

Evaluation of The Dynamics of Active Family Planning Program Participant Coverage as A BKKBN Program Performance Indicator: A Comparative Analysis of Three Districts in Lampung Province (2020–2024)

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ABSTRACT

Introduction: Family planning through modern contraceptive use remains an important public health strategy for improving maternal and child health outcomes while managing population growth. Although Indonesia has achieved relatively high contraceptive coverage nationally, disparities persist across regions, reflecting differences in program implementation, service accessibility, and local health system capacity. Therefore, understanding regional trends is essential for evaluating program performance and supporting evidence-based policymaking. This study aimed to analyze trends in contraceptive use among married women of reproductive age (15–49 years) in Tulang Bawang, Tulang Bawang Barat, and Mesuji, Lampung Province, from 2020 to 2024. **Method:** This quantitative descriptive study used secondary data from *Lampung in Figures 2025*, published by the Central Statistics Agency (BPS) of Lampung Province. The primary indicator analyzed was the percentage of currently married women aged 15–49 years who were using contraception. Comparative analysis was conducted to examine differences in the magnitude and patterns of change across the three regencies. **Results:** The findings indicated heterogeneous regional trends. Tulang Bawang showed the most consistent increase, rising from 63.36% in 2020 to 68.71% in 2024, representing a cumulative increase of 5.35 percentage points. Tulang Bawang Barat showed fluctuating trends but an overall increase of 4.08 percentage points. Mesuji experienced a sharp decline in 2021, followed by gradual recovery, reaching 69.41% in 2024, slightly above its 2020 baseline. **Conclusion:** These findings highlight the need for context-specific and sustainable strategies to promote equitable increases in contraceptive use across regions.

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INTRODUCTION

Family planning, particularly the use of contraceptive methods among married women of reproductive age, is widely recognized as a fundamental strategy for improving maternal and child health while controlling rapid population growth in low- and middle-income countries like Indonesia. Modern contraceptive use has been associated with positive public health outcomes, including reduced unintended pregnancies, improved birth spacing, and reduced maternal mortality. According to recent global literature, the determinants of contraceptive use are multifaceted, involving not only individual sociodemographic characteristics but also accessibility to health services, education, and policy-driven family planning efforts (Feriani, P., et al., 2024). In the Indonesian context, sociodemographic factors such as education level, wealth index, and geographic residence have been shown to significantly influence contraceptive utilization, highlighting the need for targeted interventions across regions. (Adnani, QES, et al., 2025).

Furthermore, evaluations of national family planning programs emphasize that equitable and sustainable access to contraceptive services is crucial for achieving long-term increases in contraceptive prevalence rates. Health system factors, particularly health insurance coverage, have been shown to increase the likelihood of modern contraceptive use among married couples, highlighting the important role of mechanism protection financial in support behavior health reproductive health (Maharani, A., et al., 2023). At the same time, various barriers to contraceptive adoption remain evident, particularly among marginalized groups such as women from low socioeconomic backgrounds and working women, who often face obstacles related to limited information, economic hardship, and restrictive work responsibilities. access to services (Nurriszka, RH, et al., 2022). In addition, exposure to accurate information and effective communication strategies regarding family planning have been identified as important determinants influencing women's decisions, particularly in the selection and continuation of long-acting reversible contraceptive methods (Amin, K., et al., 2022).

Despite continued improvement in the performance of the national family planning program, disparities in contraceptive prevalence persist across subnational regions in Indonesia. This variation is often attributed to differences in the quality of program implementation, health infrastructure capacity, and effectiveness. system service health (Wijayanti, UT, et al., 2024). Previous studies have provided important evidence regarding the determinants and patterns of contraceptive use in Indonesia, but substantial gaps remain in understanding variations at the subnational level. Using nationally representative data, Idris (2019) demonstrated that contraceptive use among married women was associated with socioeconomic and demographic characteristics, including age, education, wealth status, place of residence, and number of living children. These findings indicate that contraceptive utilization is influenced by a combination of individual and contextual characteristics rather than by a single determinant. Similarly, Gafar et al. (2020), using data from the 2017 Indonesian Demographic and Health Survey, identified women's age, number of living children, education, wealth index, and exposure to information through television and the internet as significant factors associated with contraceptive use among married women in Indonesia. More recent evidence has also demonstrated that contraceptive utilization varies substantially across geographic areas. Fadhil et al. (2025), using Susenas 2022 data, found that age, occupation, and education were significantly associated with contraceptive use among couples of reproductive age in DKI Jakarta, with education emerging as the most influential factor. In addition, Khatimah et al. (2022) reported that contraceptive decision-making, age, parity, education, and occupation were

related to contraceptive use in Indonesia, highlighting the importance of household decision-making and social factors in family planning behavior.

Therefore, analyzing contraceptive use trends at the district level – using reliable data from official statistical publications – is crucial for identifying regional disparities, evaluating program performance, and informing evidence-based planning strategies aimed at strengthening family planning services at the local level.

LITERATURE REVIEW

Family planning through the use of modern contraceptive methods remains a vital public health strategy for improving maternal and child health outcomes while managing population growth globally. Comprehensive analyses across sub-Saharan Africa indicate that educational attainment, urban residence, and socioeconomic status are key determinants of modern contraceptive use among married women of reproductive age, reinforcing the importance of structural and social factors in shaping contraceptive adoption (Tesema, Z.T., et al., 2022). Regional inequalities in family planning coverage have also been documented, with variations in access and use contributing to persistent disparities in contraceptive prevalence between different population groups (Obeng, A.A., et al., 2025). Furthermore, lower levels of modern contraceptive use are consistently associated with unmet need for family planning in resource-limited settings, underscoring the urgency of targeted, equity-oriented health policies (Kazibwe, J., et al., 2024).

In the Indonesian context, urban-rural differences in the use of modern contraception increasingly describe complexity behavior health Reproductive health. Evidence from the Indonesian Demographic and Health Survey indicates that although overall rates of modern contraceptive use appear comparable between urban and rural areas, determinants such as education level, household wealth index, and exposure to family planning information influence utilization differently across settings (Adnani, QES, 2025). At the global level, a systematic review also concluded that knowledge, marital status, socioeconomic position, and formal partnerships were consistently associated with higher contraceptive use among women aged 15–49 years (Chowdhury, AR, et al., 2025). These findings This in a way collective show that behavior contraception formed by characteristics contextual and individual, thus requiring a tailored program response.

Determinants of contraceptive use also extend to vulnerable and marginalized populations. A systematic review focusing on people with disabilities in low- and middle-income countries revealed that the prevalence of modern contraceptive use is significantly lower than in the general population and is strongly influenced by education, wealth, knowledge, and marital status (Chowdhury, AR, et al., 2025). This evidence suggests that equity gaps in family planning access may be more pronounced among disadvantaged groups, necessitating inclusive and disability-sensitive reproductive health interventions. Furthermore, a multilevel analytical study using a machine learning approach in Ethiopia identified predictors such as age, household wealth, and reproductive history as significant determinants of modern contraceptive use (Adem, JB, 2025). Overall, these findings highlight the multilayered influences – from individual characteristics to broader systemic conditions – that shape reproductive health decisions.

Finally, global trend analysis emphasizes the importance of ongoing monitoring of family planning indicators to assess progress and stagnation in contraceptive use over time. Studies examining the proportion of family planning demand met by modern methods reveal persistent socioeconomic and regional inequalities that may hinder progress towards universal coverage (Obeng, A.A., et al., 2025). Therefore, ongoing monitoring and analysis of subnational trends provide crucial evidence for policymakers to refine reproductive

health strategies according to local demographic and service delivery contexts (Kazibwe, J., et al., 2024). Collectively, this literature supports the use of local data – such as those used in this study – to inform evidence-based planning aimed at addressing both demand- and supply-side challenges in family planning programs (Obeng, A.A., et al., 2025).

METHOD

This study employed a quantitative descriptive longitudinal design using secondary aggregate data to analyze trends and changes in contraceptive use among married women of reproductive age (15–49 years) in three regencies of Lampung Province, Indonesia: Tulang Bawang, Tulang Bawang Barat, and Mesuji. The observation period covered 2020–2024. The unit of analysis was the regency-year observation, resulting in 15 observations (3 regencies × 5 years). The primary variable was the percentage of married women aged 15–49 years who were reported as using contraceptive methods. Regency and year were used as geographical and temporal dimensions for comparing patterns of contraceptive use.

Data were obtained from the Statistics of Lampung Province (Badan Pusat Statistik Provinsi Lampung), specifically the relevant contraceptive-use indicators reported in the annual *Provinsi Lampung Dalam Angka (Lampung Province in Figures)* publications. The data were extracted by identifying and recording the reported percentage for each selected regency and year and were subsequently cross-checked against the original BPS publications to minimize transcription errors (Badan Pusat Statistik Provinsi Lampung, 2024). The 2020–2024 observation period and three regencies were selected based on the availability and consistency of comparable official data and the specific geographical scope of the study. The contraceptive-use indicator was treated as a continuous percentage variable.

Data were analyzed descriptively using Microsoft Excel [insert version] for data entry, calculations, tabulation, and visualization. Annual contraceptive-use percentages, absolute changes, and relative growth were calculated for each regency, and temporal patterns were presented using tables and line graphs. No inferential statistical tests were conducted because the study focused on describing aggregate population-level trends. Data completeness was assessed during extraction; missing or unverifiable values were recorded as missing and were not statistically imputed. As a secondary-data study, potential limitations included dependence on BPS data definitions and reporting procedures, inability to assess individual-level determinants or causal relationships, and potential differences in data collection across years. Furthermore, the purposive selection of three regencies limits the generalizability of the findings to other areas of Lampung Province or Indonesia.

Data was obtained from the official publication *Lampung in Figures 2025* issued by the Central Statistics Agency. Lampung Province. This publication provides annual statistical indicators at the district level, including demographic and family planning data. The variables analyzed in study This is Percentage of married women (15–49 years old) currently using contraception (KB). Data analysis was conducted using descriptive statistical techniques. Annual changes were calculated to determine year-to-year variation using the formula:

$$\Delta_t = P_t - P_{t-1}$$

with:

Δ_t = annual change in percentage

P_t = percentage in the current year

P_{t-1} = percentage in the previous year

Absolute growth over the five-year period (2020–2024) is calculated using:

$$\Delta_{2020-2024} = P_{2024} - P_{2020}$$

To assess the general level of contraceptive coverage during the study period, the average percentage was calculated as follows:

$$\bar{P} = \frac{\sum_{t=2020}^{2024} P_t}{5}$$

$\bar{P}$ = average percentage over five years

P_t = annual percentage value

The overall trend classification (e.g., stable increase, fluctuating increase, or fluctuating recovery) was determined based on the direction and consistency of annual changes. A comparative analysis was then conducted to evaluate differences in growth magnitude and trend patterns among the three districts. Because this study used publicly available aggregated secondary data, no ethical clearance was required.

RESULTS AND DISCUSSION

Table 1 presents the annual percentage trend in family planning use among married women of reproductive age (15–49 years) in Tulang Bawang Regency during the period 2020–2024. This table illustrates the annual change, cumulative growth, and overall average rate over five consecutive years.

Table 1. Percentage Trend of KB Use among PUS in Tulang Bawang Regency (2020–2024)

Year	Percentage (%)	Annual Change (%)
2020	63.36	-
2021	63.43	+0.07
2022	67.86	+4.43
2023	68.59	+0.73
2024	68.71	+0.12
Δ 2020–2024		+5.35
Average	66.39	

The data shows a consistent upward trend in contraceptive use in Tulang Bawang Regency. The percentage increased from 63.36% in 2020 to 68.71% in 2024, representing an absolute increase of 5.35 percentage points over the five-year period. The most substantial annual increase occurred in 2022 (+4.43%), indicating a significant increase in service utilization during that year. The overall annual average during the study period was 66.39%, confirming the steady strengthening of family planning participation in the regency.

Table 2 illustrates the annual percentage change in contraceptive use among married women of reproductive age in West Tulang Bawang Regency from 2020 to 2024. This table highlights the annual fluctuations, cumulative changes, and average coverage over the observation period.

The results show a fluctuating but generally increasing pattern in West Tulang Bawang Regency. Contraceptive use increased from 65.49% in 2020 to 69.57% in 2024, resulting in a cumulative increase of 4.08 percentage points. Despite a decline in 2022 (-1.07%), the district showed recovery in subsequent years, particularly in 2024 (+1.89%). The

overall average coverage during the study period was 67.51%, indicating relatively stable participation in family planning programs.

Table 2. Percentage Trend of KB Use among PUS in West Tulang Bawang Regency (2020–2024)

Year	Percentage (%)	Annual Change (%)
2020	65.49	-
2021	67.95	+2.46
2022	66.88	-1.07
2023	67.68	+0.80
2024	69.57	+1.89
Δ 2020–2024		+4.08
Average	67.51	

Table 3 presents the percentage trend in family planning use among married women aged 15–49 in Mesuji Regency over a five-year period. The table includes annual variation, cumulative change, and average prevalence rates.

Table 3. Percentage Trend of Family Planning Use Among Female Families in Mesuji Regency (2020–2024)

Year	Percentage (%)	Annual Change (%)
2020	72.51	-
2021	64.95	-7.56
2022	66.34	+1.39
2023	65.40	-0.94
2024	69.41	+4.01
Δ 2020–2024		-3.10
Average	67.72	

Mesuji Regency exhibits a more dynamic trend compared to the other two regencies. The percentage declined sharply from 72.51% in 2020 to 64.95% in 2021 (–7.56%), the largest annual decline among all the regencies studied. However, a gradual recovery occurred in the following years, reaching 69.41% in 2024. Despite this improvement, the overall change between 2020 and 2024 remained negative (–3.10%). The five-year average was 67.72%, the highest among all regencies studied. three districts analyzed.

Table 4 summarizes comparative trends and analysis of contraceptive use growth in Tulang Bawang, Tulang Bawang Barat, and Mesuji regencies during 2020–2024. This table combines baseline values, final coverage, cumulative growth, average annual percentage, overall trend, and the highest annual increase observed in each district.

In a way comparative, Tulang Bawang show pattern the most consistent and stable growth, with the highest cumulative increase (+5.35 percentage points). Tulang Bawang Barat shows moderate increase but stable (+4.08 percentage points) despite minor fluctuations. Meanwhile, Mesuji experienced a sharp decline at the beginning followed by a gradual recovery, although the final value in 2024 remained slightly below the 2020 baseline. In terms of annual average coverage, Mesuji recorded the highest average (67.72%), followed by Tulang Bawang. Tulang Bawang Barat (67.51%) and Tulang Bawang (66.39%). These findings indicate heterogeneity in trend dynamics across districts, with varying levels of stability and growth intensity.

Table 4. Analysis of Trends and Growth in Contraceptive Use Among Married Women (15–49 Years) in Selected Districts (2020–2024)

Analysis Indicators	Tulang Bawang	Tulang Bawang Barat	Mesuji
Initial Value (2020)	63.36	65.49	72.51
Final Grade (2024)	68.71	69.57	69.41
Absolute Increase (2020–2024)	+5.35	+4.08	-3.10
Annual Average (%)	66.39	67.51	67.72
Overall Trend	Steady improvement	Fluctuating but increasing	Fluctuates with recovery
Highest Annual Increase	+4.43 (2022)	+2.46 (2021)	+4.01 (2024)

The trend shown for Tulang Bawang indicates a steady increase in contraceptive prevalence from 2020 to 2024, reflecting a consistent increase in use over time. This gradual increase in contraceptive prevalence has been observed in demographic surveillance studies, where increased access to family planning services contributed to higher contraceptive use among married women (Shekhar, C. et al., 2025). Furthermore, the observed increases in specific years align with findings from regions where increased programmatic efforts and health communication strategies have increased contraceptive use. This reinforces the relevance of ongoing reproductive health initiatives, including community outreach and targeted counseling, which have been associated with consistent growth in contraceptive use (Agushyana, F., et al., 2022).

Tulang Bawang Barat shows a fluctuating but overall increasing pattern of contraceptive use, similar to determinants observed elsewhere where socioeconomic and demographic characteristics influence uptake. Factors such as education level and exposure to information are highly correlated with contraceptive decisions (Muharomah and Zimmerman, 2025). Small increases and fluctuations over time may reflect variability in service provision or community engagement efforts, which have been found in other Indonesian contexts to significantly impact the sustainability and uptake of contraceptive methods (Agushyana, F., et al., 2022).

Mesuji showed a significant initial decline followed by a gradual recovery. Such a pattern can emerge in contexts where changes in service availability, external disruptions (e.g., policy changes or supply constraints), or shifts in public perception temporarily alter contraceptive use (Guttmacher Institute global, 2013). The recovery over subsequent years indicates successful catch-up efforts in achieving family planning targets. This is consistent with evidence from public health studies showing that program strengthening contributes to reversing temporary declines in contraceptive use (Agushyana, F., et al., 2022).

Comparative trend analysis confirms that regional variations in contraceptive use are common, influenced by program differences and accessibility factors. Globally, similar heterogeneity has been documented, with some populations maintaining steady increases while others experience variations due to contextual determinants (Hossain, S., et al., 2024). The differential patterns observed among the three districts align with evidence that policy effectiveness, local infrastructure, and communication efforts significantly shape contraceptive adoption and sustainability. Comprehensive family planning strategies that consider socio-demographic factors could support more uniform increases across regions (Muharomah and Zimmerman, 2025).

Overall, the trend analysis in Tulang Bawang, West Tulang Bawang, and Mesuji highlights that, although each region follows a different trajectory, consistent and context-sensitive family planning strategies are crucial for increasing contraceptive use. These findings align with broader evidence from Indonesian and international research showing

that sustained access to reproductive health services and information correlates with improved contraceptive outcomes (Agushybana, F., et al., 2022).

CONCLUSION

In conclusion, the analysis of trends in contraceptive use among married women aged 15–49 years in the Tulang Bawang, Tulang Bawang Barat, and Mesuji during 2020–2024 showed varying regional dynamics despite relatively high overall coverage. Tulang Bawang showed the most consistent and stable growth, Bones West Bawang experienced moderate fluctuations with an overall increasing trend, while Mesuji showed a sharp decline followed by a gradual recovery, although coverage ultimately remained slightly below the 2020 baseline. These findings indicate regional disparities in program performance and highlight the importance of sustainable and context-specific family planning strategies to ensure steady and equitable increases in contraceptive utilization.

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