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Parenting pathways and maternal attitudes toward toddler feeding practices in an urban Indian community

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Abstract:
Toddlerhood is a critical period when maternal parenting style and feeding attitudes shape lifelong dietary habits. Therefore, it is of interest to assess the parenting pathway, feeding attitudes, their correlation and socio-demographic associations among 100 mothers of toddlers in urban Chennai. Using a quantitative cross-sectional design, data were analysed with descriptive statistics, Karl Pearson correlation and chi-square tests. Most mothers showed moderate parenting pathway (86%) and feeding attitudes (84%), with a significant fair negative correlation between the two ($r = -0.38$; $p = 0.01$). Thus, data shows that maternal age and education influenced parenting pathway, while education and occupation influenced feeding attitudes, supporting targeted nurse-led counselling for urban mothers.

Keywords: Parenting, feeding behaviour, mothers, child, pre-school, attitude, cross-sectional studies

Background:
Toddlerhood, spanning ages one to three years, is a critical phase characterised by rapid growth, language acquisition and the emergence of independent eating behaviours **[1].** Practices adopted by mothers during this window influence dietary diversity, growth trajectories and long-term risk of overweight or undernutrition **[2].** Despite global investments in infant and young child feeding (IYCF) programmes, indicators in low- and middle-income countries continue to lag behind World Health Organization targets; a 57-country pooled analysis reported weighted prevalences of 45.7% for exclusive breastfeeding fewer than six months and only 14.9% for timely introduction of solid or semi-solid foods **[3].** Multi ethnic Asian cohort data also document substantial deviations: at 12 months, 87.4% of infants were fed milk via a bottle and 56.3% had seasonings added to their complementary foods **[4].** Maternal feeding behaviour is shaped by broader parenting style. Parenting style, often described as the parenting pathway, encompasses the emotional climate, responsiveness and disciplinary patterns that frame caregiver–child interactions, traditionally classified as authoritative, authoritarian, permissive and uninvolved **[1].** Authoritative parenting is consistently linked to favourable behavioural and nutritional outcomes **[5].** Beyond style alone, conceptual models position the quality of the mother–toddler dyadic relationship, maternal mental health, attachment security and reciprocal feeding behaviour at the heart of pathways leading to suboptimal eating and obesity risk **[2].** Maternal mental health adds further complexity. Postpartum depression affects approximately one in seven mothers and can blunt responsiveness during feeding, disrupt mealtime routines and reduce engagement in recommended IYCF behaviours **[6].** Mothers' attitudes-their beliefs about nutrition, food quality and mealtime structure and child appetite-often diverge from their actual practices. In one study, 94% of mothers held positive attitudes toward recommended feeding, yet only 56.5% knew how to ensure dietary diversity in practice **[7].** Indian evidence echoes this gap: among toddlers aged 12–24 months, exclusive breastfeeding reached 73.68% and timely complementary feeding 90.53%, but only 45.26% received an adequate quantity of complementary foods, with maternal age and occupation emerging as significant correlates **[8].** National reviews further indicate that less than half of Indian children aged 6–23 months meet the minimum meal frequency and only a fraction achieve a minimum acceptable diet, underscoring a persistent care gap **[9].** Therefore, it is of interest to evaluate the level of parenting pathway and attitudes towards feeding practices among mothers of toddlers in an urban Chennai community and to examine their correlation and association with selected socio-demographic variables.

Materials and Methods:
A quantitative, non-experimental descriptive cross-sectional design was used. The study was conducted in Choolai, Chennai. Mothers were eligible if they were the primary caregiver of a toddler aged 1–3 years, resided in the study area, could communicate in Tamil or English and provided informed consent. Mothers of twins or multiples, those whose toddlers had severe chronic conditions affecting feeding and those enrolled in any other concurrent study were excluded. A sample size of 100 was calculated using Cochran's single-proportion formula based on an 89% positive maternal-attitude prevalence reported in an earlier study, with a 95% confidence level and

6.5% relative precision; non-probability convenience sampling was used. A socio-demographic proforma, the standardised 32-item Parenting Styles Questionnaire and a researcher-developed 15-item Likert Attitude Scale on Feeding Practices (5-point Likert; scores classified as negative (15–29), neutral (30–59) or positive (60–75)) were used to collect data. Content validity was established by expert review by senior nursing faculty. Test–retest reliability over two weeks yielded correlation coefficients of 0.88 and 0.85 and Cronbach's α value were 0.86 and 0.82 respectively, indicating good internal consistency. Ethical clearance was obtained from the Institutional Ethics Committee of Madras Medical College, Chennai and administrative permission was secured from the Block Medical Officer. Written informed consent was obtained from each participant; voluntariness and confidentiality were assured. A pilot study on 10% of the planned sample confirmed feasibility and tool clarity; pilot participants were excluded from the main analysis. Data collection lasted four weeks with each session taking 10–15 minutes. Data were coded in Microsoft Excel and analysed using IBM SPSS version 26 with descriptive statistics, Karl Pearson correlation and chi-square tests; a p-value < 0.05 was considered statistically significant.

Results:

Among 100 mothers of toddlers, 41% were aged 26–30 years and 37% aged 31–35 years. About 39% were undergraduates, 44% were homemakers, 54% belonged to nuclear families and 53% reported a monthly household income below ₹54,650. More than half (54%) had two children; most toddlers were aged 25–32 months (37%) with a slight male predominance (54%). Normal delivery and caesarean section were equally distributed (50% each); 41% of mothers had breastfed for 12–18 months and 28% for more than 18 months. The mean composite parenting pathway score was 89.17 ± 6.01 out of 160. The authoritative subscale was the dominant pattern (43.81 ± 3.28 of 75; 58.41%), followed by the authoritarian (33.55 ± 2.97 of 60; 55.92%) and permissive (11.81 ± 1.62 of 25; 47.24%) subscales. Most mothers (86%) showed a moderate parenting pathway and 14% a high level; none scored at the low level. The mean attitude score was 42.20 ± 4.27 out of 60 (70.33%), reflecting a moderately positive overall stance. Item-level analysis revealed the strongest agreement for encouraging the child to try new foods (84.75%), prioritising nutritional quality over quantity (83.75%) and confidence in choosing the right foods (83.50%); the lowest scores were noted for concern about insufficient eating (53.75%) and preference for homemade meals (56.50%). Overall, 84% of mothers exhibited a moderate (neutral) attitude and 16% a high (positive) attitude; no mother fell into the low (negative) category**.** The Karl Pearson correlation coefficient between the parenting pathway and the attitude score was r = −0.38 with a p-value of 0.01, indicating a statistically significant fair negative correlation. Higher composite parenting pathway scores were associated with lower attitude scores. Chi-square analysis **(Table 1)** identified significant associations between the parenting pathway score and maternal age (χ^2 = 13.97; p = 0.01) and educational qualification (χ^2 = 13.04; p = 0.01). Mothers above 35 years showed the highest proportion of high parenting scores (42.86%) and postgraduate mothers the highest at 57.14%. Significant associations were also observed between feeding attitude and education (χ^2 = 13.72; p = 0.01) and occupation (χ^2 = 9.68; p = 0.05); postgraduate mothers again recorded the highest high-attitude proportion (57.14%), with private-employed and homemaker mothers more likely to score high than daily wage or self-employed counterparts. Other variables did not reach significance.

Table1: Significant chi-square associations of parenting-pathway and feeding-attitude levels with socio-demographic variables (n = 100)

Outcome variable	Demographic variable	Category	Moderate level n (%)	High level n (%)	χ^2	p-value
Parenting pathway	Age of mother (years)	21–25	8 (100.00)	0 (0.00)	13.97	0.01*
		26–30	39 (95.12)	2 (4.88)		
		31–35	31 (83.78)	6 (16.22)		
		> 35	8 (57.14)	6 (42.86)		
Parenting pathway	Educational qualification	Informal	7 (87.50)	1 (12.50)	13.04	0.01*
		Primary	16 (94.12)	1 (5.88)		
		Secondary	27 (93.10)	2 (6.90)		
		Undergraduate	33 (84.62)	6 (15.38)		
		Postgraduate or higher	3 (42.86)	4 (57.14)		
Feeding attitude	Educational qualification	Informal	8 (100.00)	0 (0.00)	13.72	0.01*
		Primary	17 (100.00)	0 (0.00)		
		Secondary	24 (82.76)	5 (17.24)		
		Undergraduate	32 (82.05)	7 (17.95)		
		Postgraduate or higher	3 (42.86)	4 (57.14)		
Feeding attitude	Occupation of mother	Daily wages	16 (100.00)	0 (0.00)	9.68	0.05*
		Self-employed	17 (100.00)	0 (0.00)		
		Private employment	13 (72.22)	5 (27.78)		
		Government employment	4 (80.00)	1 (20.00)		
		Homemaker	34 (77.27)	10 (22.73)		

**Statistically significant at p < 0.05.*

Discussion:

The present study found that 86% of mothers exhibited a moderate parenting pathway, 14% a high level and none a low level. A comparable pattern was observed in a cross-sectional study of 895 adolescents and their caregivers, where moderate authoritative parenting predominated and resilience partially

mediated the link between parenting style and emotional-behavioural problems **[10].** Latent profile analysis of parents likewise identified two dominant authoritative-leaning profiles "Highly Authoritative" and "Relaxed Authoritative"-both marked by moderate authoritative behaviour with limited authoritarian and middle-range permissive tendencies **[11],** supporting the moderate dominance seen in our sample. Regarding feeding attitudes, 84% of mothers held a moderate attitude and 16% a high attitude, with a mean of 70.33%. Among mothers of under-two children, 81% demonstrated moderate attitudes and 13% high-level attitudes, with maternal education a key determinant **[12].** An earlier study of Nepalese mothers reported that 64.4% knew the correct age to start complementary feeding, but only 55.6% practised it accordingly, highlighting a knowledge–practice gap **[13]** that mirrors the proportion of mothers in our sample who held moderate rather than fully positive attitudes. A statistically significant fair negative correlation ($r = -0.38$; $p = 0.01$) emerged between parenting pathway and attitude scores. A study of 350 mother–child dyads similarly reported significant negative associations between maternal negative feeding-attitude domains (negative affect during meals, pressuring strategies) and children's anthropometric outcomes including child BMI ($p < 0.05$) **[14].** The negative direction in our sample suggests that as composite parenting scores rose-driven in part by stricter authoritarian items-attitudes shifted away from responsive feeding, supporting the conceptual link between controlling parenting and reduced flexibility at the table. The association analysis showed that maternal age and education significantly influenced parenting pathway ($p = 0.01$), while education and occupation significantly influenced attitudes ($p = 0.01$ and $p = 0.05$, respectively). These findings closely mirror a cross-sectional study of 247 mothers of infants in which appropriate feeding behaviour was significantly predicted by maternal education and age; middle-income mothers were less likely to practise exclusive breastfeeding than high-income mothers **[15, 16].** The convergence supports targeted nurse-led counselling for younger, less-educated and economically vulnerable urban mothers **[17].**

Conclusion:

Moderate parenting styles and feeding attitudes predominated, with the authoritative style being most prevalent and a significant fair negative correlation between parenting style and feeding attitudes. Community-based nursing interventions should integrate parenting style assessment with nutrition counselling to promote responsive feeding practices. Younger and less-educated mothers should receive targeted support to translate positive feeding attitudes into growth-promoting behaviours throughout toddlerhood.

Ethical approval: Institutional Ethics Committee, Madras Medical College, Chennai.

Informed consent: Written informed consent was obtained from all participants.

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Conflicts of interest: The authors declare no conflicts of interest.

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