Effects of a Parenting Program Among Women Who Began Childbearing as Adolescents and Young Adults

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ABSTRACT

Purpose: The purpose of the study was to examine whether access to an at-scale, group-based parenting education program ("Educación Inicial") had differential effects on parenting behaviors and child cognitive development according to mother's age at the birth of her first child, with a focus on adolescent mothers in rural Mexico.

Methods: This was a secondary analysis of a cluster-randomized controlled trial (n = 728 households, n = 106 communities). We conducted intent-to-treat analyses and examined the interaction between treatment group and mother's age at first birth. The primary outcomes were parenting behaviors (Family Care Indicators) and children's cognitive development (McCarthy Scales of Children's Abilities) at ages 3–5 years.

Results: We found that children of mothers who began childbearing in adulthood (20–30 years) scored higher on tests of cognitive development when randomized to weekly parenting support than their counterparts in the comparison group. Whereas, the children of mothers who began childbearing in adolescence (<16 years) did not have higher scores associated with the parenting program (difference in magnitude of associations: Verbal = –8.19; 95% CI = –15.50 to –.88; p = .03; Memory = –7.22; 95% CI = –14.31 to –.14; p = .05). The higher scores among the children of mothers who began childbearing in adulthood were only significant when Educación Inicial was supported by Prospera, the conditional cash transfer program.

Conclusions: Our study results suggest that the Educación Inicial parenting intervention did not adequately address the needs of women who began childbearing in adolescence. One reason may be that adolescent mothers are more socially marginalized and less able to benefit from parenting programs.

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On average, children of women who began childbearing in adulthood benefit from Mexico's national parenting education program, whereas children of women who began childbearing in early adolescence do not. This research highlights an important gap in understanding how to promote adolescent parents' engagement and their children's development.

Adolescent childbearing is frequently accompanied by poverty, low levels of maternal education, and maternal depression [1–3]. These factors are hypothesized to both increase the probability of giving birth as an adolescent and to affect the adolescent’s and her children’s future social,
economic, and health outcomes. The context in which adolescent childbearing often occurs contributes to parenting difficulties and plays an important role in children’s cognitive development [4]. The implications of these challenges can be seen in the developmental deficits recorded among children of adolescent mothers [5]. The same factors that increase the probability of adolescent childbearing, such as low socioeconomic position, can persist even as young mothers age into adulthood [6,7], and adolescent parenthood can have lasting impacts on physical and mental health [8].

Mexico has one of the greatest total numbers of adolescent pregnancies (677,000 in 2009) worldwide [9] because of its large population size and high teenage fertility rate (63.5 per 1,000 in 2014) [10]. Recent evidence from Mexico’s National Survey of Health and Nutrition indicated that while overall fertility rates declined since 2006, adolescent fertility rates have increased [11]. Consistent with global patterns, adolescent pregnancy in Mexico is associated with low educational attainment, low socioeconomic status, and household crowding [12,13].

Parenting programs have shown positive effects on child cognitive and social-emotional development as well as improvements in parenting knowledge and learning activities that are known to contribute to child development [14,15]. A systematic review of adolescent parenting support programs in high-income countries showed that access to a parenting program was associated with improved mother and child responsiveness as well as mother-child interactions [16]. The review only included eight studies, however, due to strict inclusion criteria and an overall scarcity of evaluations of adolescent parenting programs, and none of the programs specifically targeted Hispanic parents. Findings from evaluations in high-income countries may not be generalizable to contexts that are markedly different in their attitudes toward and treatment of young parents. For example, young mothers may have access to stronger support networks in countries where adolescent pregnancy is normalized [17]. In addition, parenting programs designed for general audiences may have differential effects on women who began childbearing at different ages and their children because of differences in social condition [4]. Given that adolescent childbearing frequently co-occurs with other risk factors for suboptimal maternal health and child development, 95% of adolescent childbirths occur in low- and middle-income countries (LMICs) [18], and the consequences of adolescent childbearing vary across social contexts [19], there is an urgent need to understand how to support women who begin childbearing in adolescence and their children in LMICs.

In Mexico, the conditional cash transfer program, “Programa de Inclusión Social” (Prospera), invests in education and health in an effort to break the cycle of poverty through human capital development. “Educación Inicial” (EI) is a parent support intervention overlaid on Prospera that aims to improve child development outcomes through early stimulation and parent education. EI works with pregnant couples, parents (mosty mothers) and children in their first 5 years of life. The program has no age restrictions for parents, but adolescent and former adolescent mothers make up the majority of participants younger than 30 years (70%). We showed previously that access to EI is associated with improvements in child cognitive development [20] in part through increases in parents reading and singing with their children [21]. Our current objective was to explore whether access to EI had differential impacts on parenting behaviors and child cognitive development depending on the mother’s age at the birth of her first child. We also estimated the effect of access to EI on parenting behaviors and child cognitive development within subgroups defined by mother’s age at first birth.

Methods

Trial design

This study used a cluster-randomized design with equal allocation to two treatment arms and one comparison arm [20,21]. We identified 288 rural and marginalized communities from a complete list of communities provided by Mexico’s National Institute of Statistics and Geography. To be eligible for enrollment in the study, small communities (<2,500 residents) in Chiapas, Oaxaca, and Puebla were required to have a high proportion (>80%) of families enrolled in Prospera, no prior implementation of EI in the previous 5 years, and at least 15 families with children between the ages of 0 and 2 years old. Researchers randomly selected 204 of these communities and randomized them to one of three study arms within strata of community indigenous status (a community was considered indigenous if >80% of the population spoke an indigenous language). Twelve communities were not included for reasons including inaccessibility and community refusal. Communities in the first treatment arm (T1) received access to EI. In the second treatment arm (T2), communities received access to EI, and Prospera promotoras worked in collaboration with EI promotoras to encourage families to participate in EI. To support this collaboration, Prospera staff received information on EI during their training sessions and promotional materials for distribution. Communities in the comparison arm (T0) did not receive EI. All families enrolled in Prospera with children aged 0 to 18 months were invited to participate in the study. Assessors collected baseline data in 2008, and EI was implemented within 1 to 2 months. Follow-up data were collected in 2012. The primary caregivers were asked to provide consent to participate in the study. This study was approved by the institutional review boards at the University of California, Berkeley and the National Institute of Public Health, Research, Ethics, and Biosafety Committees in Cuernavaca, Mexico (protocol ID: 2010-05–1528).

Study population

A total of 2,472 households (192 communities) were surveyed at baseline. Of the total sample, 2,467 of the respondents were mothers (rather than fathers or other relations) of the children enrolled in the study. Adolescent mothers were identified by subtracting the age of their oldest child living in the household from the mothers’ age. To make it less likely that a mother’s children were old enough to have moved out before program initiation, we limited our sample to mothers aged 30 years and younger. The sample at baseline included 1,381 mother-child dyads from 189 communities.

For budgetary reasons, a smaller sample of communities was surveyed in 2012. Hard to reach communities and communities with few children were excluded. Households with missing outcome data were also excluded from the analysis, resulting in a final sample of 728 households from 106 communities in the analysis of parenting behaviors, and 572 households from 83 communities in the analysis of cognitive development.
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