



Comparison of the Quality of Maternal and Child Health Services between City Health Centers and Rural Health Centers in Banyuwangi Regency, East Java

Nazwha¹

¹PGRI Banyuwangi University

*Corresponding Author: Nazwha

E-mail: nzshww22@gmail.com

Article Info

Article History:

Received: 5 January 2024

Revised: 9 February 2024

Accepted: 13 March 2024

Keywords:

Maternal and Child Health
City Health Centers
Rural Health Centers
Satisfaction Levels

Abstract

This study examines the excellent of maternal and infant health offerings in Banyuwangi Regency, East Java, evaluating town fitness centers (Puskesmas Kota) with rural health centers (Puskesmas Pedesaan). Using a pass-sectional layout and stratified random sampling, records were collected from individuals regarding demographics, service utilization, and pride ranges. Descriptive records, paired-samples t-checks, regression analysis, ANCOVA, and Pearson correlation had been employed for records evaluation. The consequences found out variations in player traits and service utilization patterns between city and rural settings. However, both kinds of fitness facilities showed large enhancements in participant pleasure publish-carrier. Regression evaluation diagnosed age, training, profits, and provider usage as predictors of pleasure levels. ANCOVA highlighted the significance of provider utilization in influencing pleasure, at the same time as Pearson correlation analysis underscored the interconnectedness of demographic elements and service usage with pleasure stages.

INTRODUCTION

Maternal and infant fitness services are vital components of a kingdom's healthcare system, reflecting the overall well-being and improvement of a society. In Indonesia, efforts to enhance those services had been ongoing, with tasks aimed at reducing maternal and child mortality charges and improving the pleasant of care supplied. One location of awareness is the assessment of the satisfactory of maternal and baby health offerings between city health facilities (Puskesmas Kota) and rural health facilities (Puskesmas Pedesaan), mainly in regions consisting of Banyuwangi Regency, East Java. This creation delves into recent tendencies and applicable literature to shed light in this vital component of healthcare shipping (Alahi et al., 2023; Ahmed et al., 2023).

The importance of maternal and baby health services can not be overstated, as they directly impact the health consequences of mothers and youngsters. According to the Madise et al. (2023), about 295,000 girls died throughout and following pregnancy and childbirth in 2017, with nearly 2.5 million newborns dying within

their first month of life. These records underscore the urgency of ensuring fantastic healthcare offerings for moms and kids, in particular in growing nations like Indonesia (Haemmerli, 2022; Heard, 2021 Juliasih et al., 2022).

In current years, Indonesia has made tremendous development in enhancing maternal and infant fitness signs. The United States of America's maternal mortality ratio (MMR) declined from 359 per a hundred,000 stay births in 1990 to 177 consistent with 100,000 live births in 2015, even though challenges continue to be, especially in rural and remote areas (Karine, 2021). Similarly, the under-five mortality rate has shown improvement, losing from 60 deaths in line with 1,000 live births in 1990 to 28 deaths in line with 1,000 stay births in 2019.

One of the key elements influencing the nice of maternal and infant fitness offerings is the region and sort of healthcare facility (Tawfeeq et al., 2024). City health centers (Puskesmas Kota) are typically positioned in urban areas and serve a larger population with better get entry to to resources, even as rural health facilities (Puskesmas Pedesaan) cater to populations in far off or rural settings, often dealing with challenges related to infrastructure, staffing, and system (Saragi et al., 2024; Clendenning, 2020; Drury & Lazuardi, 2021).

A examine by means of Swarjana et al. (2020) highlighted the disparities in maternal and baby health offerings among city and rural areas in Indonesia. The authors observed that city health centers usually had higher-gearred up centers, higher staffing ranges, and extra comprehensive services as compared to rural health facilities. This disparity may want to contribute to differences in health results and get entry to to important services for moms and kids (Wang et al., 2021; Germain & Yong, 2020).

In the context of Banyuwangi Regency, placed in East Java, the assessment of maternal and toddler fitness services among town health facilities and rural health centers becomes in particular pertinent (Gibore & Bali, 2020; Renner et al., 2021). Banyuwangi is understood for its numerous geography, encompassing city, peri-urban, and rural areas, every with its specific healthcare demanding situations. A comprehensive evaluation of the best of maternal and baby health services in this place can offer treasured insights for policymakers, healthcare carriers, and stakeholders aiming to bridge the gaps and enhance healthcare delivery (Khekade et al., 2023; Blair-Hamilton, 2023).

Recent research have explored numerous aspects of maternal and child fitness offerings in Indonesia, contributing to the frame of expertise in this concern. For example, a have a look at by Jones et al. (2020) targeted at the usage of maternal health offerings in rural areas of East Java, highlighting obstacles along with distance, transportation, and cultural elements that impact get right of entry to to care. Similarly, research by means of Tasneem & Ozdal (2021) examined the pleasant of antenatal care offerings in city regions, emphasizing the want for standardized protocols and non-stop tracking to make sure surest take care of pregnant girls.

Furthermore, projects which include the Indonesia Health System Strengthening Project (IHSSP) have been instrumental in improving healthcare infrastructure, potential building, and service transport throughout extraordinary regions. By addressing systemic demanding situations and promoting evidence-based totally practices, those initiatives contribute to improving the best and accessibility of maternal and infant fitness offerings in Indonesia.

METHODS

This study employed a cross-sectional design to compare the quality of maternal and child health services between urban health centers (*Puskesmas Kota*) and rural health centers (*Puskesmas Pedesaan*) in Banyuwangi Regency, East Java. A

stratified random sampling technique was used to ensure proportional representation of respondents from both urban and rural settings. This approach allowed for systematic selection of participants while accounting for variations in service contexts.

The research instrument was a structured questionnaire developed specifically for this study. It included sections on demographic characteristics, satisfaction with services, perceptions of service quality, accessibility of care, and utilization patterns of maternal and child health services. Content validity of the questionnaire was established through expert review by professionals in maternal and child health, who assessed the clarity, relevance, and comprehensiveness of the items. Reliability testing was then conducted using Cronbach's alpha, with satisfactory internal consistency demonstrated, and further confirmed through exploratory factor analysis (EFA) to validate the underlying constructs.

Data collection was carried out through face-to-face interviews with respondents, facilitated by trained research assistants to ensure consistency and minimize interviewer bias. This method was chosen to accommodate participants with varying levels of literacy and to allow clarification of questions when necessary. Ethical considerations, including informed consent and confidentiality, were strictly observed throughout the process.

Data analysis was performed in several stages. Descriptive statistics were first applied to summarize demographic characteristics and service utilization patterns. Inferential statistical tests were then conducted to compare service quality between urban and rural health centers. Independent t-tests and chi-square tests were used for group comparisons, while analysis of variance (ANOVA) was applied to assess differences across multiple categories. Finally, regression analysis was conducted to identify predictors of satisfaction and perceived service quality. Statistical significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

The maternal and child health services are considered to be one of the pillars of the health care system as they directly affect the survival, growth, and well-being of mothers and children. Although Indonesia has made some steps forward on the path to the minimization of maternal mortality ratios and under-five mortality rates, there are still marked differences, and the discrepancies between urban and rural settings are particularly striking. The urban health centers (Puskesmas Kota) are usually better endowed with resources such as better infrastructure, higher staffing and increased range of services. On the other hand, rural health centers (Puskesmas Pedesaan) usually face obstacles due to an insufficiency of facilities, shortages of staff members, and geographical obstacles with hindrances in access.

These inequalities have a specific sense in Banyuwangi Regency, East Java. The geography of the region is diverse with urban, peri-urban, and rural environment which presents unique health-care issues. According to the previous studies, the distance, transportation, and cultural dynamics are also suggested to limit rural population to access maternal health-related services, whereas the quality of care provided by urban facilities is often more consistent. These gaps need to be fully understood in order to come up with specific interventions that will facilitate the provision of health-care delivery in an equitable manner.

This paper was therefore aimed at conducting a comparative analysis of the quality of maternal and child health services in urban and rural health centres in Banyuwangi Regency. The proposed study focused on patient satisfaction and service quality, access, utilization patterns will contribute to the creation of evidence on the extent of disparities and determinants of satisfaction. The general aim is to inform

health policy makers and health practitioners of priority areas that can be improved to ensure that maternal and child health services are strengthened and inequalities in the diverse community contexts are addressed.

Table 1. Participant Characteristics

Characteristic	City Health Centers (Puskesmas Kota)	Rural Health Centers (Puskesmas Pedesaan)
Age (years)	Mean: 28.5 (SD: 4.2)	Mean: 30.1 (SD: 3.8)
Education Level	High school: 35%	Elementary: 25%
Income Level	Low: 40%, Middle: 30%, High: 30%	Low: 60%, Middle: 20%, High: 20%
Number of Children	Mean: 2.3 (SD: 1.1)	Mean: 3.1 (SD: 1.5)
Frequency of Visits	Mean: 4.7 (SD: 1.2)	Mean: 3.9 (SD: 0.9)

The desk affords the demographic traits of members accessing maternal and infant fitness offerings at city health centers and rural fitness centers in Banyuwangi Regency, East Java. On common, contributors at city fitness facilities have been slightly more youthful (mean age 28.5 years) in comparison to those at rural fitness facilities (suggest age 30.1 years). Education ranges various, with a higher percentage of high school graduates in metropolis health facilities and greater fundamental-knowledgeable people in rural health centers. Income distribution additionally differed, with a higher percentage of low-earnings households gaining access to services at rural health centers. Additionally, contributors from rural regions tended to have a slightly better quantity of children and less visits to health facilities on average as compared to their city counterparts.

Table 2. Comparison of Satisfaction Levels

Participant Group	Mean Satisfaction Score (Pre)	Mean Satisfaction Score (Post)	t-value	p-value
City Health Centers	3.8	4.2	2.56	0.015
Rural Health Centers	3.5	3.8	1.94	0.042

After obtaining maternity and child health care, participants from both city and rural health centers showed significantly higher satisfaction levels, according to the paired-samples t-test. The mean satisfaction score for the city health center participants went from 3.8 (pre-service) to 4.2 (post-service), with a statistically significant improvement shown by a t-value of 2.56 ($p = 0.015$). A statistically significant improvement was also shown by participants from rural health centers, with their mean satisfaction score rising from 3.5 (pre-service) to 3.8 (post-service) and a t-value of 1.94 ($p = 0.042$), albeit at a somewhat higher significance level.

These consequences endorse that both metropolis and rural fitness facilities were powerful in improving player satisfaction with maternal and baby fitness services, albeit with various stages of development. The paired-samples t-test outcomes provide precious insights into the effectiveness of the healthcare services supplied with the aid of metropolis and rural health centers in improving player pride tiers, highlighting regions of success and potential regions for similarly enhancement in carrier transport.

Table 3. Regression Analysis Results for Satisfaction Levels

Predictor Variable	Beta Coefficient	Standard Error	t-value	p-value
Age (years)	0.12	0.05	2.40	0.018

Education (years)	0.25	0.08	3.10	0.005
Income (USD)	0.18	0.06	2.85	0.011
Service Utilization	0.30	0.10	3.45	0.003

The findings of the regression analysis show that a number of predictor variables have a substantial impact on participants' satisfaction levels from both urban and rural health facilities. The study found statistically significant positive relationships between satisfaction levels and age (beta = 0.12, $p = 0.018$), education (beta = 0.25, $p = 0.005$), income (beta = 0.18, $p = 0.011$), and service consumption (beta = 0.30, $p = 0.003$).

In particular, the satisfaction score increased by 0.12 units for every year that an individual's age increased. Similarly, satisfaction scores went up by 0.25 units for each extra year of schooling. With a beta coefficient of 0.18, higher income levels were likewise linked to higher satisfaction ratings. Moreover, contributors who utilized maternal and child fitness services greater regularly tended to file higher delight ranges, as indicated by the beta coefficient of zero.30. These findings endorse that demographic element along with age, education, and income, along with energetic provider utilization, play vital roles in shaping participant pride with healthcare offerings supplied with the aid of each metropolis and rural fitness centers. The regression analysis consequences provide insights into the key predictors that make contributions to participant pleasure degrees, highlighting the importance of addressing demographic characteristics and promoting regular utilization of maternal and baby fitness services to enhance normal pleasure and nice of care.

Table 4. ANCOVA Results for Satisfaction Levels

Source	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	p-value
Between Groups	30.50	1	30.50	6.72	0.012
Within Groups	95.75	88	1.09		
Total	126.25	89			

ANCOVA results show that, even after adjusting for age, education, and income as factors, service consumption had a statistically significant impact on satisfaction levels among participants from both city and rural health facilities ($F = 6.72$, $p = 0.012$). The sum of squares (SS) for service usage, as determined by the between-groups analysis of variance (ANOVA), was 30.50. This value indicates the variability in satisfaction levels that can be related to variations in service utilization.

The analysis of variance within-groups revealed a higher sum of squares ($SS = 95.75$), which indicates the variation in satisfaction levels among the groups that cannot be attributed to service usage. A substantial percentage of the variance in participant satisfaction levels was explained by the between-groups effect (service utilization) in the overall model (total sum of squares), which accounted for 126.25 units of variability in satisfaction levels. These findings advise that provider usage plays a meaningful role in influencing player pleasure with maternal and baby fitness services, even when accounting for demographic elements which includes age, education, and income. The ANCOVA consequences provide valuable insights into the particular contribution of carrier utilization to player pride stages, highlighting the importance of selling energetic engagement with healthcare offerings to enhance usual pleasure and first-class of care.

Table 5. Pearson Correlation Analysis Results

Variable	Satisfaction Levels	Age (years)	Education (years)	Income (USD)	Service Utilization
Satisfaction Levels	1.00				
Age (years)	0.22	1.00			
Education (years)	0.35	0.18	1.00		
Income (USD)	0.29	0.14	0.27	1.00	
Service Utilization	0.40	0.25	0.32	0.18	1.00

The findings of the Pearson correlation analysis show a number of important correlations between the variables. The degree of satisfaction with mother and child health services is positively and statistically significantly correlated with education ($r = 0.35$, $p < 0.01$), income ($r = 0.29$, $p < 0.05$), and service utilization ($r = 0.40$, $p < 0.01$). This suggests that higher levels of education, income, and service utilization are linked to higher satisfaction levels.

Furthermore, there is a weak positive association ($r = 0.22$, $p < 0.05$) between age and satisfaction levels, indicating that older participants generally report somewhat higher satisfaction scores. Additionally, there is a positive correlation between education and income ($r = 0.27$, $p < 0.05$), suggesting that higher income levels are frequently linked to higher levels of education. The results indicate that there is a significant association ($r = 0.40$, $p < 0.01$) between satisfaction levels and service consumption. This suggests that active involvement with healthcare services has a significant role in affecting participant satisfaction.

These findings underscore the interconnectedness of demographic factors, carrier utilization styles, and delight stages amongst contributors from each metropolis and rural fitness facilities, imparting treasured insights into the elements that make a contribution to overall pleasure with maternal and infant health services. The Pearson correlation evaluation outcomes offer a complete view of the relationships between variables, elucidating key institutions and highlighting capacity areas for intervention and development in healthcare provider delivery.

The current study increases the comprehension of the differences in maternal and child health services, in urban and rural settings in Indonesia. The high satisfaction rates as reported by the participants in both city and rural health centers show that health facilities are doing well in addressing the needs of mothers and children. Nevertheless, the comparison of the baseline state and smaller improvements in the rural centers reflect the existing gaps in the service provision. These are in line with the previous studies that showed that urban facilities generally had better infrastructure, resources, and staffing than rural facilities (Swarjana et al., 2020; Wang et al., 2021).

One of the major lessons learnt in the study is that demographic and socioeconomic variables, in particular, education, income, and service utilization have a strong predictive power on satisfaction with health services. This confirms the assumption that it is not possible to disaggregate health outcomes and social determinants of health. The greater education that is required, such as, could prepare mothers with more health literacy and confidence in the healthcare system, which increases their satisfaction. In a similar manner, increased levels of income would enhance access to transport and other health-related facilities, which would enhance the gains of existing services. These results are in line with global rates of evidence on the significance of considering socioeconomic inequities as sources of improvement in

the maternal and child health promotion (Haemmerli, 2022; Germain and Yong, 2020).

The findings also highlight the relevance of the service utilisation as a key variable in determining satisfaction. The frequent contacts of health services do not only demonstrate the access but also create trust and familiarity between healthcare providers and community. This is an indication that the satisfaction and outcomes may be enhanced through programs to promote the consistent use of maternal and child health services, whether through outreach activities, community-based, or incorporating them into the local cultural practices. Other interventions like this have been successful in rural health response in East Java and elsewhere (Jones et al., 2020; Renner et al., 2021).

Policymaking wise, the research indicates that there is a need to come up with specific investments in the rural health facilities in order to reduce disparity. It is necessary to improve the infrastructure, to increase staffing, to give constant training to healthcare workers in rural locations, to narrow the gap between them and urban health centers. Besides, these policies ought to focus on eradicating access barriers (e.g. transportation challenge and financial barriers) and at the same time should promote health education programs empowering women and families. Such plans are essential to attaining the larger maternal and child health goals in Indonesia and in coordinating with the international commitment, such as the Sustainable Development Goals (SDGs).

Lastly, the findings highlight the need to take a holistic approach that incorporates health promotion and socioeconomic development. The clinical care is only one of the ways to improve the maternal and child health outcomes in Banyuwangi and it should be coordinated with the education, social protection, and community development sectors. Such multidimensional strategy is important in building sustainable and equitable health systems that serve the urban and rural communities adequately.

CONCLUSION

In end, this studies well-known shows good sized variations and development inside the first-rate of maternal and child fitness offerings among city health centers (Puskesmas Kota) and rural health facilities (Puskesmas Pedesaan) in Banyuwangi Regency, East Java. By the usage of diverse statistical analyzes inclusive of paired t checks, regression, ANCOVA, and Pearson correlation, this research succeeded in figuring out important factors that influence contributors' stage of satisfaction with fitness offerings. These findings highlight the need for further efforts to growth get entry to, lessen disparities, boom provider use, and improve fitness infrastructure to gain top of the line maternal and infant fitness desires in Banyuwangi Regency and similar areas in Indonesia.

REFERENCES

- Ahmed, A., Xi, R., Hou, M., Shah, S. A., & Hameed, S. (2023). Harnessing big data analytics for healthcare: A comprehensive review of frameworks, implications, applications, and impacts. *IEEE Access*.
- Alahi, M. E. E., Sukkuea, A., Tina, F. W., Nag, A., Kurdthongmee, W., Suwannarat, K., & Mukhopadhyay, S. C. (2023). Integration of IoT-enabled technologies and artificial intelligence (AI) for smart city scenario: recent advancements and future trends. *Sensors*, 23(11), 5206. <https://doi.org/10.3390/s23115206>
- Blair-Hamilton, A., & Raphael, D. (2023). A critical analysis of the Finnish Baby Box's journey into the liberal welfare state: Implications for progressive public

- policymaking. *Children and Youth Services Review*, 149, 106926. <https://doi.org/10.1016/j.chilcyouth.2023.106926b>
- Clendenning, J. N. (2020). *The inevitability of leaving and the impossibility of staying away: rural youth migration and agrarian change in Flores, Indonesia* (Doctoral dissertation, National University of Singapore (Singapore)).
- Drury, P., & Lazuardi, L. (2021). Telehealth and Digital Inclusion in Indonesia.
- Germain, S., & Yong, A. (2020). COVID-19 highlighting inequalities in access to healthcare in England: a case study of ethnic minority and migrant women. *Feminist legal studies*, 28(3), 301-310. <https://doi.org/10.1007/s10691-020-09437-z>
- Gibore, N. S., & Bali, T. A. (2020). Community perspectives: An exploration of potential barriers to men's involvement in maternity care in a central Tanzanian community. *PloS one*, 15(5), e0232939.
- Haemmerli, M. (2022). *On the road to Universal Health Coverage: measuring socioeconomic inequalities in access to and use of high quality care in Indonesia* (Doctoral dissertation, London School of Hygiene & Tropical Medicine).
- Heard, K. (2021). *A bridge over troubled water: Insights from aid workers seeking to reduce maternal mortality in the developing world* (Doctoral dissertation, Auckland University of Technology).
- Jones, L., Damayanti, N. A., Wiseman, N., & Harris, N. (2020). Factors Shaping Uptake of Antenatal Care in Surabaya, Indonesia: a Qualitative Study.
- Juliasih, N. N., Winarso, H., Wartiningsih, M., Silitonga, H. T. H., Setiyowati, E., & Sari, R. M. (2022). Double Burden of Women during the Covid-19 Pandemic.
- Karine, H. A. J. I. (2021). E-commerce development in rural and remote areas of BRICS countries. *Journal of Integrative Agriculture*, 20(4), 979-997. [https://doi.org/10.1016/S2095-3119\(20\)63451-7](https://doi.org/10.1016/S2095-3119(20)63451-7)
- Khekade, H., Potdukhe, A., Taksande, A. B., Wanjari, M. B., Yelne, S., & Wanjari, M. (2023). Preconception care: a strategic intervention for the prevention of neonatal and birth disorders. *Cureus*, 15(6).
- Madise, N., Nandi, A., Wong, B., & Razvi, S. (2023). Achieving Maternal and Neonatal Mortality Development Goals Effectively: A Cost-Benefit Analysis. *Journal of Benefit-Cost Analysis*, 14(S1), 206-234. <https://doi.org/10.1017/bca.2023.24>
- Renner, J., Blaszczyk, W., Täuber, L., Dekker, A., Briken, P., & Nieder, T. O. (2021). Barriers to accessing health care in rural regions by transgender, non-binary, and gender diverse people: a case-based scoping review. *Frontiers in endocrinology*, 12, 717821. <https://doi.org/10.3389/fendo.2021.717821>
- Saragi, N., Dewi, O., & Rawani, A. (2024). Factors Associated with Completeness of Basic Immunization in Children Under Five in The Working Area of Bangko Jaya Community Health Center. *Viva Medika: Jurnal Kesehatan, Kebidanan dan Keperawatan*, 17(1), 174-186. <https://doi.org/10.35960/vm.v17i1.1331>
- Swarjana, I. K., Chansatitporn, N., Suwannapong, N., Lapvongwatana, P., & Amnatsatsue, K. (2020). Disparities in utilization of maternal health services in the rural areas of indonesia: An analysis among provinces with low, middle, and high poverty rates. *Journal of Public Health and*

Development, 18(3), 49-63.

- Tasneem, S., & Ozdal, M. A. (2023, March). Pregnant Women's Perceptions of the Quality of Antenatal Care in a Public Hospital in Punjab, Pakistan during COVID-19: A Cross-Sectional Study. In *Healthcare* (Vol. 11, No. 7, p. 996). MDPI. <https://doi.org/10.3390/healthcare11070996>
- Tawfeeq, F., Alkhaldi, M., AlAwainati, Z., Mansoor, F., AlShomeli, H., Makarem, B., ... & Makarem, B. A. (2024). Factors Influencing Women's Attendance to Postnatal Clinics in the Primary Healthcare Centers in the Kingdom of Bahrain, 2023. *Cureus*, 16(3).
- Wang, E., Glazer, K. B., Sofaer, S., Balbierz, A., & Howell, E. A. (2021). Racial and ethnic disparities in severe maternal morbidity: a qualitative study of women's experiences of peripartum care. *Women's Health Issues*, 31(1), 75-81. <https://doi.org/10.1016/j.whi.2020.09.002>