3
Farmer/fisherman	38	30,9
Laborer	8	6,5
Not Working	29	23,6
Housewife	34	27,7
Income of Head of Family		
>Rp.3.643.321,- / Month	0	0
<Rp.3.643.321,- / Month	123	100,0
Latrine Ownership		
Has a toilet	78	63,4
Do not have a toilet	45	36,6
Total	123	100

Source: Primary Data 2024

Jeclin Romero [R18]: narrative sentences explaining the table need to be completed after the table as an illustration for the reader

Table 2. Distribution of respondents' answers based on Social support to the community to Stop Open defecation

Number	Statement	Yes		No	
		n	%	n	%
1	Health workers engage in the provision of counselling services pertaining to the ownership and utilisation of latrines.	113	92.0	10	8,0
2	The health worker recommends that family members utilize the toilet at home, provided that such a facility is available.	116	94.4	7	5,6
3	Health professionals elucidate the health risks associated with the lack of access to adequate sanitation facilities.	118	96.0	5	4,0
4	In the preceding 12-month period, health workers have conducted home surveys.	121	98.4	2	1,6
5	In order to facilitate the utilisation of latrines, village officials, community leaders and religious leaders collaborate with household heads to ensure their participation.	120	97,6	3	2,4
6	A programme of empowerment has been developed for village officials, community leaders and religious leaders with a view to encouraging the use of latrines.	119	97.4	4	3,2
7	The village head, community leaders and religious leaders are involved in the provision of advice and guidance on the construction of healthy latrines.	107	87.2	16	12.8
8	In order to facilitate the use and utilisation of latrines, village officials, community leaders and religious leaders have provided assistance.	122	99.2	1	0.8

9	The role of family members in encouraging the utilisation of the latrine.	119	97.4	4	3,2
10	The utilisation of latrines is viewed favourably by the local population.	122	99.2	1	0.8
11	In the event of open defecation, neighbours are quick to express their disapproval.	102	83,2	21	16,8

Research variables
The distribution of respondents regarding the role of social support in achieving an ODF status is illustrated in the following table.

Table 3. Distribution of respondents based on the role of social support in stop open defecation behavior

Research Variable	**n**	**%**
Social Support		
Enough	108	87,8
Lack	15	12,2
Defecation Behavior		
Open Defecation	6	4,9
ODF	117	95,1
Total	123	100,0

Source: Primary Data 2024

Bivariate analysis
Table 4. Relationship between social support and open defecation behavior

Social support	**Open defecation (OD) behavior**				**Total**		***P value***
	OD		ODF				
	n	%	n	%	N	%	0,000
Lack	6	40,0	9	60,0	15	100,0	
Enough	0	0,0	108	86,4	108	100,0	
Total	6	4,9	117	95,1	123	100	

Source: Primary Data 2024

DISCUSSION

The role of social support is to facilitate community participation, thereby enhancing the capacity to adopt and maintain clean and healthy behaviours. The influence of social support, including that from family, friends and neighbours, on health-improvement behaviours is well documented. Social relationships and social support are reciprocal and can influence both positive and negative behaviours (19, 20). Other forms of social support, which can be provided by health workers, local government, religious leaders and community leaders in conjunction with the promotion of family latrines, include the dissemination of information and the delivery of educational programmes about the advantages of latrines. Additionally, assistance can be provided to communities that continue to practise open defecation, with the aim of fostering motivation and awareness among these communities with regard to the ownership and utilisation of latrines (21–23).

The results demonstrated that the relationship between social support, including the role of health workers, and open defecation behaviour can be observed in Table 3. Social support in relation to open defecation behaviour was classified as sufficient in the case of 108 respondents, representing 87.8% of the total sample. The role of health workers was deemed sufficient when respondents scored a minimum of 50%. In the case of the 15 respondents (12.2% of the total sample) who were classified in the "less" category, the role of health workers was deemed to be less influential when the respondents scored less than 50%.

Table 4 illustrates that households that receive social support from health workers, religious leaders, community leaders and local government are lacking and engage in open defecation practices. This is evidenced by the fact that 6 households (40.0%) fall into this category. This situation can be attributed to the fact that there are still individuals who have not been made aware of the consequences of open defecation and who continue to engage in this practice due to the lack of social disapproval and the absence of any adverse consequences in their immediate environment. Another contributing factor is that some households have not yet received facilities from stop defecation programmes, such as the free latrine programme provided by the government. This is because the provision of these facilities is being made in stages. Nevertheless, there are also households that have received free latrines but remain indifferent and do not construct and utilise them on the grounds that they require funds for other materials. Therefore, it is necessary to implement a voluntary community awareness programme to stop open defecation, as it can have a negative impact on their own health (24, 25).

A total of 108 respondents (86.4%) indicated that they received sufficient social support and did not engage in open defecation behaviour. This is corroborated by the fact that health workers frequently conduct educational initiatives with the objective of triggering behavioural change. This approach has been shown to be effective in fostering awareness and encouraging individuals to adopt recommended healthy behaviours. Furthermore, the latrine assistance programme serves to encourage community members to utilise latrines in order to maintain a defecation-free environment. The role of the local government is to reinforce behavioural change by setting an example and providing a trigger to protect the environment, which includes the use of latrines (26, 27). In accordance with Lawrence Green's theory (28–30), which posits that behaviour change is determined by three factors, namely predisposing, enabling and reinforcing, it can be argued that education through triggering can facilitate or predispose change in knowledge and attitudes. Similarly, social support and the provision of facilities are effective in motivating ODF, such as the involvement of community leaders and neighbours in the use of latrines. This will shape positive perceptions for other families, as religious and community leaders are important supporters of behaviour change (31, 32). Health workers, religious and community leaders and local government are reinforcers for the community to change, as they are the reference group for community behaviour (33, 34).

There is a notable correlation between social support and open defecation behaviour. The role of health workers and other relevant stakeholders is of great consequence in influencing individuals' behaviour with regard to open defecation. The results demonstrate that open defecation behaviour is more prevalent among respondents with limited social support than among those who receive social support. The chi-square statistical test in this study yielded a p-value of ($0.000 > 0.05$), indicating a statistically significant relationship between the role of health workers and open defecation behaviour in the Mangarabombang puskesmas area, Takalar Regency.

The role of health workers and community leaders in influencing open defecation habits is contingent upon a number of factors. Firstly, there must be exposure to information, assistance from health workers and community leaders, and reprimands if ODF. Secondly, the community must be disciplined in utilising latrines. These two factors, when present, can act as a catalyst for behavioural change (35, 36). Households that have never received education from health workers are at risk of becoming open defecation free (ODF) by a factor of 5.037 compared to people who have been exposed to health workers (37, 38). The importance of social support from the social environment greatly influences the healthy behaviour of others and will increase public awareness of the adoption of recommended behaviours such

as defecation free practices. This is because a healthy environment is proven to improve the health status of the community.

CONCLUSION

The findings of the research indicate that social support from health workers, religious leaders and community leaders is a significant factor in the adoption of healthy behaviours. Exposure to information and emotional support from individuals who have ceased open defecation is an important motivator for others to protect their environment, as knowledge and awareness of the benefits of healthy practices can lead to long-term behaviour change towards achieving Open Defecation Free (ODF) status.

ACKNOWLEDGMENTS

We would like to express our gratitude to the Directorate of Research, Technology and Community Service, Directorate General of Higher Education, Research and Technology, Ministry of Education, Culture, Research and Technology of the Republic of Indonesia for providing financial support for this fundamental basic research project in 2024. We would also like to acknowledge the Muslim University of Indonesia for their continued encouragement and assistance in advancing our knowledge, as well as the Government of Takalar Regency, South Sulawesi, for allowing us to conduct our research in their region. Finally, we would like to thank all those who have contributed to this research project in any way.

REFERENSI

1. UNICEF. Sanitation and Hygiene for All: “Make a Splash!” Partnership Progress Report 2022-2023. United Nations: UN: The United Nations; 2023.
2. Kemenkes RI. Laporan Tahunan 2022 Stop Buang Air Besar Sembarangan di Indonesia [Internet]. Jakarta; 2022. Available from: http://p2p.kemkes.go.id/wp-content/uploads/2023/06/FINAL_6072023_Layout_SBS-1.pdf
3. Jati SP, Nandini N, Dewanti NAY, Kusariana N, Ramadan BS, Budiyono B, et al. The Readiness of Wonosobo and Banjarnegara Towards Open Defecation Free Regencies. *J Environ Healt*h. 2023;15(4):283–90.
4. Nurhayati R, Kusumaningtiar DA, Handayani P, Sangadji NW. The Effectiveness of The Implementation of The Community-Based Total Sanitation Program, The First Pillar of Stop Open Defecation in The Work Area of The Palmerah District Community Health Center in 2022. KESANS Int J Heal Sci. 2023;2(6):351–69.
5. Direktorat Jenderal Kesehatan Masyarakat. Monitoring Data Sanitasi Total Berbasis Masyakarat (STBM) [Internet]. Direktorat Jenderal Kesehatan Masyarakat, Kementrian Kesehatan RI. 2021 [cited 2024 Jun 4]. Available from: https://stbm.kemkes.go.id/nspk
6. Sari AFK, Azizah R, Jalaludin J, Rahmawati I, Sulistyorini L, Yudhastuti R, et al. A Review of Open Defecation (OD) In Indonesia and The Control with Logic Model. Malaysian *J Med Heal Sci*. 2022;18(2):157–65.
7. Arora NK, Mishra I. Sustainable Development Goal 6: Global Water Security. *Environ Sustain*. 2022;5(3):271–5.
8. Juniati A, Rahman R, Marlina S, Sopandi A, Irham I. Gerakan Edukasi dalam Pencegahan Stunting dan Perilaku ODF Pada Masyarakat Desa Jayalaksana. An-Nizam. 2023;14(2 (3)):279–88.
9. Fitriyah N, Yuniarti T, Wahyono E, Prayoga RA, Fatriani RM, Wicaksono A, et al. Clean Water Issues, Community Behavior and Communication Models in Sustainable Development Goals 6 in Banten West Java Indonesia. *Int J Sustain Dev Plan*. 2024;19(1):247–58.
10. Fathonah U. Faktor-Faktor yang Berhubungan dengan Kepemilikan Jamban Sehat di Wilayah Kerja Puskesmas Lempur Kabupaten Kerinci Tahun 2023. Universitas Jambi; 2024.
11. Daniel D, Djohan D, Machairas I, Pande S, Arifin A, Al Djono TP, et al. Financial, Institutional,

Environmental, Technical, and Social (FIETS) Aspects of Water, Sanitation, and Hygiene Conditions in Indigenous-Rural Indonesia. *BMC Public Health*. 2021;21:1–15.
12. Odagiri M, Muhammad Z, Cronin AA, Gnilo ME, Mardikanto AK, Umam K, et al. Enabling Factors for Sustaining Open Defecation-Free Communities in Rural Indonesia: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2017;14(12):1572.
13. Wu F, Sheng Y. Social Support Network, Social Support, Self-Efficacy, Health-Promoting Behavior and Healthy Aging Among Older Adults: A Pathway Analysis. *Arch Gerontol Geriatr*. 2019;85:103934.
14. Aulia A, Nurjazuli N, Darundiati YH. Perilaku Buang Air Besar Sembarangan (BABS) Di Desa Kamal Kecamatan Larangan Kabupaten Brebes. *J Kesehat Masy*. 2021;9(2):166–74.
15. Nzioki JM, Korir A. Effective Methods for Community Sanitation and Hygiene Promotion in the Developing World: A Scoping Review. *Africa J Tech Vocat Educ Train*. 2020;5(1):175–85.
16. Badan Pusat Statistik. Persentase Rumah Tangga yang Masih Mempraktikkan Buang Air Besar Sembaranga [Internet]. https://www.bps.go.id. 2023 [cited 2024 Jun 8]. Available from: https://www.bps.go.id/id/statistics-table/2/MjE3NiMy/persentase-rumah-tangga--yang-masih-mempraktikkan-buang-air-besar-sembarangan--babs--di-tempat-terbuka-menurut-provinsi-dan-tipe-daerah--persen-.html
17. Dinas Kesehatan Provinsi Sulawesi Selatan. Laporan Kinerja Tahun 2022 [Internet]. Makassar; 2022. Available from: https://apidinkes.sulselprov.go.id/repo/dinkes-LKJ TAHUN 2022.pdf
18. Puskesmas Mangarabombang. Profil Kesehatan UPT Puskesmas Mangarabombang. Mangarabombang; 2022.
19. Kelly ME, Duff H, Kelly S, McHugh Power JE, Brennan S, Lawlor BA, et al. The Impact of Social Activities, Social Networks, Social Support and Social Relationships on the Cognitive Functioning of Healthy Older Adults: A Systematic Review. *Syst Rev*. 2017;6(259):1–18.
20. Richmond CAM, Ross NA. Social Support, Material Circumstance and Health Behaviour: Influences on Health in First Nation and Inuit Communities of Canada. *Soc Sci Med*. 2008;67(9):1423–33.
21. Ruba YE, Joko T, Budiyono B. Faktor Pendukung dan Penghambat Program Stop Buang Air Besar Sembarangan (BABS) di Wilayah Kerja Puskesmas Maronggela Kecamatan Riung Barat Kabupaten Ngada. J Ris Kesehat Masy. 2021;1(2):1–11.
22. Madon S, Malecela MN, Mashoto K, Donohue R, Mubyazi G, Michael E. The Role of Community Participation for Sustainable Integrated Neglected Tropical Diseases and Water, Sanitation and Hygiene Intervention Programs: A Pilot Project in Tanzania. *Soc Sci Med*. 2018;202:28–37.
23. Ikhtiar M, Riswan KA, Asrina A, Puspitasari A. Hubungan Perceived Severity Dengan Perilaku BABS Pada Masyarakat Pesisir kab. Takalar Tahun 2024. *Media Kesehat Politek Kesehat Makassar*. 2024;19(1):77–83.
24. Bhatt N, Budhathoki SS, Lucero-Prisno DEIII, Shrestha G, Bhattachan M, Thapa J, et al. What Motivates Open Defecation? A Qualitative Study from A Rural Setting in Nepal. *PLoS One*. 2019;14(7):e0219246.
25. Ghani N, Andi Asrina, Septiyanti, Yusriani, Nurgahayu. Pengaruh Penyuluhan dan Media MP3 terhadap Pengetahuan dan Sikap Pemanfaatan Jamban di Desa Bontomanai Kecamatan Mangarabombang Kabupaten Takalar. Wind Public Heal J. 2022;3(5):814–23.
26. Linggar F, Rantetampang AL, Tingginehe R, Mallongi A. The Factors Influencing Defecation Behavior in Toilet Pasca Community Led Total Sanitation at Wamesa Sub District Manokwari Selatan District. *Int J Sci Healthc Res*. 2019;4(1):88–99.
27. Ikhtiar M. *Pengantar Kesehatan Lingkungan*. Makassar: CV. Social Politic Genius (SIGn); 2017.
28. Notoatmodjo S. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: PT. Rineka Cipta; 2012.
29. de Vries H, Kremers SPJ, Lippke S. *Health Education and Health Promotion: Key Concepts and Exemplary Evidence to Support Them. In: Principles and Concepts of Behavioral Medicine: A Global Handbook*. New York: Springer; 2018. p. 489–532.
30. Asrina A, Yusriani, Idris FP, Ikhtiar M, Amir H. Path Analysis of the Influence of Knowledge on Clean and Healthy Living Behavior Through Perceived Susceptibility as an Intervening Variable in HIV AIDS Prevention. *Heal Educ Heal Promot*. 2023;11(2):293–8.
31. Horhoruw A, Widagdo L. Perilaku Kepala Keluarga dalam Menggunakan Jamban di Desa Tawiri Kecamatan Teluk Ambon Kota Ambon. *J Promosi Kesehat Indones*. 2014;9(2):226–37.
32. Asrina A, Payapo R, Idris FC, Palutturi S, Mallongi A. Health Behavior and Social Support in Postpartum Mothers Treatment in Ba'ukup Tradition in Maluku. *Pharmacogn J*. 2023;15(3):438–42.

33. Dupai L, Majid R, Kamaluddin S, Sabilu Y. The Effectiveness of Environmental Health Behavior in the Community through Coastal Community Empowerment Program in Kendari City Southeast Sulawesi Province, Indonesia. *Indian J Public Heal Res Dev*. 2019;10(6).
34. Asrina A. Dole-Dole Tradition in Health Seeking Behavior of Buton Society, Southeast Sulawesi. *Indian J Public Heal Res Dev*. 2018;9(7):270–4.
35. Sari NP, Susanti. Kebiasaan Buang Air Besar Sembarangan (BABS) di Desa Tanjung Peranap, Tebing Tinggi Barat. *J Kesehat*. 2021;9(2):123–31.
36. Ratnasari Y, Fadilla T, Amiruddin S. Achievement of ODF (Open Defecation Free) Villages Through the Social Functions Approach In Teba Village. *J Antropol Isu-Isu Sos Budaya*. 2023;25(1):21–33.
37. Rosita Y, Ahyanti M. Pengetahuan, Dukungan Tokoh Masyarakat dan Pemaparan Petugas Kesehatan Terhadap Perilaku BABs. *Media Publ Promosi Kesehat Indones*. 2022;5(6):698–702.
38. Fitrianingrum RE. Community-Based Total Sanitation Health Promotion Strategy in Kebaman Village, Srono District, Banyuwangi Regency. *J Qual Public Heal*. 2020;3(2):611–8.

ANALYSIS STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR

Xi Chi [R01]: Please modification in tittle , option: social support to eradicate open defication: raise awareness and promote healthy behavior

ABSTRAC

Indonesia has achieved 100% Open Defecation Free (ODF) status as a wholeThe research was conducted in the catchment area of the Manggarabombang community health centre in Takalar Regency. The data were analysed using both univariate and bivariate techniques.. The results of the statistical tests using the chi-square test yielded a p-value of 0.000, which is less than 0.05. This indicates that there is a statistically significant relationship between social support, including the role of health workers, community leaders, and religious leaders, and open defecation behavior. Social support is a significant factor in promoting ODF behaviour change. The study's findings indicate that emotional social support and exposure to information about the health risks associated with open defecation motivate individuals to maintain healthy practices in their environment. With knowledge and awareness of the importance of personal health, individuals are more likely to adopt long-term ODF behaviours.

Keyword: social support, ODF

INTRODUCTION

419 million people continue to defecate in unprotected locations, including street gutters, vacant lots, and open water (1). Sanitation-related issues have become a global concern, including in Indonesia, which has set the goal of achieving 0% open defecation and 15% access to safe sanitation by 2024 (2–4). The Community-Based Total Sanitation Profile up to 2021 indicates that Indonesia's population of 288.22 million people still includes 32.77 million individuals engaged in open defecation practices (5,6).

The Indonesian government has implemented a series of initiatives with the objective of sustaining a decline in the prevalence of open defecation on an annual basis. It is anticipated that 100% open defecation will be achieved by 2025, while 100% access to improved sanitation is predicted to be achieved by 2027 (7,8). Despite the limitations of the data, it would appear that access to safe sanitation has remained constant at 7% over the past five years, which suggests that there is still much work to be done by all parties (2,9). It remains challenging to alter long-established habits and practices regarding latrine use, particularly in coastal areas, due to deeply entrenched cultural norms and behaviours. Furthermore, there are households that possess latrines but refrain from utilising them, despite convenient access to water, due to the unfitness or unsanitary nature of the latrines (10, 11).

As reported by the Ministry of Health of the Republic of Indonesia in 2022, the prevalence of open defecation in Indonesia has exhibited a declining trend over time, with an estimated 5.69% of the population engaging in this practice (2). This is inextricably linked to the numerous initiatives implemented by the government with the objective of eradicating open defecation, including the provision of latrines and the implementation of awareness-raising campaigns. However, despite these efforts, many individuals and communities continue to exhibit a reluctance to alter their practices, particularly in coastal areas. In such cases, government cooperation across institutions is typically conducted with the objective of providing education to the community with the aim of preventing open defecation. Information, communication and education (ICE) pertains to the domain of knowledge and attitudes that are anticipated to exert an influence on open defecation (ODF) practices. Nevertheless, despite the presence of positive knowledge and attitudes, many individuals persist in engaging in open defecation. This underscores the necessity for an approach that directly engages with the community through social support. Unhealthy behaviours that are unconscious and deeply entrenched necessitate social support due to the absence of robust social norms and the lack of social support for healthy behaviours, including the ownership and utilisation of latrines (12, 13).

It is anticipated that the assistance of local residents, particularly community leaders, will facilitate the government's efforts to establish a healthy environment. The findings indicate that a significant number of residents continue to engage in open defecation due to a lack of social support from community leaders. Additionally, there is a lack of social disapproval or warning from their social environment if someone is caught engaging in open defecation. While many residents are aware that open defecation is unhealthy, this awareness is often disregarded if it is not accompanied by community involvement and commitment to achieving open defecation-free status (14, 15). Open defecation practices are prevalent across Indonesia, particularly in coastal areas, including South Sulawesi.

The province of South Sulawesi has reported and declared that the year 2023 was 100% open defecation free (ODF), although the Central Statistics Agency (BPS) has indicated that there were still 2.26% of households engaging in open defecation. This represents a decrease from the 3.69% of households engaged in open defecation in 2022 (16). The government has invested significant resources in the pursuit of achieving zero open defecation, a goal that has been met in Takalar District by 2023 (17). The 100% ODF status has not necessarily resulted in the complete eradication of open defecation practices among residents in riverine and coastal areas of Takalar. Despite the implementation of triggering and monitoring activities by local health workers, open defecation persists in rivers, gardens, and other open spaces. A 2022 data set from the Takalar District Health Office revealed that 120 households in the Bontomanai village area of the Mangarabombang Community Health Centre continued to engage in open defecation due to a lack of access to latrines. These households exhibited both the practice of open defecation and the presence of latrines, yet the latter were not functioning properly. In the subsequent year, the number of latrine owners increased as a result of the local government's latrine assistance program (18).

This study elucidates the role of social support provided by community leaders in the Mangarabombang area, which has achieved 100% open defecation free status. However, despite this, a significant proportion of residents continue to engage in open defecation practices. It is typically the case that, when an achievement reaches its target, it will be accompanied by sustainable positive behaviour. However, this study has revealed that there are still residents, both children and adults, who are ODF and resort to hitchhiking when defecating because they do not have a toilet.

Xi Chi [R02]: Your mention about novelty and aim your research

METHODS

A cross-sectional study design was employed to utilise quantitative methods. The research was conducted in the catchment area of the Manggarabombang Health Centre in Takalar Regency. with data presentation utilising narration, distribution tables and graphs. The population comprised 178 households, with sampling conducted using the Slovin formula to obtain 123 households.

RESULTS

Table 1. Respondent Characteristics

Characteristics	n	%
Umur		
< 20 years	3	2,4
20-29 years	26	21,1
30-39 years	25	20,4
40-49 years	35	28,5
> 55 years	34	27,6
Gender		
Male	54	36.4
Female	69	63.6

Not Working	17	13,8
Occupation		
Trader/self-employed	14	11,3
Farmer/fisherman	38	30,9
Laborer	8	6,5
Not Working	29	23,6
Housewife	34	27,7
Income of Head of Family		
>Rp.3.643.321,- / Month	0	0
<Rp.3.643.321,- / Month	123	100,0
Latrine Ownership		
Has a toilet	78	63,4
Do not have a toilet	45	36,6
Total	123	100

Source: Primary Data 2024

Table 2. Distribution of respondents' answers based on Social support to the community to Stop Open defecation

Number	Statement	Yes		No	
		n	%	n	%
1	Health workers engage in the provision of counselling services pertaining to the ownership and utilisation of latrines.	113	92.0	10	8,0
2	The health worker recommends that family members utilize the toilet at home, provided that such a facility is available.	116	94.4	7	5,6
3	Health professionals elucidate the health risks associated with the lack of access to adequate sanitation facilities.	118	96.0	5	4,0
4	In the preceding 12-month period, health workers have conducted home surveys.	121	98.4	2	1,6
5	In order to facilitate the utilisation of latrines, village officials, community leaders and religious leaders collaborate with household heads to ensure their participation.	120	97,6	3	2,4
6	A programme of empowerment has been developed for village officials, community leaders and religious leaders with a view to encouraging the use of latrines.	119	97.4	4	3,2
7	The village head, community leaders and religious leaders are involved in the provision of advice and guidance on the construction of healthy latrines.	107	87.2	16	12.8
8	In order to facilitate the use and utilisation of latrines, village officials, community leaders and religious leaders have provided assistance.	122	99.2	1	0.8

9	The role of family members in encouraging the utilisation of the latrine.	119	97.4	4	3,2
10	The utilisation of latrines is viewed favourably by the local population.	122	99.2	1	0.8
11	In the event of open defecation, neighbours are quick to express their disapproval.	102	83,2	21	16,8

Research variables
The distribution of respondents regarding the role of social support in achieving an ODF status is illustrated in the following table.

Table 3. Distribution of respondents based on the role of social support in stop open defecation behavior

Research Variable	**n**	**%**
Social Support		
Enough	108	87,8
Lack	15	12,2
Defecation Behavior		
Open Defecation	6	4,9
ODF	117	95,1
Total	123	100,0

Source: Primary Data 2024

Bivariate analysis
Table 4. Relationship between social support and open defecation behavior

Social support	**Open defecation (OD) behavior**				**Total**		***P value***
	OD		ODF				
	n	%	n	%	N	%	0,000
Lack	6	40,0	9	60,0	15	100,0	
Enough	0	0,0	108	86,4	108	100,0	
Total	6	4,9	117	95,1	123	100	

Source: Primary Data 2024

DISCUSSION

The role of social support is to facilitate community participation, thereby enhancing the capacity to adopt and maintain clean and healthy behaviours. The influence of social support, including that from family, friends and neighbours, on health-improvement behaviours is well documented. Social relationships and social support are reciprocal and can influence both positive and negative behaviours (19, 20). Other forms of social support, which can be provided by health workers, local government, religious leaders and community leaders in conjunction with the promotion of family latrines, include the dissemination of information and the delivery of educational programmes about the advantages of latrines. Additionally, assistance can be provided to communities that continue to practise open defecation, with the aim of fostering motivation and awareness among these communities with regard to the ownership and utilisation of latrines (21–23).

The results demonstrated that the relationship between social support, including the role of health workers, and open defecation behaviour can be observed in Table 3. Social support in relation to open defecation behaviour was classified as sufficient in the case of 108 respondents, representing 87.8% of the total sample. The role of health workers was deemed sufficient when respondents scored a minimum of 50%. In the case of the 15 respondents (12.2% of the total sample) who were classified in the "less" category, the role of health workers was deemed to be less influential when the respondents scored less than 50%.

Table 4 illustrates that households that receive social support from health workers, religious leaders, community leaders and local government are lacking and engage in open defecation practices. This is evidenced by the fact that 6 households (40.0%) fall into this category. This situation can be attributed to the fact that there are still individuals who have not been made aware of the consequences of open defecation and who continue to engage in this practice due to the lack of social disapproval and the absence of any adverse consequences in their immediate environment. Another contributing factor is that some households have not yet received facilities from stop defecation programmes, such as the free latrine programme provided by the government. This is because the provision of these facilities is being made in stages. Nevertheless, there are also households that have received free latrines but remain indifferent and do not construct and utilise them on the grounds that they require funds for other materials. Therefore, it is necessary to implement a voluntary community awareness programme to stop open defecation, as it can have a negative impact on their own health (24, 25).

A total of 108 respondents (86.4%) indicated that they received sufficient social support and did not engage in open defecation behaviour. This is corroborated by the fact that health workers frequently conduct educational initiatives with the objective of triggering behavioural change. This approach has been shown to be effective in fostering awareness and encouraging individuals to adopt recommended healthy behaviours. Furthermore, the latrine assistance programme serves to encourage community members to utilise latrines in order to maintain a defecation-free environment. The role of the local government is to reinforce behavioural change by setting an example and providing a trigger to protect the environment, which includes the use of latrines (26, 27). In accordance with Lawrence Green's theory (28–30), which posits that behaviour change is determined by three factors, namely predisposing, enabling and reinforcing, it can be argued that education through triggering can facilitate or predispose change in knowledge and attitudes. Similarly, social support and the provision of facilities are effective in motivating ODF, such as the involvement of community leaders and neighbours in the use of latrines. This will shape positive perceptions for other families, as religious and community leaders are important supporters of behaviour change (31, 32). Health workers, religious and community leaders and local government are reinforcers for the community to change, as they are the reference group for community behaviour (33, 34).

There is a notable correlation between social support and open defecation behaviour. The role of health workers and other relevant stakeholders is of great consequence in influencing individuals' behaviour with regard to open defecation. The results demonstrate that open defecation behaviour is more prevalent among respondents with limited social support than among those who receive social support. The chi-square statistical test in this study yielded a p-value of ($0.000 > 0.05$), indicating a statistically significant relationship between the role of health workers and open defecation behaviour in the Mangarabombang puskesmas area, Takalar Regency.

The role of health workers and community leaders in influencing open defecation habits is contingent upon a number of factors. Firstly, there must be exposure to information, assistance from health workers and community leaders, and reprimands if ODF. Secondly, the community must be disciplined in utilising latrines. These two factors, when present, can act as a catalyst for behavioural change (35, 36). Households that have never received education from health workers are at risk of becoming open defecation free (ODF) by a factor of 5.037 compared to people who have been exposed to health workers (37, 38). The importance of social support from the social environment greatly influences the healthy behaviour of others and will increase public awareness of the adoption of recommended behaviours such

as defecation free practices. This is because a healthy environment is proven to improve the health status of the community.

CONCLUSION

The findings of the research indicate that social support from health workers, religious leaders and community leaders is a significant factor in the adoption of healthy behaviours. Exposure to information and emotional support from individuals who have ceased open defecation is an important motivator for others to protect their environment, as knowledge and awareness of the benefits of healthy practices can lead to long-term behaviour change towards achieving Open Defecation Free (ODF) status.

Xi Chi [R03]: Please suggest in future research recommendation

ACKNOWLEDGMENTS

We would like to express our gratitude to the Directorate of Research, Technology and Community Service, Directorate General of Higher Education, Research and Technology, Ministry of Education, Culture, Research and Technology of the Republic of Indonesia for providing financial support for this fundamental basic research project in 2024. We would also like to acknowledge the Muslim University of Indonesia for their continued encouragement and assistance in advancing our knowledge, as well as the Government of Takalar Regency, South Sulawesi, for allowing us to conduct our research in their region. Finally, we would like to thank all those who have contributed to this research project in any way.

REFERENSI

1. UNICEF. Sanitation and Hygiene for All: “Make a Splash!” Partnership Progress Report 2022-2023. United Nations: UN: The United Nations; 2023.
2. Kemenkes RI. Laporan Tahunan 2022 Stop Buang Air Besar Sembarangan di Indonesia [Internet]. Jakarta; 2022. Available from: http://p2p.kemkes.go.id/wp-content/uploads/2023/06/FINAL_6072023_Layout_SBS-1.pdf
3. Jati SP, Nandini N, Dewanti NAY, Kusariana N, Ramadan BS, Budiyono B, et al. The Readiness of Wonosobo and Banjarnegara Towards Open Defecation Free Regencies. *J Environ Healt*h. 2023;15(4):283–90.
4. Nurhayati R, Kusumaningtiar DA, Handayani P, Sangadji NW. The Effectiveness of The Implementation of The Community-Based Total Sanitation Program, The First Pillar of Stop Open Defecation in The Work Area of The Palmerah District Community Health Center in 2022. KESANS Int J Heal Sci. 2023;2(6):351–69.
5. Direktorat Jenderal Kesehatan Masyarakat. Monitoring Data Sanitasi Total Berbasis Masyakarat (STBM) [Internet]. Direktorat Jenderal Kesehatan Masyarakat, Kementrian Kesehatan RI. 2021 [cited 2024 Jun 4]. Available from: https://stbm.kemkes.go.id/nspk
6. Sari AFK, Azizah R, Jalaludin J, Rahmawati I, Sulistyorini L, Yudhastuti R, et al. A Review of Open Defecation (OD) In Indonesia and The Control with Logic Model. Malaysian *J Med Heal Sci*. 2022;18(2):157–65.
7. Arora NK, Mishra I. Sustainable Development Goal 6: Global Water Security. *Environ Sustain*. 2022;5(3):271–5.
8. Juniati A, Rahman R, Marlina S, Sopandi A, Irham I. Gerakan Edukasi dalam Pencegahan Stunting dan Perilaku ODF Pada Masyarakat Desa Jayalaksana. An-Nizam. 2023;14(2 (3)):279–88.
9. Fitriyah N, Yuniarti T, Wahyono E, Prayoga RA, Fatriani RM, Wicaksono A, et al. Clean Water Issues, Community Behavior and Communication Models in Sustainable Development Goals 6 in Banten West Java Indonesia. *Int J Sustain Dev Plan*. 2024;19(1):247–58.
10. Fathonah U. Faktor-Faktor yang Berhubungan dengan Kepemilikan Jamban Sehat di Wilayah Kerja Puskesmas Lempur Kabupaten Kerinci Tahun 2023. Universitas Jambi; 2024.
11. Daniel D, Djohan D, Machairas I, Pande S, Arifin A, Al Djono TP, et al. Financial, Institutional,

Environmental, Technical, and Social (FIETS) Aspects of Water, Sanitation, and Hygiene Conditions in Indigenous-Rural Indonesia. *BMC Public Health*. 2021;21:1–15.
12. Odagiri M, Muhammad Z, Cronin AA, Gnilo ME, Mardikanto AK, Umam K, et al. Enabling Factors for Sustaining Open Defecation-Free Communities in Rural Indonesia: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2017;14(12):1572.
13. Wu F, Sheng Y. Social Support Network, Social Support, Self-Efficacy, Health-Promoting Behavior and Healthy Aging Among Older Adults: A Pathway Analysis. *Arch Gerontol Geriatr*. 2019;85:103934.
14. Aulia A, Nurjazuli N, Darundiati YH. Perilaku Buang Air Besar Sembarangan (BABS) Di Desa Kamal Kecamatan Larangan Kabupaten Brebes. *J Kesehat Masy*. 2021;9(2):166–74.
15. Nzioki JM, Korir A. Effective Methods for Community Sanitation and Hygiene Promotion in the Developing World: A Scoping Review. *Africa J Tech Vocat Educ Train*. 2020;5(1):175–85.
16. Badan Pusat Statistik. Persentase Rumah Tangga yang Masih Mempraktikkan Buang Air Besar Sembaranga [Internet]. https://www.bps.go.id. 2023 [cited 2024 Jun 8]. Available from: https://www.bps.go.id/id/statistics-table/2/MjE3NiMy/persentase-rumah-tangga--yang-masih-mempraktikkan-buang-air-besar-sembarangan--babs--di-tempat-terbuka-menurut-provinsi-dan-tipe-daerah--persen-.html
17. Dinas Kesehatan Provinsi Sulawesi Selatan. Laporan Kinerja Tahun 2022 [Internet]. Makassar; 2022. Available from: https://apidinkes.sulselprov.go.id/repo/dinkes-LKJ TAHUN 2022.pdf
18. Puskesmas Mangarabombang. Profil Kesehatan UPT Puskesmas Mangarabombang. Mangarabombang; 2022.
19. Kelly ME, Duff H, Kelly S, McHugh Power JE, Brennan S, Lawlor BA, et al. The Impact of Social Activities, Social Networks, Social Support and Social Relationships on the Cognitive Functioning of Healthy Older Adults: A Systematic Review. *Syst Rev*. 2017;6(259):1–18.
20. Richmond CAM, Ross NA. Social Support, Material Circumstance and Health Behaviour: Influences on Health in First Nation and Inuit Communities of Canada. *Soc Sci Med*. 2008;67(9):1423–33.
21. Ruba YE, Joko T, Budiyono B. Faktor Pendukung dan Penghambat Program Stop Buang Air Besar Sembarangan (BABS) di Wilayah Kerja Puskesmas Maronggela Kecamatan Riung Barat Kabupaten Ngada. J Ris Kesehat Masy. 2021;1(2):1–11.
22. Madon S, Malecela MN, Mashoto K, Donohue R, Mubyazi G, Michael E. The Role of Community Participation for Sustainable Integrated Neglected Tropical Diseases and Water, Sanitation and Hygiene Intervention Programs: A Pilot Project in Tanzania. *Soc Sci Med*. 2018;202:28–37.
23. Ikhtiar M, Riswan KA, Asrina A, Puspitasari A. Hubungan Perceived Severity Dengan Perilaku BABS Pada Masyarakat Pesisir kab. Takalar Tahun 2024. *Media Kesehat Politek Kesehat Makassar*. 2024;19(1):77–83.
24. Bhatt N, Budhathoki SS, Lucero-Prisno DEIII, Shrestha G, Bhattachan M, Thapa J, et al. What Motivates Open Defecation? A Qualitative Study from A Rural Setting in Nepal. *PLoS One*. 2019;14(7):e0219246.
25. Ghani N, Andi Asrina, Septiyanti, Yusriani, Nurgahayu. Pengaruh Penyuluhan dan Media MP3 terhadap Pengetahuan dan Sikap Pemanfaatan Jamban di Desa Bontomanai Kecamatan Mangarabombang Kabupaten Takalar. Wind Public Heal J. 2022;3(5):814–23.
26. Linggar F, Rantetampang AL, Tingginehe R, Mallongi A. The Factors Influencing Defecation Behavior in Toilet Pasca Community Led Total Sanitation at Wamesa Sub District Manokwari Selatan District. *Int J Sci Healthc Res*. 2019;4(1):88–99.
27. Ikhtiar M. *Pengantar Kesehatan Lingkungan*. Makassar: CV. Social Politic Genius (SIGn); 2017.
28. Notoatmodjo S. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: PT. Rineka Cipta; 2012.
29. de Vries H, Kremers SPJ, Lippke S. *Health Education and Health Promotion: Key Concepts and Exemplary Evidence to Support Them. In: Principles and Concepts of Behavioral Medicine: A Global Handbook*. New York: Springer; 2018. p. 489–532.
30. Asrina A, Yusriani, Idris FP, Ikhtiar M, Amir H. Path Analysis of the Influence of Knowledge on Clean and Healthy Living Behavior Through Perceived Susceptibility as an Intervening Variable in HIV AIDS Prevention. *Heal Educ Heal Promot*. 2023;11(2):293–8.
31. Horhoruw A, Widagdo L. Perilaku Kepala Keluarga dalam Menggunakan Jamban di Desa Tawiri Kecamatan Teluk Ambon Kota Ambon. *J Promosi Kesehat Indones*. 2014;9(2):226–37.
32. Asrina A, Payapo R, Idris FC, Palutturi S, Mallongi A. Health Behavior and Social Support in Postpartum Mothers Treatment in Ba'ukup Tradition in Maluku. *Pharmacogn J*. 2023;15(3):438–42.

33. Dupai L, Majid R, Kamaluddin S, Sabilu Y. The Effectiveness of Environmental Health Behavior in the Community through Coastal Community Empowerment Program in Kendari City Southeast Sulawesi Province, Indonesia. *Indian J Public Heal Res Dev*. 2019;10(6).
34. Asrina A. Dole-Dole Tradition in Health Seeking Behavior of Buton Society, Southeast Sulawesi. *Indian J Public Heal Res Dev*. 2018;9(7):270–4.
35. Sari NP, Susanti. Kebiasaan Buang Air Besar Sembarangan (BABS) di Desa Tanjung Peranap, Tebing Tinggi Barat. *J Kesehat*. 2021;9(2):123–31.
36. Ratnasari Y, Fadilla T, Amiruddin S. Achievement of ODF (Open Defecation Free) Villages Through the Social Functions Approach In Teba Village. *J Antropol Isu-Isu Sos Budaya*. 2023;25(1):21–33.
37. Rosita Y, Ahyanti M. Pengetahuan, Dukungan Tokoh Masyarakat dan Pemaparan Petugas Kesehatan Terhadap Perilaku BABs. *Media Publ Promosi Kesehat Indones*. 2022;5(6):698–702.
38. Fitrianingrum RE. Community-Based Total Sanitation Health Promotion Strategy in Kebaman Village, Srono District, Banyuwangi Regency. *J Qual Public Heal*. 2020;3(2):611–8.

SOCIAL SUPPORT FOR STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR

ABSTRAC

Indonesia has achieved 100% Open Defecation Free (ODF) status as a whole, yet a considerable proportion of the population continues to engage in open defecation practices, particularly in proximity to rivers, swamps, and coastal regions. The objective of this study was to analyse the role of social support in the context of efforts to halt open defecation. This study employed a quantitative methodology with a cross-sectional study design. The research was conducted in the catchment area of the Manggarabombang community health centre in Takalar Regency. The data were analysed using both univariate and bivariate techniques. The results were presented in the form of narrations, distribution tables and graphs. The study population comprised 178 households, with sampling conducted using the Slovin formula to obtain a sample size of 123 households. The results of the statistical tests using the chi-square test yielded a p-value of 0.000, which is less than 0.05. This indicates that there is a statistically significant relationship between social support, including the role of health workers, community leaders, and religious leaders, and open defecation behavior. Social support is a significant factor in promoting ODF behaviour change. The study's findings indicate that emotional social support and exposure to information about the health risks associated with open defecation motivate individuals to maintain healthy practices in their environment. With knowledge and awareness of the importance of personal health, individuals are more likely to adopt long-term ODF behaviours.

Keyword: social support, ODF, health behavior, cross sectional study

INTRODUCTION

Globally, over 1.5 million people are still without access to basic sanitation services, such as private toilets and latrines. Furthermore, 419 million people continue to defecate in unprotected locations, including street gutters, vacant lots, and open water (1). Sanitation-related issues have become a global concern, including in Indonesia, which has set the goal of achieving 0% open defecation and 15% access to safe sanitation by 2024 (2–4). The Community-Based Total Sanitation Profile up to 2021 indicates that Indonesia's population of 288.22 million people still includes 32.77 million individuals engaged in open defecation practices (5,6).

The Indonesian government has implemented a series of initiatives with the objective of sustaining a decline in the prevalence of open defecation on an annual basis. It is anticipated that 100% open defecation will be achieved by 2025, while 100% access to improved sanitation is predicted to be achieved by 2027 (7,8). Despite the limitations of the data, it would appear that access to safe sanitation has remained constant at 7% over the past five years, which suggests that there is still much work to be done by all parties (2,9). It remains challenging to alter long-established habits and practices regarding latrine use, particularly in coastal areas, due to deeply entrenched cultural norms and behaviours. Furthermore, there are households that possess latrines but refrain from utilising them, despite convenient access to water, due to the unfitness or unsanitary nature of the latrines (10, 11).

As reported by the Ministry of Health of the Republic of Indonesia in 2022, the prevalence of open defecation in Indonesia has exhibited a declining trend over time, with an estimated 5.69% of the population engaging in this practice (2). This is inextricably linked to the numerous initiatives implemented by the government with the objective of eradicating open defecation, including the provision of latrines and the implementation of awareness-raising campaigns. However, despite these efforts, many individuals and communities continue to exhibit a reluctance to alter their practices, particularly in coastal areas. In such cases, government cooperation across institutions is typically

conducted with the objective of providing education to the community with the aim of preventing open defecation. Information, communication and education (ICE) pertains to the domain of knowledge and attitudes that are anticipated to exert an influence on open defecation (ODF) practices. Nevertheless, despite the presence of positive knowledge and attitudes, many individuals persist in engaging in open defecation. This underscores the necessity for an approach that directly engages with the community through social support. Unhealthy behaviours that are unconscious and deeply entrenched necessitate social support due to the absence of robust social norms and the lack of social support for healthy behaviours, including the ownership and utilisation of latrines (12, 13).

It is anticipated that the assistance of local residents, particularly community leaders, will facilitate the government's efforts to establish a healthy environment. The findings indicate that a significant number of residents continue to engage in open defecation due to a lack of social support from community leaders. Additionally, there is a lack of social disapproval or warning from their social environment if someone is caught engaging in open defecation. While many residents are aware that open defecation is unhealthy, this awareness is often disregarded if it is not accompanied by community involvement and commitment to achieving open defecation-free status (14, 15). Open defecation practices are prevalent across Indonesia, particularly in coastal areas, including South Sulawesi.

The province of South Sulawesi has reported and declared that the year 2023 was 100% open defecation free (ODF), although the Central Statistics Agency (BPS) has indicated that there were still 2.26% of households engaging in open defecation. This represents a decrease from the 3.69% of households engaged in open defecation in 2022 (16). The government has invested significant resources in the pursuit of achieving zero open defecation, a goal that has been met in Takalar District by 2023 (17). The 100% ODF status has not necessarily resulted in the complete eradication of open defecation practices among residents in riverine and coastal areas of Takalar. Despite the implementation of triggering and monitoring activities by local health workers, open defecation persists in rivers, gardens, and other open spaces. A 2022 data set from the Takalar District Health Office revealed that 120 households in the Bontomanai village area of the Mangarabombang Community Health Centre continued to engage in open defecation due to a lack of access to latrines. These households exhibited both the practice of open defecation and the presence of latrines, yet the latter were not functioning properly. In the subsequent year, the number of latrine owners increased as a result of the local government's latrine assistance program (18).

The provision of triggering and latrine assistance has been conducted in stages. However, it has been observed that a proportion of the population has not accessed this assistance due to a lack of financial resources to purchase the necessary materials. Additionally, there are individuals within the community who do not perceive latrines as a priority and even construct residences that lack bathroom or toilet facilities. It is therefore evident that a robust commitment and motivation from the community, coupled with the provision of social support, is essential to encourage individuals to adopt healthier behaviours.

This study elucidates the role of social support provided by community leaders in the Mangarabombang area, which has achieved 100% open defecation free status. However, despite this, a significant proportion of residents continue to engage in open defecation practices. It is typically the case that, when an achievement reaches its target, it will be accompanied by sustainable positive behaviour. However, this study has revealed that there are still residents, both children and adults, who are ODF and resort to hitchhiking when defecating because they do not have a toilet. The purpose of this study is to analyse social support for stopping open defecation, with a view to improving awareness and healthy behaviour among coastal communities.

METHODS

A cross-sectional study design was employed to utilise quantitative methods. The research was conducted in the catchment area of the Manggarabombang Health Centre in Takalar Regency. Univariate and bivariate data analysis was conducted, with data presentation utilising narration, distribution tables

and graphs. The population comprised 178 households, with sampling conducted using the Slovin formula to obtain 123 households.

RESULTS

Table 1. Respondent Characteristics

Characteristics	n	%
Umur		
< 20 years	3	2,4
20-29 years	26	21,1
30-39 years	25	20,4
40-49 years	35	28,5
> 49 years	34	27,6
Gender		
Male	54	36.4
Female	69	63.6
Education		
Elementary School	57	46,4
Senior High School	26	21,1
High School	23	18,7
Not Working	17	13,8
Occupation		
Trader/self-employed	14	11,3
Farmer/fisherman	38	30,9
Laborer	8	6,5
Not Working	29	23,6
Housewife	34	27,7
Income of Head of Family		
>Rp.3.643.321,- / Month	0	0
<Rp.3.643.321,- / Month	123	100,0
Latrine Ownership		
Has a toilet	78	63,4
Do not have a toilet	45	36,6
Total	123	100

Source: Primary Data 2024

Table 1 reveals that the majority of respondents are between the ages of 40 and 49 (28.5%), and that the gender distribution is predominantly female (69%). Additionally, the educational attainment of the respondents is generally at a middle to lower level (81%). The majority of respondents (30.9%) identified as farmers or fishermen, and 84% of income is below the provincial minimum wage. Additionally, 36.6% of households lack access to latrines.

Table 2. Distribution of respondents' answers based on Social support to the community to Stop Open defecation

Number	Statement	Yes		No	
		n	%	n	%

1	Health workers engage in the provision of counselling services pertaining to the ownership and utilisation of latrines.	113	92.0	10	8,0
2	The health worker recommends that family members utilize the toilet at home, provided that such a facility is available.	116	94.4	7	5,6
3	Health professionals elucidate the health risks associated with the lack of access to adequate sanitation facilities.	118	96.0	5	4,0
4	In the preceding 12-month period, health workers have conducted home surveys.	121	98.4	2	1,6
5	In order to facilitate the utilisation of latrines, village officials, community leaders and religious leaders collaborate with household heads to ensure their participation.	120	97,6	3	2,4
6	A programme of empowerment has been developed for village officials, community leaders and religious leaders with a view to encouraging the use of latrines.	119	97.4	4	3,2
7	The village head, community leaders and religious leaders are involved in the provision of advice and guidance on the construction of healthy latrines.	107	87.2	16	12.8
8	In order to facilitate the use and utilisation of latrines, village officials, community leaders and religious leaders have provided assistance.	122	99.2	1	0.8
9	The role of family members in encouraging the utilisation of the latrine.	119	97.4	4	3,2
10	The utilisation of latrines is viewed favourably by the local population.	122	99.2	1	0.8
11	In the event of open defecation, neighbours are quick to express their disapproval.	102	83,2	21	16,8

Table 2 presents the responses of the respondents regarding their perception of social support in relation to their open defecation habits. It can be observed that 16.8% of the respondents indicated that there was no reprimand from their neighbours if they defecated outside. Additionally, 12.8% of the respondents reported that religious leaders, hamlet and community leaders did not provide counselling on the importance of stopping open defecation. Furthermore, 5.6% of the respondents stated that they did not receive encouragement to use latrines.

Research variables

The distribution of respondents regarding the role of social support in achieving an ODF status is illustrated in the following table.

Table 3. Distribution of respondents based on the role of social support in stop open defecation behavior

Research Variable	**n**	**%**

Social Support		
Enough	108	87,8
Lack	15	12,2
Defecation Behavior		
Open Defecation	6	4,9
ODF	117	95,1
Total	123	100,0

Source: Primary Data 2024

Bivariate analysis

Table 4. Relationship between social support and open defecation behavior

Social support	Open defecation (OD) behavior				Total		*P value*
	OD		ODF				
	n	%	n	%	N	%	0,000
Lack	6	40,0	9	60,0	15	100,0	
Enough	0	0,0	108	86,4	108	100,0	
Total	6	4,9	117	95,1	123	100	

Source: Primary Data 2024

Table 3 illustrates that 6 (40.0%) of the households surveyed reported receiving inadequate social support and engaging in open defecation practices. Conversely, 108 households (86.4%) indicated that they had sufficient social support to adopt defecation-free behaviours. The results of the chi-square statistical tests indicated a statistically significant relationship between social support and open defecation behaviour (p-value = 0.000 <0.05). This was observed in the working area of Mangarobombang Health Center, Takalar Regency, where the role of health workers, community leaders, and religious leaders was found to be particularly influential.

DISCUSSION

The role of social support is to facilitate community participation, thereby enhancing the capacity to adopt and maintain clean and healthy behaviours. The influence of social support, including that from family, friends and neighbours, on health-improvement behaviours is well documented. Social relationships and social support are reciprocal and can influence both positive and negative behaviours (19, 20). Other forms of social support, which can be provided by health workers, local government, religious leaders and community leaders in conjunction with the promotion of family latrines, include the dissemination of information and the delivery of educational programmes about the advantages of latrines. Additionally, assistance can be provided to communities that continue to practise open defecation, with the aim of fostering motivation and awareness among these communities with regard to the ownership and utilisation of latrines (21–23).

The results demonstrated that the relationship between social support, including the role of health workers, and open defecation behaviour can be observed in Table 3. Social support in relation to open defecation behaviour was classified as sufficient in the case of 108 respondents, representing 87.8% of the total sample. The role of health workers was deemed sufficient when respondents scored a minimum of 50%. In the case of the 15 respondents (12.2% of the total sample) who were classified in the "less" category, the role of health workers was deemed to be less influential when the respondents scored less than 50%.

Table 4 illustrates that households that receive social support from health workers, religious leaders, community leaders and local government are lacking and engage in open defecation practices. This is evidenced by the fact that 6 households (40.0%) fall into this category. This situation can be attributed to the fact that there are still individuals who have not been made aware of the consequences of open

defecation and who continue to engage in this practice due to the lack of social disapproval and the absence of any adverse consequences in their immediate environment. Another contributing factor is that some households have not yet received facilities from stop defecation programmes, such as the free latrine programme provided by the government. This is because the provision of these facilities is being made in stages. Nevertheless, there are also households that have received free latrines but remain indifferent and do not construct and utilise them on the grounds that they require funds for other materials. Therefore, it is necessary to implement a voluntary community awareness programme to stop open defecation, as it can have a negative impact on their own health (24, 25).

A total of 108 respondents (86.4%) indicated that they received sufficient social support and did not engage in open defecation behaviour. This is corroborated by the fact that health workers frequently conduct educational initiatives with the objective of triggering behavioural change. This approach has been shown to be effective in fostering awareness and encouraging individuals to adopt recommended healthy behaviours. Furthermore, the latrine assistance programme serves to encourage community members to utilise latrines in order to maintain a defecation-free environment. The role of the local government is to reinforce behavioural change by setting an example and providing a trigger to protect the environment, which includes the use of latrines (26, 27). In accordance with Lawrence Green's theory (28–30), which posits that behaviour change is determined by three factors, namely predisposing, enabling and reinforcing, it can be argued that education through triggering can facilitate or predispose change in knowledge and attitudes. Similarly, social support and the provision of facilities are effective in motivating ODF, such as the involvement of community leaders and neighbours in the use of latrines. This will shape positive perceptions for other families, as religious and community leaders are important supporters of behaviour change (31, 32). Health workers, religious and community leaders and local government are reinforcers for the community to change, as they are the reference group for community behaviour (33, 34).

There is a notable correlation between social support and open defecation behaviour. The role of health workers and other relevant stakeholders is of great consequence in influencing individuals' behaviour with regard to open defecation. The results demonstrate that open defecation behaviour is more prevalent among respondents with limited social support than among those who receive social support. The chi-square statistical test in this study yielded a p-value of ($0.000 > 0.05$), indicating a statistically significant relationship between the role of health workers and open defecation behaviour in the Mangarabombang puskesmas area, Takalar Regency.

The role of health workers and community leaders in influencing open defecation habits is contingent upon a number of factors. Firstly, there must be exposure to information, assistance from health workers and community leaders, and reprimands if ODF. Secondly, the community must be disciplined in utilising latrines. These two factors, when present, can act as a catalyst for behavioural change (35, 36). Households that have never received education from health workers are at risk of becoming open defecation free (ODF) by a factor of 5.037 compared to people who have been exposed to health workers (37, 38). The importance of social support from the social environment greatly influences the healthy behaviour of others and will increase public awareness of the adoption of recommended behaviours such as defecation free practices. This is because a healthy environment is proven to improve the health status of the community.

CONCLUSION

The findings of the research indicate that social support from health workers, religious leaders and community leaders is a significant factor in the adoption of healthy behaviours. Exposure to information and emotional support from individuals who have ceased open defecation is an important motivator for others to protect their environment, as knowledge and awareness of the benefits of healthy practices can lead to long-term behaviour change towards achieving Open Defecation Free (ODF) status.

ACKNOWLEDGMENTS

We would like to express our gratitude to the Directorate of Research, Technology and Community Service, Directorate General of Higher Education, Research and Technology, Ministry of Education, Culture, Research and Technology of the Republic of Indonesia for providing financial support for this fundamental basic research project in 2024. We would also like to acknowledge the Muslim University of Indonesia for their continued encouragement and assistance in advancing our knowledge, as well as the Government of Takalar Regency, South Sulawesi, for allowing us to conduct our research in their region. Finally, we would like to thank all those who have contributed to this research project in any way.

REFERENSI

1. UNICEF. Sanitation and Hygiene for All: “Make a Splash!” Partnership Progress Report 2022-2023. United Nations: UN: The United Nations; 2023.
2. Kemenkes RI. Laporan Tahunan 2022 Stop Buang Air Besar Sembarangan di Indonesia [Internet]. Jakarta; 2022. Available from: http://p2p.kemkes.go.id/wp-content/uploads/2023/06/FINAL_6072023_Layout_SBS-1.pdf
3. Jati SP, Nandini N, Dewanti NAY, Kusariana N, Ramadan BS, Budiyono B, et al. The Readiness of Wonosobo and Banjarnegara Towards Open Defecation Free Regencies. *J Environ Healt*h. 2023;15(4):283–90.
4. Nurhayati R, Kusumaningtiar DA, Handayani P, Sangadji NW. The Effectiveness of The Implementation of The Community-Based Total Sanitation Program, The First Pillar of Stop Open Defecation in The Work Area of The Palmerah District Community Health Center in 2022. KESANS Int J Heal Sci. 2023;2(6):351–69.
5. Direktorat Jenderal Kesehatan Masyarakat. Monitoring Data Sanitasi Total Berbasis Masyakarat (STBM) [Internet]. Direktorat Jenderal Kesehatan Masyarakat, Kementrian Kesehatan RI. 2021 [cited 2024 Jun 4]. Available from: https://stbm.kemkes.go.id/nspk
6. Sari AFK, Azizah R, Jalaludin J, Rahmawati I, Sulistyorini L, Yudhastuti R, et al. A Review of Open Defecation (OD) In Indonesia and The Control with Logic Model. Malaysian *J Med Heal Sci*. 2022;18(2):157–65.
7. Arora NK, Mishra I. Sustainable Development Goal 6: Global Water Security. *Environ Sustain*. 2022;5(3):271–5.
8. Juniati A, Rahman R, Marlina S, Sopandi A, Irham I. Gerakan Edukasi dalam Pencegahan Stunting dan Perilaku ODF Pada Masyarakat Desa Jayalaksana. An-Nizam. 2023;14(2 (3)):279–88.
9. Fitriyah N, Yuniarti T, Wahyono E, Prayoga RA, Fatriani RM, Wicaksono A, et al. Clean Water Issues, Community Behavior and Communication Models in Sustainable Development Goals 6 in Banten West Java Indonesia. *Int J Sustain Dev Plan*. 2024;19(1):247–58.
10. Fathonah U. Faktor-Faktor yang Berhubungan dengan Kepemilikan Jamban Sehat di Wilayah Kerja Puskesmas Lempur Kabupaten Kerinci Tahun 2023. Universitas Jambi; 2024.
11. Daniel D, Djohan D, Machairas I, Pande S, Arifin A, Al Djono TP, et al. Financial, Institutional, Environmental, Technical, and Social (FIETS) Aspects of Water, Sanitation, and Hygiene Conditions in Indigenous-Rural Indonesia. *BMC Public Health*. 2021;21:1–15.
12. Odagiri M, Muhammad Z, Cronin AA, Gnilo ME, Mardikanto AK, Umam K, et al. Enabling Factors for Sustaining Open Defecation-Free Communities in Rural Indonesia: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2017;14(12):1572.
13. Wu F, Sheng Y. Social Support Network, Social Support, Self-Efficacy, Health-Promoting Behavior and Healthy Aging Among Older Adults: A Pathway Analysis. *Arch Gerontol Geriatr*. 2019;85:103934.
14. Aulia A, Nurjazuli N, Darundiati YH. Perilaku Buang Air Besar Sembarangan (BABS) Di Desa Kamal Kecamatan Larangan Kabupaten Brebes. *J Kesehat Masy*. 2021;9(2):166–74.
15. Nzioki JM, Korir A. Effective Methods for Community Sanitation and Hygiene Promotion in the Developing World: A Scoping Review. *Africa J Tech Vocat Educ Train*. 2020;5(1):175–85.
16. Badan Pusat Statistik. Persentase Rumah Tangga yang Masih Mempraktikkan Buang Air Besar Sembaranga [Internet]. https://www.bps.go.id. 2023 [cited 2024 Jun 8]. Available from:

https://www.bps.go.id/id/statistics-table/2/MjE3NiMy/persentase-rumah-tangga--yang-masih-mempraktikkan-buang-air-besar-sembarangan--babs--di-tempat-terbuka-menurut-provinsi-dan-tipe-daerah--persen-.html
17. Dinas Kesehatan Provinsi Sulawesi Selatan. Laporan Kinerja Tahun 2022 [Internet]. Makassar; 2022. Available from: https://apidinkes.sulselprov.go.id/repo/dinkes-LKJ TAHUN 2022.pdf
18. Puskesmas Mangarabombang. Profil Kesehatan UPT Puskesmas Mangarabombang. Mangarabombang; 2022.
19. Kelly ME, Duff H, Kelly S, McHugh Power JE, Brennan S, Lawlor BA, et al. The Impact of Social Activities, Social Networks, Social Support and Social Relationships on the Cognitive Functioning of Healthy Older Adults: A Systematic Review. *Syst Rev*. 2017;6(259):1–18.
20. Richmond CAM, Ross NA. Social Support, Material Circumstance and Health Behaviour: Influences on Health in First Nation and Inuit Communities of Canada. *Soc Sci Med*. 2008;67(9):1423–33.
21. Ruba YE, Joko T, Budiyono B. Faktor Pendukung dan Penghambat Program Stop Buang Air Besar Sembarangan (BABS) di Wilayah Kerja Puskesmas Maronggela Kecamatan Riung Barat Kabupaten Ngada. J Ris Kesehat Masy. 2021;1(2):1–11.
22. Madon S, Malecela MN, Mashoto K, Donohue R, Mubyazi G, Michael E. The Role of Community Participation for Sustainable Integrated Neglected Tropical Diseases and Water, Sanitation and Hygiene Intervention Programs: A Pilot Project in Tanzania. *Soc Sci Med*. 2018;202:28–37.
23. Ikhtiar M, Riswan KA, Asrina A, Puspitasari A. Hubungan Perceived Severity Dengan Perilaku BABS Pada Masyarakat Pesisir kab. Takalar Tahun 2024. *Media Kesehat Politek Kesehat Makassar*. 2024;19(1):77–83.
24. Bhatt N, Budhathoki SS, Lucero-Prisno DEIII, Shrestha G, Bhattachan M, Thapa J, et al. What Motivates Open Defecation? A Qualitative Study from A Rural Setting in Nepal. *PLoS One*. 2019;14(7):e0219246.
25. Ghani N, Andi Asrina, Septiyanti, Yusriani, Nurgahayu. Pengaruh Penyuluhan dan Media MP3 terhadap Pengetahuan dan Sikap Pemanfaatan Jamban di Desa Bontomanai Kecamatan Mangarabombang Kabupaten Takalar. Wind Public Heal J. 2022;3(5):814–23.
26. Linggar F, Rantetampang AL, Tingginehe R, Mallongi A. The Factors Influencing Defecation Behavior in Toilet Pasca Community Led Total Sanitation at Wamesa Sub District Manokwari Selatan District. *Int J Sci Healthc Res*. 2019;4(1):88–99.
27. Ikhtiar M. *Pengantar Kesehatan Lingkungan*. Makassar: CV. Social Politic Genius (SIGn); 2017.
28. Notoatmodjo S. *Promosi Kesehatan dan Ilmu Perilaku*. Jakarta: PT. Rineka Cipta; 2012.
29. de Vries H, Kremers SPJ, Lippke S. *Health Education and Health Promotion: Key Concepts and Exemplary Evidence to Support Them. In: Principles and Concepts of Behavioral Medicine: A Global Handbook*. New York: Springer; 2018. p. 489–532.
30. Asrina A, Yusriani, Idris FP, Ikhtiar M, Amir H. Path Analysis of the Influence of Knowledge on Clean and Healthy Living Behavior Through Perceived Susceptibility as an Intervening Variable in HIV AIDS Prevention. *Heal Educ Heal Promot*. 2023;11(2):293–8.
31. Horhoruw A, Widagdo L. Perilaku Kepala Keluarga dalam Menggunakan Jamban di Desa Tawiri Kecamatan Teluk Ambon Kota Ambon. *J Promosi Kesehat Indones*. 2014;9(2):226–37.
32. Asrina A, Payapo R, Idris FC, Palutturi S, Mallongi A. Health Behavior and Social Support in Postpartum Mothers Treatment in Ba'ukup Tradition in Maluku. *Pharmacogn J*. 2023;15(3):438–42.
33. Dupai L, Majid R, Kamaluddin S, Sabilu Y. The Effectiveness of Environmental Health Behavior in the Community through Coastal Community Empowerment Program in Kendari City Southeast Sulawesi Province, Indonesia. *Indian J Public Heal Res Dev*. 2019;10(6).
34. Asrina A. Dole-Dole Tradition in Health Seeking Behavior of Buton Society, Southeast Sulawesi. *Indian J Public Heal Res Dev*. 2018;9(7):270–4.
35. Sari NP, Susanti. Kebiasaan Buang Air Besar Sembarangan (BABS) di Desa Tanjung Peranap, Tebing Tinggi Barat. *J Kesehat*. 2021;9(2):123–31.
36. Ratnasari Y, Fadilla T, Amiruddin S. Achievement of ODF (Open Defecation Free) Villages Through the Social Functions Approach In Teba Village. *J Antropol Isu-Isu Sos Budaya*. 2023;25(1):21–33.
37. Rosita Y, Ahyanti M. Pengetahuan, Dukungan Tokoh Masyarakat dan Pemaparan Petugas Kesehatan Terhadap Perilaku BABs. *Media Publ Promosi Kesehat Indones*. 2022;5(6):698–702.
38. Fitrianingrum RE. Community-Based Total Sanitation Health Promotion Strategy in Kebaman Village, Srono District, Banyuwangi Regency. *J Qual Public Heal*. 2020;3(2):611–8.

Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id>

HLS - Healthcare in Low-resource Settings [paper #13381] - Editor Decision - Acceptance

Luigi Barberini from PAGEPress Publications <sendmail@pagepressmail.net> Wed, Dec 11, 2024 at 11:21 PM

Reply-To: Luigi Barberini <barberini@unica.it>
To: Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id>, Nur Ulmy Mahmud <nurulmi@umi.ac.id>, Andi Asrina <andiasrina@umi.ac.id>, Andi Arysta <andi.arysta@umi.ac.id>, Putri Khairunnisa <khairunnisa@umi.ac.id>

Dear Muhammad Ikhtiar, Nur Ulmy Mahmud, Andi Asrina, Andi Arysta, Putri Khairunnisa,

We are pleased to inform you that your paper entitled "SOCIAL SUPPORT FOR STOP OPEN DEFECATION FREE: INCREASE AWARENESS AND HEALTHY BEHAVIOR" has been accepted for publication in Healthcare in Low-resource Settings.

In order to start the process to publication, you are now required to pay the Article Processing Fee. Full details on the Article Processing Fee and methods of payment admitted are available here: https://www.pagepressjournals.org/index.php/hls/fee

The Authors of the submissions made prior to February 19th, 2024 should contact the Managing Editor in regard to the APC.

Publication can be worked out after receiving:
1) the Copyright and License agreement (http://www.pagepressjournals.org/public/License_Agreement.pdf) signed by the corresponding author
2) the Conflict of Interest form (https://www.pagepress.org/public/COI_disclosure.docx) filled in by EACH author

All the forms must be sent to: teresa.carrara@pagepress.org

The Editorial Office will contact you if any additional information about your manuscript is required; please keep in mind that tables that are more than one page long or too complex will be published as Supplementary Material, as specified in the guidelines.

Please be aware that your manuscript will be edited for language fluency and correctness by a skilled native Editor as a service to authors provided by PagePress: our Journal has a broad readership, and we want to ensure that your paper is understandable to readers outside the specific field (the scientific content will not be modified).

With kind regards,

HEALTHCARE IN LOW-RESOURCE SETTINGS

Pavia, December 11th, 2024

Paper's acceptance on HLS

To whom it may concern

This is to certify that the final versions of the Article "**Social support to stop open defecation free: increase awareness and healthy behavior**" by Muhammad Ikhtiar, Nur Ulmy Mahmud, Andi Asrina, Andi Arysta, and Putri Khairunnisa has been provisionally accepted on December 11th, 2024 for publication on the *Healthcare in Low-resource Settings*, and will be available online upon satisfactory completion of the publication process.

Kindest regards,

Maria Teresa Carrara

MT Carrara

PAGEPress Scientific Publications

Publisher of *Healthcare in Low-resource Settings*

pagepress
via A. Cavagna Sangiuliani 5, 27100 Pavia - Italy
T. +39.0382.1549020 F. +39.0382.1727454
www.pagepress.org info@pagepress.org

Muhammad Ikhtiar <muhammad.ikhtiar@umi.ac.id>

Healthcare in Low-resource Settings - Your Article [#13381] has been published as Early Access

Aurora Di Chiara <aurora.di.chiara@pagepress.org> Tue, Feb 11, 2025 at 11:25 PM
To: Muhammad.ikhtiar@umi.ac.id
Cc: Teresa Carrara <teresa.carrara@pagepress.org>

Dear Author,

We are pleased to announce that your Article "*Social support to eradicate open defecation: raise awareness and promote healthy behavior*" has been published in the EARLY ACCESS issue of *Healthcare in Low-resource Settings*.

Your paper can be cited as **doi:** https://doi.org/10.4081/hls.2025.13381

Please feel free to redistribute the news using your network.

Meanwhile, your article will be assigned to the first available issue and once copyedited and paginated, you will receive the proofs for final approval. When the final piece is proofread, the Early Access file will be replaced by the final PDF and included in the relevant issue.

We all are sure this effort will allow us to offer more efficient and faster service.

Thank you for choosing our journal as a venue for your work.

Aurora Di Chiara
aurora.di.chiara@pagepress.org
_____
PAGEPress Publications
via A. Cavagna Sangiuliani 5
27100 Pavia, Italy
T. +39.0382.1549020
F: +39.0382.1727454
www.pagepress.org

At PAGEPress we work flexibly - so whilst it suits me to email now, I do not expect a response or action outside of your own working hours

Social support to eradicate open defecation: raise awareness and promote healthy behavior

Muhammad Ikhtiar, Nur Ulmy Mahmud, Andi Asrina, Andi Arysta, Putri Khairunnisa

Public Health Faculty, Muslim University of Indonesia, Kota Makassar, Sulawesi Selatan, Indonesia

Abstract

Indonesia has achieved a 100% Open Defecation-Free (ODF) status; however, a significant portion of the population still practices open defecation, particularly in proximity to rivers, swamps, and coastal areas. This study aimed to analyze the role of social support in the context of efforts to halt open defecation. This study employed quantitative methodology with a cross-sectional study design. The research was conducted in the catchment area of the Manggarabombang community health center in Takalar Regency. Data were analyzed using both univariate and bivariate techniques, and results were presented through narrations, distribution tables, and graphs. The study population comprised 178 households, with sampling conducted using the Slovin formula to obtain a sample size of 123 households. The results of the statistical tests using the chi-square method revealed a p-value of 0.000, indicating a significant relationship between social support and open defecation behavior. This highlights the important roles played by health workers, community leaders, and religious leaders. The findings of the study suggest that emotional and social support, as well as exposure to information about the health risks associated with open defecation, encourage individuals to adopt healthy practices in their environment. With increased knowledge and awareness of the importance of personal health, individuals are more likely to commit to long-term open defecation-free behaviors.

Correspondence: Muhammad Ikhtiar, Public Health Faculty, Muslim University of Indonesia, Kota Makassar, Sulawesi Selatan, Indonesia.
E-mail: Muhammad.ikhtiar@umi.ac.id
Tel.: +62.853.4372.3079.

Key words: social support; ODF; healthy behavior; cross-sectional study.

Conflict of interest: the authors declare that they have no competing interests, and all authors confirm accuracy.

Ethics approval and consent to participate: not applicable.

Availability of data and materials: all data generated or analyzed during this study are included in this published article.

Funding: this study was financially supported by the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia.

Acknowledgments: we would like to express our gratitude to the Ministry of Education, Culture, Research and Technology of the Republic of Indonesia for providing financial support for this research project in 2024. We would also like to acknowledge the Muslim University of Indonesia for their continued encouragement and assistance in advancing our knowledge, as well as the Government of Takalar Regency, South Sulawesi, for allowing us to conduct our research in their region. Finally, we would like to thank all those who have contributed to this research project in any way.

Received: 13 November 2024.
Accepted: 11 December 2024.
Early access: 11 February 2025.

Healthcare in Low-resource Settings 2025; 13:13381
doi:10.4081/hls.2025.13381

Introduction

Globally, over 1.5 million people still lack access to basic sanitation services, such as private toilets and latrines. Furthermore, 419 million people continue to defecate in unprotected locations, including street gutters, vacant lots, and open water.[1] Sanitation-related issues have become a global concern, including in Indonesia, which has set the goal of achieving 0% open defecation and 15% access to safe sanitation by 2024.[2-4] The Community-Based Total Sanitation Profile up to 2021 indicates that Indonesia's population of 288.22 million people still includes 32.77 million individuals engaged in open defecation practices.[5,6]

The Indonesian government has implemented a series of initiatives with the objective of sustaining a decline in the prevalence of open defecation on an annual basis. It is expected that open defecation will be eliminated by 2025, while complete access to improved sanitation is projected to be attained by 2027.[7,8] Despite the limitations of the data, it would appear that access to safe sanitation has remained constant at 7% over the past five years, which suggests that there is still much work to be done by all parties.[2,9] It remains challenging to alter long-established habits and practices regarding latrine use, particularly in coastal areas, due to deeply entrenched cultural norms and behaviors. Furthermore, some households possess latrines but refrain from utilizing them despite convenient access to water due to the unfitness or unsanitary nature of the latrines.[10,11]

As reported by the Ministry of Health of the Republic of Indonesia in 2022, the prevalence of open defecation in Indonesia has declined over time, with an estimated 5.69% of the population engaging in this practice.[2] This is inextricably linked to the numerous initiatives implemented by the government with the objective of eradicating open defecation, including the provision of latrines and the implementation of awareness-raising campaigns. Despite various efforts, many communities, especially in coastal areas, are reluctant to change their practices regarding open defecation. Government collaboration typically aims to educate these communities to prevent this issue. While positive knowledge and attitudes

exist, many still engage in open defecation, highlighting the need for a community-based approach that includes social support. Unhealthy behaviors are often deeply rooted and unconscious, making social support essential, particularly in environments lacking strong social norms and encouragement for proper latrine use and maintenance.[12,13]

It is anticipated that the assistance of local residents, particularly community leaders, will facilitate the government's efforts to establish a healthy environment. The findings indicate that a significant number of residents continue to engage in open defecation due to a lack of social support from community leaders. Furthermore, there is a lack of social disapproval or warnings from the surrounding community when someone is caught engaging in open defecation. While many residents are aware that open defecation is unhealthy, this awareness is often disregarded if it is not accompanied by community involvement and commitment to achieving open defecation-free status.[14,15] Open defecation practices are prevalent across Indonesia, particularly in coastal areas, including South Sulawesi.

The province of South Sulawesi has reported and declared that the year 2023 was 100% Open Defecation-Free (ODF), although the Central Statistics Agency (BPS) has indicated that there were still 2.26% of households engaging in open defecation. This represents a decrease from the 3.69% of households engaged in open defecation in 2022.[16,17] The government has invested significant resources to achieve the goal of zero open defecation, a target that was met in Takalar District by 2023. However, obtaining a 100% ODF status has not completely eliminated open defecation practices among residents in riverine and coastal areas of Takalar. Despite the local health workers' efforts in triggering and monitoring activities, instances of open defecation continue to occur in rivers, gardens, and other open spaces. A dataset from the Takalar District Health Office in 2022 indicated that 120 households in the Bontomanai village area of the Mangarabombang Community Health Centre still practiced open defecation due to a lack of access to latrines. In the following year, the number of latrine owners increased due to a local government assistance program for latrines.[18]

The provision of triggering and latrine assistance has been carried out in stages. However, it has been observed that a portion of the population has not been able to access this assistance due to a lack of financial resources. Some community members do not prioritize latrines and even construct homes without bathroom or toilet facilities. It is, therefore, evident that a robust commitment and motivation from the community, coupled with the provision of social support, is essential to encourage individuals to adopt healthier behaviors.

Table 1. Respondents' characteristics.

Characteristics	n	%
Age		
<20 years	3	2.4
20-29 years	26	21.1
30-39 years	25	20.4
40-49 years	35	28.5
>49 years	34	27.6
Gender		
Male	54	36.4
Female	69	63.6
Education		
Elementary school	57	46.4
Senior high school	26	21.1
High school	23	18.7
Not working	17	13.8
Occupation		
Trader/self-employed	14	11.3
Farmer/fisherman	38	30.9
Laborer	8	6.5
Not working	29	23.6
Housewife	34	27.7
Income of head of family		
>Rp.3.643.321,- / month	0	0
<Rp.3.643.321,- / month	123	100
Latrine ownership		
Have a toilet	78	63.4
Do not have a toilet	45	36.6
Total	123	100

Source: Primary Data 2024.

Table 2. Distribution of respondents' answers regarding community support to stop open defecation.

Number	Statement	Yes		No	
		n	%	n	%
1	Health workers are engaged in providing counseling services related to latrine ownership and use.	113	92.0	10	8.0
2	Health workers recommend that family members utilize the toilet at home, as long as it is available.	116	94.4	7	5.6
3	Health professionals elucidate the health risks associated with the lack of access to adequate sanitation facilities.	118	96.0	5	4.0
4	In the preceding 12-month period, health workers have conducted home surveys.	121	98.4	2	1.6
5	In order to facilitate the utilization of latrines, village officials, community leaders and religious leaders collaborate with household heads to ensure their participation.	120	97.6	3	2.4
6	A program of empowerment has been developed by village officials, community leaders, and religious leaders to encourage the use of latrines.	119	97.4	4	3.2
7	The village head, community leaders, and religious leaders are involved in providing advice and guidance on the construction of healthy latrines.	107	87.2	16	12.8
8	Village officials, community leaders, and religious leaders have provided assistance to facilitate the use and utilization of latrines.	122	99.2	1	0.8
9	Family members encourage the use of the latrine.	119	97.4	4	3.2
10	Local people view the use of latrines positively.	122	99.2	1	0.8
11	In the event of open defecation, neighbours are quick to express their disapproval.	102	83.2	21	16.8

This study highlights the role of social support provided by community leaders in the Mangarabombang area, which has achieved a 100% open defecation-free status. Despite this achievement, a significant number of residents continue to practice open defecation. Typically, when a community reaches such a goal, it is expected that sustainable positive behavior follows. However, this study has uncovered that there are still residents, including both children and adults, who engage in open defecation due to a lack of access to toilets. The purpose of this study is to analyze social support for ending open defecation, with the aim of improving awareness and promoting healthy behaviors among coastal communities.

Materials and Methods

A cross-sectional study design was employed to utilize quantitative methods. The research was conducted in the catchment area of the Manggarabombang Health Centre in Takalar Regency. Univariate and bivariate data analysis was conducted, with data presentation utilizing narration, distribution tables, and graphs. The population comprised 178 households, with sampling conducted using the Slovin formula to obtain 123 households.

Results

Table 1 reveals that the majority of respondents are between the ages of 40 and 49 (28.5%) and that the gender distribution is predominantly female (69%). The educational attainment of the respondents is generally at a middle to lower level (81%). Most respondents (30.9%) identified as farmers or fishermen, and 84% of their income was below the provincial minimum wage. Furthermore, 36.6% of households do not have access to latrines.

Table 2 presents the respondents' responses regarding their perception of social support in relation to their open defecation habits. It was noted that 16.8% of respondents reported that there were no reprimands from their neighbors when they defecated outside. Additionally, 12.8% of respondents indicated that religious leaders, hamlet leaders, and community leaders did not provide guidance on the importance of ceasing open defecation. Furthermore, 5.6% of respondents mentioned that they did not receive any encouragement to use latrines.

Research variables

The distribution of respondents regarding the role of social support in achieving an ODF status is illustrated in Table 3.

Bivariate analysis

Table 4 illustrates that 6 (40.0%) of the households surveyed reported receiving inadequate social support and engaging in open defecation practices. Conversely, 108 households (86.4%) indicated that they had sufficient social support to adopt defecation-free behaviors. The results of the chi-square statistical tests indicated a statistically significant relationship between social support and open defecation behavior (p=0.000, <0.05). This was observed in the working area of Mangarobombang Health Center, Takalar Regency, where the role of health workers, community leaders, and religious leaders was found to be particularly influential.

Discussion

The role of social support is to facilitate community participation, thereby enhancing the capacity to adopt and maintain clean and healthy behaviors. The influence of social support, including that from family, friends, and neighbors, on health-improvement behaviors is well documented. Social relationships and social support are reciprocal and can influence both positive and negative behaviors.[19,20] Other forms of social support, which can be provided by health workers, local government, religious leaders, and community leaders in conjunction with the promotion of family latrines, include the dissemination of information and the delivery of educational programs about the advantages of latrines. Additionally, assistance can be provided to communities that continue to practice open defecation to foster motivation and awareness among these communities regarding the ownership and utilization of latrines.[21-23]

Table 4 shows that 40.0% of households still receive poor or no social support from health workers, religious leaders, and community leaders, and they practice open defecation. This situation can be attributed to the fact that there are still individuals who have not been made aware of the consequences of open defecation and who continue to engage in this practice due to the lack of social disapproval and the absence of any adverse consequences in their immediate environment. Another contributing factor is that some households have not yet received facilities from stop-defecation programs, such as the free latrine program provided by the government. Nonetheless, some households have received free latrines but have chosen not to build or use them because they believe they require funds for other purposes. As a result, it is critical to implement a voluntary community awareness program to discourage open defecation, which can be harmful to people's health.[24,25]

A total of 108 respondents (86.4%) reported receiving sufficient social support and did not engage in open defecation practices. This finding is supported by the fact that health workers frequently conduct educational initiatives aimed at promoting behav-

Table 3. Distribution of respondents based on the role of social support in stopping open defecation behavior.

Research variable	n	%
Social support		
Enough	108	87.8
Lack	15	12.2
Defecation behavior		
Open defecation	6	4.9
ODF	117	95.1
Total	123	100

Source: Primary Data 2024

Table 4. Relationship between social support and open defecation behavior.

Social support	Open defecation (OD) behavior				Total		P
	OD		ODF				
	n	%	n	%	N	%	
Lack	6	40.0	9	60.0	15	100	0
Enough	0	0	108	86.4	108	100	
Total	6	4.9	117	95.1	123	100	

Source: Primary Data 2024.

ioral change. These efforts have proven effective in raising awareness and encouraging individuals to adopt recommended health behaviors. Additionally, the latrine assistance program encourages community members to use latrines, helping to maintain a defecation-free environment. The local government plays a crucial role in reinforcing this behavioral change by setting a positive example and providing motivation to protect the environment through the use of latrines.[26,27] According to Lawrence Green's theory,[28-30] which suggests that behavior change is influenced by three factors—predisposing, enabling, and reinforcing—education through triggering can facilitate or predispose changes in knowledge and attitudes. Similarly, social support, the provision of facilities, and the involvement of community leaders and neighbors in the use of latrines are effective in motivating ODF.[31,32] Health workers, religious and community leaders, and local government are reinforcers for the community to change, as they are the reference group for community behavior.[33,34]

The results demonstrate that open defecation behavior is more prevalent among respondents with limited social support than among those who receive social support. The chi-square statistical test in this study yielded a p-value of (0.000>0.05), indicating a statistically significant relationship between the role of health workers and open defecation behavior in the Mangarabombang Puskesmas area, Takalar Regency.

The influence of health workers and community leaders on changing open defecation habits depends on several factors. Firstly, community members need access to information and support from health workers and leaders, as well as consequences for not adhering to open defecation practices. Secondly, it is essential for the community to be committed to using latrines. When both of these conditions are met, they can serve as powerful catalysts for behavioral change.[35,36] Households that have never received education from health workers are 5.037 times more likely to continue open defecation practice compared to those who have been educated by health workers.[37,38] Raising public awareness about recommended practices, such as ensuring cleanliness and proper sanitation, is essential for maintaining a healthy environment and improving the overall health of the community.

Conclusions

The research findings suggest that social support from health workers, religious leaders, and community leaders plays a crucial role in adopting healthy behaviors. Exposure to information and emotional encouragement from individuals who have stopped open defecation serves as a significant motivator for others to protect their environment. Knowledge and awareness of the benefits of healthy practices can lead to lasting behavior change, ultimately contributing to the achievement of open defecation-free status.

References

1. UNICEF. Sanitation and Hygiene for All: "Make a Splash!" Partnership Progress Report 2022-2023. United Nations: UN: The United Nations; 2023.
2. Kemenkes RI. Laporan Tahunan 2022 Stop Buang Air Besar Sembarangan di Indonesia [Internet]. Jakarta; 2022. Available from: http://p2p.kemkes.go.id/wp-content/uploads/2023/06/FINAL_6072023_Layout_SBS-1.pdf
3. Jati SP, Nandini N, Dewanti NAY, et al. The Readiness of Wonosobo and Banjarnegara Towards Open Defecation Free Regencies. J Environ Health 2023;15:283–90.
4. Nurhayati R, Kusumaningtiar DA, Handayani P, Sangadji NW. The effectiveness of the implementation of the community-based total sanitation program, the first pillar of stop open defecation in the work area of the palmerah district community health center in 2022. KESANS Int J Heal Sci 2023;2:351–69.
5. Direktorat Jenderal Kesehatan Masyarakat. Monitoring Data Sanitasi Total Berbasis Masyakarat (STBM). Direktorat Jenderal Kesehatan Masyarakat, Kementrian Kesehatan RI. 2021 [cited 2024 Jun 4]. Available from: https://stbm.kemkes.go.id/nspk
6. Sari AFK, Azizah R, Jalaludin J, et al. A Review of Open Defecation (OD) In Indonesia and The Control with Logic Model. Malaysian J Med Heal Sci 2022;18:157–65.
7. Arora NK, Mishra I. Sustainable Development Goal 6: Global Water Security. Environ Sustain 2022;5:271–5.
8. Juniati A, Rahman R, Marlina S, et al. Gerakan Edukasi dalam Pencegahan Stunting dan Perilaku ODF Pada Masyarakat Desa Jayalaksana. An-Nizam 2023;14:279–88.
9. Fitriyah N, Yuniarti T, Wahyono E, et al. Clean water issues, community behavior and communication models in sustainable development goals 6 in Banten West Java Indonesia. Int J Sustain Dev Plan 2024;19:247–58.
10. Fathonah U. Faktor-Faktor yang Berhubungan dengan Kepemilikan Jamban Sehat di Wilayah Kerja Puskesmas Lempur Kabupaten Kerinci Tahun 2023. Universitas Jambi; 2024.
11. Daniel D, Djohan D, Machairas I, et al. Financial, Institutional, Environmental, Technical, and Social (FIETS) aspects of water, sanitation, and hygiene conditions in indigenous-rural Indonesia. BMC Public Health 2021;21:1–15.
12. Odagiri M, Muhammad Z, Cronin AA, et al. Enabling factors for sustaining open defecation-free communities in rural Indonesia: a cross-sectional study. Int J Environ Res Public Health 2017;14:1572.
13. Wu F, Sheng Y. Social support network, social support, self-efficacy, health-promoting behavior and healthy aging among older adults: a pathway analysis. Arch Gerontol Geriatr 2019;85:103934.
14. Aulia A, Nurjazuli N, Darundiati YH. Perilaku Buang Air Besar Sembarangan (BABS) Di Desa Kamal Kecamatan Larangan Kabupaten Brebes. J Kesehat Masy 2021;9:166–74.
15. Nzioki JM, Korir A. Effective methods for community sanitation and hygiene promotion in the developing world: a scoping review. Africa J Tech Vocat Educ Train 2020;5:175–85.
16. Badan Pusat Statistik. Persentase Rumah Tangga yang Masih Mempraktikkan Buang Air Besar Sembaranga. 2023 [cited 2024 Jun 8]. Available from: https://www.bps.go.id/id/statistics-table/2/MjE3NiMy/persentase-rumah-tangga—yang-masih-mempraktikkan-buang-air-besar-sembarangan—babs—di-tempat-terbuka-menurut-provinsi-dan-tipe-daerah—persen-.html
17. Dinas Kesehatan Provinsi Sulawesi Selatan. Laporan Kinerja Tahun 2022. Makassar; 2022. Available from: https://apidinkes.sulselprov.go.id/repo/dinkes-LKJ TAHUN 2022.pdf
18. Puskesmas Mangarabombang. Profil Kesehatan UPT Puskesmas Mangarabombang. Mangarabombang; 2022.
19. Kelly ME, Duff H, Kelly S, et al. The impact of social activities, social networks, social support and social relationships on the cognitive functioning of healthy older adults: a systematic review. Syst Rev 2017;6:1–18.
20. Richmond CAM, Ross NA. Social support, material circum-

stance and health behaviour: influences on health in First Nation and Inuit communities of Canada. Soc Sci Med 2008;67:1423–33.
21. Ruba YE, Joko T, Budiyono B. Faktor Pendukung dan Penghambat Program Stop Buang Air Besar Sembarangan (BABS) di Wilayah Kerja Puskesmas Maronggela Kecamatan Riung Barat Kabupaten Ngada. J Ris Kesehat Masy 2021;1:1–11.
22. Madon S, Malecela MN, Mashoto K, et al. The role of community participation for sustainable integrated neglected tropical diseases and water, sanitation and hygiene intervention programs: a pilot project in Tanzania. Soc Sci Med 2018;202:28–37.
23. Ikhtiar M, Riswan KA, Asrina A, Puspitasari A. Hubungan Perceived Severity Dengan Perilaku BABS Pada Masyarakat Pesisir kab. Takalar Tahun 2024. Media Kesehat Politek Kesehat Makassar 2024;19:77–83.
24. Bhatt N, Budhathoki SS, Lucero-Prisno DEIII, et al. What motivates open defecation? A qualitative study from a rural setting in Nepal. PLoS One 2019;14:e0219246.
25. Ghani N, Asrina A, Septiyanti S, et al. Pengaruh Penyuluhan dan Media MP3 terhadap Pengetahuan dan Sikap Pemanfaatan Jamban di Desa Bontomanai Kecamatan Mangarabombang Kabupaten Takalar. Wind Public Heal J 2022;3:814–23.
26. Linggar F, Rantetampang AL, Tingginehe R, Mallongi A. The factors influencing defecation behavior in toilet Pasca community led total sanitation at Wamesa Sub District Manokwari Selatan District. Int J Sci Healthc Res 2019;4:88–99.
27. Ikhtiar M. Pengantar Kesehatan Lingkungan. Makassar: CV. Social Politic Genius (SIGn); 2017.
28. Notoatmodjo S. Promosi Kesehatan dan Ilmu Perilaku. Jakarta: PT. Rineka Cipta; 2012.
29. de Vries H, Kremers SPJ, Lippke S. Health education and health promotion: key concepts and exemplary evidence to support them. In: Principles and Concepts of Behavioral Medicine: A Global Handbook. New York: Springer; 2018. p. 489–532.
30. Asrina A, Yusriani, Idris FP, et al. Path analysis of the influence of knowledge on clean and healthy living behavior through perceived susceptibility as an intervening variable in HIV AIDS prevention. Heal Educ Heal Promot 2023;11:293–8.
31. Horhoruw A, Widagdo L. Perilaku Kepala Keluarga dalam Menggunakan Jamban di Desa Tawiri Kecamatan Teluk Ambon Kota Ambon. J Promosi Kesehat Indones 2014;9:226–37.
32. Asrina A, Payapo R, Idris FC, et al. Health behavior and social support in postpartum mothers treatment in Ba'ukup tradition in Maluku. Pharmacogn J 2023;15:438–42.
33. Dupai L, Majid R, Kamaluddin S, Sabilu Y. The effectiveness of environmental health behavior in the community through coastal community empowerment program in Kendari City Southeast Sulawesi Province, Indonesia. Indian J Public Heal Res Dev 2019;10.
34. Asrina A. Dole-dole tradition in health seeking behavior of Buton society, Southeast Sulawesi. Indian J Public Heal Res Dev 2018;9:270–4.
35. Sari NP, Susanti S. Kebiasaan Buang Air Besar Sembarangan (BABS) di Desa Tanjung Peranap, Tebing Tinggi Barat. J Kesehat 2021;9:123–31.
36. Ratnasari Y, Fadilla T, Amiruddin S. Achievement of ODF (Open Defecation Free) Villages through the social functions approach in Teba Village. J Antropol Isu-Isu Sos Budaya 2023;25:21–33.
37. Rosita Y, Ahyanti M. Pengetahuan, Dukungan Tokoh Masyarakat dan Pemaparan Petugas Kesehatan Terhadap Perilaku BABs. Media Publ Promosi Kesehat Indones 2022;5:698–702.
38. Fitrianingrum RE. Community-based total sanitation health promotion strategy in Kebaman Village, Srono District, Banyuwangi Regency. J Qual Public Heal 2020;3:611–8.