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# THE NEIGHBORHOOD LEVEL SURVEY BY ADAPTING THE HEALTHY INDONESIA PROGRAM WITH FAMILY APPROACH'S (PIS-PK) INDICATORS

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**Abstract**

**Some of the post-pandemic challenges in urban and rural areas are increasing efforts for clean and healthy living at the family level in tropical rainforest areas. The novelty of this research is that it conducted a household survey based on the indicators of the Healthy Indonesia Program with a Family Approach (PIS-PK). The study aims to identify the characteristics of the community in Samarinda City and measure differences in the practice of clean and healthy living behavior at the household level using the developed PIS-PK indicators. The research method uses a cross-sectional survey at the household level and determines specific locations in 2 household-level groups (RT) in Rawa Makmur Village. The purposive sampling included 100 respondents, and the research variables were respondent characteristics and 12 PIS-PK indicators. Data analysis was carried out univariately and bivariately through Chi-Square analysis. The research results showed a difference in the number of respondents who had babies in Community I and Community II with $\alpha$<0.05 (*P-value* = 0.022). Generally, there are no statistical differences in almost all healthy family indicators between communities I and II or *P-value* > 0.05. This study concludes that the characteristics of people at the neighboring level tend to be the same in ethnic background, education, marital status, and employment. There is no difference between the 12 indicators of the Healthy Indonesia program and those of the family approach in Community I and Community II.**
**Keywords: PIS-PK; Family health; Healthy behavior; Community.**

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## 1. INTRODUCTION

Currently, people in the Southeast Asian region have the potential for infectious diseases, especially during a pandemic, which is higher in the world (1). As a country, Indonesia has challenges in solving non-communicable diseases and environmental problems (2, 3). The Healthy Indonesia Program is one of the health-strengthening programs with the aim of increasing the health status and nutritional status of the community through health efforts and community empowerment supported by financial protection and equitable distribution of health services at the community level (3).

Implementing the Healthy Indonesia Program with a Family Approach (PIS-PK) involves several parties at the national level, through the Ministry of Health, at the regional level, through health centers, and across sectors (3). By integrating efforts from the national to the regional level, the PIS-PK program stands out as a collaborative and multifaceted strategy, promising a more effective and sustainable impact on public health outcomes in this study, especially in identifying the real needs and conditions of smaller and specific community groups.

Coordination and communication also runs from the Ministry of Health to the provincial health office and health office level and continues to provide primary health care services. Implementing PIS-PK in primary health care services involves cross-sectoral issues such as sub-districts and sub-districts at the household level. Primary health care services take a role in carrying out PIS-PK data collection by using family health profiles, then analyzing, formulating problems, planning activities, conducting counseling, conducting home visits, and creating information systems so that behavior change interventions can be by the conditions of the target community (3,4).

Samarinda's health profile data shows that the community morbidity rate in 2013 was 11.74, decreased in 2014 to 9.18, and then increased to 11.90 in 2016 (4,5). The location of study, Rawa Makmur (Palaran District), is one of the sub-districts in Samarinda and is one of the areas that actively participates in the family-based Healthy Indonesia program (6), in addition to focusing on health related to the prevention of non-communicable diseases and also the environmental health which is priority programs in the area (7,8). Based on data from the Samarinda City Health Office in 2017, it is known that the number of diabetes mellitus cases is 1,138 cases.

The highest cases of Diabetes Mellitus were in the working area of the Palaran Health Center, with as many as 258 cases in 2017, and the population density is directly proportional to the number of active smokers in the area (7,9). Two locations consisting of communities 1 and 2 were carried out to make comparisons between communities that have different backgrounds, namely community 1, which is an area of high mobilization of heavy equipment or inter-city vehicles adjacent to Samarinda, and community 2, which is dominated by agricultural areas, as well as health service centers in the two communities,

are active in implementing the Family-based Healthy Indonesia program (PIS-PK).

In the PIS-PK program, there are 12 health indicators that the community must achieve, namely: 1) families participating in the KB (family planning) program, 2) maternity deliveries in health care facilities, 3) infants receive complete primary immunization, 4) infants receive exclusive breastfeeding, 5) the growth of toddlers is monitored, 6) patients with pulmonary tuberculosis are treated according to standards, 7) patients with hypertension are treated regularly, 8) patients with severe mental disorders are treated and not abandoned, 9) no family members smoke, 10) the family is already a member of health insurance, 11) families have access to or use clean water, 12) families have access or use family latrines (3,4,10). Based on this, a study at the community level is needed to identify a picture of the implementation of the family health program based on the indicators set by the government. This study aimed to determine the characteristics of the community in one of the sub-districts in Samarinda, and the detailed location was in Rawa Makmur Village, Palaran District. The second purpose is to identify differences in clean and healthy living behavior at the household level in Samarinda.

## 2. METHOD

This study employs a cross-sectional study design, with data collection carried out simultaneously between the risk factors and their effects (point-time approach) on sanitation and health behavior studies (11,12). The research was carried out in June 2022 in Palawan District, Samarinda, and determined specific locations in 2 household-level groups (RT) of Rawa Makmur Village.

The sample selection method is purposive sampling with inclusion criteria: a head of household, a family with children, a residential building, and 18-- to 55-year-olds. The number of samples is 100 respondents divided into 64 respondents (Community I) and 36 respondents (Community II). The distribution of the minimum sample is based on the number of families in each community. Enumerators conduct Data collection through a household survey approach (door-to-door visits).

The data were collected using a questionnaire that adopted the Indonesian Ministry of Health's PIS-PK indicators on family healthy living consisting of 12 items (3), plus characteristic variables comprised of gender, level of education, occupation, and ethnic group. The indicators of the PIS-PK program include family participation in family planning, ensuring maternal delivery at health facilities, providing basic immunizations for infants, practicing exclusive breastfeeding, monitoring toddler growth, ensuring tuberculosis patients receive standard treatment, ensuring regular treatment for hypertension patients, providing proper treatment and care for severe mental disorders, prohibiting smoking among family members, being a member of the National Health Insurance (JKN), and having access to and using clean water and a family toilet (13,14).

The dependent variable analyzed was a dichotomous variable subgroup analysis to

identify differences in healthy living behavior based on healthy family indicators at the household level using Chi-Square analysis; all analyses were performed using statistical software. The central hypothesis of this study is that there is a significant difference in the practice of clean and healthy living behaviors between two groups of households (RT) in Rawa Makmur Village based on the PIS-PK indicators, with a significance level of $\alpha = 0.05$.

Based on the data in Table 1, it is described that 58% of respondents are male, with 61% being of high school education level. In Community I, 54.7% work in the private sector, and a similar majority in Community II is 72.2%. The majority of respondents are married, and the highest percentage in these two communities is Javanese (71%). Table 2 shows a detailed analysis of the frequency and differences in family health indicators in communities I and II.

## 3. RESULT AND DISCUSSION

Table 1. Distribution of Householders Characteristics in Rawa Makmur, Samarinda 2022

| Variables | Neighborhood Level | | | | Total N = 100 (%) |
|---|---|---|---|---|---|
| | Community I | | Community II | | |
| | n = 64 | (%) | n = 36 | (%) | |
| Gender | | | | | |
| Male | 61 | (95.3) | 35 | (97.2) | 96 (96.0) |
| Female | 3 | (4.7) | 1 | (2.8) | 4 (4.0) |
| Education level | | | | | |
| No school | 1 | (1.6) | 0 | (0.0) | 1 (1.0) |
| Elementary school | 15 | (23.4) | 6 | (16.7) | 21 (21.0) |
| Junior high school | 7 | (10.9) | 4 | (11.1) | 11 (11.0) |
| Senior High School | 37 | (57.8) | 24 | (66.7) | 61 (61.0) |
| College | 4 | (6.3) | 2 | (5.6) | 6 (6.0) |
| Occupation | | | | | |
| Civil servant/police | 2 | (3.1) | 3 | (8.3) | 5 (5.0) |
| Private sector worker | 35 | (54.7) | 26 | (72.2) | 61 (61.0) |
| Farmer | 5 | (7.8) | 2 | (5.6) | 7 (7.0) |
| Entrepreneur | 5 | (7.8) | 1 | (2.8) | 6 (6.0) |
| Laborer | 14 | (21.9) | 3 | (8.3) | 17 (17.0) |
| Unemployment | 3 | (4.7) | 1 | (2.8) | 4 (4.0) |
| Marital Status | | | | | |
| Married | 60 | (93.8) | 34 | (94.4) | 94 (94.0) |
| Unmarried | 4 | (6.3) | 2 | (5.6) | 6 (6.0) |
| Ethnic group | | | | | |
| *Banjar* | 3 | (4.7) | 0 | (0.0) | 3 (3.0) |
| *Bugis/Makassar* | 7 | (10.9) | 1 | (2.8) | 8 (8.0) |
| *Tator* | 0 | (0.0) | 1 | (2.8) | 1 (1.0) |
| *Kutai* | 5 | (7.8) | 3 | (8.3) | 8 (8.0) |
| Java | 45 | (70.3) | 26 | (72.2) | 71 (71.0) |
| Others | 4 | (6.3) | 5 | (13.9) | 9 (9.0) |

*Sources: Primary Data, 2022*

Table 2. Distribution of Healthy Family by Adapting Indonesian Health Program through Family Approach Indicators in Rawa Makmur, Samarinda 2022

| Variables | Neighborhood Level | | | | Total N = 100 (%) | *P-value* |
|---|---|---|---|---|---|---|
| | Community I | | Community II | | | |
| | n = 64 | (%) | n = 36 | (%) | | |
| Family planning program | | | | | | |
| Yes | 39 | (60.9) | 19 | (52.8) | 58 (58.0) | 0.280 |
| No | 25 | (39.1) | 17 | (47.2) | 42 (42.0) | |
| Type of contraception | | | | | | |
| Inject | 6 | (15.4) | 9 | (47.4) | 15 (25.9) | 0.084 |
| Condom | 1 | (2.6) | 0 | (0.0) | 1 (1.7) | |
| Pill | 29 | (74.4) | 9 | (47.4) | 38 (65.5) | |
| Spirals/IUDs | 1 | (2.6) | 1 | (5.3) | 2 (3.4) | |
| Implant | 2 | (5.1) | 0 | (0.0) | 2 (3.4) | |
| Delivery in a health facility | | | | | | |
| Hospital | 19 | (29.7) | 4 | (11.1) | 23 (23.0) | 0.229 |
| Public health center | 5 | (7.8) | 6 | (16.7) | 11 (11.0) | |
| Clinic/midwife practice | 36 | (56.3) | 24 | (66.7) | 60 (60.0) | |
| Others | 4 | (6.3) | 2 | (5.6) | 6 (6.0) | |
| Infant/toddler family members | | | | | | |
| Yes | 18 | (28.1) | 3 | (8.3) | 21 (21.0) | 0.022 |
| No | 46 | (71.9) | 33 | (91.7) | 79 (79.0) | |
| Immunized | | | | | | |
| Complete | 12 | (66.7) | 3 | (100.0) | 15 (71.4) | 0.526 |
| Incomplete | 6 | (33.3) | 0 | (0.0) | 6 (28.6) | |
| Breastfeeding babies/toddlers | | | | | | |
| Yes | 15 | (83.3) | 3 | (100.0) | 18 (85.7) | 0.614 |
| No | 3 | (16.7) | 0 | (0.0) | 3 (14.3) | |
| Get colostrum | | | | | | |
| Yes | 5 | (27.8) | 1 | (33.3) | 6 (28.6) | 0.658 |
| No | 13 | (72.2) | 2 | (66.7) | 15 (71.4) | |
| Monitor the growth and development of children. | | | | | | |
| Yes | 15 | (83.3) | 3 | (100.0) | 18 (85.7) | 0.456 |
| No | 3 | (16.7) | 0 | (0.0) | 3 (14.3) | |
| Family members with tuberculosis | | | | | | |
| Yes | 0 | (0.0) | 0 | (0.0) | 0 (0.0) | * |
| No | 64 | (100.0) | 36 | (100.0) | 100 (100.0) | |
| Family members with hypertension | | | | | | |
| Yes | 15 | (23.4) | 3 | (8.3) | 18 (18.0) | 0.049 |
| No | 49 | (76.6) | 33 | (91.7) | 82 (82.0) | |
| Consumption of drugs in patients with hypertension | | | | | | |
| Yes | 7 | (46.7) | 1 | (33.3) | 8 (44.4) | 0.588 |
| No | 8 | (53.32) | 2 | (66.7) | 10 (55.6) | |
| Family members with schizophrenia | | | | | | |
| Yes | 0 | (0.0) | 0 | (0.0) | 0 (0.0) | * |
| No | 64 | (100.0) | 36 | (100.0) | 100 (100.0) | |
| Family members smoke | | | | | | |
| Yes | 39 | (60.9) | 21 | (58.3) | 60 (60.0) | 0.799 |
| No | 25 | (39.1) | 15 | (41.7) | 40 (40.0) | |

| Variables | Neighborhood Level | | | | Total N = 100 (%) | *P-value* |
|---|---|---|---|---|---|---|
| | Community I | | Community II | | | |
| | n = 64 | (%) | n = 36 | (%) | | |
| Total cigarettes consumed per day | | | | | | |
| < 10 cigarettes | 9 | (23.1) | 4 | (19.0) | 13 (21.7) | 0.370 |
| 10 – 20 cigarettes | 27 | (69.2) | 16 | (76.2) | 43 (71.7) | |
| > 20 cigarettes | 3 | (7.7) | 1 | (4.8) | 4 (6.7) | |
| Charge for daily cigarettes | | | | | | |
| <Rp 20.000,- | 20 | (51.3) | 9 | (42.9) | 29 (48.3) | 0.351 |
| Rp 20.000,- s/d Rp 40.000,- | 19 | (48.7) | 11 | (52.4) | 30 (50.0) | |
| >Rp 40.000,- | 0 | (0.0) | 1 | (4.8) | 1 (1.7) | |
| Smoking indoors | | | | | | |
| Yes | 25 | (64.1) | 16 | (76.2) | 41 (68.3) | 0.337 |
| No | 14 | (35.9) | 5 | (23.8) | 19 (31.7) | |
| Families have access to clean water. | | | | | | |
| Yes | 63 | (98.4) | 35 | (97.2) | 98 (98.0) | 0.683 |
| No | 1 | (1.6) | 1 | (2.8) | 2 (2.0) | |
| Source of water | | | | | | |
| Plumbing | 49 | (76.6) | 31 | (86.1) | 80 (80.0) | 0.144 |
| Dug/drilled wells | 15 | (23.4) | 4 | (11.1) | 19 (19.0) | |
| River | 0 | (0.0) | 1 | (2.8) | 1 (1.0) | |
| Have healthy latrines | | | | | | |
| Yes | 63 | (98.4) | 36 | (100.0) | 99 (99.0) | 0.640 |
| No | 1 | (1.6) | 0 | (0.0) | 1 (1.0) | |
| Healthy latrine requirements | | | | | | |
| Eligible | 60 | (63.8) | 36 | (100.0) | 96 (96.0) | 0.160 |
| ineligible | 3 | (4.7) | 0 | (0.0) | 3 (3.0) | |
| Health insurance ownership | | | | | | |
| Yes (BPJS/KIS) | 59 | (92.2) | 32 | (88.9) | 91 (91.0) | 0.719 |
| No | 5 | (7.8) | 4 | (11.1) | 9 (9.0) | |

*Chi-square analysis with its significance level set at α = 0.05; *The data were not analyzed*
*Sources: Primary Data, 2022*

Based on the description of Table 2, in the family planning program, as many as 58% have participated in the program, and 42% have not participated in the family planning program, especially in the use of contraceptives. In community I, 74.4% of respondents use pills, and as much as 65.5% in Community II. The second indicator is giving birth in a health facility; in the two neighboring groups, more than half of the respondents gave birth in a clinic or midwife's practice, respectively 56.3% and 66.7%.

In child health, 71.4% at both community levels had given complete immunization to children, and as many as 85.7% had breastfed their babies or toddlers, although only 28.6% of babies had received colostrum. In communities I and II, as many as 85.7% of respondents constantly monitor the growth and development of children by coming to the mother and child health service (posyandu). There is a difference in the number of respondents who have babies in Community I and Community II with $\alpha < 0.05$ (*P-value* = 0.022). Furthermore, the existence of family members who have infectious diseases, it is known that in both areas of the community, there are no respondents who suffer from tuberculosis. The non-communicable diseases (hypertension), in the

two neighboring regions, 18% of the respondent's families had hypertension, and 44.4% of those with hypertension regularly took hypertension medication. Based on the results of the study, no respondents were found to suffer from mental disorders (schizophrenia).

In terms of smoking behavior indicators at the family level, in community I, 60.9% of respondents had families of smokers. In Community II, some respondents had smokers, as much as 58.3%. At the two neighboring levels, more than half of the respondents (71.7%) consume cigarettes 10-20 cigarettes per day, and 50% of these smokers pay for cigarettes 20,000 - 40,000 IDR in their daily cigarettes, in addition to their smoking behavior as much as 31.7% smoke inside the home. As many as 98% of the community has clean water, and 80% comes from plumbing. In other aspects of environmental sanitation, as many as 99% of respondents already have healthy restrooms, and 96% have been observed as eligible for healthy latrine requirements; the last indicator is health insurance ownership; as many as 91% of respondents already have government health insurance. In general, there is no statistical difference in almost all indicators of healthy families between communities I and II or *P-value* > 0.05.

**Discussion**

In the first healthy family indicator, it is known that some respondents have used contraception or participated in the family planning program, and there are still respondents who have not participated in this program. Some of the dominating contraceptives are pills. The problems that arise in the successful use of contraception are the limited methods and media for conveying information by health workers and the limited time in conveying practical and in-depth family planning information. Information dissemination is needed through entertainment education on social media, counseling services from health workers, and better counseling tools in the counseling process (15,16). East Kalimantan has geographical differences in each district and city (17), thus causing uneven digital capacity in accessing information. Using posters, banners, or other two-dimensional media can be a more massive and effective family planning campaign method in rural areas (18).

In the following variable, deliveries in health services, most respondents had delivered in health services such as hospitals and public health centers and were assisted by medical personnel. Some aspects that can increase or maintain the percentage of women who give birth at health services are strengthening women's autonomy, improving the quality of education and maternal health behavior, and increasing the uptake of antenatal care in urban and rural areas. Several factors that can hinder this effort are cultural factors, family beliefs, and the economy, so further monitoring and evaluation are still needed (19,20).

On indicators of child health and growth and development, it is known that the respondents who have babies or toddlers have fully immunized their children and breastfed.

However, only a few of these infants receive colostrum at the beginning of the breastfeeding process. Several previous studies stated that several factors hindered the process of giving colostrum at the beginning of the breastfeeding process, for example, culture, the medical condition of the infant or the mother's breast, lack of knowledge, and social, environmental factors that could hinder the smooth running of breastfeeding, for example, the support of a husband or family that gave stigma negative in breastfeeding (21–23).

In the case of hypertension in this study, it was also found that hypertensive patients did not take medication to control blood pressure in family members. Several studies state that the risk of hypertension is higher when a community is in an environment with a higher exposure to air pollution than other areas (24). This is by the study results that community 1 is located in the area of heavy equipment mobilization or the main road, so it is more exposed to air pollution, adding that community 1 has more active smokers than Community 2. Some strategies that can be disseminated to the public regarding efforts to prevent non-communicable diseases are that people are encouraged to make efforts to avoid hypertension according to recommendations of the Ministry of Health, namely activities outside the home, regular exercise, quitting smoking, regular blood pressure checks at the health center, adequate rest, diet. Balance and manage stress (3,10).

In the behavioral aspect of family members who have health risks is smoking behavior. Based on the results of the study, it is known that more than half of the respondents are smokers who have a habit of smoking indoors. He added that the daily consumption of cigarettes is dominated by 10-20 cigarettes per day. Several previous studies have explained that there is a link between parents who smoke and the incidence of stunting in school-age children. This is based on the finding that exposure to second-hand smoke in the household inhibits the growth of school-age children (25). It was also added that the effect of cigarette smoke in the home or residential environment can hinder the absorption of nutrition in children. Household economic conditions with higher spending costs for cigarettes compared to spending on nutritious food for the growth and development of children are at risk of causing intrauterine growth failure (IUGR), so this is a factor in the occurrence of stunting (25,26).

Another aspect of the Healthy Indonesia program is environmental sanitation. The community health components that support family health programs are access and availability of clean water, sanitation facilities that describe the management of liquid and solid domestic waste in the community, restrooms, and environmental conditions around the community's residence (27). Based on the study results, it is known that almost all respondents have access to clean water from government plumbing. As for the quality of water consumed by the public, it must have criteria for being free of chemicals, other harmful ingredients, or microorganisms that can harm human health, especially for people who live in urban or industrial areas such as in

Samarinda (28). This study also found that community restrooms did not meet the criteria for healthy latrines. There are also communities in the study area that already have family toilets equipped with septic tanks.

The provisions for healthy restrooms, according to the Ministry of Health (2004), are not to contaminate the surface of the soil, groundwater, and surface water, the distance between the restroom and a clean water source is not less than 10 meters, the construction is robust, it does not become a breeding ground for vectors, and it has a closed final sewer, based on studies (29), it is also stated that using Listerine reduces the risk of diarrhea in community settings. This health program focuses on changing people's behavior, which needs to align with creating healthy cities based on indicators of optimizing healthy families. Several practical concepts are necessary for cross-sector collaboration and coaching for critical communities, such as health cadres, youth groups, and groups of housewives, to be able to participate in exemplary health programs at the community level, especially in health and sanitation issues (30,31).

## 4. CONCLUSION

The conclusion in this study is that the characteristics of people at the neighboring level tend to be the same with ethnic background, education, marital status, and employment. The 12 indicators of the healthy Indonesia program and the family approach in Community I and Community II are the same.

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## REFERENCES

1. Zumla A, Hui DSC. Emerging and Reemerging Infectious Diseases: Global Overview. Infect Dis Clin North Am. 2019;33(4):xiii–xix.
2. Widyastuti SD, Sugiarto H. Gambaran Perilaku Hidup Bersih dan Sehat (PHBS) Kepala Keluarga Desa Karanganyar Kecamatan Pasekan Kabupaten Indramayu. J Kesehat Indra Husada. 2021;9(1):111–20.
3. Kementerian Kesehatan RI. Pedoman Umum Program Indonesia Sehat dengan Pendekatan Keluarga. Jakarta, Indonesia: Kementerian Kesehatan RI; 2016. 1–80 p.
4. Haris, Herawati L, Norhasanah, Irmawati. Pengaruh Kunjungan Rumah terhadap Indeks Keluarga Sehat (IKS) dan Tingkat Kemandirian Keluarga. Media Karya Kesehat. 2020;3(2):221–38.
5. Naheria, Nurjamal, Cahyono D, Fauzi

MS, Krisdiana G. Sosialisasi Perilaku Hidup Bersih dan Sehat (PHBS) dengan Sistem Tiga Jempol pada Siswa SDN 016 Antasari Kota Samarinda. Nusant J Pengabdi Kpd Masy. 2020;5(3):248–53.

6. Badan Pusat Statistik. Kecamatan Palaran dalam Angka. Vol. 6, Jurnal Penelitian Pendidikan Guru Sekolah Dasar. 2021.
7. Latifah N, Nugroho PS. Hubungan Stres Dan Merokok dengan Kejadian Diabetes Melitus di Wilayah Kerja Puskesmas Palaran Kota Samarinda Tahun 2019. Borneo Student Res. 2020;1(2):1243–8.
8. Padilah LN. Pengelolaan Program Kota Tanpa Kumuh (KOTAKU) di Kelurahan Rawa Makmur Kecamatan Palaran Kota Samarinda. J Ilmu Pemerintah. 2020;8(1):123–36.
9. Nugroho PS, Sari Y. HubunganTingkat Pendidikandan Usiadengan Kejadian HipertensidiWilayah Kerja Puskesmas Palaran Tahun 2019. J Dunia Kesmas. 2020;8(4):1–5.
10. Febriawati. H, Angraini. W, Lina. LF, Oktarianita, Pratiwi. BA, Safarudin, Suryani. D Y. Analisis of Indonesian Health Program Throught Family Aproach (PIS-PK) in the Working Area of Public Health Center of Jalan Gedang. Pakistan J Med Helth Sci Pakistan. 2020;14(1):581–5.
11. Sifullah MK, Sohel MS, Jamil S, Hasan MM, Anika J, Swadhin HR, et al. Assessment of Water, Hygiene, and Sanitation Practice and Associated Factors Among Bihari Refugee Camp in Bangladesh: A cross-sectional study. Heal Sci Reports. 2024;7(2):1–15.
12. Le L, Dao T, Tran GN, Nguyen T-MT. Case Studies in Chemical and Environmental Engineering Investigation of Canal Water Quality, Sanitation, and Hygiene Amongst Residents Living Along the Side of the Canals - A cross - Sectional Epidemiological Survey at Ho Chi Minh city, Vietnam. Case Stud Chem Environ Eng. 2024;9(January):100700.
13. Riyanti R, Ekasari F, Darmawan D, Prilatama Y, Aldino I, Putri EJ. Pengabdian Kepada Masyarakat Program Indonesia Sehat Dengan Pendekatan Keluarga (PIS-PK). J Public Heal Concerns. 2021;1(4):234–41.
14. Adnyani KD, Sumada IM, Wirata G. Evaluasi Program Indonesia Sehat dengan Pendekatan Keluarga (PIS PK) Pada Indikator Hipertensi di Dinas Kesehatan Provinsi Bali. J Pendidik Tambusai. 2023;7(3):21972–8.
15. Anggraeni I, Nurrachmawati A, Winardi W, Hasmawati H, Ramadhani DE. Determinants Associated with Discontinuation of Modern Contraceptive in East Kalimantan: a Further Analysis of Indonesia Demographic and Health Survey 2017. Glob Med Heal Commun. 2020;8(2):97–105.
16. Syaiful bahri AN, Anggreini G I,

Raharja MB, Ramadhani DE. The Effect of Women's Autonomy in the Uptake of Long-Acting and Permanent Contraception Methods Among Women Reproductive Age in East Kalimantan. J Kesehat Komunitas. 2020;6(1):98–103.

17. BPS Kalimantan Timur. Provinsi Kalimantan Timur dalam Angka 2020. Samarinda, Kalimantan Timur; 2020.
18. Zampogna G, Alessandri E, Cutolo M. Determinants of Unmet Need For Family Planning Among Married Women in Zambia. J Public Health Africa. 2020;11(4):15–21.
19. Efendi F, Ni'Mah AR, Hadisuyatmana S, Kuswanto H, Lindayani L, Berliana SM. Determinants of Facility-Based Childbirth in Indonesia. Sci World J. 2019;2019.
20. Sukirman R, Wahyono TYM, Shivalli S. Determinants of Healthcare Facility Utilization for Childbirth In Kuantan Singingi Regency, Riau province, Indonesia 2017. BMC Public Health. 2020;20(1):1–10.
21. Ginanti WA, Anshory J. The Relationship between Knowledge , Attitudes and Husband Support with Patterns of Breastfeeding in the Working Area of the Wonorejo Health Center , Samarinda City in 2022 Hubungan Pengetahuan , Sikap dan Dukungan Suami dengan Pola Pemberian ASI di Wilay. 2022;1(7):975–90.
22. Sri Widiastuti IAK, Waluyanti FT, Wanda D. The Practice of Exclusive Breastfeeding Can Reduce Frequency of Sick Children and Improve the Productivity of Health-Care Provider Mothers: Study in Samarinda, Indonesia. Compr Child Adolesc Nurs. 2019;42(sup1):300–12.
23. Ruminem, Mahbubah, Sari RP. Knowledge And Attitude Of Mothers About Exclusive Breastfeeding In The Area Of The Trauma Center Health Of Samarinda. J Kesehat Pasak …. 2021;4(1):1–10.
24. Xu J, White AJ, Niehoff NM, O'Brien KM, Sandler DP. Airborne Metals Exposure and Risk Of Hypertension in the Sister Study. Environ Res. 2020;191(July):110144.
25. Cao S, Xie M, Jia C, Zhang Y, Gong J, Wang B, et al. Household Second-Hand Smoke Exposure and Stunted Growth Among Chinese School-Age Children. Environ Technol Innov. 2022;27:102521.
26. Aryani LD, Riyandry MA. Tinggi Badan dan Perilaku Merokok Orangtua Berpotensi Terjadinya Stunting pada Balita. J Penelit Perawat Prof. 2019;1(1):61–70.
27. Farnham A, Dietler D, Engebretsen R. Investigating Health Impacts of Natural Resource Extraction Projects in Burkina Faso, Ghana, Mozambique, and Tanzania : Corresponding Author : JMIR Res Protoc. 2020;9:1–12.
28. Wang X, Cui L, Li J, Zhang C, Gao X, Fan B, et al. Water Quality Criteria For

The Protection Of Human Health Of 15 Toxic Metals and Their Human Risk In Surface Water, China. Environ Pollut. 2021;276.

29. Ali AF, Gujiba UK. Household Wastewater Management in sub-Saharan Africa: a review. Discov Water. 2024;4(1).
30. Anyolitho MK, Huyse T, Masquillier C, Nyakato VN, Poels K. Empowering Communities Through Citizen Science and Participatory Action Research: Implementation Of A Schistosomiasis Communication Campaign in Uganda. Humanit Soc Sci Commun. 2024;11(1).
31. Ifroh RH. Pemanfaatan Aplikasi Virtual Meeting dan Permainan Digital pada Webinar Edukasi PHBS Masyarakat di Masa Pandemi Covid-19. Abdimas Mulawarman J Pengabdi Kpd Masy. 2021;1(1):41–9.