

Play prescription: intervention delivered at primary health care facilities to promote child development through activities at home

Antonio Rizzoli-Córdoba¹, Martha C. Campos-Maldonado², Víctor H. Vélez-Andrade³,
Christian A. Delaflor-Wagner⁴, Laura A. Hernández-Trejo⁵, Daniel Aceves-Villagrán⁶,
and Miguel Á. Villasis-Keever^{7*}

¹Developmental and Behavioral Pediatrics Department, Hospital Infantil de México Federico Gómez, Mexico City; ²Public Health and Epidemiological Surveillance Directorate, Secretaría de Salud de Puebla, Puebla; ³Psychopedagogical Education Support Center, Secretaría de Educación Pública del Estado de Puebla, Puebla; ⁴Biomedical Research, Centro Médico Nacional 20 de Noviembre, Instituto de Servicios y Seguridad Social para los Trabajadores del Estado, Mexico City; ⁵Faculty of Psychology, National Autonomous University of Mexico (UNAM), Mexico City; ⁶National Center for Child and Adolescent Health (CeNSIA), Mexico City; ⁷Evidence Analysis and Synthesis Research Unit, Hospital de Pediatría, Centro Médico Nacional Siglo XXI, Instituto Mexicano del Seguro Social, Mexico City, Mexico

Abstract

Background: Play is a fundamental component of children's social, emotional, cognitive, and physical development. This study focused on assesses a play-based intervention method to promote overall child development based on parental involvement, delivered at primary care facilities. **Methods:** Quasi-experimental study was conducted with children 24-59 months old, regularly attending the monthly stimulation sessions in primary care facilities in the state of Puebla, Mexico, from November 2015 to April 2016. Play interventions were administered over six sessions each month 1-h length individually for the dyad, included free play time, and each session one activity at home that include the five areas of development and with some materials provided but encouraged to use more available at home. The Child Development Evaluation (EDI) test was administered at baseline, 3 and 6 months after the intervention. A comprehensive data set encompassing demographic variables was collected and analyzed. McNemar test was used to assess developmental changes over time. **Results:** The sample consisted of 276 children, 60.5% were male, median age 40 months (interquartile range: 34-46). All participants attend the six sessions and conducted activities daily at home. Overall, the percentage of children with abnormal result with EDI test was 77.2% at baseline and 17.4% final measurement at 6 months ($p < 0.001$), with mild-delay decreased from 39.9% to 6.9% and high-risk of delay from 37.3% to 10.5%. **Conclusion:** The play intervention resulted in a clinically and statistically significant improvement in the developmental outcomes of the children, both with normal/abnormal result at baseline.

Keywords: Play. Health primary care. Child development. Mass screening. Developmental screening. Parenthood.

Te receto un juego: intervención otorgada en unidades de salud del primer nivel de atención para promover el desarrollo infantil a través de actividades en casa

Resumen

Introducción: El juego es una actividad esencial para el desarrollo social, emocional, cognitivo y físico. Se evaluó una intervención lúdica para promover el desarrollo infantil en forma global a partir del involucramiento familiar otorgada en unidades de atención primaria a la salud (APS). **Métodos:** Estudio cuasiexperimental, con niños y niñas de 24-53 meses de

*Correspondence:

Miguel Á. Villasis-Keever
E-mail: miguel.villasis@gmail.com

Date of reception: 04-12-2024

Date of acceptance: 11-01-2025
DOI: 10.24875/BMHIM.24000164

Available online: 14-03-2025

Bol Med Hosp Infant Mex. 2025;82(Supl 1):94-100
www.bmhim.com

1665-1146/© 2025 Hospital Infantil de México Federico Gómez. Published by Permanyer. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

edad que acudían regularmente a sesiones de estimulación temprana en APS del estado de Puebla, entre noviembre de 2015 y abril de 2016. Se administró una intervención lúdica a lo largo de 6 sesiones en forma mensual, de forma individual para cada día, incluían juego libre y una actividad lúdica por sesión para realizar en casa diariamente utilizando algunos materiales otorgados y lo disponible en su casa o localidad. Se evaluó la intervención la prueba Evaluación del Desarrollo Infantil (EDI) basal, a los 3 y 6 meses. Se registraron variables demográficas. Se analizó el cambio en el desarrollo con la prueba de McNemar. **Resultados:** La muestra estuvo compuesta por 276 niños(as), 60.3% de sexo masculino, mediana de edad 40 meses (rango intercuartilar: 34-46 meses). De forma global el porcentaje de participantes con resultado anormal en la prueba EDI fue de 77.2% basal y 17.4% a los 6 meses ($p < 0.001$); el grupo de rezago disminuyó de 39.9% a 6.9% y riesgo de retraso de 37.3% a 10.5%. **Conclusión:** La intervención lúdica mejoró el desarrollo de los niños en forma clínica y estadísticamente significativa, tanto en niños con desarrollo normal como alterado.

Palabras clave: Atención primaria en salud. Desarrollo infantil. Juego. Tamizaje masivo. Tamizaje del desarrollo.

Introduction

Child development is a process in which children learn to master increasingly complex ways of thinking, feeling, movement, and relating to others. This takes place when children interact with the people and objects in their environment¹. Emphasis should be placed on the developmental stage of early childhood, as approximately 90% of the brain's neural circuits associated with cognitive functioning, socialization, movement, sensory perception, and emotional regulation are established in the first 5 years of life^{2,3}.

Therefore, children's earliest years are extremely important in their development. From a macroeconomic perspective, investing in the development of children is a priority, given that the estimated rate of return is approximately 7 times the initial investment in early childhood⁴⁻⁶. Thus, promoting child development should be a national priority, especially in developing countries^{7,8} due to the substantial incidence of neurodevelopmental disorders in these countries. For instance, according to a meta-analysis by Bitta et al.⁹, in 2017, a review of 51 investigations in low- and middle-income countries showed a median pooled prevalence for all neurodevelopmental disorders of 7.6 (95% confidence interval; 7.5-7.7)/1000 children from 0 to 18 years old. In Mexico, according to Unar-Munguía et al., in the National Continuous Survey of Health in 2022 (ENSANUT 2022), 3.7% of children has some risk of developmental delay¹⁰, but only 27.1% national wide had at least one child development evaluation, which let the real prevalence of developmental problems unknown.

Although the dictionary defines the word "play" as merely "engaging in an activity with a sense of joy and exclusively for the purpose of recreation or development capacities,¹¹" it has been recognized that play is essential for the social, emotional, cognitive, and physical

development of children, and its impact is greater during early childhood¹², because when children play, they develop some of the most important abilities to be a lifelong learners¹³. In addition to its inherent ability to elicit pleasure, play has a substantial influence over the fostering of cognitive, emotional, and social skills. Research has shown that play promotes healthy early childhood development, as it teaches children to cooperate, solve problems, and handle conflict. Furthermore, it enhances resilience, motor abilities, and cognitive skills¹⁴. In the pediatric care context, play can be used as a therapeutic tool to enhance a child's adaptation to the hospital environment, thereby reducing anxiety and increasing cooperation with treatment. This underlines the role of play as a key resource to be used as an intervention to strengthen child development¹⁵.

Programs that integrate play as an intervention strategy have a strong impact on motor and cognitive development. For example, the Supporting Play Exploration and Early Development Intervention program targeting children with neurodevelopmental risks found that early and intensive interventions in early childhood promote motor skills and problem solving^{16,17}. As part of these initiatives, the importance of actively involving parents is highlighted, not only as mere observers but also as key participants in structured recreational activities. This approach also reflects how play can overcome sociocultural barriers and become a bridge between different spaces of learning and parenting¹⁸.

Play has been shown to contribute to child development by modifying brain architecture and promoting the development of cognitive and social skills. Studies in primates have shown that play activities have co-evolved with brain systems that are responsible for complex behaviors (e.g., when using tools or in social innovation), which highlights the importance of play in the construction of fundamental competencies in humans¹⁹.

Furthermore, playing in the pediatric age is key as a social bond since it promotes skills between children and parents, to plan, organize, and regulate emotions and the acquisition of social skills¹⁸. Depending on the culture context, children learn different skills through play, becoming a fundamental aspect to intervene positively in their development²⁰, so healthcare professionals should encourage parents of allocating time for these activities, pointing out the importance of playful learning as a complement to didactic learning^{21,22}.

Although there are various institutional programs for the care of neurodevelopmental disorders in patients' homes, in Mexico, these interventions generally focus only on the affected areas. With the assistance of a group of experts, a play-based didactic intervention was designed for parents to implement at home. This intervention aims to strengthen early childhood development, specifically in the cognitive, communicative, motor, and social domains, through direct parental involvement. This paper presents the results of this intervention.

Methods

A quasi-experimental study was conducted, between November 2015 and April 2016, with the participation of 88 health units from eight of the 10 health jurisdictions in the state of Puebla, Mexico.

Convenience sampling was used to recruit boys and girls who met the following criteria: children between the ages of 24 and 53 months that are periodically receiving well-child control appointments, evaluation using the Evaluation of Child Development (EDI)²³ and had participated regularly in monthly early stimulation sessions delivered in primary care facilities, all as a part of the national guidelines for the National Center for Child Well Being²⁴, who had not yet begun formal schooling and whose parents or guardian have given written informed consent to participate in the study, in which the main change from the regular services that they were used to receive was that the monthly sessions would be conducted individually instead of in group, by a psychologist instead of the health professionals, and targeting play strategies to promote development at home. Elimination criteria were participants whose address changed during the follow-up period, participants who did not attend all counseling sessions or did not realized the activities at home and express their interest to stop the intervention or retired the consent. The intervention was registered in the medical record at the primary care facility and the information

was registered as a part of the rutinary activities of the health facilities and reported to the federal programs. The data were anonymized, and no personal information was registered for this study.

Demographic characteristics of the participants were collected in terms of age, sex, degree of marginalization, and type of area (urban or rural).

Play-based intervention

The panel of experts who designed the intervention included pediatricians, pediatric neurologists, psychologists, and physiotherapists. The intervention consisted of daily activities to be performed at home, focusing on the five areas of development (fine motor, gross motor, language, social, and knowledge). It comprises multiple components and emphasizes various play-based activities, using eight pieces of didactic materials to complement the planned activities. The panel's primary goal was to prioritize interaction and play; therefore, the provided didactic materials were considered secondary. It is important to mention that the use of home or community-sourced materials (such as toys, balls, small stones, or playdough) for play was encouraged.

The prescription of the play-based intervention was carried out by professional psychologists but was divided into six sessions given monthly. Each session was planned to be 1 h long. During the first session, the materials were provided, and parents or caregivers were invited to engage in play with their children and collaboratively devise games or activities with them. At the end of each session, parents/caregivers were asked to carry out the learned activities at home daily, for at least 5 min, on one or more occasions throughout the day. At home, on completion of the activities prescribed, parents/caregivers were instructed to write down each of the activities performed.

The second to sixth sessions involved checking the compliance of the activities prescribed in the previous month by reviewing the records (in diaries or videos) made by the parents/caregivers. Furthermore, the psychologists asked the children to perform the activities from the previous month to assess their progress. Finally, a new activity was prescribed; thus, by the end of all the sessions, a total of six different play-based activities were assigned.

As an example, below we describe one of the activities that were prescribed to parents/caregivers. One activity for children aged 2-3 years involved placing the didactic materials on the floor, approximately 20 cm

apart, and showing them how to walk around the materials. The child should also jump over each piece, and then do it again, but after changing the position of the pieces, on different occasions. The jumps could be done with one or both feet. This exercise is focused on gross motor skills. To promote other development areas, children were invited to sing a song (language skills) and clap at each step or tap their fingertips to maintain the rhythm (fine motor skills). In addition, they had to arrange the pieces on the floor, along with other materials, to create a different path that could be followed. Finally, they were instructed to put the pieces away. If a child had sibling(s), they were invited to include the sibling(s) so that the children could take turns, and each one could design his or her own path (social skills). Furthermore, they would identify or name the objects that they were touching or stepping on by color, shape, or other characteristics (knowledge skills).

Outcome assessment

The effectiveness of the intervention was evaluated by assessing child development with the EDI test²⁵. The overall result of the EDI test is the sum of the combination of data obtained from the five areas of development, neurological axis, and alarm signs and is categorized into three: green (normal or above), yellow (developmental delay), and red (risk of delay)²⁶. This test was applied by the same psychologists who prescribed the intervention, on three occasions: initial visit, at 3 and 6 months of follow-up. Before the start of the study, the psychologists were standardized for the application of the EDI test. It is worth mentioning that all children included in the analysis, based on the records of parents/caregivers, carried out the prescribed daily activities on at least 28 days of each month.

Statistical analysis

Qualitative data are presented as frequencies and percentages, while quantitative data are presented as median and quartiles since the distribution was not normal. The McNemar test was used to compare proportions before and after the intervention. $p < 0.05$ was considered statistically significant. All analyses were performed using the Statistical Package for the Social Sciences statistical package version 30.0.

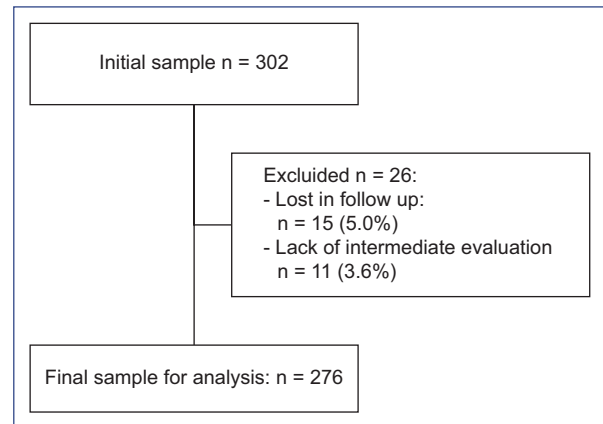


Figure 1. Flow diagram of the participants that were analyzed in this study.

ETHICAL ASPECTS

This study was part of the project HIM/2013/063, which is related to aspects of improving developmental assessment at the first level of care. Consent was obtained from the children's parents or guardians who had accepted to take part in the study. They were informed that no financial compensation would be provided and that the resources would be provided at no cost. All participants' personal information was handled confidentially.

Results

As shown in [figure 1](#), the eligible population consisted of 302 children, but 26 were excluded, resulting in a total of 276 study participants aged 2-4 years.

[Table 1](#) presents the descriptive statistics of the participants. There was a higher proportion of boys (60.5%) than girls (39.5%); by age, both at the beginning and end the largest group were 3 years old (54% and 46.7%, respectively) although there were children that during the study change to a different group age for the EDI test, more than half lived in rural areas, and the vast majority had a high level of marginalization (42%).

The results of the effectiveness of the play-based intervention are presented in [table 2](#). At baseline, in the developmental assessment by EDI, most children had some degree of impairment ($n = 213$, 77.2%), with a similar proportion classified in the yellow and red categories. Only 63 children (22.8%) had a normal result (green). When compared with the final assessment at 6 months, it was clearly observed that most children were classified as green ($n = 228$, 82.6%). This difference in

Table 1. Participants' general characteristics

n = 276	n (%)	%
Sex		
Female	109	39.5
Male	167	60.5
Age	At the beginning	At the end
2 years old	87 (31.5)	40 (14.5)
3 years old	149 (54)	129 (46.7)
4 years old	40 (14.5)	107 (38.8)
Rural	153	55.4
Urban	123	44.6
Attended all monthly appointments	276	100
Attend to educational service (preschool)	97	35.1
Level of marginalization		
Very low	65	23.5
Low	38	13.8
Average	41	14.9
High	116	42.0
Very high	16	5.8

Table 2. EDI test results of the participants (n=276) at baseline, intermediate (3 months) and final (6 months)

Result	Baseline (%)	3 months (%)	Final (%)
Green	63, 22.8	42, 15.2	228, 82.6
Yellow	110, 39.9	173, 62.7	19, 6.9
Red	103, 37.3	61, 22.1	29, 10.5

proportions before and after the intervention was statistically significant ($p < 0.001$).

As also shown in [table 2](#), at 3 months, the number of cases in the yellow category increased significantly, from 110 to 173. Interestingly, this increase was not only due to a decrease in the number of patients classified in the red category (which was expected if the intervention improved the child's development) but also because 21 patients initially classified in the green category had a lower global score in the second assessment (as a new subtest of EDI was administered according to the new age).

[Figure 2](#) shows the individual changes in developmental assessment after the intervention, compared to the initial classification. As can be seen, except for two children, practically all participants who were initially classified as green remained in the same category at the end. Among the 110 children classified as yellow, the vast majority (95.5%) improved their development and moved to the green category, although two remained in yellow and three moved to red. Finally, in the group of 103 children classified as red in the baseline evaluation,

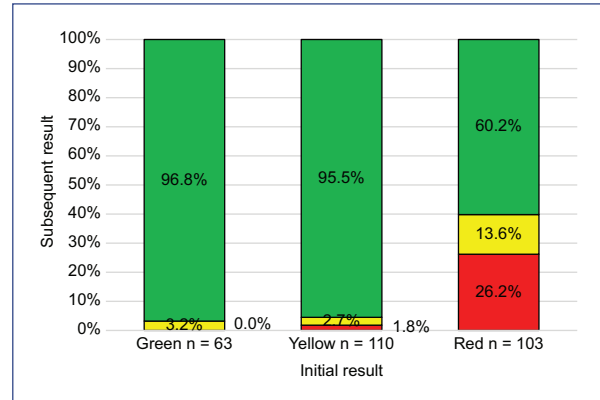


Figure 2. Change in child development score (EDI test) through provision of counseling and didactic materials.

76 (73.7%) improved, with most moving to green; however, it is noteworthy that 27 children (26.2%) maintained the same classification.

Discussion

Child development is an ongoing process of change in which increasingly complex levels of skills are acquired by a child in different domains. This process occurs through the interaction between the developing child and their environment, specifically with the people and objects that they encounter¹. This is why interventions aimed at enhancing early childhood development must encompass diverse environments^{22,26,27}.

For preschool children, play is one of the main activities that they engage daily. For this reason, the expert panel developed a play-based intervention to promote optimal development in children. This intervention was not aimed solely at children but was designed to involve parental participation.

According to Ackermann et al.²⁸, a play of good quality must have, among other characteristics, the process which (a) not necessarily involve any product, (b) need motivation, (c) it is about alternate possibilities, leading to imagination, creativity, and innovation, (d) it is important to had some reflections about the sharing of feelings and relationships, (e) take advantage of the previous experiences, (f) help in real life activities, (g) could be individual or in group, and (h) had an integrative mechanism that binds together all that we learn, know, feel, and share. Those characteristics were taken in consideration while planning the activities, and for that reason the involvement of the family, the environmental materials and having an opportunity for feedback was a crucial elements of this intervention.

To determine the effectiveness of this intervention, it was deemed important to include children with some degree of neurodevelopmental impairment when planning this study. Therefore, as shown in the results, the proportion of children classified as green, yellow, and red is approximately similar, since the children were selected through a convenience sampling process. This point needs to be addressed because, in middle- and low-income countries, the prevalence of developmental disorders has been reported to be over 40%^{7,9}; in this study, 70% of the participants had some developmental delay, this figure should not be interpreted as the real prevalence of this type of condition.

According to ENSANUT 2022, national wide related to children < 5 years old, only 27.1% of children had at least one developmental screening. From those children whose mothers knew the result 96.3% has normal result, 1.8% mild risk of delay and 1.9% high risk of delay the primary caregivers 59.4% and 57.3% received counseling at health children visit in primary care about play and physical activity or early stimulation, respectively¹⁰. It reinforces not only the importance of conducting child development evaluation but also to increase the awareness of play as a crucial element for promoting adequate development.

The results obtained from the study suggest that a play-based intervention appears to be effective not only in improving neurodevelopment but also in maintaining its normal level. These findings are consistent with those of the literature, which demonstrates that play fosters the development of executive functions and strengthens the relationship between parents and children^{14,21}.

Although most participants improved, it is worth noting that 27 of the 103 children who were in the red at baseline remained in this category until the end of follow-up. It is likely that these participants did not improve due to underlying causes, such as intellectual disability, or a specific language development disorder. These organic factors are not amenable to modification by the study intervention. These participants were contacted in a timely manner for further diagnosis and treatment. As is specified in the Mexican normativity²⁴, all the children with red result, abnormal neurological examination, and alarm signs should be referred as soon as identified for further attention, and the activities conducted in this study could be complimentary but not exclude that mandatory action.

Another aspect to comment on is that in the 3-month evaluation, the number of cases classified as yellow increased. This increase was partly due to approximately 30% of those classified as green at baseline

moving to the yellow category. When reviewing each of these cases, we noticed that the score dropped because the EDI was used for different age groups in the first and second assessments. Therefore, the second score does not reflect a delay. As shown in the results, by the third assessment, practically all were classified as normal, using the same EDI. This is important because the intervention shows better results when lengths 6 months and the intermediate results should be evaluated with caution.

Despite the encouraging results, we must consider the study's limitations. The study design was not a randomized clinical trial, so it cannot be assured that the increase in the EDI score was due only to the effect of the intervention, since there was no control group. Another limitation that has already been mentioned is that the case selection process was biased, so the findings cannot be extrapolated to the entire population. In addition, the EDI was administered by the same psychologists who provided the intervention; ideally, a different person (blinded) should have conducted the evaluation. All the above suggests the need for more studies with better design to determine the true effect of this intervention. Likewise, it would be important to identify which domains of development are improved specifically, beyond the global evaluation.

Conclusion

The results of this study confirm that a play-based intervention seems to be effective in promoting child development and that these strategies should involve parents in the dynamics of care and promotion of good health. In the future, it is important to conduct studies to adequately assess its efficacy.

Acknowledgments

The authors thank all the primary care staff of the Secretaría de Salud del Estado de Puebla, and the psychologists of the child development strategy, Alexander Tavera, Cristina Barrios, and Diego Adame.

Funding

The didactic material used in this study was donated by the LEGO Mexico Foundation.

Conflicts of interest

The authors declare no conflicts of interest.

Ethical considerations

Protection of humans and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from patients, and received approval from the Ethics Committee. The SAGER guidelines were followed according to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

References

1. Myers R, Martínez A, Delgado MA, Fernandez JL, Martínez A. In: Alejandra A, editor. *Desarrollo Infantil Temprano en México Diagnóstico y recomendaciones*. United States: Banco Interamericano de Desarrollo; 2013.
2. Pérez-Escamilla R, Rizzoli-Córdoba A, Alonso-Cuevas A, Reyes-Morales H. Avances en el desarrollo infantil temprano: desde neuronas hasta programas a gran escala. *Bol Med Hosp Infant Mex*. 2017;74:86-97.
3. Nelson CA. Neural plasticity and human development: the role of early experience in sculpting memory systems. *Dev Sci*. 2000;3:115-36.
4. Heckman JJ, Pinto R, Savelyev P. Perry preschool and character: character skills are more important than IQ in driving better life outcomes. *Am Econ Rev*. 2013;103:2052-86.
5. Heckman JJ. There's More to Gain By Taking a Comprehensive Approach to Early Childhood Development. Chicago: The Heckman Equation; 2017.
6. Heckman JJ, Masterov DV. The productivity argument for investing in young children. *Rev Agric Econ*. 2007;29:446-93.
7. Grantham-McGregor S, Cheung YB, Cueto S, Glewwe P, Richter L, Strupp B. Developmental potential in the first 5 years for children in developing countries. *Lancet*. 2007;369:60-70.
8. Black MM, Walker SP, Fernald LC, Andersen CT, DiGirolamo AM, Lu C, et al. Early childhood development coming of age: science through the life course. *Lancet*. 2017;389:77-90.
9. Bitta M, Kariuki SM, Abubakar A, Newton CR. Burden of neurodevelopmental disorders in low and middle-income countries: a systematic review and meta-analysis. *Wellcome Open Res*. 2017;2:121.
10. Unar-Munguía M, Hubert C, Bonvecchio-Arenas A, Vázquez-Salas RA. Acceso a servicios de salud prenatal y para la primera infancia. *Salud Pública Mex*. 2023;65 Suppl I: S55-64.
11. Real Academia de la Lengua Española. *Diccionario de la Real Academia de la Lengua Española*. Consulta del Significado de la Palabra "Jugar". Madrid: Real Academia de la Lengua Española. Available from: <https://dle.rae.es/jugar?m=form> [Last accessed on 2024 Dec 01].
12. Whitebread D, Basilio M, Kuvajla M, Verma M. *The Importance of Play*. England: University of Cambridge; 2012.
13. LEGO Foundation, DIF Nacional. Manual "Aprendiendo a través del Juego". Ciudad de México: Sistema Desarrollo Integral de la Familia. Billund: LEGO Foundation; 2016.
14. Milteer RM, Ginsburg KR, Mulligan DA. The importance of play in promoting healthy child development and maintaining strong parent-child bond: Focus on children in poverty. *Pediatrics*. 2012;129:e204-13.
15. Pribadi T, Elsanti D, Yulianto A. Reduction of anxiety in children facing hospitalization by play therapy: origami and puzzle in Lampung-Indonesia. *Malayati Int J Nurs Health Sci*. 2019;1:29-35.
16. Dusing SC, Brown SE, Van Drew CM, Thacker LR, Hendricks-Munõz KD. Supporting play exploration and early development intervention from NICU to home: a feasibility study. *Pediatr Phys Therapy*. 2015; 27:267-74.
17. Dusing SC, Tripathi T, Marcinowski EC, Thacker LR, Brown LF, Hendricks-Munõz KD. Supporting play exploration and early developmental intervention versus usual care to enhance development outcomes during the transition from the neonatal intensive care unit to home: a pilot randomized controlled trial. *BMC Pediatr*. 2018;18:46.
18. Yahya R, Wood EA. Play as third space between home and school: bridging cultural discourses. *J Early Child Res*. 2017;15:305-22.
19. Kerney M, Smaers JB, Schoenemann PT, Dunn JC. The coevolution of play and the cortico-cerebellar system in primates. *Primates*. 2017; 58:485-91.
20. Yogman M, Garner A, Hutchinson J, Hirsh-Pasek K, Golinkoff RM. The power of play: a pediatric role in enhancing development in young children. *Pediatrics*. 2018;142:e20182058.
21. Johnstone A, Hughes AR, Martin A, Reilly JJ. Utilising active play interventions to promote physical activity and improve fundamental movement skills in children: a systematic review and meta-analysis. *BMC Public Health*. 2018;18:789.
22. Martinez S, Johannsen J, Gertner G, Franco J, Perez Exposito AB, Bartolini RM, et al. Effects of a home-based participatory play intervention on infant and young child nutrition: a randomised evaluation among low-income households in El Alto, Bolivia. *BMJ Glob Health*. 2018; 3:e000687.
23. Rizzoli-Córdoba A, Schnaas-Arrieta L, Liendo-Vallejos S, Buenrostro-Márquez G, Romo-Pardo B, Carreón-García J, et al. Validación de un instrumento para la detección oportuna de problemas de desarrollo en menores de 5 años en México. *Bol Med Hosp Infant Mex*. 2013;70:195-208.
24. Centro Nacional Para la Salud de la Infancia y la Adolescencia. *Lineamientos Técnicos de Desarrollo Infantil 2020*. Ciudad de México: Secretaría de Salud; 2020.
25. Secretaría de Salud. *Manual Para la Aplicación de la Prueba Evaluación del Desarrollo Infantil "EDI."* 1th ed. México: Comisión Nacional de Protección Social en Salud; 2013.
26. Vaivada T, Gaffey MF, Bhutta ZA. Promoting early child development with interventions in health and nutrition: a systematic review. *Pediatrics*. 2017;140:e20164308.
27. Te Kaat-Van den Os DJ, Jongmans MJ, Volman M, Chiel JM, Luteslager PE. Parent-implemented language interventions for children with a developmental delay: a systematic review. *J Policy Pract Intellect Disabil*. 2017;14:129-37.
28. Ackermann E, Gauntlet D, Whitebread D, Wolbers T, Weckstrom C. *The Future of Play*. Billund: LEGO Learning Institute; 2010.