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ORIGINAL ARTICLE

Promoting early reading in a social exclusion district in primary care☆,☆☆

Ana Garach-Gómez[a,*], Alberto Ruiz-Hernández[a], Gracia María García-Lara[a], Inés Jiménez-Castillo[b], Irene Ibáñez-Godoy[b], Manuela Expósito-Ruiz[c]

[a] *Centro de Salud de Cartuja, Distrito Sanitario Granada-Metropolitano, Spain*
[b] *Centro de Salud de Almanjáyar, Distrito Sanitario Granada-Metropolitano, Spain*
[c] *Fundación para la Investigación Biosanitaria de Andalucía Oriental (FIBAO), Granada, Spain*

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KEYWORDS
Reading;
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Abstract
Introduction: Reading is a tool that stimulates brain activity, increasing its cognitive reserve and providing innumerable benefits such as the stimulation of empathy, concentration or language development. Promoting reading at a very early age helps develop reading skills correctly. However, social inequalities can result in this practice being carried out less in groups of low socioeconomic, social or cultural levels. The purpose of this study was to assess the outcomes of a promoting reading habits intervention in a primary health care centre located in a social transformation district by talking to the parents, providing books to families and encouraging books to become a part of children's play preferences.
Materials and methods: A non-random intervention study in which children born in 2015 and registered in a particular health centre took part. A reading promotion intervention was carried out at the ages of 4, 6, 12 and 18 months and at 24 months their preference for reading activities was assessed in relation to other leisure activities.
Results: Three hundred forty-two subjects were included, 154 allocated in the intervention group and 188 in the control group. The children in the intervention group exhibited a greater preference for reading as a leisure activity as compared to those in the control group (reading ranked in last position of favourite activities in 18.8 vs. 33.9%; $P = .003$). The variables found on multivariate analysis to have a greater influence on reading position in the ranking of favourite activities were not having participated in the intervention OR: 2.06 (1.19–3.58) and gipsy ethnicity, OR: 2.37 (1.38–4.09).

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* Corresponding author.
E-mail address: ana.garach.sspa@juntadeandalucia.es (A. Garach-Gómez).

Conclusions: Results reveal a slight improvement in the preference for reading as an activity in the children that took part in the literacy programme.

PALABRAS CLAVE
Lectura;
Alfabetización;
Desarrollo infantil;
Atención primaria de salud;
Factores socioeconómicos

Promoción de la lectura en etapas precoces desde atención primaria en una zona de exclusión social

Resumen
Introducción: La lectura es una herramienta que estimula la actividad cerebral, aumentando su reserva cognitiva y proporcionando innumerables beneficios como el estímulo de la empatía, la concentración o el desarrollo del lenguaje. Su promoción desde etapas muy tempranas ayuda al correcto aprendizaje de la misma. Sin embargo, las desigualdades sociales hacen que en entornos de bajo nivel socioeconómico, social o cultural esta práctica se realice en menor medida. El objetivo del presente trabajo fue evaluar el resultado de una intervención de promoción de la lectura en una zona de exclusión social desde las consultas de atención primaria, informando a los padres, proporcionando libros a las familias e incluyendo estos en sus preferencias de juego.
Materiales y métodos: Estudio de intervención no aleatorizado en el que participaron niños nacidos en el 2015 adscritos a un centro de salud. Se realizó una intervención de promoción de la lectura a los 4, 6, 12 y 18 meses de edad y se evaluó a los 24 meses el posicionamiento de la lectura entre sus preferencias de ocio.
Resultados: Se incluyeron 342 niños, 154 en el grupo intervención y 188 en el control. Se encontró un mejor posicionamiento de la lectura con respecto a otras alternativas de ocio en el grupo intervención con respecto al control (18,8% de posicionamiento en último lugar vs. 33,9%; p = 0,003). En el análisis multivariante, las variables que influyeron en el posicionamiento de la lectura fueron no haber recibido la intervención, *odds ratio* (OR): 2,06 (1,19-3,58) y etnia gitana, OR: 2,37 (1,38-4,09).
Conclusiones: Los resultados revelan una discreta mejoría en la preferencia de la lectura como actividad a la que se dedican los niños del programa.

Introduction

The human brain is constantly learning from birth. Some of this learning occurs automatically because the brain has specific built-in faculties for it. However, other forms of learning require adaptation of existing pathways in the brain to different functions, as is the case of reading.[1] Although reading is a complex process, most children can master it under adequate conditions.

Reading contributes to the development of regions of the brain involved in cognition, improves emotional variables and stimulates play and imagination. Children who are read to regularly by their parents learn to read before their peers, achieve a larger vocabulary and perform better academically. In addition, this shared activity promotes parent–child bonding.[2]

In early childhood, many activities can support the correct development of reading skills, such as word games, reading aloud[3] or the availability of children's books. In a society in which technology is growing in importance and being introduced at increasingly early ages,[4] the option of reading to children can be one of many strategies to help them improve their academic performance and provide an atmosphere conducive to the expression of emotions.[5]

The development of reading skills does not depend solely on the school, but it is also intimately associated with the household and social environment. In settings characterised by low income, low literacy and marginalisation, reading aloud is practiced less frequently,[6] as this skill is closely associated with parental educational attainment. In addition, the number of children's books in the household tends to be lower in low-income areas.[7]

Considering these inequalities that exist from childhood based on socioeconomic status, a group of paediatricians and nurses in Boston instituted the organisation Reach Out and Read (ROR) in 1989, which serves more than 4.7 million children per year. Among its objectives are to promote reading aloud to children and select and provide children's books.[8] The efficacy of these interventions has been described in different studies.[9–11] Since then, other associations with similar objectives have been established in other countries, involving a growing number of paediatricians in the promotion of reading from an early age.[12,13]

The existing literature demonstrates that participation in reading promotion programmes (encouraging reading and providing children's books) improves reading habits in childhood.[14] This supports the hypothesis that recommending reading to children from birth from the primary care setting can promote adequate emotional development.[15] It also shows that it enhances parent–child interactions.[16] It shows that parent–child reading is particularly important for parents that were never read to as children or even for those that report not enjoying reading,[17] and concludes that interventions that increase the time that parents spend reading with their children achieve improvements in academic performance.[18] Other projects, like the one carried out in our study, have demonstrated that reading helps mitigate the effects of poverty.[19,20] However, other lines of research have failed to demonstrate the efficacy of these interventions, suggesting the need of implementing more intensive programmes in low-income, low-literacy areas.[21,22]

The aim of our study was to assess an intervention to promote reading in a low-income neighbourhood. The intervention was implemented in what is known as an area in need of social transformation (ANST), defined by the local government as a specific, geographically demarcated urban area whose population is affected by a constellation of structural problems associated with severe poverty and social exclusion, including clear and significant housing insecurity, school absenteeism and failure, high unemployment rates, inadequate hygiene and sanitation and social disintegration.[23]

Material and methods

Study design

We conducted a quasi-experimental study.

Study population

The study included all children born in 2015 in the catchment population of the primary care centre (154 children). The control group consisted of children in the paediatrics caseloads of the primary care centre aged 2 years in 2015 (188 participants).

Most patients in the catchment population of the primary care centre resided in an ANST, but others resided in other areas that did not meet the criteria for this definition. To evaluate the effectiveness of the intervention on the population, we analysed the data for the whole sample of participants and also for the subset of participants that resided in an ANST.

We did not establish any exclusion criteria, and thus did not exclude any children.

Intervention

The programme was carried out over 2 years (2015–2017) by the paediatricians and nurses of the primary care centre.

The initial intervention, which took place in the routine visit scheduled as part of the Healthy Child programme (HCP) at age 4 months, consisted of informing parents about the beneficial effects of reading on the global development of children, providing parents with written materials with a more detailed explanation of its benefits, and inviting them to participate in the project at the end of the visit. To reinforce the recommendation to read to children, posters advertising the project were posted in the waiting room of the paediatrics clinic, encouraging residents of the area to read to children and to visit the local public library.

To facilitate the habit of reading, participating children were given sets of books appropriate for their age at the primary care centre in the context of the HCP visits scheduled at 6, 12 and 18 months.

At the start of the study, we collected data on parental sociodemographic characteristics, and at 24 months we evaluated the impact of the intervention by means of a questionnaire. The control group consisted of children also assigned to our primary care centre that turned 2 years of age in 2015, whose families were asked to fill out the same questionnaire before the start of the study.

Study variables and data collection

By means of the questionnaire, we collected sociodemographic data on the participants, including the sex of the child, maternal and paternal age, educational attainment, employment status, ethnicity, nationality and place of residence, and whether the child was enrolled in an educational facility.

We measured the impact of the intervention with a questionnaire developed for the purpose based on questionnaires used in previous projects with similar interventions,[24] asking about the place in which reading ranked among the pastimes of the child, with the options including traditional play (balls, dolls, trucks, etc.), puzzles/building blocks, screen time, music/dancing, drawing/crafts and reading. We also asked about the child's screen time (minutes per day), whether there were children's books in the home and how many, and the number of visits to the public library. We collected information on the study endpoints at the end of the intervention.

Statistical analysis

We have described quantitative variables using measures of central tendency and dispersion and qualitative variables as absolute frequencies and percentages. We assessed the normality of data distributions with the Kolmogorov–Smirnov test. To compare the control and intervention groups, we conducted a bivariate analysis using the Student *t* or Mann–Whitney *U* test for continuous variables depending on the normality of the distribution, and the chi square test or Fisher exact test for qualitative variables. For the primary outcome, we calculated the odds ratio (OR) and the corresponding 95% confidence interval. We also fitted a multivariate logistic regression model to analyse the set of variables that explained the effect of the intervention. The initial multivariate model included all the variables for which we had found *p*-values of less than 0.01 in the univariate model. The final model was developed through backward elimination, testing the fit of the model at each step with

Table 1 Sociodemographic characteristics of the sample.

	Control 188 (55%)	Intervention 154 (45%)	*P*
Sex			.827
Male, *n* (%)	103 (55.1%)	83 (53.9%)	
Female, *n* (%)	84 (44.9%)	71 (46.1%)	
Maternal age, years, mean ± SD	30.5 ± 6.14	29.5 ± 6.21	.238
Paternal age, years, mean ± SD	33.1 ± 7.19	31.6 ± 6.94	.048
Maternal educational attainment			.602
Illiterate/Primary Ed., *n* (%)	112 (59.6%)	96 (62.3%)	
Secondary Ed./University, *n* (%)	76 (40.4%)	58 (37.7%)	
Paternal educational attainment			.030
Illiterate/Primary Ed., *n* (%)	108 (58.1%)	105 (69.5%)	
Secondary Ed./University, *n* (%)	78 (41.9%)	46 (30.5%)	
Mother employed, n (%)	75 (41%)	54 (35.1%)	.265
Father employed, n (%)	122 (67.8%)	101 (66.9%)	.863
Maternal country of origin			.132
Spain, *n* (%)	163 (86.7%)	141 (91.6%)	
Morocco, *n* (%)	13 (6.9%)	10 (6.5%)	
Other, *n* (%)	12 (6.4%)	3 (1.9%)	
Paternal country of origin			.364
Spain, *n* (%)	157 (84.4%)	134 (88.7%)	
Morocco, *n* (%)	15 (8.1%)	11 (7.3%)	
Other, *n* (%)	14 (7.5%)	6 (4.0%)	
Romany ethnicity, n (%)	62 (68.1%)	37 (64.3%)	.069
ANST, n (%)	128 (56.4%)	99 (43.6%)	.459
Enrolled in childcare centre, n (%)	133 (70.7%)	102 (73.9%)	.529

ANST, area in need of social transformation; Ed., education.

the maximum likelihood estimation method. The statistical analysis was performed with the software IBM PSSS® Statistics version 19.

Ethical considerations

We obtained signed informed consent from the parents for participation in the study. The project was approved by the Biomedical Research Ethics Committee of Andalusia.

Results

A total of 346 children participated in the study. Four were lost to follow-up, all in the intervention group. In 1 case it was due to refusal to participate and in 3 due to transfer to a different primary care centre. Thus, 342 children completed the intervention and were included in the analysis. Of these 342, 188 were in the control group and 154 in the intervention group. In general, we found no statistically significant differences in the sociodemographic characteristics of the 2 groups, save in the parental educational attainment, which was higher in the control group (58.1% of parents were illiterate or had only completed primary education in the control group compared to 69.5% in the intervention group; *P* = .03) (Table 1).

Our study found some differences in the ranking of reading among the leisure activities of children, with a greater preference in the intervention group. Although both groups were the same in terms of the proportion that ranked reading first or second among the activity options, we found statistically significant differences between groups in the proportion of participants for who reading was the least preferred activity, which was 33.9% in the control group compared to 18.8% in the intervention group (*P* = .003) (Table 2) (Fig. 1).

We performed the same analysis focusing on children that resided in ANSTs. There were nearly no differences in the sociodemographic characteristics of the intervention and control groups, except in ethnicity, with a higher proportion of Romany participants in the control group (46.1% vs. 32.3%; *P* = .036) (Table 3).

In the analysis of children residing in ANSTs, we also found an improvement in the ranking of reading in the intervention group compared to controls (40% in the control group ranked reading the least favourite compared to 23.5% in the intervention group GI; *P* = .014; OR, 2.17 [1.16–4.05]), with a higher probability of reading being the least favourite activity in the group that was not exposed to the intervention (Table 4) (Fig. 2).

In the subset of participants residing in ANSTs, the percentage that reported more than 1 h of screen was 54.7% in the control group compared to 56.5% in the intervention group, a difference that was not statistically significant (Table 4).

Table 2 Comparison of endpoints in intervention and control groups.

	Control 188 (55%)	Intervention 154 (45%)	*P*
Reading is 1st or 2nd favourite activity, n (%)	24 (14.3%)	20 (14.5%)	.959
Reading is least favourite activity, n (%)	57 (33.9%)	26 (18.8%)	.003
Screen time			.318
<60 min, *n* (%)	77 (41%)	49 (35.5%)	
>60 min, *n* (%)	111 (59%)	89 (64.5%)	
Owned children's books, n (%)	171 (91%)	114 (82.6%)	.028
Number of books ≥10, n (%)	88 (51.5%)	41 (36%)	.010
Visited library, n (%)	29 (15.5%)	17 (12.4%)	.430

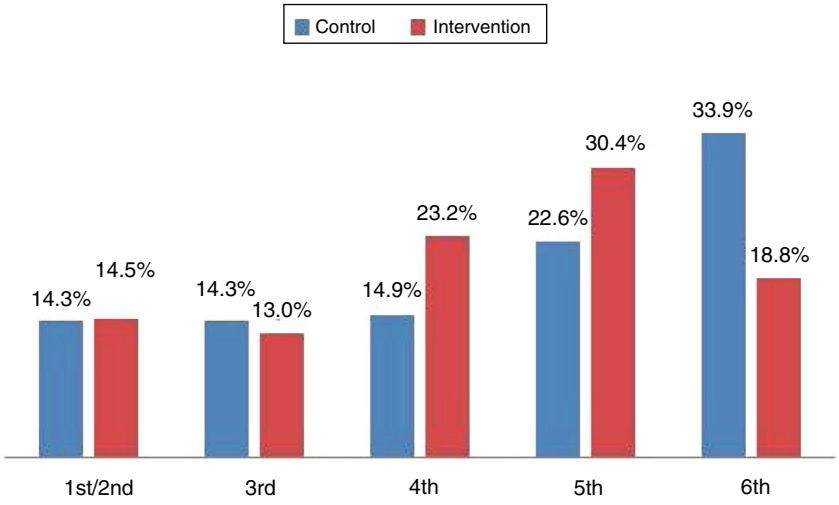

Figure 1 Ranking of reading in leisure activity preferences. Total sample.

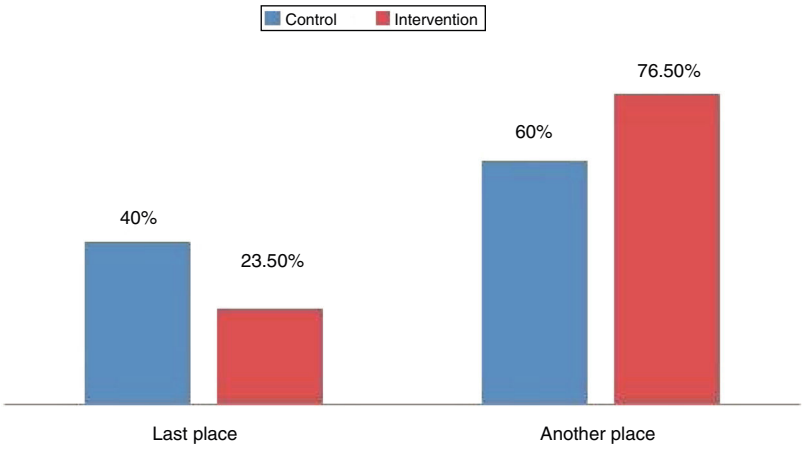

Figure 2 Ranking of reading in leisure activity preferences. Residents of ANSTs.

When it came to ownership of children's books, excluding those provided by the programme, 87.5% of families in the control group had some at home compared to 77.6% in the intervention group. This percentage dropped to 38.4% (control group) and 25.8% (intervention group) when it came to households with more than 10 children's books, and the difference was not statistically significant.

Only 11% of children in the control group and 6% in the intervention group visited the public library.

In the multivariate analysis of the data for the entire sample, the variables that had an effect on the ranking of reading as the least favourite activity were lack of exposure to the intervention (OR, 2.06; 95% CI, 1.19–3.58) and Romany ethnicity (OR, 2.37; 95% CI, 1.38–4.09). In the multivariate analysis of the subset residing in ANSTs, we also

Table 3 Sociodemographic characteristics of children residing in ANSTs.

	Control 128 (56.4%)	Intervention 99 (43.6%)	*P*
Sex			.592
Male, *n* (%)	66 (52%)	55 (55.6%)	
Female, *n* (%)	61 (48%)	44 (44.4%)	
Maternal age, years, mean ± SD	29.6 ± 6.27	28.61 ± 6.62	.333
Paternal age, years, mean ± SD	32.4 ± 7.28	31.48 ± 7.75	.230
Maternal educational attainment			.649
Illiterate/Primary Ed., *n* (%)	99 (77.3%)	74 (74.7%)	
Secondary Ed./University, *n* (%)	29 (22.7%)	25 (25.3%)	
Paternal educational attainment			.062
Illiterate/Primary Ed., *n* (%)	90 (70.9%)	80 (91.6%)	
Secondary Ed./University, *n* (%)	37 (29.1%)	18 (18.4%)	
Mother employed, n (%)	35 (28.2%)	26 (26.3%)	.744
Father employed, n (%)	74 (59.7%)	57 (58.2%)	.820
Maternal country of origin			.105
Spain, *n* (%)	104 (81.3%)	87 (87.9%)	
Morocco, *n* (%)	13 (10.2%)	10 (10.1%)	
Other, *n* (%)	11 (8.5%)	2 (2%)	
Paternal country of origin			.505
Spain, *n* (%)	103 (81.1%)	83 (84.7%)	
Morocco, *n* (%)	14 (11%)	11 (11.2%)	
Other, *n* (%)	10 (7.9%)	4 (4.1%)	
Romany ethnicity, n (%)	59 (46.1%)	32 (32.3%)	.036
Enrolled in childcare centre, n (%)	88 (68.8%)	61 (71.8%)	.638

ANST, area in need of social transformation; Ed., education.

Table 4 Comparison of endpoints in participants residing in ANSTs in the intervention and control groups.

	Control 128 (56.4%)	Intervention 99 (43.6%)	*P*
Reading is 1st or 2nd favourite activity, n (%)	15 (11.7)	11 (11.1)	.887
Reading is least favourite activity, n (%)	46 (40)	20 (23.5)	.014
Screen time			.798
<60 min, *n* (%)	58 (45.3)	37 (43.5)	
>60 min, *n* (%)	70 (54.7)	48 (56.5)	
Owned children's books, n (%)	112 (87.5)	66 (77.6)	.057
Number of books ≥10, n (%)	43 (38.4)	17 (25.8)	.085
Visited library, n (%)	14 (11)	5 (6)	.208

ANST, area in need of social transformation.

found that the variables with an effect on reading being ranked least favourite were lack of exposure to the intervention (OR, 2.00; 95% CI, 1.06–3.77) and Romany ethnicity (OR, 1.86; 95% CI, 1.01–3.41).

Discussion

Our results show a small improvement in the appreciation of reading relative to other activities available to the children under study. Although reading was hardly the preferred activity, as there is a broad range of leisure activities available to children aged 2 years, children in the intervention exhibited greater preference for reading relative to other activities compared to children in the control group.

We did not find improvement in any of the other outcomes (screen time, availability of children's books in the home and visiting the public library). Even the presence of children's books in the home (excluding those given to families as part of the programme) and the number of books was lower in the intervention group compared to the control group. This could be explained by the difference in parental educational attainment between groups, with a higher attainment in the control group.

On one hand, our study supports the results of other authors that have evaluated the efficacy of reading pro-

motion programmes delivered in primary care paediatric clinics,[25] as we found some improvements in terms of the priority children gave reading among the different activities available to them. On the other hand, as observed in similar studies, there was not improvement in other variables that could have changed with the intervention.

The analysis of screen time did not reveal a decrease in the intervention group, as it was actually greater compared to the control group. The exposure of children to technology has been increasing, and it is also starting at increasingly early ages. Today, children are immersed in the digital era.[4] The duration of screen time found in our study exceeded the maximum recommended by the American Academy of Pediatrics (AAP) and the Asociación Española de Pediatría de Atención Primaria (Spanish Association of Primary Care Paediatrics, AEPap),[26] which recommend limiting screen time to less than 1 h a day in children aged 2–5 years and always under adult supervision. Overconsumption of audiovisual media keeps children from spending enough time in free play, which is of utmost importance to healthy development. In addition, early exposure to digital media before age 3 years is associated with an increased risk of attention deficit during childhood.[27] Therefore, we need to develop new strategies to reduce exposure to digital media and mitigate the adverse effects of this exposure.

The approach we used to assess the impact of the intervention differed in comparison to other studies, as we assessed the interest in reading as opposed to the endpoints used by other authors, such as the number of days a week that parents read to the child, the daily practice of reading aloud to children at bedtime[28] or parental preferences as to how to spend the time devoted to their children (parent–child reading versus other activities).

One of the limitations of the study was the lack of random allocation, as the research team decided not to exclude any child born in 2015 from the intervention. Since all participants received services at the same primary care centre, there was the risk that excluding some of the children from the intervention as it was underway could have led to contamination bias by inspiring participants in the control group to buy books. Another limitation was that since it was the parents that carried out the intervention following the advice received by paediatricians and with the help of the books provided at the clinic, the part of the intervention involving reading aloud to the children was not delivered in a homogeneous manner. Both of these limitations can be remedied in future studies by random allocation to groups and by delivering the intervention at the primary care centre, for instance by creating reading workshops for children.

Since this programme was implemented at an ANST, it made children's books adequate for the age of the participants (6 months–2 years) available in every household of children included in the intervention group. We also implemented the protocol of recommending reading aloud in early childhood in the context of the healthy child programme, explaining to parents the benefits that this practice offers children.

This study opens a new line of research in Spain, where national associations similar to ROR have yet to be established. In the area where we conducted the study, where there is a high percentage of adults that did not complete secondary education, tools like this programme, designed to promote academic achievement in childhood, must become a widespread and routine practice. But it is also essential that the necessary resources and structure are provided to carry out these programmes from primary care clinics, which are already overwhelmed offering on-demand medical care, limiting the time that can be devoted to health promotion.

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Conflicts of interest

The authors declare that they have no conflict of interest.

References

1. Dehaene S, Pegado F, Braga LW, Ventura P, Nunes Filho G, Jobert A, et al. How learning to read changes the cortical networks for vision and language. Science. 2010;330:1359–64.
2. Mata Anaya J. Lectura, emociones, salud. In: Curso de Actualización Pediatría. 2014. p. 17–23.
3. Hutton JS, Horowitz-Kraus T, Mendelsohn AL, DeWitt T, Holland SK, C-MIND Authorship Consortium. Home reading environment and brain activation in preschool children listening to stories. Pediatrics. 2015;136:466–78.
4. Chassiakos YR, Radesky J, Christakis D, Moreno MA, Cross C, Council on Communications and Media. Children and adolescents and digital media. Pediatrics. 2016;138:e20162593.
5. Cole PM, Martin SE, Dennis TA. Emotion regulation as a scientific construct: methodological challenges and directions for child development research. Child Dev. 2004;75:317–33.
6. Boyce WT. The lifelong effects of early childhood adversity and toxic stress. Pediatr Dent. 2014;36:102–8.
7. PIRLS-TIMSS 2011. Estudio Internacional de progreso en comprensión lectora, matemáticas y ciencias. Madrid: IEA; 2012.
8. Zuckerman B, Augustyn M. Books and reading: evidence-based standard of care whose time has come. Acad Pediatr. 2011;11:11–7.
9. Duursma E, Augustyn M, Zuckerman B. Reading aloud to children: the evidence. Arch Dis Child. 2008;93:554–7.
10. Needlman R, Toker KH, Dreyer BP, Klass P, Mendelsohn AL. Effectiveness of a primary care intervention to support reading aloud: a multicenter evaluation. Ambul Pediatr. 2005;5:209–15.
11. Thakur K, Sudhanthar S, Sigal Y, Mattarella N. Improving early childhood literacy and school readiness through Reach Out and Read (ROR) program. BMJ Qual Improv Rep. 2016;5.
12. Council on Early Childhood, Council on School Health. The Pediatrician's role in optimizing school readiness. Pediatrics. 2016;138, http://dx.doi.org/10.1542/peds.2016-2293, e20162293.
13. Council on Early Childhood. Literacy promotion: an essential component of primary care pediatric practice. Pediatrics. 2014;134:404–9.
14. Rikin S, Glatt K, Simpson P, Cao Y, Anene-Maidoh O, Willis E. Factors associated with increased reading frequency in children exposed to reach out and read. Acad Pediatr. 2015;15:651–7.
15. Mendelsohn AL, Cates CB, Weisleder A, Berkule Johnson S, Seery AM, Canfield CF, et al. Reading aloud play, and social-emotional development. Pediatrics. 2018;141, e20173393.
16. Weisleder A, Mazzuchelli DSR, Lopez AS, Neto WD, Cates CB, Gonçalves HA, et al. Reading aloud and child develop-

ment: a cluster-randomized trial in Brazil. Pediatrics. 2018;141, e20170723.
17. Sinclair EM, McCleery EJ, Koepsell L, Zuckerman KE, Stevenson EB. Home literacy environment and shared reading in the newborn period. J Dev Behav Pediatr JDBP. 2018;39:66–71.
18. Sloat EA, Letourneau NL, Joschko JR, Schryer EA, Colpitts JE. Parent-mediated reading interventions with children up to four years old: a systematic review. Issues Compr Pediatr Nurs. 2015;38:39–56.
19. Cates CB, Weisleder A, Mendelsohn AL. Mitigating the effects of family poverty on early child development through parenting interventions in primary care. Acad Pediatr. 2016;16:S112–20.
20. Jacob G, Ford-Jones L, Wong PD, Warman D, Lovett MW. Literacy promotion by health care professionals: a comprehensive biomedical and psychosocial approach. Paediatr Child Health. 2018;23:6–11.
21. Goldfeld S, Napiza N, Quach J, Reilly S, Ukoumunne OC, Wake M. Outcomes of a universal shared reading intervention by 2 years of age: the let's read trial. Pediatrics. 2011;127: 445–53.
22. Quach J, Sarkadi A, Napiza N, Wake M, Loughman A, Goldfeld S. Do fathers' home reading practices at age 2 predict child language and literacy at age 4? Acad Pediatr. 2018;18: 179–87.
23. Junta de Andalucía – Introducción. Junta de Andalucía. Available at: https://www.juntadeandalucia.es/organismos/igualdadpoliticassocialesyconciliacion/areas/inclusion/zonas-transformacion/paginas/introduccion-zonas-transformacion.html [accessed 6.07.20].
24. Jones VF, Franco SM, Metcalf SC, Popp R, Staggs S, Thomas AE. The value of book distribution in a clinic-based literacy intervention program. Clin Pediatr (Phila). 2000;39:535–41.
25. Whaley SE, Jiang L, Gomez J, Jenks E. Literacy promotion for families participating in the women, infants and children program. Pediatrics. 2011;127:454–61.
26. Sedentarismo, falta de sueño y alteración en el desarrollo cognitivo, social y emocional, consecuencias del uso inapropiado de las nuevas tecnologías en niños.pdf. Available at: https://www.aepap.org/sites/default/files/noticia/archivos-adjuntos/final_np_aepap_uso_tecnologia.pdf [accessed 6.07.20].
27. Christakis DA, Ramirez JSB, Ferguson SM, Ravinder S, Ramirez J-M. How early media exposure may affect cognitive function: a review of results from observations in humans and experiments in mice. Proc Natl Acad Sci U S A. 2018;115, 201711548.
28. Mindell JA, Williamson AA. Benefits of a bedtime routine in young children: sleep, development, and beyond. Sleep Med Rev. 2018;40:93–108.