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Family Support, Accessibility, and Cadre Roles in Relation to Mothers' Posyandu Attendance in Kebon Kosong, First Quarter of 2026

Rofiatun Zakiah[1*], Cici Demiyati[2], Giffara Rana Septiart[3*]
[1-3] Universitas Indonesia Maju, Indonesia
email: giffara.septiart@gmail.com[1]

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Abstract

This study examined associations between family support, healthcare accessibility, cadre roles, and mothers' attendance at integrated health posts (Posyandu) in Kebon Kosong Urban Village during January–March 2026. An analytical quantitative study employed an observational cross-sectional design involving 106 mothers of children under five, selected through proportional random sampling. Structured questionnaires measured family support, accessibility, perceived cadre roles, and attendance regularity; Posyandu registers supplied supplementary attendance records. Regular attendance was defined as at least three visits during the study period. Data were processed using Jamovi and analyzed descriptively and through Pearson's chi-square tests, with continuity correction for cadre roles. Of the respondents, 74 (69.8%) attended irregularly and 32 (30.2%) attended regularly. Low family support was reported by 49.1%, low accessibility by 61.3%, and less-active cadre roles by 76.4%. Attendance was significantly associated with family support ($p = 0.002$) and accessibility ($p < 0.001$), but not with perceived cadre roles ($p = 0.141$). The cadre-role odds ratio was 2.24 (95% confidence interval: 0.883–5.71). These findings identify household support and practical access as relevant correlates of attendance. Interventions should prioritize family engagement and feasible service arrangements. The cross-sectional design precludes causal inference and supports further assessment of barriers to regular preventive child-health visits.

Keywords: *Accessibility, Cadre Roles, Family Support, Maternal Attendance, Posyandu.*

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INTRODUCTION

Community-based maternal and child healthcare programs remain essential components of preventive health systems, although their effectiveness depends on sustained participation rather than the availability of services alone, particularly among mothers responsible for monitoring children's growth and development (Acharya et al., 2022). Evidence from Nepal indicates that growth-monitoring services remain underutilized when maternal knowledge, domestic responsibilities, and competing time demands constrain regular participation, demonstrating that healthcare access must be examined alongside household circumstances (Upadhyay et al., 2024). In Indonesia, Integrated Health Posts (Posyandu) provide community-based preventive services involving child growth monitoring, nutritional assessment, immunization support, and health education, with regular attendance serving as an operational requirement for maintaining continuity of care. National child-weighing coverage increased from 61.3% in 2020 to 80.96% in 2024, remaining below the national target of 85%, while coverage in Jakarta increased from 40.1% to 87.51% during the same period, indicating improvements accompanied by historical variation in service utilization. Research on community-based maternal and child health surveillance in urban Depok has identified population mobility, volunteer capacity, and limitations in community engagement as implementation challenges, suggesting that urban healthcare systems may experience participation difficulties despite the presence of established health infrastructure (Sigit et al., 2025). In 2025, Kemayoran District recorded 6,882 children attending Posyandu against a target population of 7,222, representing 95.3% coverage, although this district-level achievement does not establish the consistency of participation across individual urban villages or monthly service periods. Records from Kebon Kosong Urban Village during January–March 2026 documented 1,201, 1,240, and 1,189 monthly attendances against a combined target population of 1,650

children across 13 Posyandu, respectively, demonstrating persistent differences between the number of targeted children and recorded attendance, as presented in Table 1.

Table 1. Posyandu Attendance in Kebon Kosong Urban Village During the First Quarter of 2026

Posyandu	Target	January	February	March
Melati	100	62	66	60
Bougenville	120	80	90	85
Amarillis	145	105	103	100
Kenanga I & II	195	163	173	170
Anggrek	147	130	125	114
Mawar	173	124	124	105
Sedap Malam	104	69	77	64
Cempaka	150	106	105	127
Dahlia	140	91	90	85
Aster	85	60	54	61
Teratai	148	111	126	118
Nusa Indah	63	46	45	38
Kantil	80	54	62	62

Source: Posyandu cadre records, Kebon Kosong Urban Village, first quarter of 2026

Previous investigations have established that maternal participation in Posyandu activities is associated with interconnected household, behavioral, and community healthcare factors, although the relative importance of these factors varies according to the populations and outcomes examined. Research conducted in Banjar Regency identified significant relationships between maternal knowledge, employment status, family support, and the frequency of toddler visits, indicating that participation reflects both access to household resources and competing responsibilities (Syarwani et al., 2025). A study in Takerharjo Village examined maternal education, knowledge, family support, and cadre involvement in relation to mothers' motivation to attend Posyandu, identifying the relevance of family-related characteristics while distinguishing motivation from observed attendance behavior (Fahmawati et al., 2026). Attention to community-level influences has also developed through research examining the role of healthcare cadres in mothers' active participation, particularly their responsibilities for mobilization, communication, and encouragement of routine child-health visits (Ampulembang et al., 2025). The organizational conditions supporting cadre performance represent a related dimension, as research on supportive environments and cadre roles indicates that community healthcare activities cannot be separated from the institutional and social support available to volunteers (Sholikhah et al., 2024). These findings establish family support and cadre involvement as relevant but conceptually distinct dimensions of Posyandu participation, while their different measurements and research settings prevent a uniform interpretation of how household resources, healthcare access, and community outreach jointly relate to attendance.

The existing literature leaves unresolved questions concerning the relationship between household support, practical accessibility, and cadre involvement when these dimensions are examined together within a defined urban Posyandu population. Research in Fakfak Regency assessed maternal knowledge, motivation, family support, and distance to healthcare facilities in relation to active Posyandu attendance, providing evidence that geographical access and household characteristics warrant consideration within the same investigation (Hindom et al., 2026). Comparative research in Bangladesh examined the utilization of home-based and facility-based growth-monitoring services, extending the assessment of accessibility to service-delivery arrangements but addressing a healthcare structure different from neighborhood-based Posyandu operations (Hossain et al., 2025). Studies of mothers' participation in Nepal have further demonstrated the relevance of social relationships, community organization, and household circumstances, although their institutional arrangements and target populations limit direct generalization to Indonesian urban villages (Acharya et al., 2022). While these investigations provide evidence concerning individual participation determinants and service-delivery characteristics, they do not directly establish how family support, accessibility, and cadre roles

are jointly associated with mothers' attendance across the Posyandu network of Kebon Kosong. Differences in geographical settings, operational definitions, measured outcomes, and analytical emphasis further limit the extent to which existing findings can explain attendance patterns within this particular urban population. The research gap consequently concerns the absence of directly applicable, locally integrated evidence on the three explanatory dimensions during a common observation period, rather than an absence of previous research on family support, service access, or community healthcare workers individually.

The practical significance of this research is reflected in the disparity between the established Posyandu service network and recorded maternal participation in Kebon Kosong, where monthly attendance represented approximately 72.8%, 75.2%, and 72.1% of the combined target population during January, February, and March 2026, respectively. Every Posyandu recorded attendance below its designated target in all three months, while preliminary observations and discussions with Family Welfare Movement administrators and local cadres identified insufficient family encouragement, limited transportation assistance, inadequate appointment reminders, employment obligations, and domestic responsibilities as potential participation barriers. Studies examining mothers' Posyandu visits indicate that attendance-related behavior must be understood through multiple contributing characteristics, supporting an assessment that does not reduce irregular participation to maternal awareness alone (Trisnawati et al., 2024). The role of community healthcare cadres also warrants examination because their capacity to encourage participation may depend on the supportive environment in which they operate, creating a distinction between the presence of volunteers and the effectiveness of their community engagement activities (Sholikhah et al., 2024). International evidence on growth-monitoring utilization indicates that irregular attendance can restrict opportunities for continuous assessment and timely identification of growth-related concerns, especially when household responsibilities interfere with recommended service schedules (Upadhyay et al., 2024). Without local evidence distinguishing family-related constraints from service-access barriers and cadre-related conditions, healthcare administrators may struggle to identify which aspects of community participation require priority attention, potentially weakening the allocation of limited resources for outreach, scheduling assistance, and preventive child-health services.

The present research is positioned within community-based maternal and child healthcare scholarship by examining family support, accessibility, and cadre roles as three distinct explanatory dimensions associated with mothers' attendance across Posyandu services in Kebon Kosong during the first quarter of 2026. Unlike research primarily examining mothers' motivation to attend Posyandu, the present study focuses on attendance behavior as the outcome of interest, allowing the relationship between reported supportive conditions and actual service participation to be investigated more directly (Fahmawati et al., 2026). Its analytical scope also differs from cadre-centered investigations by incorporating household support and service accessibility, permitting assessment of whether cadre involvement remains relevant when participation is considered alongside other potential constraints (Ampulembang et al., 2025). Whereas comparative growth-monitoring research has investigated utilization under different service-delivery arrangements, the present inquiry concentrates on variation within an existing network of neighborhood health posts rather than differences between home-based and facility-based healthcare models (Hossain et al., 2025). Research on urban community-based maternal and child health surveillance provides further justification for examining the organizational contribution of community volunteers, although surveillance-system implementation and mothers' Posyandu attendance represent different operational outcomes requiring separate interpretation (Sigit et al., 2025). The proposed novelty consists of integrating household-level support, practical accessibility, and cadre-related characteristics within a geographically defined urban population and a common three-month attendance period, enabling a locally specific assessment of their respective associations. This contribution addresses the identified contextual and analytical gap without assuming that previously established associations are universally transferable or that relationships observed through a non-experimental design necessarily indicate causal effects.

This study aims to examine the relationships between family support, healthcare service accessibility, and cadre roles and mothers' Posyandu attendance in Kebon Kosong Urban Village during January–March 2026. Specifically, it seeks to characterize maternal attendance within the existing Posyandu service network and assess the association of each explanatory dimension with participation among mothers of children under five. The investigation distinguishes household assistance and

encouragement from practical conditions affecting service accessibility and from the communication, mobilization, and support functions performed by healthcare cadres. By examining these dimensions within the same geographical and temporal boundaries, the research seeks to identify their respective relationships with attendance while maintaining the distinction between statistical association and causal influence. Its scientific contribution lies in providing an integrated, locality-specific account of the factors associated with utilization of community-based preventive child-health services, extending the applicability of existing participation research to a defined urban setting. The findings are intended to provide an empirical basis for Posyandu administrators, primary healthcare personnel, and community cadres to develop more targeted approaches to family engagement, service accessibility, and community outreach according to the participation patterns and associated factors identified in Kebon Kosong.

RESEARCH METHODS

This study employed a quantitative analytical approach with an observational cross-sectional design to examine associations between family support, healthcare accessibility, cadre roles, and mothers' Posyandu attendance without introducing an intervention (Notoatmodjo, 2020). The research was conducted in Kebon Kosong Urban Village during the first quarter of 2026, with mothers of children under five years who were eligible for Posyandu services constituting the study population. A sample of 106 respondents was selected through proportional random sampling across Posyandu units in 13 neighborhood associations (RW), with sample allocations determined by each unit's proportion of the target population. Before questionnaire administration, participating mothers received an explanation of the research purpose and provided informed consent. Primary data were collected using structured questionnaires covering sociodemographic characteristics, family support, healthcare accessibility, cadre roles, and attendance regularity, reflecting variables examined in previous investigations of maternal participation in Posyandu services (Trisnawati et al., 2024). Secondary data were obtained from Posyandu documentation and registers, including target-population figures, attendance histories, Posyandu profiles, and service coverage records, reflecting the relevance of routine community health information to maternal and child health surveillance (Sigit et al., 2025).

Family support was assessed through emotional, informational, instrumental, and appraisal support, representing dimensions of household assistance relevant to mothers' participation in Posyandu services (Syarwani et al., 2025). Healthcare accessibility was measured through service availability, geographical access, affordability, service accommodation, and social acceptability, addressing practical conditions relevant to the utilization of community-based growth-monitoring services (Hossain et al., 2025). Cadre roles were evaluated through health education, community mobilization, basic healthcare delivery, recordkeeping and reporting, assistance, and home visits, reflecting the community engagement functions examined in research on cadres' involvement in maternal Posyandu participation (Ampulembang et al., 2025). Mothers' attendance was classified as regular when they attended Posyandu at least three times during the observation period and irregular when they attended fewer than three times. Questionnaire data were edited, coded, processed, and cleaned using Jamovi, followed by univariate analysis of respondent characteristics and study-variable distributions; instrument reliability was evaluated using Cronbach's alpha, yielding coefficients of 0.894 for family support, 0.872 for accessibility, and 0.724 for cadre roles, all exceeding the threshold of 0.70. Bivariate associations between the independent variables and mothers' attendance were examined using Pearson's chi-square test, with a continuity-corrected chi-square test applied to the cadre-role analysis and statistical significance established at $p < 0.05$.

RESULTS AND DISCUSSION

Respondent Characteristics and Distribution of Study Variables

The study included 106 mothers of children younger than five years from Kebon Kosong Urban Village, providing a respondent profile for interpreting subsequent analyses of Posyandu attendance. As presented in Table 2, 69 children (65.1%) were female and 37 (34.9%) were male. Most mothers reported having one child (65; 61.3%), followed by two children (31; 29.2%), three children (6; 5.7%), and four children (4; 3.8%). Children aged 12–23 months represented the largest age category, comprising 53 observations (50.0%). These frequencies describe the composition of the sampled households but do not establish differences in attendance according to sex, parity, or child age. Previous

research has treated maternal knowledge and children's age as potentially relevant to Posyandu visits, although those relationships cannot be inferred from respondent frequencies alone (Arbie et al., 2024).

Educational attainment was concentrated at the senior high or vocational level, reported by 45 mothers (42.5%), while 32 (30.2%) held bachelor's degrees. The remaining respondents comprised 17 junior-high graduates (16.0%), six diploma holders (5.7%), four elementary-school graduates (3.8%), and two mothers without formal schooling (1.9%). Occupation displayed a different concentration, with 71 mothers (67.0%) identified as homemakers. Private-sector employees accounted for 20 respondents (18.9%), entrepreneurs for 10 (9.4%), civil servants or military/police personnel for two (1.9%), and other occupations for three (2.8%). Such variation indicates that the respondents did not share identical educational or employment circumstances, although the distribution alone does not identify the demands placed on each mother. Previous Posyandu research has examined educational and occupational characteristics as possible correlates of participation, reinforcing the relevance of documenting these variables without assigning causal meaning to them (Syarwani et al., 2025). Table 2 retains the complete frequency distribution underlying this descriptive account.

Table 2. Characteristics of Respondents

Characteristic	Category	n	%
Sex of toddler	Female	69	65.1
	Male	37	34.9
Number of children	1 child	65	61.3
	2 children	31	29.2
	3 children	6	5.7
	4 children	4	3.8
Toddler age	0–11 months	21	19.8
	12–23 months	53	50.0
	24–35 months	16	15.1
	36–47 months	9	8.5
	48–59 months	7	6.6
Education	No schooling	2	1.9
	Elementary	4	3.8
	Junior high	17	16.0
	Senior high/vocational	45	42.5
	Diploma	6	5.7
	Bachelor	32	30.2
Occupation	Housewife	71	67.0
	Private employee	20	18.9
	Entrepreneur	10	9.4
	Civil servant/TNI/Polri	2	1.9
	Other	3	2.8

Source: Primary data processed in Jamovi, 2026

The age distribution indicates that 74 children (69.8%) were younger than 24 months, including 21 infants aged 0–11 months (19.8%) and 53 children aged 12–23 months (50.0%). The older categories comprised 16 children aged 24–35 months (15.1%), nine aged 36–47 months (8.5%), and seven aged 48–59 months (6.6%). This composition places considerable descriptive weight on the early-childhood period, when routine growth-monitoring contacts are particularly relevant to preventive healthcare services. Studies in Ethiopia have examined utilization of growth-monitoring services among mothers of infants, demonstrating the importance of considering age-defined populations when interpreting attendance findings (Tufa et al., 2022). Research in Nepal similarly assessed service use among young children and emphasized that opportunities for repeated monitoring depend on actual utilization rather than nominal program availability (Upadhyay et al., 2024). Nevertheless, the present frequency table does not indicate whether attendance varied by child-age category, and no age-specific association can be established from these descriptive results.

The educational profile requires interpretation apart from the behavioral measures examined in the principal statistical analysis. Although 83 respondents had completed senior high or vocational education, a diploma, or a bachelor's degree, these qualifications were not analyzed as independent predictors in the reported bivariate results. Formal schooling may influence exposure to health information, but educational attainment should not be treated as interchangeable with directly measured maternal knowledge. Previous research examining maternal education and knowledge alongside household support illustrates why these characteristics may warrant separate measurement when investigating mothers' motivation to attend Posyandu (Fahmawati et al., 2026). The predominance of homemakers should not be interpreted as evidence that respondents had unrestricted time to attend healthcare services. Childcare requirements and domestic responsibilities remain plausible logistical considerations, although the occupational distribution does not quantify their intensity, frequency, or relationship with attendance. The demographic findings consequently provide contextual information for interpreting family support, accessibility, and cadre roles rather than evidence of additional statistically tested relationships.

The distribution of the principal explanatory variables provides further information about the household and service-related conditions reported by mothers participating in the study. As presented in Table 3, family support was rated low by 52 respondents (49.1%), moderate by 17 (16.0%), and good by 37 (34.9%). Nearly half of the respondents therefore occupied the lowest category of reported support, although the available frequencies do not identify which individual support components contributed most strongly to these assessments. The questionnaire addressed emotional, informational, instrumental, and appraisal support, representing different forms of assistance potentially relevant to healthcare participation. Research relating household support to toddler Posyandu visits illustrates the relevance of assessing support as a distinct explanatory dimension rather than treating family circumstances solely as demographic characteristics (Syarwani et al., 2025). Research on mothers' participation in community health groups has likewise identified household circumstances and social support as relevant dimensions of engagement, although differences between national service systems limit direct comparisons (Acharya et al., 2022).

Table 3. Distribution of Family Support, Accessibility, and Cadre Role

Variable	Category	n	%
Family support	Low	52	49.1
	Moderate	17	16.0
	Good	37	34.9
Accessibility	Low	65	61.3
	Moderate	16	15.1
	Good	25	23.6
Cadre role	Less active	81	76.4
	Active	25	23.6

Source: Primary data processed in Jamovi, 2026

Accessibility displayed a more pronounced concentration in the low category, reported by 65 mothers (61.3%). A further 16 respondents (15.1%) rated accessibility moderate, while 25 (23.6%) rated it good. The accessibility assessment encompassed service availability, geographical access, affordability, service accommodation, and social acceptability, extending beyond the physical distance between households and Posyandu facilities. These findings indicate that most respondents reported low accessibility, but the aggregated categories cannot establish which individual dimension contributed most to their assessment. Comparative research examining home-based and facility-based growth-monitoring programs demonstrates the relevance of service-delivery arrangements to utilization, providing an international comparison without implying identical organizational conditions (Hossain et al., 2025). Indonesian research on healthcare accessibility in island communities has also highlighted geographical constraints on obtaining services, although such circumstances cannot be transferred directly to an urban population with different geographical characteristics (Muluk & Hayat, 2025). The concentration of respondents reporting low accessibility establishes a descriptive basis for examining its statistical association with attendance regularity in the subsequent analysis.

Perceptions of cadre activity were less favorable than the distributions observed for the other measured variables. Eighty-one respondents (76.4%) categorized cadre roles as less active, compared with 25 respondents (23.6%) who categorized them as active. This classification reflected mothers' assessments of health education, community mobilization, basic service assistance, recordkeeping, reporting, and home visits rather than independent observations of each cadre's performance. Research investigating cadre involvement and mothers' attendance has emphasized community mobilization and communication with families as relevant functions in maintaining participation in neighborhood healthcare services (Ampulembang et al., 2025). Related research examining supportive environments and cadre roles indicates that community healthcare activities may be influenced by organizational and social conditions surrounding volunteer participation (Sholikhah et al., 2024). Nevertheless, the predominance of less-active ratings does not independently establish whether cadres performed fewer activities, whether their activities were insufficiently visible to mothers, or whether respondents evaluated their performance using different expectations.

The distributions of the three explanatory variables reveal different proportions of unfavorable assessments, with 49.1% reporting low family support, 61.3% reporting low accessibility, and 76.4% considering cadre roles less active. These percentages should not be combined into a single indicator of service disadvantage because the questionnaire measured separate constructs with different operational meanings. The descriptive tables also do not establish whether mothers reporting low family support were the same respondents who experienced low accessibility or perceived cadre participation as limited. Attendance data presented in the subsequent cross-tabulations identify 74 mothers as irregular attendees and 32 as regular attendees, establishing the outcome categories for the association tests. Research on community-based maternal and child health surveillance emphasizes the need to distinguish patterns of healthcare participation from organizational conditions governing service delivery, particularly in urban populations (Sigit et al., 2025). Descriptive distributions provide the empirical profile necessary for interpreting the sample, but determining whether particular conditions are associated with attendance requires examination of the corresponding contingency tables and statistical tests. The subsequent analyses therefore evaluate family support and accessibility in relation to attendance before examining cadre roles, maintaining a distinction between the prevalence of reported conditions and evidence of statistical associations.

Associations of Family Support and Healthcare Accessibility with Posyandu Attendance

The bivariate analysis examined whether reported family support was associated with mothers' attendance at Posyandu during the first quarter of 2026. Attendance was categorized as regular for at least three visits and irregular for fewer than three visits across the observation period. Of the 106 respondents, 74 were classified as irregular attendees and 32 as regular attendees. This distribution provides the outcome structure against which the three levels of family support were compared. Pearson's chi-square test indicated a statistically significant association between family support and attendance ($p = 0.002$). Previous research in Banjar Regency also examined family support in relation to toddler visits, supporting the relevance of household assistance as a participation-related characteristic (Syarwani et al., 2025). The observed association describes differences in attendance frequencies across support categories rather than demonstrating that changes in household support would independently cause more frequent visits.

Table 4 shows that 43 of the 74 irregular attendees (58.1%) reported low family support, compared with nine of the 32 regular attendees (28.1%). Moderate support was reported by 13 irregular attendees (17.6%) and four regular attendees (12.5%). Good support was reported by 18 irregular attendees (24.3%) and 19 regular attendees (59.4%). The percentages presented for attendance categories use the respective attendance-group totals as their denominators, whereas the family-support totals describe the distribution across all 106 respondents. This distinction is necessary because the larger proportion of good support among regular attendees should not be interpreted as the percentage of all mothers with good support who attended regularly. Research in Takerharjo Village similarly examined family support as a component of mothers' engagement with Posyandu services, although its outcome concerned motivation rather than the attendance classification used in the present study (Fahmawati et al., 2026).

Table 4. Relationship between Family Support and Toddler Attendance

Family support	Not routine n (%)	Routine n (%)	Total n (%)	p-value
Low	43 (58.1)	9 (28.1)	52 (49.1)	0.002
Moderate	13 (17.6)	4 (12.5)	17 (16.0)	0.002
Good	18 (24.3)	19 (59.4)	37 (34.9)	0.002
Total	74 (100)	32 (100)	106 (100)	0.002

Source: Primary data processed in Jamovi, 2026

The contrast between the low- and good-support groups becomes particularly apparent when their distributions are examined across attendance categories. Low family support was more prevalent among irregular attendees, whereas good support represented the largest proportion among mothers who attended regularly. The moderate-support category contained fewer respondents than either comparison group, limiting the descriptive information available for interpreting intermediate levels of household assistance. Family support in this investigation encompassed emotional encouragement, informational assistance, instrumental support, and appraisal, each representing a potentially relevant dimension of mothers' ability to maintain scheduled healthcare visits. Research on maternal participation in community health groups has identified household circumstances and supportive social relationships as relevant conditions affecting engagement with maternal and child healthcare activities (Acharya et al., 2022). The present analysis, however, examined aggregate family-support categories rather than separate statistical relationships for appointment reminders, transportation assistance, childcare, or individual forms of emotional encouragement. The observed association consequently supports the relevance of family support as a measured construct but does not establish which specific component contributed most strongly to differences in attendance.

Interpretation of the family-support association must also account for the observational and cross-sectional characteristics of the investigation. Family support and attendance were assessed within the same study period, preventing determination of whether supportive household conditions preceded attendance behavior or were influenced by previous experiences with Posyandu services. Although educational attainment, occupation, number of children, and child age were recorded, the reported statistical analysis did not estimate their combined relationships with family support and attendance. Previous investigations of mothers' Posyandu participation have considered multiple maternal and household characteristics, suggesting that attendance behavior may reflect several interconnected conditions rather than a single explanatory factor (Trisnawati et al., 2024). The statistically significant chi-square result should accordingly be interpreted as evidence of a bivariate association rather than an adjusted estimate of the independent contribution of family support. Nevertheless, the concentration of irregular attendance among mothers reporting limited support identifies household engagement as a relevant area for further assessment, particularly where domestic responsibilities and practical assistance may influence participation in community-based preventive healthcare.

Healthcare accessibility was the second explanatory factor examined in relation to mothers' attendance and demonstrated a statistically significant bivariate association. Pearson's chi-square test yielded $p < 0.001$, indicating that the distribution of regular and irregular attendance differed across the three accessibility categories. Among the 74 irregular attendees, 54 respondents (73.0%) reported low accessibility, nine (12.2%) moderate accessibility, and 11 (14.9%) good accessibility. Among the 32 regular attendees, low accessibility was reported by 11 mothers (34.4%), moderate accessibility by seven (21.9%), and good accessibility by 14 (43.8%). These distributions demonstrate that low accessibility was concentrated among irregular attendees, while good accessibility accounted for a larger proportion of regular attendees. Comparative research examining home-based and facility-based growth-monitoring programs has highlighted the relevance of healthcare delivery arrangements when investigating differences in service utilization (Hossain et al., 2025). The present investigation, however, assessed accessibility within an existing network of community health posts and did not compare alternative service-delivery models or independently evaluate the effectiveness of different healthcare arrangements.

Accessibility was operationalized through service availability, geographical access, affordability, service accommodation, and social acceptability, representing distinct conditions affecting the practical utilization of healthcare services. A low accessibility rating should consequently

not be interpreted exclusively as long travel distance or transportation expense, because the questionnaire incorporated several service-related dimensions. Of the 65 mothers reporting low accessibility, 54 attended irregularly and 11 attended regularly, whereas the 25 respondents reporting good accessibility comprised 11 irregular and 14 regular attendees. These frequencies indicate differences in attendance regularity across accessibility categories without identifying which individual access component accounted for the observed relationship. Research conducted in Nepal has similarly examined factors associated with growth-monitoring service utilization among young children, providing comparative evidence that practical healthcare access deserves consideration when investigating participation in preventive child-health programs (Upadhyay et al., 2024). The observed frequency distributions and statistical significance of the accessibility relationship are presented in Table 5, preserving the original categories and reported analytical results.

Table 5. Relationship between Accessibility and Toddler Attendance

Accessibility	Not routine n (%)	Routine n (%)	Total n (%)	p-value
Low	54 (73.0)	11 (34.4)	65 (61.3)	<0.001
Moderate	9 (12.2)	7 (21.9)	16 (15.1)	<0.001
Good	11 (14.9)	14 (43.8)	25 (23.6)	<0.001
Total	74 (100)	32 (100)	106 (100)	<0.001

Source: Primary data processed in Jamovi, 2026

The significant associations observed for family support and accessibility concern different dimensions of mothers' interaction with Posyandu services. Family support describes resources, encouragement, and practical assistance available within households, whereas accessibility concerns the conditions under which healthcare services can be reached and utilized. These dimensions may operate simultaneously for individual respondents, but the separate cross-tabulations do not establish whether mothers reporting low family support were also those experiencing limited accessibility. Research examining healthcare accessibility in the Kangean Islands has addressed geographical and service-related barriers, illustrating the relevance of location-specific conditions while also demonstrating why findings from geographically isolated communities cannot automatically be generalized to urban Jakarta (Muluk & Hayat, 2025). The earlier investigation by Fadhilah and Arta (2025), discussed in the original research, reported a different conclusion regarding the statistical relationship between accessibility and mothers' participation, indicating that measurement approaches and local service characteristics may contribute to variation across studies. Although accessibility yielded a smaller p-value than family support, this difference does not independently establish that accessibility exerted a stronger influence on attendance behavior. A comparison of their relative contributions would require appropriate effect-size estimates and consideration of potentially relevant respondent characteristics rather than relying exclusively on differences in statistical significance.

The findings presented in Tables 4 and 5 identify statistically significant associations between mothers' attendance and two distinct conditions, namely family support and healthcare accessibility. The concentration of irregular attendance among respondents reporting low support or limited accessibility suggests that household assistance and practical service conditions deserve attention when investigating barriers to sustained Posyandu participation. Community healthcare initiatives may consequently benefit from evaluating the availability of family assistance, communication of service schedules, transportation arrangements, and compatibility between Posyandu activities and mothers' daily responsibilities. Research on community-based maternal and child health surveillance in urban Indonesia has identified operational and community-engagement challenges that provide a relevant basis for considering such service-level assessments (Sigit et al., 2025). Since the reported analyses were bivariate and cross-sectional, the findings do not establish causal effects or demonstrate that either variable independently predicts attendance after accounting for other potential determinants. The subsequent analysis of cadre roles provides an additional empirical comparison, allowing the findings for household support and service accessibility to be interpreted alongside the measured involvement of community healthcare cadres.

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Cadre Roles, Attendance Patterns, and Implications for Community-Based Healthcare

Cadre involvement was evaluated as the third explanatory variable in relation to mothers' Posyandu attendance during the first quarter of 2026. Of the 106 respondents, 81 (76.4%) perceived cadres as less active, whereas 25 (23.6%) considered their roles active. The attendance comparison involved 74 mothers classified as irregular attendees and 32 classified as regular attendees. Unlike family support and accessibility, cadre roles were not statistically associated with attendance under the continuity-corrected chi-square test ($p = 0.141$). The result indicates insufficient evidence to reject the hypothesis of independence between the two measured variables at the predetermined significance level of 0.05. Previous research examining cadre involvement in mothers' Posyandu participation provides a basis for considering the direction and uncertainty of this finding rather than interpreting the nonsignificant result as proof that cadre involvement is irrelevant (Ampulembang et al., 2025).

Among mothers who attended irregularly, 60 respondents (81.1%) rated cadres as less active, while 14 (18.9%) rated them as active. Among regular attendees, 21 respondents (65.6%) perceived cadres as less active, compared with 11 (34.4%) who perceived them as active. These distributions indicate a descriptive concentration of irregular attendance among respondents reporting limited cadre involvement, although the less-active category also represented the majority of the study sample. The less-active category contained 81 respondents, while the active category contained 25, producing substantially different group sizes for the attendance comparison. Percentages in the attendance columns were calculated using the respective totals of irregular and regular attendees rather than the number of respondents within each cadre-role category. This distinction is necessary because the larger proportion of irregular attendees reporting less-active cadres does not independently establish a statistically significant relationship between the variables. Table 6 presents the original cross-tabulation, continuity-corrected significance result, and odds-ratio estimate used to evaluate the association.

The reported odds ratio was 2.24, with a 95% confidence interval of 0.883–5.71. This estimate indicates higher observed odds of irregular attendance among mothers who perceived cadres as less active than among those who perceived cadres as active. However, the confidence interval includes the null value of 1, while the continuity-corrected chi-square test produced a probability value exceeding the established significance threshold. The relatively wide confidence interval also indicates uncertainty regarding the magnitude of the association within the sampled population. Since the data originated from an observational cross-sectional investigation, the odds ratio represents an association between measured categories rather than evidence of a causal relationship. Earlier research on family support and cadre participation has identified these dimensions as relevant to Posyandu visits, but findings from other settings cannot resolve the statistical uncertainty observed in Kebon Kosong (Amanah, 2025).

Table 6. Relationship between Cadre Role and Toddler Attendance

Cadre Role	Not routine n (%)	Routine n (%)	Total n (%)	p-value	OR (95% CI)
Less active	60 (81.1)	21 (65.6)	81 (76.4)	0.141	2.24 (0.883–5.71)
Active	14 (18.9)	11 (34.4)	25 (23.6)	0.141	2.24 (0.883–5.71)
Total	74 (100)	32 (100)	106 (100)	0.141	2.24 (0.883–5.71)

Source: Primary data processed in Jamovi, 2026

The conceptual framework applied in the original investigation positions cadre involvement as a reinforcing factor that may support the continuation of preventive healthcare behavior. Within this framework, health education, encouragement, community mobilization, reporting activities, and assistance represent potential channels through which cadres maintain communication between healthcare providers and families. The questionnaire operationalized cadre roles through health education, community mobilization, basic healthcare delivery, recordkeeping and reporting, assistance, and home visits. These components represent different responsibilities, but the available frequency distributions do not establish which activities were performed consistently or how often respondents encountered them. Research examining supportive environments and Posyandu cadre roles has addressed the organizational and social conditions associated with community healthcare activities, indicating that volunteer involvement cannot be assessed exclusively through formal role assignments (Sholikhah et al., 2024). Comparative research on cadres' educational roles in areas with different stunting conditions further demonstrates the relevance of examining specific health-promotion

functions rather than treating cadre participation as a single undifferentiated activity (Sukaesih et al., 2024). The nonsignificant association identified in Kebon Kosong consequently applies to the composite cadre-role classification and cannot establish the separate relationships of education, reminders, home visits, or administrative assistance with mothers' attendance.

Differences between the present findings and previous Indonesian studies require consideration of population characteristics, operational measurements, and local healthcare arrangements. Research conducted by Amanah (2025) examined maternal knowledge, cadre roles, and family support in relation to toddler Posyandu visits. Hartati (2026) investigated maternal knowledge and cadre involvement in relation to attendance among children aged one to five years in Pesawaran Regency. These investigations addressed related healthcare behaviors but were conducted in settings that differed from the urban community represented by the 106 respondents in Kebon Kosong. Differences in respondents' circumstances, healthcare organization, and the measurement of cadre activities may contribute to variations in statistical findings, although the present dataset does not provide a direct comparative test of these explanations. The absence of statistical significance in Kebon Kosong should consequently be interpreted as a setting-specific finding rather than evidence that earlier associations were invalid or that community healthcare cadres have no relevance to maternal participation.

A further consideration concerns the distinction between mothers' perceptions of cadre activity and independently documented performance of cadre responsibilities. The cadre-role variable was derived from structured questionnaire responses rather than direct measurements of the frequency, duration, or quality of individual cadre activities. Although 76.4% of respondents categorized cadre involvement as less active, this distribution cannot independently identify deficiencies in particular services or establish why individual mothers failed to attend regularly. Research examining community-based maternal and child health surveillance in urban Indonesia has highlighted organizational and community-engagement challenges, indicating that volunteer activities operate within broader healthcare service arrangements (Sigit et al., 2025). The present analysis did not report multivariable adjustment for family support, accessibility, maternal education, employment, or children's age. Potential relationships among these characteristics could influence the observed association between perceived cadre involvement and attendance, but the available bivariate results cannot determine their respective contributions. The nonsignificant finding consequently limits the strength of the statistical inference without establishing that cadre engagement lacks practical value or that improvements in cadre activities would necessarily be ineffective.

Local attendance records provide further information for interpreting the differences between the three explanatory variables. During January–March 2026, every Posyandu in Kebon Kosong recorded monthly attendance below its designated target population, despite the availability of regularly scheduled community health services. These administrative records describe attendance counts at the service-unit level, whereas the questionnaire analysis classified individual respondents according to whether they completed at least three visits during the observation period. The two sources should not be interpreted as equivalent measures because aggregate service records cannot independently establish the attendance history or household circumstances of each sampled mother. In the bivariate analysis, family support ($p = 0.002$) and accessibility ($p < 0.001$) demonstrated statistically significant associations with attendance, while cadre roles did not ($p = 0.141$). Research investigating Posyandu visit coverage in Indonesia has also examined participation-related barriers, supporting attention to household circumstances and practical service conditions when evaluating community healthcare utilization (Djafar et al., 2025).

The findings identify different empirical relationships between family support, accessibility, cadre involvement, and regular Posyandu attendance among mothers in Kebon Kosong. Although the cadre-role odds ratio suggested higher observed odds of irregular attendance among respondents reporting less-active cadres, the confidence interval and significance test did not provide sufficient evidence to establish a statistically significant association. Family support and accessibility, by comparison, demonstrated significant bivariate associations, although neither result establishes causation or the independent predictive contribution of these variables. Community healthcare planning may consequently prioritize the assessment of household assistance, appointment communication, transportation requirements, and practical service accessibility while maintaining cadres' responsibilities for health education and community mobilization. Research examining factors associated with mothers' participation in Posyandu activities provides a relevant basis for integrating

household engagement with service-level participation strategies (Amsriani et al., 2026). Interpretation remains restricted by the cross-sectional design, the 106 respondents drawn from one urban village, and the absence of reported multivariable analyses capable of accounting for potentially related maternal and household characteristics. Further investigations could examine individual cadre activities, assess specific accessibility barriers, and estimate adjusted relationships to determine whether the descriptive differences observed in this sample persist under more comprehensive analytical conditions.

CONCLUSION

This study identified statistically significant associations between family support, healthcare accessibility, and mothers' Posyandu attendance in Kebon Kosong Urban Village during the first quarter of 2026. Among 106 respondents, 74 mothers (69.8%) attended irregularly, while 32 (30.2%) maintained regular attendance throughout the observation period. Family support demonstrated a significant association with attendance ($p = 0.002$), with good support more frequently reported among regular attendees and low support predominating among irregular attendees. Healthcare accessibility was also significantly associated with attendance ($p < 0.001$), as mothers reporting limited accessibility accounted for a substantially larger proportion of irregular participation. In contrast, cadre roles were not significantly associated with attendance ($p = 0.141$), although the odds ratio of 2.24 (95% CI: 0.883–5.71) indicated higher observed odds of irregular attendance among mothers perceiving cadres as less active. These findings establish family support and healthcare accessibility as statistically associated factors within the study population, while the cross-sectional design and bivariate analysis do not permit causal interpretation or conclusions regarding their independent effects.

The findings contribute locality-specific empirical evidence concerning the relationships between household assistance, healthcare accessibility, community cadre involvement, and utilization of preventive child-health services in an urban population. Posyandu administrators and primary healthcare personnel may use these findings to prioritize family-oriented health education, improve communication of service schedules, evaluate transportation and service-access barriers, and strengthen practical assistance for mothers facing competing household responsibilities. Healthcare cadres should continue performing health education, community mobilization, attendance reminders, and service assistance despite the absence of a statistically significant association between perceived cadre roles and attendance in this sample. Interventions targeting family engagement and accessibility require further evaluation because the observed associations do not establish that improvements in these conditions will necessarily increase attendance. The study's interpretation is limited by its cross-sectional design, geographically restricted sample of 106 respondents, reliance on questionnaire-based assessments, and absence of multivariable adjustment for potentially relevant maternal and household characteristics. Future research should incorporate larger and more diverse populations, investigate individual dimensions of family support and healthcare accessibility, and employ longitudinal or multivariable analytical approaches to clarify the determinants of sustained Posyandu participation.

REFERENCES

Acharya, A., Chang, C.-L., Chen, M., & Weissman, A. (2022). Facilitators and barriers to participation in health mothers' groups in improving maternal and child health and nutrition in Nepal: A mixed-methods study. *BMC Public Health, 22*, Article 1660. https://doi.org/10.1186/s12889-022-13859-6

Amanah, S. (2025). *Hubungan Pengetahuan Ibu, Peran Kader, dan Dukungan Keluarga terhadap Kunjungan Balita ke Posyandu di Wilayah Kerja Puskesmas Bangko Jaya Kabupaten Rokan Hilir* (Doctoral Dissertation, Universitas Islam Negri Sultan Syarif Kasim Riau). https://repository.uin-suska.ac.id/91859/

Ampulembang, R., Widiatrilupi, R. M. V., & Purwati, A. (2025, June). The Role of Cadres in the Activeness of Toddler Mothers Coming to the Toddler Posyandu in the Kabila Bone Health Center Work Area. In *Proceeding International Conference Of Innovation...* (Vol. 5, No. 1, pp. 758-763). https://doi.org/10.62951/icistech.v5i1.203

Amsriani, I. S., Agustina, A., & Arifin, V. N. (2026). Factors related to the participation of mothers of toddlers in Posyandu activities. *Getsempena Health Science Journal, 5*(1), 70–81. https://doi.org/10.46244/ghsj.v5i1.3752

Arbie, F. Y., Nuryani, N., Napu, A., & Mutiara, S. (2024). Knowledge of mothers and toddler age related to active visits in Posyandu. *Jurnal Kesehatan Manarang, 10*(1), 43–50. https://doi.org/10.33490/jkm.v10i1.1183

Azizah, N., Annuchasari, H., Rahmawati, V. E., & Wulandari, D. T. (2026). How Family and Health Cadres Enable Routine Integrated Antenatal Care (ANC) Attendance Among Pregnant Women: A Descriptive Phenomenological Study in Jombang, Indonesia. *Journal of Current Health Sciences*, *6*(1), 39-48. https://ukinstitute.org/journals/2/jchs/article/view/147

Azmi, F., Dhandi, H., & Zulvita, R. B. (2024). Analisis efektivitas program asuransi kesehatan nasional dalam meningkatkan akses pelayanan kesehatan di Indonesia. *Jurnal Kesehatan Tambusai*, *5*. https://doi.org/10.31004/jkt.v5i4.35895

Claudia, D., Andreas, H. R., Shalihka, I. K., & Ramadan, R. (2026). Beyond Community Nutrition Services: A Conceptual Analysis of the Posyandu Ecosystem, Cadre Capacity, and the Paradox of Iron Supplement Adherence. *Huma Barigas: Journal of Medical and Health Sciences*, *1*(1), 24-36. https://abecen.com/index.php/Huma-Barigas/id/article/view/35

Djafar, E., Rani, N., & Rusdy, D. (2025). Analisis cakupan kunjungan balita ke Posyandu. *Jurnal Promotif Preventif, 8*(2), 305–311. https://doi.org/10.47650/jpp.v8i2.1753

Fadhilah, N., & Arta, S. A. (2025). Determinan faktor ketidakhadiran ibu dalam penimbangan balita di Posyandu di Kabupaten Majene. *Jurnal Pendidikan dan Teknologi Kesehatan, 8*(1), 71–85. https://doi.org/10.56467/jptk.v8i1.339

Fahmawati, T. Y., Puspitasari, D., & Anis, W. (2026). The relationship between mothers' education level, knowledge level, and family support, as well as the role of health cadres, with the motivation level of mothers of toddlers to visit the Posyandu in Takerharjo Village. *KESANS: International Journal of Health and Science, 5*(4), 686–698. https://doi.org/10.54543/kesans.v5i4.546

Febria, C., Rusdi, P. N. H., Nugrahmi, & Ade, M. (2023). Jumlah kunjungan Posyandu terhadap status gizi balita di Posyandu Nagari Balingka Kabupaten Agam. Jurnal Ilmiah Kesehatan, 7(2). https://doi.org/10.33757/jik.v7i2.958

Hartati, L. (2026). Hubungan Pengetahuan Ibu dan Peran Kader terhadap Kunjungan Balita 1-5 Tahun ke Posyandu di Desa Padang Manis Kecamatan Way Lima Kabupaten Pesawaran. *Jurnal Maternitas Aisyah (JAMAN AISYAH)*, *7*(1), 56-62. https://journal.aisyahuniversity.ac.id/index.php/Jaman/article/view/2182

Hindom, A. M., Indanah, I., & Ridwanto, M. (2026). Factors related to mothers' active visiting behavior to Posyandu. *Indonesian Journal of Global Health Research, 8*(1), 1161–1170. https://doi.org/10.37287/ijghr.v8i1.210

Hossain, M., Haque, M. A., Faruque, A. S. G., Ahmed, T., Ashorn, U., & Ashorn, P. (2025). Growth monitoring and promotion program services utilization patterns between home-based and facility-based delivery methods: A comparative analysis. *PLOS ONE, 20*(6), Article e0324918. https://doi.org/10.1371/journal.pone.0324918

Indrilia, A., Efendi, I., & Safitri, M. E. (2021). Faktor-faktor yang memengaruhi peran aktif kader dalam pelaksanaan Posyandu di Kecamatan Simeulue Timur, Kabupaten Simeulue. *Journal of Healthcare Technology and Medicine, 7*(2). https://doi.org/10.33143/jhtm.v7i2.1772

Kementerian Dalam Negeri Republik Indonesia. (2024). *Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 13 Tahun 2024 tentang Pos Pelayanan Terpadu*.

Kementerian Kependudukan dan Pembangunan Keluarga Republik Indonesia. (2023). *Kegiatan Posyandu.*

Kementerian Kesehatan Republik Indonesia. (2022). *Pedoman Umum Pengelolaan Posyandu*.

Kementerian Kesehatan Republik Indonesia. (2023). *Pedoman Umum Pengelolaan Posyandu*.

Muluk, Y. U. W. M. K., & Hayat, A. (2025). Aksesibilitas pelayanan kesehatan di kepulauan (studi di Kepulauan Kangean Kabupaten Sumenep). *Jurnal Ilmiah Administrasi Publik, 11*(2), 240–250. https://doi.org/10.21776/ub.jiap.2025.011.02.10

Notoatmodjo, S. (2020). *Metodologi Penelitian Kesehatan*. Rineka Cipta.

Nugraheni, I., Yudana, G., & Rini. (2022). Kesesuaian aksesibilitas kawasan wisata budaya Kota Surakarta ditinjau dari jalur pedestrian sebagai NMT. *Jurnal Pembangunan Wilayah dan Perencanaan Partisipatif, 17*(2). https://doi.org/10.20961/region.v17i2.43365

Riadi, M. (2024). *Dukungan Keluarga (Family Support): Pengertian, Manfaat dan Bentuk*. Kajian Pustaka.

Rukmasari, E. A., Maesaroh, I., & Mamuroh, L. (2024). The relationship between mothers' participation level in integrated health posts (Posyandu) and the nutritional status of toddlers. *International Journal of Science and Society, 6*(1), 877–886. https://doi.org/10.54783/ijsoc.v6i1.1077

Sarifah, S., Dianna, D., & Fajrin, D. H. (2026). Factors influencing mothers' participation in visiting integrated health posts for infants and toddlers. *MEDICA (International Medical Scientific Journal), 8*(1), 16–22. https://doi.org/10.53770/medica.v8i1.759

Sartika, D., & Masluroh, M. (2024). The influence of health counseling about danger signs for infants aged 0–12 months on the activeness of mothers going to Posyandu at Posyandu Balla Satanetean, Balla District, Mamasa Regency. *International Journal of Health and Pharmaceutical, 4*(1), 28–32. https://doi.org/10.51601/ijhp.v4i1.262

Sholikhah, L. A., Wardhani, V., Fransiska, R. D., & Wardani, D. S. (2024). Hubungan supportive environment dengan peran kader Posyandu dalam pelayanan kesehatan masyarakat. *Jurnal Kebidanan, 14*(2), 82–92. https://doi.org/10.35874/jib.v14i2.1375

Sigit, F. S., Yelda, F., Ayuningtyas, D., Adisasmita, A. C., & Prasetyo, S. (2025). Barriers and opportunities in developing community-based maternal and child health surveillance: A mixed methods study in Depok, Indonesia. *PLOS ONE, 20*(11), Article e0332469. https://doi.org/10.1371/journal.pone.0332469

Sugiyono. (2022). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Sukaesih, N. S., Ulfah, L. W., & Inriyana, R. (2024). Comparison of Posyandu cadres role in educating nutritional toddler's needs fulfillment at high and low stunting areas. *Jurnal Keperawatan Florence Nightingale, 7*(1), 103–110. https://doi.org/10.52774/jkfn.v7i1.152

Syarwani, M., Yanti, R., Anwar, R., & Aprianti. (2025). The level of knowledge, mother's employment status, and family support on toddler visits to Posyandu in Banjar Regency. *Jurnal Riset Pangan dan Gizi, 7*(1), 48–59. https://doi.org/10.31964/jr-panzi.v7i1.245

Trisnawati, Y., Sulistyowati, N., Khoiriyah, E., Mulyandari, A., & Yuriati, P. (2024). Factors relating to the activity of mother's visits to the Posyandu. *International Journal of Public Health Excellence, 4*(1), 51–58. https://doi.org/10.55299/ijphe.v4i1.844

Tufa, Y., Mitiku, A., Shemsu, S., & Bidira, K. (2022). Utilisation of growth monitoring service by mothers of infants in Mettu town, Southwest Ethiopia. *BMJ Paediatrics Open, 6*(1), Article e001588. https://doi.org/10.1136/bmjpo-2022-001588

Upadhyay, J. P., Paneru, D. P., Sharma, Y. P., & Khadka, N. R. (2024). Utilization and associated factors of growth monitoring and promotion services among young children in Gorkha district of Nepal. *BMC Nutrition, 10*, Article 164. https://doi.org/10.1186/s40795-024-00978-z