Purpose: In a previous study in a rural Guatemalan community, nearly 40% of children age five or younger screened as delayed in fine motor domain (FMD) on the Ages and Stages Questionnaire-3rd edition (ASQ-3). Fine motor abilities are related to precognitive and functional daily living skills that allow children to explore and manipulate objects in their environments. Availability of toys and objects in the home can help to promote these skills. This project examines the association between StimQ-Toddler (StimQ-T) scores, which measure home environment and parent practices, and FMD scores to better understand and enhance optimal developmental outcomes. Methods: Mothers reported on developmental abilities of
their eligible children, 12-, 24-, and 36-months old, using the ASQ-3 and StimQ-T. The ASQ-3 is a standardized parent questionnaire used to assess developmental competence with lower scores indicating increased risk for developmental delay. The StimQ-T is a home environment inventory that assesses toys in the home and parental practices that promote development with higher scores associated with richer environments. Participant demographics and StimQ-T sub-scores were summarized using descriptive statistics. Logistic regression and chi-squared tests examined the association between FMD scores and StimQ-T scores. We hypothesized that higher StimQ-T scores would be associated with higher scores on the ASQ-3 FMD. Results: Of the 55 children surveyed, 54.5% were male. At 12-months (n=23) and 24-months (n=21), delay rates were significantly different from delay rates at 36-months (n=11) on FMD (p=0.038). Children with increased StimQ-T total scores were 3 times more likely to pass the FMD of the ASQ-3 (p=0.41), which is clinically significant. A 1-point increase in Parental Involvement subscore on the StimQ-T increased FMD score by 24% (p=0.17), which is clinically significant. There were no other significant relationships between StimQ-T subscale scores and FMD scores. Conclusions: Findings suggest that parental engagement is most highly related to development of fine motor skills in this community. Those families that both had access to learning materials and interacted more with their young children had children with higher FMD scores. Anticipatory guidance should emphasize engaging parent-child interaction through intentional teaching of skills, games, and reading books together. In this community, interventions for parents of young children should focus on relationship development and reciprocal interactions rather than focusing solely on use of toys or objects.
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