

Determinants of the Early Childhood Development Index among children aged < 5 years in Bangladesh, Costa Rica and Ghana: a comparative study

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Abstract

Background: Early child development is a crucial factor for children that controls health and well-being in later life.

Aims: To determine the influence of sociodemographic factors on the Early Child Development Index (ECDI) among children aged < 5 years.

Methods: The analysis was performed using cross-sectional survey data from 2019, 2017–2018 and 2018 Multiple Indicator Cluster Surveys from Bangladesh, Ghana and Costa Rica, respectively. We used the χ^2 test for bivariate analysis and binary logistic regression model for multivariate analysis for all 3 countries. All the statistical analyses were performed with IBM SPSS version 25 and R version 4.0.0.

Results: Child age and sex, followed by maternal education level, economic status, child nutritional status, reading children's books, and maternal functional difficulties had the greatest effect on ECDI. Children aged 36–47 months had lower odds of development than those aged 48–59 months, and boys had lower odds of development than girls in Bangladesh, Costa Rica and Ghana. Urban children had lower odds of development than rural children in Costa Rica but higher odds in Ghana.

Conclusion: We recommend that governments should take the necessary steps to enhance children's early development and well-being in all 3 countries by raising education, improving economic conditions and providing balanced nutrition.

Keywords: child development, child nutrition, child mortality, cognitive, early childhood development

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Introduction

Early childhood development (ECD) comprises the physical, cognitive, motor and socioemotional growth of children up to 8 years of age (1,2). Approximately 20% of children aged < 5 years develop slowly, 5% show signs of wasting, and 11% are underweight. Child development starts during conception and the initial years are significant because the brain advances most rapidly during this time and builds capacity for improvements, as this foundation is involved in health and quality of life (3). A child's brain improves by 90% within the first 5 years, thus these years are critical (4). The Sustainable Development Goals (SDGs) Agreement indicates that ECD will be a priority for the 21st century (5). The new sustainable development agenda includes 1 target (4.2) relevant for ECD. Target 4.2 states that, by 2030, countries should ensure that all girls and boys have access to quality early childhood development, care and preprimary education so that they are ready for primary education (5). However, the contributions of the SDGs to ECD are wider than this education-oriented goal. The key to achieving at least 7 of the SDGs is to strengthen ECD by tackling poverty, hunger,

health (including child mortality), education, gender, water and sanitation, and inequality.

Children must be provided with responsive care, balanced nutrition, nurturing, and a safe environment to live, learn, grow and develop to full potential (6). Several studies conducted in 2007 concluded that > 200 million children under the age of 5 years did not achieve their developmental potential in low- and middle-income countries (LMICs) as a result of nutritional deficiencies and insufficient learning opportunities (7–9). Economic depression and climate diversity have also raised the number of children affected (10,11). Biological and psychosocial risk factors accompanied by poverty lead to an imbalance in ECD that threaten educational attainment and adult productivity (7,12).

High-quality preschool education has a significant influence on cognitive and socioemotional development (13,14). Costa Rica has become a global leader in ECD by making it mandatory for all young children to enrol in preprimary education (4). In Costa Rica, preschool allowances are increased, particularly in kindergarten, and to be admitted to the first-grade school, 3- and 4-year-old children must attend first-grade preprimary

education (15,16). One in 5 children in Ghana experiences stunted growth due to insufficient nutrition, recurrent illness and an unhealthy environment, resulting in disrupted physical, social and cognitive development that successively affects their early learning, school performance, and ultimately, their socioeconomic development (17). In 2007, Ghana launched a 2-year preprimary education for children between 3 and 4 years of age. In recent years, preprimary school attendance has increased and education in Ghana has improved (18,19).

In Bangladesh, understanding of ECD is still emerging as a result of severe constraints, such as poverty, lack of qualified educators and health professionals, as well as funding (20). Most parents have little knowledge of childcare and rearing, and the Bangladeshi Ministry of Women's and Children's Affairs and the Ministry of Health and Family Welfare have formed the Centre of Early Childhood Care and Development. The Centre aims to provide essential elements of child growth, such as early nutrition, stimulation, security and learning (21). While most of the activities of the Centre are targeted at preschool children, a few are aimed at parents or children under 3 years of age (21).

Several studies have shown that the development of many children aged < 5 years has not progressed in the right way in LMICs due to many factors such as poverty and education. The present study aimed to measure the effects of various sociodemographic and economic factors on ECD, and to determine which risk factors are associated with Early Childhood Development Index

(ECDI) in 3 LMICs, Bangladesh, Costa Rica and Ghana. This should provide researchers and policy-makers with updated insights on early childhood development and help them develop appropriate guidance and programmes.

Methods

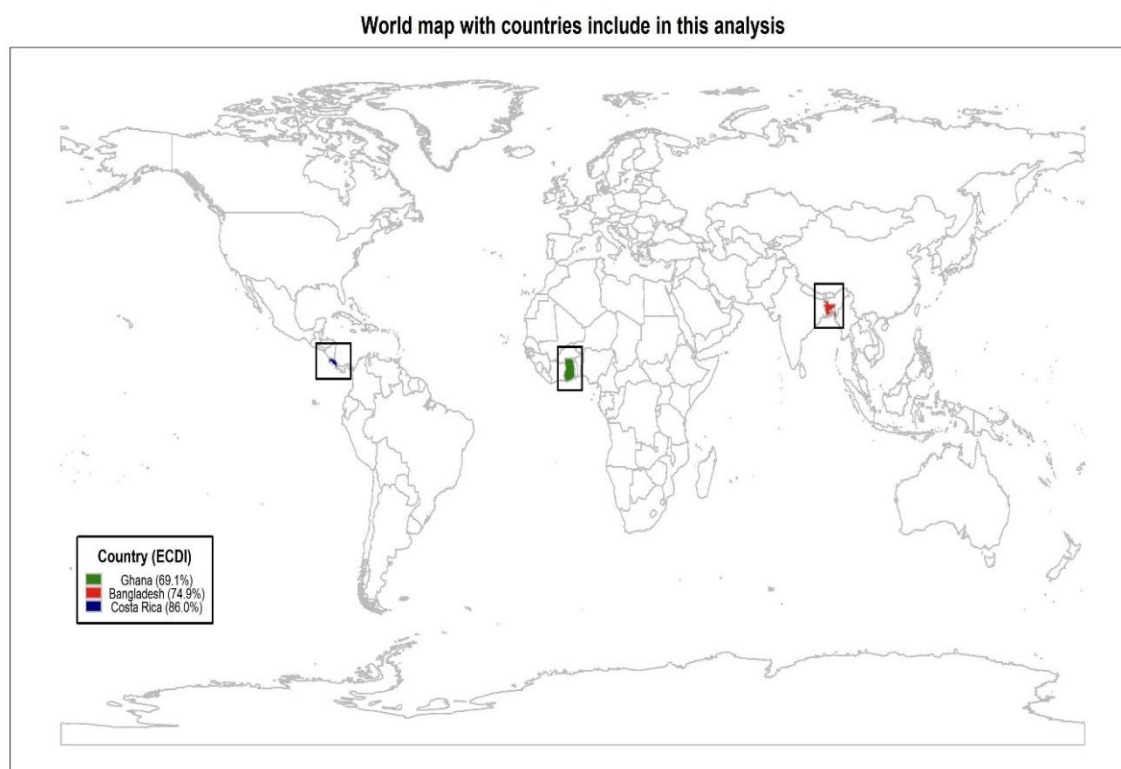
Study design and data sources

The analysis was performed on cross-sectional survey data obtained from the 2019 Multiple Indicator Cluster Survey (MICS) for Bangladesh, 2018 MICS for Costa Rica, and 2017–2018 MICS for Ghana. For survey sample selection, we used a 2-stage stratified cluster sampling approach and the same sampling frame was adopted for the Bangladesh Census of Population and Housing, 2011 (22), the Housing Sample Frame (Marco Muestral de Viviendas), 2011 (for Costa Rica) (23), and Population and Housing Census, 2010 (for Ghana) (19). Household and independent (mothers) questionnaires were utilized to collect information about children aged < 5 years. Following weighting of the samples, 23 099 children aged < 5 in Bangladesh, 37 0096 in Costa Rica, and 8879 in Ghana were included in this study. The geographical locations of the children in the 3 countries are shown in Figure 1.

Dependent variable

The dependent variable was ECD among children aged 36–59 months and was calculated by using 4 domains (19,22,23): literacy–numeracy, physical, social–emotional,

Figure 1 Map showing the geographical locations of samples in 3 countries. ECDI = Early Child Development Index



and learning. To distinguish domain compliance for each child i aged 36–59 months in country j (Bangladesh, Costa Rica or Ghana), for domain r (literacy–numeracy, physical, social–emotional, or learning),

$$d_{i,j,r} = \begin{cases} 1; & \text{if child } i \text{ in country } j \text{ is on track in domain } r \\ 0; & \text{if child } i \text{ in country } j \text{ is not on track in domain } r \end{cases}$$

ECD compliance was defined as child i , in country j , that satisfied at least 3 of 4 domains r . That is,

$$ECD_{i,j} = \begin{cases} 1; & \text{if } \sum_{r=1}^4 d_{i,j,r} \geq 3 \\ 0; & \text{Otherwise} \end{cases}$$

For the aim of the study, children whose development was on track in at least 3 domains were categorized as 1 and the remainder as 0.

$$ECDI = \begin{cases} 1; & \text{Yes, developmentally on track in at least 3 domains} \\ 0; & \text{No, not developmentally on track in at least 3 domains} \end{cases}$$

The created binary variable was considered as the dependent variable for our study.

Independent variable

Besides the dependent variable, we also considered child age, childsex, residence, maternal education, economic status, child nutritional status, reading children's books, and maternal functional difficulties as potential factors for early development among children aged < 5 years in Bangladesh, Costa Rica and Ghana. Descriptions and classifications of the study explanatory variables are listed in Table 1.

Data analysis

The IBM SPSS version 25 and R version 4.0.0 were used for data management, analysis and geographical mapping. Appropriate statistical methods for data analysis were used to obtain different objectives of this study. To examine the association between dependent variables and selected covariates, we applied the χ^2 test for bivar-

iate analysis. The binary logistic regression model in a multivariable setup was applied to identify factors that contributed to ECDI among children aged < 5 years.

Results

ECDI characteristics of children aged < 5 years

The overall ECDI was 69.1% in Ghana, 74.9% in Bangladesh, and 86.0% in Costa Rica during this study period.

Effect of sociodemographic factors on ECD

Children's age and sex, residence, maternal education, economic status, child nutritional status, reading children's books, and maternal functional difficulties were significantly correlated with ECD in Bangladesh, Costa Rica and Ghana (Table 2).

Collinearity for independent variable

Multicollinearity statistics for all explanatory variables are shown in Table 3. In a regression model, multicollinearity is observed as high levels of interdependence among predictors, which can be particularly burdensome for studies. Multicollinearity is indicated by a threshold of 5 or 10 for variance inflation factor (VIF) and 0.1 or 0.2 for tolerance. Table 3 shows that there was no multicollinearity in the present study. The range of VIF values was 1.003–1.342 for Bangladesh, 1.007–1.290 for Costa Rica and 1.006–1.629 for Ghana.

Multivariate analysis for identifying factors

Table 4 illustrated the odds of child development status among children aged 3–5 years in Bangladesh, Costa Rica and Ghana. For all countries in the model, significant ($P < 0.001$, $P < 0.01$ and $P < 0.05$) odds ratios for child age, child sex, maternal education, economic status, reading children books, and maternal functional difficulties were distinguished. Several risk factors were not significant for different countries; in particular, residence for Bangladesh, severe child nutritional status and moderate nutritional status for Ghana and Bangladesh, respectively.

Table 1 Summary of explanatory variables

Variable	Categorization
Child age, months	36–47, 48–59
Child sex	Male or female
Residence	Urban or rural
Maternal education	None education, primary education, secondary and above education
Economic status	Poor, middle or rich
Child nutritional status	In 2019, MICS Bangladesh used weight and height calculations to explore the nutritional status of children aged < 5 years and used common measures of height for age Z score, weight for age Z score, and weight for height Z score to determine the nutritional health of children. We used weight for age Z score as child nutritional status variable and categories as: severely malnourished: WAZ < -3.0 moderately malnourished: -3.0 < WAZ < -2.01 nourished: WAZ > -2.01
Reading children books	< 3 or ≥ 3
Maternal functional difficulties	Yes or no

Table 2 Bivariate analysis of Early Child Development Index among children aged 36–59 months by selected background characteristics in Bangladesh, Costa Rica and Ghana

Characteristics	Children developmentally on track in at least 3 domains					
	Bangladesh		Costa Rica		Ghana	
	No (%)	Yes (%)	No (%)	Yes (%)	No (%)	Yes (%)
Child Age						
36–47 months	31.2	68.8	15.1	84.9	36.6	63.4
48–59 months	18.8	81.2	13.0	87.0	24.7	75.3
P	< 0.001		< 0.001		< 0.001	
Child Sex						
Male	28.5	71.5	17.4	82.6	34.9	65.1
Female	21.5	78.5	10.5	89.5	27.1	72.9
P	< 0.001		< 0.001		< 0.001	
Residence						
Urban	21.9	78.1	13.3	86.7	19.6	80.4
Rural	26.0	74.0	15.5	84.5	39.2	60.8
P	< 0.001		< 0.001		< 0.05	
Maternal education						
None	31.5	68.5	25.3	74.7	40.0	60.0
Primary	30.6	69.4	17.8	82.2	30.0	70.0
Secondary and above	21.7	78.3	12.6	87.4	12.9	87.1
P	< 0.001		< 0.001		< 0.001	
Economic status						
Poor	30.2	69.8	16.8	83.2	40.7	59.3
Middle	24.6	75.4	17.1	82.9	33.1	66.9
Rich	20.0	80.0	7.1	92.9	17.4	82.6
P	< 0.001		< 0.001		< 0.001	
Child nutritional status						
Severely malnourished	32.3%	67.7	55.6%	44.4	34.1	65.9
Moderately malnourished	27.2	72.8	12.9	87.1	37.7	62.3
Nourished	24.0	76.0	13.0	87.0	30.0	70.0
P	< 0.001		< 0.001		< 0.05	
Reading children's books						
≥ 3	14.3	85.7	8.9	91.1	12.9	87.1
< 3	26.7	73.3	20.2	79.8	33.5	66.5
P	< 0.001		< 0.001		< 0.001	
Maternal functional difficulty						
Yes	36.5	63.5	23.0	77.0	49.5	50.5
No	25.0	75.0	13.4	86.6	29.0	71.0
P	0.001		< 0.001		< 0.001	

The results obtained from Bangladesh showed that children aged 36–47 months had a significantly lower ECDI compared children aged 48–59 months. In Costa Rica and Ghana, children aged 36–47 months were 15 and 43% less developmentally on track in at least 3 domains compared with children aged 48–59 months. Boys had 31, 50 and 28% lower development compared with girls before their fifth birthday in Bangladesh, Costa Rica and Ghana, respectively.

Residence had no significant impact on child development in Bangladesh. In Costa Rica, children aged < 5 years fulfilled fewer developmental domains. In Ghana, children in urban residences had 83% more development compared with those in rural residences.

Maternal education was correlated with ECDI in Bangladesh, Costa Rica and Ghana. Children of women without any formal education had 34, 62 and 50% fewer

developmental domains compared to women with secondary and above education in Bangladesh, Costa Rica and Ghana, respectively.

There was a positive association between economic status and ECDI in all three countries. Lower and middle status households were 30 and 16% less likely to fulfil at least 3 child developmental domains, respectively than women and children from rich families in Bangladesh. There were similar associations in Ghana and Costa Rica.

Child nutritional status had an effect on child development in all 3 countries. The developmental status of babies with severe and moderate malnourishment was 91 and 20% lower among children aged < 5 years living in Costa Rica, compared to well-nourished babies and the difference was highly significant.

Table 3 Multicollinearity statistics for independent variable

Characteristics	Bangladesh		Costa Rica		Ghana	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
Child age	0.983	1.018	0.982	1.019	0.988	1.012
Child sex	0.997	1.003	0.985	1.015	0.994	1.006
Residence	0.862	1.160	0.893	1.120	0.730	1.370
Maternal education	0.858	1.166	0.871	1.148	0.771	1.297
Economic status	0.745	1.342	0.775	1.290	0.614	1.629
Child nutritional status	0.973	1.028	0.993	1.007	0.986	1.014
Reading children's books	0.930	1.075	0.865	1.156	0.795	1.258
Maternal functional difficulties	0.997	1.003	0.979	1.022	0.992	1.008

VIF = variance inflation factor.

In all 3 countries, children aged < 5 years who read ≥ 3 children's books had more likelihood of development compared with children who read < 3 books.

Children whose mothers had functional difficulty were less developed in all 3 countries.

Discussion

Our study showed that ECDI among children aged < 5 years was higher in Costa Rica compared with Bangladesh and Ghana. Child development was subject to child age, child sex, residence, maternal education level, economic status, child nutritional status and maternal functional difficulty.

Children aged 48–59 months had a higher ECDI than those aged 36–47 months. Girls developed earlier than boys in all 3 countries. If a child born in Indonesia is of the preferred sex, parents allocate more resources and care towards that child's wellbeing (24). Due to religious, cultural and institutional factors, a preference for male children is widespread in China, India and Bangladesh (24).

We found that place of residence was a significant factor for child development in Costa Rica and Ghana. In Ghana, children from urban areas were more likely to develop at an early age than were children from rural areas, while the opposite was found in Costa Rica. Research from the United Kingdom of Great Britain and Northern Ireland showed that place of residence has a significant impact on child development, while another study from 33 developed countries indicated that urban children usually have better nutritional status than rural children have (25,26). Parents emphasize intellectual and emotional growth in rural areas, while urban parents prioritize social development; however, there is no significant difference in physical growth (27).

Maternal education had a notable impact on child development in all 3 countries. There was a positive association between child development and maternal education. Mothers without formal education had less-well developed children than those with secondary and higher education. Children of mothers with secondary and higher education were more likely to grow than

those of mothers with only primary education. A study of maternal education in rural areas of Bangladesh indicated that there was a positive effect of maternal education on child development and survival between age 6 and 37 months (28). Regardless of family resources, more-educated mothers can provide a more favourable environment for healthy child development (29).

In the present study, there was a positive association between early child development and economic status. Children from wealthy families were more likely to have early development than those from poor families. An earlier study showed that a larger wealth gap led to a greater difference in children's cognitive development (30). Research in rural Bangladesh has shown that poverty affects child growth (31), and worldwide, 250 million children aged < 5 years live in poverty (30). A longitudinal research study from Bogota, Colombia showed that there was a positive association between developmental deficits and poverty (32).

Child nutritional status is an important factor in ECDI. We found that malnourished children were less likely to be developed than well-nourished children. In LMICs, millions of children aged < 5 years struggle to achieve their potential for cognitive, language, social and emotional development (8). The World Health Organization has proposed that child development programmes be integrated into the care of children who are malnourished and sick. In child growth, nutritional supplements and relaxation play a crucial role (33). There is evidence to indicate that nutritional interventions are mandatory in the ECD process (9).

Children who read ≥ 3 books in their early years show signs of early development more than children who do not read or who are read to. We found that children were more cognitively developed if they read ≥ 3 books between 3 and 5 years of age. Previous studies have shown that the combination of books and reading instructions significantly improves the cognitive ability of adolescents (34). In another study, there was an association between children's reading behaviour and learning performance (35).

Our study had some limitations. First, we did not include equal numbers of children from each country.

Table 4 Binary logistic regression analysis showing the effect of ECDI among children aged 3–5 years by background characteristics in Bangladesh, Costa Rica and Ghana

Characteristics	ECDI					
	Bangladesh		Costa Rica		Ghana	
	OR (P)	95% CI	OR (P)	95% CI	OR (P)	95% CI
Child age						
36–47 months	0.51 (<0.001)	0.46–0.56	0.85 (<0.001)	0.82–0.88	0.57 (<0.001)	0.49–0.68
48–59 months (ref.)	1		1		1	
Child sex						
Male	0.69 (<0.001)	0.62–0.76	0.50 (<0.001)	0.48–0.52	0.72 (<0.001)	0.61–0.85
Female (ref.)	1		1		1	
Residence						
Urban	1.04 (0.60)	0.90–1.19	0.76 (<0.001)	0.73–0.79	1.83 (<0.001)	1.50–2.22
Rural (ref.)	1		1		1	
Maternal education						
None	0.66 (<0.001)	0.56–0.77	0.38 (<0.001)	0.35–0.41 0.63–0.69	0.50 (<0.001)	0.35–0.70
Primary	0.73 (<0.001)	0.65–0.82	0.66 (<0.001)		0.59 (0.001)	0.43–0.82
Secondary and above (ref.)	1		1		1	
Economic status						
Poor	0.70 (<0.001)	0.62–0.80	0.57 (<0.001)	0.54–0.60 0.41–0.45	0.54 (<0.001)	0.42–0.68
Middle	0.84 (0.02)	0.72–0.97	0.43 (<0.001)		0.59 (<0.001)	0.46–0.76
Rich (ref.)	1		1		1	
Child nutritional status						
Severely malnourished	0.76 (0.02)	0.61–0.96	0.09 (<0.001)	0.07–0.12 0.72–0.89	0.74 (0.39)	0.37–1.48
Moderately malnourished	0.91 (0.13)	0.81–1.03	0.80 (<0.001)		0.75 (0.03)	0.58–0.98
Nourished (ref.)	1		1		1	
Reading children's books						
≥ 3	1.62 (<0.001)	1.35–1.95	2.44 (<0.001)	2.35–2.54	1.48 (0.03)	1.04–2.11
< 3 (ref.)	1		1		1	
Maternal functional difficulty						
Yes	0.64 (0.01)	0.46–0.91	0.61 (<0.001)	0.58–0.65	0.47 (<0.001)	0.35–0.64
No (ref.)	1		1		1	

CI = confidence interval; ECDI = Early Child Development Index; OR = odds ratio.

However, MICS data were not available for all countries and it proved too difficult to obtain equal sample sizes during the MICS6 survey. Second, the cross-sectional study design was not suitable for identifying the cause-and-effect relationship between ECDI and its selected risk factors.

Conclusion

ECD is a key factor in the initial life of a child and has a significant impact on a nation. This study concluded that child sex, maternal education, economic status, child nutritional status, reading children's books, and maternal functional difficulties had significant effects on the

ECDI in Bangladesh, Costa Rica and Ghana. Our findings may have important implications for international as well as national goals (SDG Target 4.2). Target 4.2 will be achieved only if policy-makers implement several strategies to develop child growth by 2030. We recommend that governments should initiate different programmes for child development at an early stage by enhancing maternal education and improving nutritional status for all children, especially those from poor families. Interventions such as, child health services, education, poverty alleviation, and creating a conducive environment for mental development could reduce the developmental deficit among children aged < 5 years from these selected countries.

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Competing interests: None declared.

Déterminants de l'indice de développement dans la petite enfance chez les enfants de moins de cinq ans au Bangladesh, au Costa Rica et au Ghana : étude comparative

Résumé

Contexte: Le développement du jeune enfant est un facteur crucial qui influence la santé et le bien-être à l'âge adulte.

Objectifs: Déterminer l'influence des facteurs sociodémographiques sur l'indice de développement dans la petite enfance chez les enfants de moins de cinq ans.

Méthodes: L'analyse a été réalisée à partir de données d'études transversales menées dans le cadre des enquêtes en grappes à indicateurs multiples effectuées respectivement en 2019, 2017-2018 et 2018 au Bangladesh, au Ghana et au Costa Rica. Pour les trois pays, nous avons utilisé le test χ^2 pour l'analyse bivariée et le modèle de régression logistique binaire pour l'analyse multivariée. Toutes les analyses statistiques ont été réalisées à l'aide des logiciels SPSS version 25 et R version 4.0.0 d'IBM.

Résultats: L'âge et le sexe de l'enfant, suivis par le niveau d'éducation de la mère, la situation économique, l'état nutritionnel de l'enfant, la lecture de livres pour enfants et les difficultés fonctionnelles de la mère, correspondaient aux facteurs influençant le plus l'indice de développement du jeune enfant. Les enfants âgés de 36 à 47 mois affichaient de plus faibles chances de développement que ceux âgés de 48 à 59 mois, de même que les garçons par rapport aux filles au Bangladesh, au Costa Rica et au Ghana. Les enfants vivant en zone urbaine présentaient des chances de développement inférieures à celles des enfants des zones rurales au Costa Rica, tandis que la situation était inverse au Ghana.

Conclusion: Nous recommandons aux gouvernements de prendre les mesures nécessaires afin d'améliorer le développement et le bien-être des jeunes enfants dans les trois pays. Cela passe par le renforcement de l'accès à l'éducation et à une nutrition équilibrée, et par l'amélioration des conditions économiques.

محددات مؤشر النماء في مرحلة الطفولة المبكرة في صفوف الأطفال الذين تقل أعمارهم عن 5 سنوات في بنجلاديش، وكوستاريكا، وغانا: دراسة مقارنة

إكرام الحق، إسماعيل حسين، مليحة عفروج زينيا، رفعت حسن، إمرؤ القيس شودري

الخلاصة

الخلفية: يمثل النماء في مرحلة الطفولة المبكرة عاملاً حاسماً يتحكم في صحة الأطفال ورفاههم في مراحل عمرهم اللاحقة.

الأهداف: هدفت هذه الدراسة إلى تحديد تأثير العوامل الاجتماعية السكانية على مؤشر النماء في مرحلة الطفولة المبكرة في صفوف الأطفال الذين تقل أعمارهم عن 5 سنوات.

طرق البحث: أُجري التحليل باستخدام بيانات مسح مقطعي مستمدة من مسح عنقودية متعددة المؤشرات جرت في الأعوام 2017-2018، 2018، 2019 على بنجلاديش، وغانا، وكوستاريكا على التوالي. واستخدمنا اختبار مربع كاي (χ^2) لإجراء تحليل ثنائي المتغيرات ونموذج الانحدار اللوجستي الثنائي لإجراء التحليل المتعدد المتغيرات للبلدان الثلاثة. وأُجريت جميع التحليلات الإحصائية باستخدام الإصدار 25 من برنامج IBM SPSS الإحصائي والإصدار 4.0.0 من برنامج R الإحصائي.

النتائج: كان لعمر الطفل وجنسه، يليهما مستوى تعليم الأمهات، والوضع الاقتصادي، والحالة التغذوية للأطفال، وقراءة كتب الأطفال، والصعوبات التي تواجهها الأمهات في أداء الوظائف أكبر أثر على مؤشر النماء في مرحلة الطفولة المبكرة. وأظهر الأطفال الذين تتراوح أعمارهم بين 36 و47 شهراً مؤشراً نماء في مرحلة الطفولة المبكرة أقل من الأطفال الذين تتراوح أعمارهم بين 48 و59 شهراً، وأظهر الفتيان مؤشراً نماء في مرحلة الطفولة المبكرة أقل من الفتيات في بنجلاديش، وكوستاريكا، وغانا. وأظهر الأطفال في المناطق الحضرية مؤشراً نماء في مرحلة الطفولة المبكرة أقل من نظيره في صفوف الأطفال في المناطق الريفية في كوستاريكا، ولكنه كان أعلى في غانا.

الاستنتاجات: نوصي الحكومات باتخاذ الخطوات اللازمة لتعزيز نماء الأطفال المبكر ورفاههم في البلدان الثلاثة من خلال رفع مستوى التعليم، وتحسين الظروف الاقتصادية، وتوفير التغذية المتوازنة.

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