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Maternal autonomy is inversely related to child stunting in Andhra Pradesh, India

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Abstract

Child stunting, an outcome of chronic undernutrition, contributes to poor quality of life, morbidity and mortality. In South Asia, the low status of women is thought to be one of the primary determinants of undernutrition across the lifespan. Low female status can result in compromised health outcomes for women, which in turn are related to lower infant birthweight and may affect the quality of infant care and nutrition. Maternal autonomy (defined as a woman's personal power in the household and her ability to influence and change her environment) is likely an important factor influencing child care and ultimately infant and child health outcomes. To examine the relationship between maternal autonomy and child stunting in Andhra Pradesh, India, we analysed data from National Family Health Survey (NFHS)-2. We used cross-sectional demographic, health and anthropometric information for mothers and their oldest child <36 months ($n = 821$) from NFHS-2. The main explanatory variables of autonomy are presented by four dimensions – decision making, permission to travel, attitude towards domestic violence and financial autonomy – constructed using seven binary variables. Logistic regression models were used to test associations between indicators of female autonomy and the risk of having a stunted child. Women with higher autonomy {indicated by access to money [odds ratio (OR) = 0.731; 95% confidence interval (CI) 0.546, 0.981] and freedom to choose to go to the market [OR = 0.593; 95% CI 0.376, 0.933]} were significantly less likely to have a stunted child, after controlling for household socio-economic status and mother's education. In this south Indian state, two dimensions of female autonomy have an independent effect on child growth, suggesting the need for interventions that increase women's financial and physical autonomy.

Keywords

child stunting; maternal autonomy; India

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Conflicts of interest

None declared.

Introduction

Although there has been significant economic progress in India in recent decades, undernutrition, infectious and chronic diseases remain pervasive problems. India's gross national product has risen 6% since 1985 (World Bank 2003), with overweight, obesity and chronic diseases becoming growing problems in urban areas (Griffiths & Bentley 2001; Yajnik 2004). But in the last two decades, India has reached self-sufficiency in food grain production and infant mortality rates have reduced by 26% (NFHS-3 2007). Despite these rapid changes and improvements in certain health indicators, India remains one of the most impoverished countries in terms of child undernutrition. In a seminal paper, 'The Asian Enigma', written more than a decade ago, Ramalingaswami *et al.* (1996) proposed that the extreme low status of women is a key factor responsible for high rates of child undernutrition in South Asia (nearly 48%) compared with Africa (30%). The authors suggested that if women's status were improved, there would be improvements in the nutritional status of their children (Ramalingaswami *et al.* 1996). They hypothesized that women's low status not only compromises maternal physical health, resulting in low infant birthweight, but may also lead to a subsequent decline in quality of care provided during infancy and childhood.

A recent United Nations Children's Fund (UNICEF) report states that 'Eliminating gender discrimination and empowering women will have a profound and positive impact on the survival and well-being of children (UNICEF 2007). Direct and complex indirect pathways underlie the relationship between women's autonomy and health outcomes, especially child growth and survival (Engle *et al.* 1999; UNICEF 2007). According to the UNICEF conceptual framework (Engle *et al.* 1997), underlying factors, such as feeding and care practices, maternal autonomy, household food security and community health services (Ha *et al.* 2002), affect dietary intake, morbidity and child nutritional status. The reason maternal autonomy can determine child stunting lies in the concept that mothers are the primary caregivers of their children in countries like India. The autonomy of a mother allows her to gain control of, and access to resources and makes her more likely to provide effective child nutrition and eventually impact child growth. Several studies have observed specific dimensions of maternal autonomy impact child growth and survival (Doan & Bisharat 1990; Caldwell & Caldwell 1993; Kishore 1998; Begin *et al.* 1999). In a study from Chad, caregiver's decision-making ability, a component of maternal autonomy, was associated with child feeding practices and child stunting after controlling for household structure, income generating activities and social support (Begin *et al.* 1999). A study completed in the Dominican Republic found children to be significantly less stunted in female-headed vs. male-headed households, suggesting that female-generated income is allocated to ensure adequate dietary intake for children (Johnson & Rogers 1993). Smith *et al.* (2003) found women's status (defined by equality between women and men) to impact child stunting. These studies examined specific aspects of maternal autonomy and operationalized the concept of autonomy as a single indicator representing a certain dimension or used an indirect/proxy measure of autonomy.

Recent literature presents autonomy to be a multidimensional concept, identifying key elements, including (1) decision-making capacity inside and outside the house; (2) mobility outside the house; (3) financial independence; and (4) attitude towards domestic violence (Mason 1986; Vlassoff 1992; Balk 1994; Jejeebhoy 1997, 2002). Previous studies have found that each of these domains of autonomy have independent and unique effects on health behaviours and outcomes and, thus, have discouraged the use of a single index to represent autonomy (Malhotra *et al.* 2002). Because autonomy is a multidimensional concept, researchers argue that a single index dilutes the true effect of each dimension. Studies have found different dimensions of autonomy to have different effects on health

behaviours or outcome (Doan & Bisharat 1990; Balk 1994; Dharmalingam 1996; Govindasamy & Malhotra 1996; Kishore 1998; Begin *et al.* 1999; Hindin 2000; Jejeebhoy 2002; Smith 2003; Basu & Stephenson 2005). To our knowledge, no studies have investigated the effect of several dimensions of maternal autonomy on the outcome of child stunting controlling for other socio-demographic explanatory variables, such as maternal education, within the South Asian context (Milman *et al.* 2005).

Using the four domains of autonomy proposed by previous researchers investigating reproductive health outcomes (Mason 1986; Vlassoff 1992; Balk 1994; Jejeebhoy 1997, 2002), the present study examines the association of maternal autonomy with child stunting in the southern state of Andhra Pradesh, India. The rates of stunting in Andhra Pradesh is around 40%, which is about 5% less than the national average rate in India (45.5%), according to the National Family Health Survey (NFHS)-2 data. However, there is a range in stunting prevalence in India, with the lowest rate in the state of Goa (18.1%) and the highest prevalence rate in the state of Uttar Pradesh (55.5%). There is vast heterogeneity in culture and traditions throughout India despite a consensus that a broad north-south regional division exists within the country that influences gender roles and health outcomes (Dyson 1983).

On average, the north of India is less egalitarian than the south (Dyson 1984) and shows lower levels of female autonomy as well as higher birth and death rates among infants and children, including skewed sex ratios that favour males (Grover & Vijayvergiya 2006). However, there are states in the south of India that mimic the socio-demographic conditions of the north (Guilmoto & Irudaya Rajan 2005). For example, the levels of maternal autonomy and literacy in the southern state of Andhra Pradesh are below the national average (NFHS-2 2000). At the same time, Andhra Pradesh has experienced a reduction in poverty in the last 30 years. According to state reports, the numbers of poor people have reduced from 49% to 30% (Andhra Pradesh Government 2003). This shift in levels of poverty may explain improvements in household food adequacy reported by the National Nutrition Monitoring Bureau Survey conducted in 2001 (NNMB 2001). Given that households are food-secure and that child stunting remains prevalent, there may be other factors that influence care and feeding practices, such as maternal autonomy, which influence child growth and survival (Frongillo 1997; Engle 2002). In this study, we hypothesize that, in Andhra Pradesh, mothers with higher levels of autonomy will be less likely to have stunted children, even after controlling for maternal education and socio-economic status.

Subject and methods

The 1998–1999 NFHS (NFHS-2 2000) is a nationally representative cross-sectional study conducted by the International Institute of Population Sciences in India and ORC Macro in the United States (NFHS-2 2000). This survey was collected using a two-stage sampling design with stratification by urban–rural setting. The next level is the primary sampling units, which for a rural setting were villages or groups of villages and for urban areas are wards or municipal localities. To create a sample representative of the state of Andhra Pradesh, sample weights were used to account for the differential probability of selection for mothers into the sample (NFHS-2 2000). In the NFHS-2, survey information was collected from 4032 women of reproductive ages (15–49 years) living in Andhra Pradesh. For these participants, there were 991 children <36 months of age who had complete anthropometric data. Where households included more than one eligible child, the oldest was selected for inclusion in our analysis to ensure that observations were not clustered within households. The final sample consisted of 821 mother–child dyads. Use of the NFHS sample was approved by the institutional review board at the University of North Carolina, Chapel Hill.

Stunting was defined using a height-for-age Z-score ≥ 2 standard deviation, based on the World Health Organization/National Center for Health Statistics reference (WHO 1978). Autonomy measures were based on four theoretical distinct domains described in previous studies of reproductive health and health-seeking behaviours (Jejeebhoy 1997; Bloom *et al.* 2001; Bloom & Griffiths 2007): (1) decision-making power of women in various activities, including cooking, buying jewellery, obtaining health care and visiting the natal home; (2) women's freedom of movement, including whether permission was needed to go to the market or to visit family and friends; (3) financial autonomy defined as a woman's ability to keep money for personal discretionary purposes; and (4) attitudes towards domestic violence, including whether women felt that wife beating was acceptable. Thirteen questions related to autonomy are included in the NFHS-2 survey. These can be grouped to represent the four conceptual domains of autonomy described earlier. For the four variables representing the decision-making domain in the NFHS-2, we created a binary response for each indicator from a five-point response, where '0' represented a relatively high level of autonomy (mother plays a role in the decision) and '1' represented a lower autonomy level (indicating mother never plays a role in the decision-making; Table 1). For the indicator of attitude towards domestic violence, the questionnaire included a description of six scenarios. For each scenario, women were asked whether the husband was justified in beating his wife. If a woman responded that she felt the husband was unjustified in all six scenarios, she was given a score of '0' representing high autonomy. If the woman responded that the husband was justified in at least one of the six scenarios, she was given a score of '1' representing low autonomy. The variables representing permission and financial autonomy were binary response variables representing high and low levels of autonomy, and were left in their original form as presented in the NFHS questionnaire.

Covariates considered in our models exploring the relationship between maternal autonomy and child stunting comprised (1) child sex, age and birth order; (2) maternal level of education, age and religion; and (3) household-level socio-economic status and urban-rural residence (Frongillo 1997). The NFHS-2 data include an index of household socio-economic status, based on quality of household construction and land and household ownership as well as ownership of household assets (NFHS-2 All India report, p. 41; NFHS-2 2000). The index score ranges from 0 to 67 and the NFHS-2 data management team suggests developing a categorical variable with three categories of low, medium and high standard of living. This categorical variable is developed such that it is comparable to the different socio-economic status groups of the Indian population, e.g. the low group represents the bottom tertile of standard of living scores for the whole Indian population.

Statistical methods

To account for the survey design and sample weights, all analyses were carried out using survey commands in STATA (StataCorp 2003). In our analyses, weighting was taken into account for the primary sampling unit as well as strata described in sampling design earlier. Descriptive statistics based on the association between each of the autonomy variables and stunting were assessed using weighted chi-square tests. Autonomy variables significantly associated with stunting ($P < 0.05$) were retained in the multivariate models. Bivariate logistic regression was used to estimate the association of each covariate with child stunting. The variables that were significantly associated with stunting (Table 2) were then included in the final multivariate logistic regression. The importance of interactions between covariates and main explanatory variables was assessed to be significant when $P < 0.05$.

Results

Sample description

Table 3 presents descriptive statistics of the sample, including information on child, mother and household demographic characteristics. Children's ages ranged from 0 to 35 months and did not differ by gender. Male and female children were equally represented and stunting (48%) was 2% lower than the national average (NNMB 2001). The majority (66%) of mothers were between 15 and 24 years of age and approximately one half (49%) were illiterate. The majority of households were located in rural areas (75%) and approximately half (49%) of the mothers reported to be living in a household that was categorized to have medium socio-economic standard of living.

Table 1 presents the unadjusted proportions of stunting by different dimensions of women's autonomy. Of the variables representing the *decision making domain of autonomy*, three of the four variables had an equal number of households in both the high and low levels of autonomy. Additionally, there was no statistical difference in the proportion stunted between the autonomy levels for each variable. For both the variables representing the *permission domain of autonomy*, a majority of women (>80%) had low levels of autonomy. Of all the items in this domain, only 'permission to go to the market' was significantly associated with child stunting ($P = 0.038$). With respect to the *financial domain of autonomy*, there was a relatively equal distribution of women in both high and low levels of autonomy, and low levels of autonomy significantly increased the likelihood of having a stunted child ($P = 0.007$). For the dimension of autonomy related to *attitudes towards domestic violence*, the percentage of women who reported that they did not approve of some form domestic violence was low. The difference in the percentage of stunted children between those women who approved and did not approve of gender-based violence was not statistically significant. Of all the autonomy measures tested, *permission to go to the market* and *freedom to use financial resources* were significantly associated with stunting, and these measures of autonomy were therefore included in the multivariate regression analysis.

Associations between stunting and the socio-demographic covariates are presented in Table 2. Factors that were significantly associated with stunting were child's age ($P < 0.001$), with higher levels in the older age groups; maternal education, where the number of stunted children was significantly higher ($P = 0.002$) among mothers who did not go to school compared with mothers who had completed primary or secondary school; standard of living; and place of residence. Lower rates of stunting were observed in households with higher levels of socio-economic status and/or living in household in urban settings. These variables were also identified as confounders of the relationship between maternal autonomy and child stunting, i.e. their inclusion resulted in a 10% or greater change in parameter estimates for at least one of the maternal autonomy variables. Table 4 shows the final logistic regression model results. This model retained only the autonomy variables and covariates found to be associated with stunting in the bivariate analysis.

Use of discretionary money for personal purposes (financial autonomy) and permission to go the market (physical autonomy) were significantly associated with stunting after controlling for confounding factors. A mother with higher financial autonomy had lower odds [odds ratio (OR) = 0.731; 95% confidence interval (CI) 0.546, 0.981] of having a stunted child. Mothers with higher physical autonomy were less likely (OR = 0.593; 95% CI 0.376, 0.933) to have stunted children. Among other covariates, only standard of living and child's age remained significantly associated with stunting in the multivariate model.

Discussion

The results of this study support the hypothesis that low maternal autonomy – represented by single indicators, namely the *freedom to use discretionary money* (financial autonomy) and *permission to go to the market* (physical autonomy) – is associated with child stunting in Andhra Pradesh, where the prevalence of child stunting is 40%, one of the highest rates in India (NFHS-2 2000). This significant association is independent of the effect of maternal education and household socio-economic status.

There are potential explanations for why the two autonomy indicators, *freedom to use discretionary money* and *freedom to go to market*, may affect child stunting. Maternal permission to go to the market may allow for possible interactions and information exchange with people outside the family circle (Jejeebhoy 1997). Going to the market could potentially provide a forum for exchange of information that helps a mother to gain knowledge and advice which is beneficial for care, feeding or nutrition advice for children's health. A mother who needs permission to go to the market may not be granted permission to go to the market as regularly as a mother who does not require permission; thus, she would have a decreased chance of the potential for interacting with people beyond the family and close neighbours in a typical market setting. These data do not allow us to fully test this idea as we do not have information available to establish whether needing permission to go to the market actually affects a woman's likelihood of going or frequency of attending the market. Further research is needed to understand the mechanisms through which this variable works to affect child nutrition. Consistent with earlier studies, we found that financial autonomy was a strong predictor of child stunting (Miles-Doan & Popkin 1993; Hashemi *et al.* 1996). With high financial autonomy, a mother likely has higher negotiation power through higher participation in household purchasing decisions (Engle 1991; Miles-Doan & Popkin 1993; Hashemi *et al.* 1996; Jejeebhoy 1997). In turn, a mother's power to affect purchasing decisions and resources allocated to food or child care has been identified as an important factor for child nutritional status, particularly in resource-poor settings (Engle 1991; Miles-Doan & Popkin 1993; Hashemi *et al.* 1996; Jejeebhoy 1997).

Indicators representing the decision-making domain of maternal autonomy and attitude towards domestic violence were not statistically significantly associated with stunting in our study. Previous studies have found a strong association between the decision-making domain of autonomy and women's nutritional and reproductive health (Morgan & Niraula 1995; Dharmalingam 1996; Govindasamy & Malhotra 1996; Hindin 2000; Mason & Smith 2000). Although these studies found a positive relationship between high decision-making autonomy and women's health, our study suggests that decision making as captured by the variables used to assess this dimension in the NFHS-2 may not extend to influence children's nutritional status. However, one limitation of the decision questions listed in the NFHS-2 survey is that the questions used might be more relevant to women's own health rather than the children's health. For instance, the survey asks about who makes the decision to access health care for the woman's own health, but does not ask specifically about decision making and health care for the child. A question related to the child's health might have revealed different results in its association with child stunting.

Maternal attitude towards domestic violence of a woman represents experience and expectation of domestic violence and is probably a marker for social acceptability of wife beating (Hindin 2003). Previous studies have found a relationship between experience of physical violence and child mortality, infant death and low birthweight (Jejeebhoy 1998; Campbell *et al.* 1999; Asling-Monemi *et al.* 2003). A study from another southern state in India found experience of psychological abuse and sexual coercion to be associated with

increase in risk of child malnutrition (Sethuraman *et al.* 2006). In our study, we did not find a significant association between the attitude towards domestic violence and child stunting. The reason for non-significance might be that the majority of women in our sample (88%) reported that domestic violence was justified, and this may explain the lack of association, i.e. it could be indicative of the normative nature of violence that is experienced and thus accepted by women throughout India (Jejeebhoy & Cook 1997; Go *et al.* 2003).

In bivariate analysis, maternal education and socioeconomic status were significantly associated with child stunting and confound the association of maternal autonomy with stunting. Maternal education is commonly used as a proxy for autonomy (Dyson 1983; Abadian 1996; Dreze & Murthi 2001). Some studies have shown that maternal autonomy has independent effects on child health when controlling for education (Vlassoff 1992; Basu & Stephenson 2005), while others have found that maternal education may mediate or confound the relationship between maternal autonomy and child health (Kravdal 2004). The nature of the impact of maternal education depends on the outcome of interest (Frongillo 1997). In our study, the absence of a significant effect of mother's education in the multivariate model indicates insufficient residual variance remaining after controlling for socio-economic status and autonomy. Finally, maternal autonomy remained a significant predictor of stunting after controlling for mother's education, highlighting the independent effect of autonomy in this context. Furthermore, the fact that autonomy remains significant after controlling for maternal education suggests that improving female autonomy will have a stronger effect on improving child stunting above and beyond that provided by additional years of education.

The study was limited in the variables available through the NFHS-2 to represent the four maternal autonomy domains. We may have seen a greater impact of some of these domains if there had been a greater variety of questions pertaining to autonomy so that we could have compiled factor scores and analysed domains rather than individual items. For instance, information on freedom of movement has been captured by asking questions on not only needing permission to go to various places outside of the home but also whether a woman could do this without being accompanied by somebody else from the family (Smith *et al.* 2000). There were also factors, such as child care practices, that may be important mediators of the effect of maternal autonomy on child stunting, such as health care practices related to child nutrition and growth, that we have not been able to study. Understanding the association of autonomy with these factors is an important next step for researchers to design appropriate intervention tools.

As discussed by Ramalingaswami *et al.* (1996) in their report describing the Asian Enigma, factors beyond household economics, such as women's status, are hypothesized to be responsible for the differences in the prevalence of undernutrition between Africa and South Asia. The results of our study provide further evidence for this hypothesis by showing two dimensions of maternal autonomy to be independent predictors of stunting of children <3 years of age in Andhra Pradesh, India. The World Bank and United Nations emphasize the importance of empowerment of women with relation to child growth and development in their policy statements (Gupta *et al.* 2000; UNICEF 2007). Many women's empowerment programmes (such as those developed by Grameen Bank in Bangladesh and Self Employed Women's Association in India) include strategies to achieve improved health care-seeking behaviours of women and educational programmes for child care (Sen 1997; Bhuiya & Chowdhury 2002). Our study suggests that such interventions will not only improve the woman's own health but also impact the well-being of her children. Thus, we believe that government and non-governmental organizations resources would be well spent by increasing finances to programmes that are aimed at improving women's financial and physical autonomy to reduce the extremely high levels of stunting observed in this setting.

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Key messages

- Certain dimensions of maternal autonomy are important for child growth, in addition to other socio-demographic factors. This may vary based upon socio-cultural setting and their meaning must be understood in context.
- Therefore, future work should incorporate maternal autonomy as an important factor to be understood and addressed for programmes targeting child growth and survival in developing countries such as India.

Table 1

Bivariate analysis of autonomy variables by stunting in Andhra Pradesh, India, NFHS-2, 1998–1999 (NFHS-2 2000)

Autonomy variables	Categories	<i>n</i>	% Stunted	<i>P</i> -value
Decision variables				
Who makes the following decisions in your household:				
What items to cook?	Respondent plays a role	(653)	41	0.539
	Respondent doesn't play a role	(168)	39	
Obtaining health care for yourself?	Respondent plays a role	(408)	40	0.943
	Respondent doesn't play a role	(413)	41	
Purchasing jewellery or other major household items?	Respondent plays a role	(447)	41	0.938
	Respondent doesn't play a role	(374)	41	
Your going and staying with parents or siblings?	Respondent plays a role	(414)	42	0.297
	Respondent doesn't play a role	(407)	39	
Permission variables				
Do you need permission to:				
Go to the market?	Doesn't need permission	(145)	31	0.038 *
	Needs permission	(676)	42	
Visit relatives or friends?	Doesn't need permission	(99)	34	0.184
	Needs permission	(722)	41	
Financial decision variable				
Are you allowed to have some money set aside that you can use as you wish?	Yes	(415)	36	0.007 *
	No	(406)	45	
Attitude towards domestic violence variable				
The respondent was asked if she thought that a husband is justified in beating his wife in six different circumstances.	Not justified under any circumstances	(172)	34	0.131
	Justified in beating under some or all of the circumstance	(619)	41	

NFHS, National Family Health Survey;

* $P < 0.05$ (P values based on weighted chi-square statistics with appropriate degree of freedom).

Table 2

Bivariate associations of stunting with socio-demographic factors, Andhra Pradesh, India, NFHS-2, 1998–1999 (NFHS-2 2000)

Characteristics	<i>n</i>	% Stunted	<i>p</i> -value
Children			
Age, month			0.000 *
0–11	264	25	
12–23	350	47	
24–35	298	48	
Sex			0.710
Boys	409	42	
Girls	412	40	
Birth order			0.371
1	752	40	
2	41	51	
3	12	52	
4+	16	50	
Mothers'			
Age, year			0.513
15–24	547	42	
25–34	245	38	
35–49	29	45	
Education			0.002 *
No education	396	48	
Complete primary	292	38	
Complete secondary and higher	133	26	
Socio-economic			
Standard of living index			0.001 *
Low	297	47	
Medium	400	40	
High	119	25	
Place of residence			0.001 *
Rural	607	44	
Urban	214	31	
Religion			0.986
Hindu	694	41	
Muslim	69	41	
Christian	56	40	

NFHS, National Family Health Survey;

* $P < 0.05$ (P -values based on weighted chi-square statistics with appropriate degree of freedom).

Table 3

Baseline characteristics of mothers and children in Andhra Pradesh, India, NFHS-2 survey data, 1998–1999 (NFHS-2 2000)

Characteristics	<i>n</i>	Mean (SE)
Anthropometric		
Height-for-age Z-score	821	−1.728 (1.442)
Weight-for-age Z-score	821	−1.681 (1.174)
Weight-for-height Z-score	821	−0.789 (1.059)
Stunting	821	
<−2 SD height-for-age Z-score	333	−3.019 (0.881)
−2 SD height-for-age Z-score	488	−0.847 (1.027)
Characteristics	<i>n</i>	Percentage
Children		
Age, month (821)		
0–11	245	30
12–23	313	38
24–35	263	32
Sex (821)		
Boys	409	50
Girls	412	50
Birth order (821)		
1	752	92
2	41	5
3	12	1
4+	16	2
Mothers'		
Age, year (821)		
15–24	547	66
25–34	245	30
35–49	29	4
Education (821)		
No education	396	49
Complete primary	292	35
Complete secondary and higher	133	16
Socio-economic		
Standard of living index (816)		
Low	297	37
Medium	400	49
High	119	14
Place of residence (821)		
Rural	607	75
Urban	214	25

Characteristics	<i>n</i>	Mean (SE)
Religion (819)		
Hindu	694	85
Muslim	69	8
Christian	56	7

NFHS, National Family Health Survey; SE, standard error; SD, standard deviation.

Table 4

Weighted logistic regression results (crude and adjusted models[†]): Odds ratio and 95% confidence intervals (CI) for the significant predictors of stunting in children under the age of 36 months, Andhra Pradesh, India, NFHS-2, 1998–1999 (NFHS-2 2000)

	Crude odds ratio (CI)		Adjusted odds ratio [†] (CI)	
Financial autonomy: Are you allowed to have some money set aside that you can use as you wish?				
Ref. No	1.0	–	1.0	–
Yes	0.681 [*]	(0.513, 0.906)	0.731 [*]	(0.546, 0.981)
Permission need to go to the market:				
Ref. Needs permission	1.0	–	1.0	–
Does not need permission	0.637 [*]	(0.407, 0.996)	0.593 [*]	(0.376, 0.933)
Child's age				
Ref. 0–11			1.0	–
12–23			3.026 [*]	(2.050, 4.469)
24–35			3.108 [*]	(2.057, 4.695)
Standard of living index				
Ref. Low			1.0	–
Medium			0.878	(0.630,1.224)
High			0.584 [*]	(0.364, 0.999)
Place of residence				
Ref. Rural			1.0	–
Urban			0.699	(0.483,1.014)
Mother's education				
Ref. No education			1.0	–
Complete primary			0.749	(0.530,1.061)
Complete secondary and higher			0.666	(0.373,1.186)

NFHS, National Family Health Survey, Ref, Reference;

^{*} $P < 0.05$ (P -values based on weighted logistic regression);

[†] Adjusted for child's age, standard of living, place of residence and mother's education.