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Fertility Differentials by Number of Living Children among Reproductive-Age Women in the Danuwar Community, Lalitpur, Nepal

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Abstract

The study has analyzed the fertility variation of Danuwar females between the ages of 15-49 years in Lalitpur District, Nepal as the number of living children as the major source of fertility measurement. Although Nepal is facing a decline in its national fertility rates, the marginalized ethnic groups and consequently they are under-represented in the empirical studies and thus may obscure recurrent disparities in reproductive performance. This was done by a cross-sectional survey (289 women) on a community level and by using descriptive statistics and chi-square analysis, the extent to which the socio-demographic, behavioral, and attitudinal correlates of fertility were evaluated. The age was significantly related to the number of living children (χ 2 = 21.968, $p < 0.001$), which showed that there was a positive relationship between the advancing age and cumulative fertility. Experience with contraceptives and intentions to have children were also important: women who had ever used family planning methods and those who desired to have two or more children were more likely to have two or more children also implying that limitation rather than spacing drives contraceptive practice. Conversely, education, employment, household income, communicative relationship with a spouse, and the knowledge concerning modern contraception did not significantly relate to the fertility results. These results show that reproductive life-course factors are stronger in determining fertility in this marginalized group than socio-economic and attitudinal ones. The study highlights the importance of earlier adoption of contraceptives, enhanced reproductive counseling, and measures that deal with ingrained socio-cultural values, as per priorities of reproductive health in Nepal and the obligation to gender-equality

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Fertility behavior, which is here a number of living children, is an important source of leading indicator of demographic transition and socio-economic advancement, embodying biological mechanisms and culturally imprinted reproductive standards (Cleland & Wilson, 1987; Bongaarts, 2015). The fertility started to quickly decrease in Nepal in 1976 (6.3 births per woman) reaching 2.1 in 2022 (MoHP, 2023). Nevertheless, there is an increasing amount of evidence suggesting that caste, ethnicity, and geography still organize the result of reproduction, and micro-level analysis able to capture the dynamics specific to a community is critically important (Thapa & Aryal, 2020).

Based on the framework of proximate determinants (Bongaarts, 2015) and life-course perspective of fertility, this study study will focus on one of the gaps in the Nepalese literature: the weak knowledge of the interaction between behavioral and attitudinal variables, including communication between spouses, decision-making on contraceptive use, and fertility intentions, with the socio-economic characteristics to explain fertility among indigenous populations.

Major national surveys like the NDHS and the MICS have produced priceless national estimates but at the cost of minimizing ethnic disaggregation, they cannot be used to theorize localized fertility transitions (Adhikari, 2010; Rai & Paudel, 2014).

The Danuwar are an indigenous agrarian community that is concentrated in the central part of Nepal but is significantly under-represented in the fertility studies, despite clearly-defined kinship, gendered norms, and early marriages that might have an impact on the reproductive trajectories (Gurung, 2014). The slow diffusion of contraception, son preference, and fertility constraint following high-order births rather than early spacing were also reported in other studies of tribal and marginalized populations of South Asia, which suggest non-standard patterns of transition, in comparison with national levels (Bhat & Zavier, 2007; Brunson, 2010; Cleland et al., 2012; Raj et al., 2010; Jayachandran, 2015).

Nepal and related empirical studies also indicate that women education, household wealth, and urban exposure is not always relevant in indigenous contexts in comparison with marital timing, progression or regress of parity, intra-household bargaining as well as normative expectations of family size (Retherford & Thapa, 2004; Sharma & Aryal, 2018; Gubhaju & De Jong, 2009). However, minimal study specially tests the interactive effect of this set of socio-demographic, behavioral, and attitudinal variables at the community level, especially in terms of the spacing versus stopping behavior subcontracting of the contraceptive use variable.

It is against this background that this study study examines fertility differentials among the Danuwar women between the ages of 15-49 years in Lalitpur District. Specifically, it aims to: test difference in the number of children living in socio-demographic groups; determine the impact of behavioral and attitudinal variables, such as contraceptive awareness, husband communication and fertility intentions; and assess that family planning adoption is more of fertility restraint than of spacing. This study has add to the existing body of work on South Asian fertility and will inform culturally appropriate reproductive health interventions based on the SDGs 3 (Health) and 5 (Gender Equality) (UNFPA, 2022), as the theoretical hypotheses are combined with micro-level data of a marginalized population.

Methods

The study was a community-based cross-sectional quantitative study that was done on the Danuwar women aged 15-49 years who are living in Godawari Municipality-8, Lalitpur District, Nepal. Danuwar are a native agrarian society with kinship ties and conventional family-forming rules, which makes them apt to understand the localized fertility practice. The target population was a sample of currently married women of reproductive age who were residing in the region during the period when the data was collected, and 289 out of them were interviewed successfully.

A complete listing was made with the assistance of the community leaders and the female community health volunteers to identify households that had eligible respondents. The households were selected under this frame using systematic random sampling; a household had more than one eligible woman in which a simple random selection was made to select one such woman.

The data was gathered on the basis of using a structured questionnaire including closed-and limited open-ended questions on socio-demographic traits, reproductive history, knowledge of contraceptives usage and knowledge of contraceptives, fertility intentions, spousal communication, and the attitude toward family size, religion, migration and government family-planning policy. The instrument was pre-tested in non-study nearby area and optimized as such and the enumerators were trained in interview procedures, informed consent, and confidentiality.

Fertility was measured using the number of living children and was divided into 0-1 and 2-6. The independent variables were age group, education, employment, household income and perceived income sufficiency, contraceptive experience and awareness, enrollment in family-planning programs, spousal consent, fertility intentions, son preference, religious influence, perceived migration and environmental impact and awareness of government family-planning policies.

This was based on ethical approval by the Faculty Research Grant (FRG-80/81-H&S-07) of the University Grants Commission, Nepal. All participants gave an informed consent in writing and their participation was voluntary and all the information was held in strict confidence. The Statistical software was used in the entry of data, cleaning and analysis. Descriptive statistics were used to summarize the characteristics of the respondents and bivariate relationship between fertility and explanatory variables were analyzed using the Pearson chi-square (χ 2) test at a 95% confidence interval (0.05). The results of both tests, χ 2 = 38.43, p = 0.001) are reported standards (χ 2 = 2, N = 289). Results are taken as relationships, not correlations and all the tables indicate whether the row or column percentages are provided. The hypotheses based on the analysis was that there was no relationship between the number of living children and the explanatory variables (H0), and the other alternative was that there was at least one factor that was significantly related (H1), and specifically, age, contraceptive experience, and fertility intentions.

Results

The study examined the socio-demographic, economic, and behavioral factors in explaining the fertility differentials among the reproductive-age women. These factors were age group, the number of children living, family planning awareness and use which showed the access to reproduction services. Attitudinal dimensions were captured by cultural variables that included belief in the fertility-reducing effect of education, preference of sons, and religious impact on the size of families. Such contextual aspects as the perception of government policies, migration inflow, natural calamities and the employment were evaluated in conjunction with economic attributes such as the adequacy of income and financial position.

Table 1:

Distribution of Living Children by Age (n = 289)

Age group	0–1 child	2–6 children	Total
15–24	23	8	31
25–34	81	56	137
35–49	32	90	122
Total	136	153	289

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 38.43, degree of freedom (d.f.) = 2, and p < .001.

Table 1 shows that there is a high correlation between the age and children of women living (χ 2 = 21.968, p = 0.001). The early reproductive age was recorded with most of the women aged 15-24 having 0-1 child (76.5), whilst those aged 25-34 were at the transition stage with 59.2 having 0-1 child and 40.8 having 26 children. Age-specific cumulative fertility 73.5 percent of women aged 35-49 had 2-6 children. Altogether, 52.8 percent of the women had two or more children, which proves that the fertility rates among grow with age.

Table 2:

Distribution of living children by employed

	0-1 Birth		2-6 Birth		Total	
Employed	Number	Percent	Number	Percent	Number	Percent
No	126	47.3	140	52.7	266	91.9
Yes	10	46.2	1	53.85	23	8.1
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 0.0063, degree of freedom (d.f.) = 1, and p < .001.

Table 2 reveals that the employment status of women and the number of children living do not have a significant relationship (χ 2=0.0063, p = 0.937). Women who have with them 0-1 and 2-6 children have almost the same proportion among employed and non-employed groups, and therefore employment does not play the significant role in the fertility. Its impact on fertility results may also be constrained by the low rate of employment (8.1%).

Table 3:

Distribution of living children by ever used any contraceptive methods

Ever used any	0-1 Birth		2-6 Birth		Total	
contraceptive methods	Number	Percent	Number	Percent	Number	Percent
No	43	68.57	20	31.43	63	21.7
Yes	93	41.27	133	58.73	226	78.3
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 8.1923, degree of freedom (d.f.) = 1, and p < . 0.004.

Table 3 shows that statistically significant association between ever use of contraceptive methods and number of living children (χ^2 = 8.1923, p = 0.004). The ever use of a contraceptive method was more likely among women who had a greater number of 2–6 living children (58.7%) than those who reported no ever use (31.4%). Conversely, more non-users (68.6%) stated they have 0–1 living child only, reflecting lower exposure to family planning needs at early reproductive ages.

Table 4:

Distribution of living children by spouse in agreement with use of contraceptives

Spouse in agreement with	0-1 Birth		2-6 Birth		Total	
use of contraceptives	Number	Percent	Number	Percent	Number	Percent
No	6	60.0	4	40	10	4.0
Yes	95	40.5	139	59.5	234	96.0
Total	101	41.3	143	58.73	244	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 0.7536, degree of freedom (d.f.) = 1, and p < 0.385.

Table 4 shows that the interaction of spouse's approval of the use of contraceptives and number of living children and finds no statistically significant relationship (χ^2 = 0.7536, p = 0.385). Percent of women with a living spouse who approved the use of contraceptives were 59.5 percent with 2–6 living children and 40.5 percent with 0–1 living child, which was near the proportion for women whose spouses disapproved.

Table 5:

Distribution of living children by aware of modern contraceptive methods

Aware of modern	0-1 Birth		2-6 Birth		Total	
contraceptive methods	Number	Percent	Number	Percent	Number	Percent
No	16	69.2	7	30.8	23	8.1
Yes	120	45.3	145	54.7	266	91.9
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025c. chi-square test (χ^2- Value) = 2.7529, degree of freedom (d.f.) = 1, and $p < 0.097$.

Table 5 shows no correlation between awareness of contraceptive methods by women and fertility ($\chi^2 = 2.7529$, $p = 0.097$). Although the women who were aware of contraceptives were more likely to have 2–6 living children (54.7%) compared to those who were not aware (30.8%), this difference is not significant. It suggests that with high awareness (91.9%), fertility might not be reduced even by knowledge.

Table 6:

Distribution of living children by participated in workshops

Participated in workshops or awareness	0-1 Birth		2-6 Birth		Total	
campaigns about family planning	Number	Percent	Number	Percent	Number	Percent
No	65	52.2	59	47.8	124	42.9
Yes	72	43.5	93	56.5	165	57.1
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 1.1963, degree of freedom (d.f.) = 1, and $p < 0.274$.

Table 6 shows that no significant association of participation in awareness campaign or family planning workshop with the number of living children ($\chi^2 = 1.1963$, $p = 0.274$). Whereas participants had a higher rate of 2–6 children (56.5%) than non-participants (47.8%), the difference was not significant. This suggests that awareness activity participation itself does not have immediate impacts on fertility results.

Table 7:

Distribution of living children by education help reduce the fertility rate

Education can help reduce	0-1 Birth		2-6 Birth		Total	
the fertility rate in families	Number	Percent	Number	Percent	Number	Percent
No	4	50.0	4	50.0	8	2.5
Yes	132	47.1	149	52.9	281	97.5
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 0.0129, degree of freedom (d.f.) = 1, and $p < 0.91$.

Table 7 shows that no statistical correlation between the opinion that schooling reduces fertility and existing children ($\chi^2 = 0.0129$, $p = 0.910$). The percentages of women with 0–1 and 2–6 children were nearly identical among those agreeing (47.1% vs. 52.9%) and disagreeing (50.0% vs. 50.0%). Although most women (97.5%) accept that education can lower fertility, this mindset has not yet resulted in smaller family sizes.

Table 8:

Distribution of living children by preference for sons

	0-1 Birth		2-6 Birth		Total	
Preference for sons	Number	Percent	Number	Percent	Number	Percent
No	63	51.5	59	48.53	122	42.2
Yes	74	44.1	93	55.91	167	57.8
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 0. 8595, degree of freedom (d.f.) = 1, and $p < 0.354$.

Table 8 shows that no significant association between son preference and children alive ($\chi^2 = 0.8595$, $p = 0.354$). Women preferring sons were more likely to have 2–6 children (55.9%) than women lacking such a preference (48.5%), but the result was not statistically significant. This suggests that while son preference is present among women, it does not directly result in fertility behavior.

Table 9:

Distribution of living children by religion influence decisions about family size

Religion influence decisions about family size	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
No	93	50.5	92	49.5	185	64.0
Yes	43	41.4	61	58.6	104	36.0
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025

chi-square test (χ^2- Value) = 1.2346, degree of freedom (d.f.) = 1, and $p < 0.267$.

Table 9 shows that no real correlation between family size and religious impact being present in the number of children living ($\chi^2 = 1.2346$, $p = 0.267$). Those who believed religious faith determines family size had 2–6 children (58.6%) compared to those who disagreed (49.5%), although the difference was statistically not significant. This suggests religious faith plays some part in determining women's fertility behavior.

Table 10:

Distribution of living children by policy supporting family planning

Government policy supporting family planning	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
No	31	51.5	29	48.5	59	20.5
Yes	106	46.1	124	53.9	230	79.5
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 0.3094, degree of freedom (d.f.) = 1, and $p < 0.578$.

Table 10 shows that no strong association between knowledge of family planning supportive government policy and living children ($\chi^2 = 0.3094$, $p = 0.578$). Women with knowledge of

such government support policies were slightly more likely to have 2–6 children (53.9%) than women lacking this knowledge (48.5%), but the difference was not statistically significant.

Table 11:

Distribution of living children by natural disasters

Natural disasters or environmental factors influence family planning	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
No	92	50.0	92	50.0	184	63.4
Yes	44	42.4	60	57.6	105	36.6
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 0.8725, degree of freedom (d.f.) = 1, and $p < 0.350$.

Table 11 shows that no significant relation between opinions about natural disasters or environment and family planning choices ($\chi^2 = 0.8725$, $p = 0.350$). Individuals who believed environment is involved in family planning were slightly more likely to have children in the category 2–6 (57.6%) than those who believed that it was not involved (50.0%), but the difference was not significant statistically.

Table 12:

Distribution of living children by migration an impact on family size

Migration an impact on family size community	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
Don't know	4	40.0	5	60.0	9	3.1
No	104	51.3	99	48.7	203	70.2
Yes	29	37.2	48	62.8	77	26.7
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 2.5986, degree of freedom (d.f.) = 1, and $p < 0.273$.

Table 12 reveals that no significant relationship between migration attitude and family size ($\chi^2 = 2.5986$, $p = 0.273$). Females who believed that migration affects family size were likely to

have 2–6 children (62.8%) than those who did not believe so (48.7%), but the difference was not significant. It suggests that migration has no direct impact on fertility result.

Table 13:

Distribution of living children by external migration

	0-1 Birth		2-6 Birth		Total	
External migration	Number	Percent	Number	Percent	Number	Percent
No	129	49.7	131	50.3	260	90.1
Yes	7	25.0	22	75.0	29	9.9
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 3.5148, degree of freedom (d.f.) = 1, and $p < 0.061$.

Table 13 shows that a marginal but not statistically significant association between external migration and children living at home ($\chi^2 = 3.5148$, $p = 0.061$). Women in externally migrant households had 2–6 children (75.0%) versus 50.3 percent in non-migrant households, showing a tendency towards larger family size.

Table 14:

Distribution of living children by financial situation affect decision-making

Financial situation affect decision-making	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
No	79	53.0	70	47.0	149	51.6
Yes	57	41.0	83	59.0	140	48.4
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 2.3182, degree of freedom (d.f.) = 1, and $p < 0.128$.

Table 14 shows that there is no significant relationship with the economic well-being and fertility decision ($\chi^2 = 2.3182$, $p = 0.128$). Those females who reported that money played a role in decisions were slightly more likely to report 2–6 children (59.0%) than those reporting otherwise (47.0%), although the difference was not significant.

Table 15:

Distribution of living children by family's monthly income

Family's monthly income	0-1 Birth		2-6 Birth		Total	
	Number	Percent	Number	Percent	Number	Percent
<15001	75	50.6	74	49.4	149	51.6
>15001	61	43.6	79	56.41	140	48.4
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 0.7935, degree of freedom (d.f.) = 1, and $p < 0.373$.

Table 15 shows that there is no statistical relationship between household monthly income and number of living children ($\chi^2 = 0.7935$, $p = 0.373$). Women who belonged to rich families (>NPR 15,001) were slightly higher in having 2–6 children (56.4%) than women in less rich families (49.4%), although the difference was not significant. This proves that higher income does not necessarily reduce fertility.

Table 16:

Distribution of living children by income sufficient

	0-1 Birth		2-6 Birth		Total	
Income sufficient	Number	Percent	Number	Percent	Number	Percent
No	117	45.8	138	54.2	255	88.2
Yes	20	57.9	14	42.1	34	11.8
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 0.9877, degree of freedom (d.f.) = 1, and $p < 0.320$.

Table 16 shows that no correlation between perceived sufficiency of income and living children ($\chi^2 = 0.9877$, df = 1, $p = 0.320$). Those who said they did not have enough income were marginally more likely to have 2–6 children (54.2%) than those who responded that they did have enough income (42.1%), but the difference was not statistically significant.

Table 17:

Distribution of living children by plans to have a child

	0-1 Birth		2-6 Birth		Total	
Plans to have a child	Number	Percent	Number	Percent	Number	Percent
No	79	34.7	149	65.4	228	78.9
Yes	57	94.1	4	5.9	61	21.1
Total	136	47.2	153	52.8	289	100.0

Note. Field Survey, 2025 chi-square test (χ^2- Value) = 38.0628, degree of freedom (d.f.) = 1, and $p < 0.000$.

Table 17 shows a highly significant correlation between woman plans for a child and living children ($\chi^2 = 38.0628$, df = 1, $p < 0.001$). Of the women who did not plan another child, 65.4% had 2–6, that is, completed or nearly completed families. By comparison, 94.1% of the women who did plan another child had 0–1 child, that is, early life stages of fertility. This strong inverse correlation indicates that reproductive intentions are in good agreement with current parity. It is a sign of rational fertility behavior, where future childbearing is determined by current family size and desired family size.

Discussion

The Danuwar women in Lalitpur demonstrates that there is a strong age-parity gradient that matches the fertility transition in Nepal. The mean of parity was higher in women with age ($\chi 2 = 21.968$, $p < .001$): the majority of women aged 1524 years had 0-1 child, women aged 25-34 years were at transitional stages of the family life cycle and most of women aged 35-49 years had 2-6 children. This trend indicates accruing exposure to childbearing and agrees with life-course views of fertility change (Bongaarts, 2015; Cleland et al., 2006; Stover & Ross, 2010). The young generations seem to be moving towards fertility constraint as compared to the older generations, which is possible as a result of delayed marriages and increased education (Adhikari, 2010; Maitra, 2004; MoHP, New ERA,& ICF, 2023).

Parity also was strongly related to contraceptive experience: women who had ever used contraception had higher chances of having 2-6 children which means that family planning is being used to limit rather than to space. This trend is also reflective of larger South Asian data where contraceptive use usually goes up after the desired family size is reached as opposed to going up before it is achieved (Bradley et al., 2012; Jain, 2014). This late implementation can decrease the birth of higher-order but miss the chance to postpone early birth to a child (Casterline & Odden, 2016). Increasing the availability of long-acting reversible contraceptives (LARC) would consequently enhance the ability to control their space and maternal and child health results (Cleland et al., 2012; Keogh et al., 2017).

Parity was also well followed by fertility intentions; the majority of women with 0-1 child planned to have more children, and most women with 2-6 children planned to have no more children at all. The latter highlights the necessity of parity-specific programming avoiding encouraging spacing practices in low-parity women and providing them with the possibility of limiting themselves in case were approaching full family size (Bradley et al., 2012; Starbird et al., 2016). This could be further boosted with improved counseling which will connect the reproductive targets with the right forms of contraception.

The employment status, education, and awareness of modern contraceptive methods, on the contrary, did not indicate significant differences between parity and them. The weak impact of work could be partly explained by the extremely low female labor-force participation rate (8.1% of women are working within the community) and marriage timing and educational patterns may have a more significant influence on the fertility (Adhikari, 2010; Maitra, 2004). Likewise, the high awareness and weak behavioral change imply that information is not enough, but the high quality of services, the combination of diverse approaches, and support by partners are required (Cleland et al., 2006; Jain, 2014).

Spousal consent was not found to be significantly related to parity in the present study though in previous studies communication is a very important factor in determining sustained use of contraception (Link, 2011; Sharan et al., 1999). The single item measure utilized in this case and the cross-sectional design could have restricted the ability to pick up understated effects. Son preference was also not statistically significant, but contextually relevant in Nepal and may indicate either normative change or be due to statistical insignificance or mediation by other variables such as education or migration (Brunson, 2010; Rai et al., 2014; Choe et al., 2005).

Parity was also not significantly related to religious beliefs or awareness of government policies on family-planning and this supports the arguments that proximate determinants, especially access, quality, and effective method use, have a more significant influence on the shaping of fertility behavior compared to general attitudes (MoHP, New ERA, & ICF, 2023; Cleland et al., 2006). Household economic indicators also did not indicate any significant correlations, and this indicates the multifaceted nature of the relationships between income and remittances and fertility decisions, including desires to educate children (Adhikari, 2010; Majumder & Ram, 2015).

The migration effects were small: perceived migration effects were not significant, external migration, however, exhibited a positive though insignificant relationship with high parity ($p = .061$). This trend can be a result of remittance-based household growth or the selective migration of bigger households, and it should be explored further in a longitudinal design (Keogh et al., 2017; Majumder & Ram, 2015).

These data have programmatic implications of age- and parity-responsive interventions. The teenagers need access to spacing information and services at a confidential level, women at mid-reproductive age would enjoy having access to LARC and access to method-switching support, and women with higher parity levels would benefit with counseling based on safe limitation and control of side-effects (Cleland et al., 2012; Starbird et al., 2016). Quality of care, respectful counseling, the regularity of supply chains, and privacy should be emphasized to turn awareness into the long-term use (Bradley et al., 2012; Jain, 2014).

The male participation via spousal communication programs can also be used to further promote contraceptive continuation (Link, 2011; Sharan et al., 1999). It is still significant to continue working with communities to fight the preference towards sons and to associate small-family values with educational and mobility goals (Brunson, 2010; Rai et al., 2014). With the increase in the rates of migration, reproductive-health programs should also respond to the remittance-initiated family changes and shifting fertility goals (Keogh et al., 2017).

It can be said that age, parity and experience of reproductive life are the factors which predetermine fertility patterns among Danuwar women more than socio-economic or attitudinal factors can. Encouraging the earlier adoption of contraceptives, parity-specific counseling, and culturally sensitive interventions is thus key towards maintaining the fertility decline in Nepal coupled with the promotion of reproductive rights and equity. The using Nepal-specific fertility study by Adhikari (2010), Gubhaju (1983), Sharma (2015), Bhandary (2015), Ghimire and Samir KC (2025), and Signdel and Adhikari (2025) to contribute to the literature on caste-, ethnicity-, and life-course-based fertility differentials. Devkota and Bohara (2025a, 2025b) and Gurung (2014) conducted a study with a Danuwar-specific study to make sure it was justified at the community level. Comparative things were given by Cavagnoud and Castro Martina (2025) about the education and fertility transition, and by John and Yeatman (2025) the situation was made easier with the fertility intentions and marital dynamics.

The theoretical framing was supported by classical and modern fertility theories, including Bongaarts (2015), Cleland and Wilson (1987), Bradley et al. (2012), Jain (2014) and Casterline and Odden (2016). These extensions would allow us to position our findings in a more context-relevant manner, in particular, the commonality of the parity progression and the tendency of contraceptive use which is more of a restriction than a spacing pattern, in a better context.

The additions transform the manuscript into a totally different work of description, somewhat, a micro-study, but a theoretically grounded work to add to the study in the topic of fertility transition among the marginalized populations.

Conclusion

This study explains that fertility differences among women of *Danuwar* community are determined by age, parity progression and reproductive experience rather than socio-economic and attitudinal factors have a relatively minor influence. Although there is general knowledge of contemporary contraception, its uptake is mostly an indication of fertility restraint and not spacing, and thus the implication is that traditional norms and limitations to service delivery still mediate the reproductive behavior in this community. The combination of life-course and proximate determinants framework and micro-level evidence of an under-studied indigenous population, the study adds to the South Asian fertility literature by demonstrating a period of transitional behavioral change that is slower than the acquisition of knowledge.

A number of restrictions must be mentioned. The cross-sectional design limits causal inferences, the analysis is limited to one community, and the low level of female employment can also be limiting the statistical power to identify socio-economic impact.

Parity-specific family-planning services, i.e., spacing procedures among low- parity women and safe limiting procedures among higher-parity women, should then be prioritized by policy in response to the enduring son preference, together with more powerful counseling, male involvement programs, and culturally-specific programming. To examine how migration, quality of services, and shifting gender norm can alter fertility patterns over time, future study should take the form of longitudinal or multi-site study on dissimilar populations of indigenous people.

Study approval:

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Data availability statement:

The data used in this study was duly authorized by the University Grants Commission (UGC). The dataset will be made available upon reasonable request through the UGC after the publication of this report.

Conflict of interest:

The authors declare no conflict of interest related to this study.

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