

Parental health literacy, resources in the family environment and hearing complaints: preliminary study

Letramento em saúde parental, recursos do ambiente familiar e queixas auditivas: estudo preliminar

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ABSTRACT

Purpose: To verify the association between parental functional health literacy and resources in the family environment, sociodemographic, and clinical aspects. **Methods:** This is a preliminary stage of an analytical observational study, with a cross-sectional design, using a non-probabilistic sample consisting of 39 family members of children aged between nine and 12 years old. The instruments used were: Short Assessment of Health Literacy for Portuguese-speaking Adults (SALPHA 18), Brazilian Economic Classification Criteria (CCEB), and Family Resource Inventory (RAF). Descriptive and bivariate analysis of the data was conducted using Pearson's chi-square test and Mann-Whitney U test, with a significance level of 5%. **Results:** In the descriptive analysis, it was observed that the majority of participants had adequate functional health literacy. The association analysis between SALPHA and sociodemographic data indicated a statistically significant association between functional health literacy and the education level of the head of the family ($p=0.009$), where those with up to incomplete higher education tended to be classified with adequate literacy. The association between RAF domains and SALPHA categories revealed a statistical difference in the domain of proximal processes. **Conclusion:** This study demonstrated an association between functional health literacy and parents' education level, which may reflect the type of environmental resources offered to children in the family dynamics.

Keywords: Functional health literacy; Quality of life; Family; Social determinants of health; Child

RESUMO

Objetivo: verificar a associação entre letramento funcional em saúde parental com os recursos do ambiente familiar, aspectos sociodemográficos e clínicos. **Métodos:** trata-se de etapa preliminar de estudo observacional analítico, de recorte transversal, com amostra não probabilística, constituída por 39 familiares de crianças na faixa etária de 9 a 12 anos. Foram utilizados os instrumentos: *Short Assessment of Health Literacy for Portuguese-speaking Adults*, Critério de Classificação Econômica Brasil e Inventário de Recursos do Ambiente Familiar. Foi realizada análise descritiva e bivariada dos dados, por meio dos testes Qui-quadrado de Pearson e U de Mann-Whitney e adotado o nível de significância de 5%. **Resultados:** na análise descritiva foi observado que a maioria dos participantes possuía letramento funcional em saúde adequado. A análise de associação entre o *Short Assessment of Health Literacy for Portuguese-speaking Adults* e dados sociodemográficos indicou associação com significância estatística entre o letramento funcional em saúde e instrução do chefe de família ($p=0,009$), ou seja, aqueles que possuíam até superior incompleto apresentaram tendência a serem classificados com letramento adequado. Já a associação entre os domínios do Inventário de Recursos do Ambiente Familiar e as categorias do *Short Assessment of Health Literacy for Portuguese-speaking Adults* revelou que houve diferença estatística no domínio de processos proximais. **Conclusão:** há associação entre letramento funcional em saúde e grau de instrução dos pais, o que pode refletir no tipo de recursos ambientais ofertado aos filhos na dinâmica familiar.

Palavras-chave: Letramento funcional em saúde; Qualidade de vida; Família; Determinantes sociais da saúde; Criança

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INTRODUCTION

Parents and families play a key role in children's acquisition of basic and complex skills throughout their lives⁽¹⁾, in physical, psychological, and emotional development, and identity formation⁽²⁾. Family life allows them to acquire concepts related to essential health care⁽¹⁾, which range from the affective interactions necessary for mental health and personality development to learning about hygiene and food culture, and the level of adherence to treatments prescribed by services⁽³⁾. These aspects are interconnected to form a comprehensive concept of health, which is not limited to the absence of disease but includes physical, mental, and social well-being, promoting the holistic and sustainable development of the individual^(2,3).

Among the care necessary for self-care in health, functional health literacy (FHL) is an essential skill, defined as the ability to obtain, process, and understand basic information and services to make appropriate decisions regarding one's health and medical care⁽⁴⁾.

Thus, functional health literacy helps individuals for a greater understanding of the importance of preventive measures and instructions on treatments⁽⁴⁾, which allows them to apply this information to promote healthier lifestyles, improving their quality of life⁽⁵⁾. Thus, by helping to form health concepts⁽⁴⁾, the family environment can be decisive in raising healthy and balanced children⁽²⁾. On the other hand, inadequate functional health literacy in the family can result in negative effects on the health and well-being of children⁽⁵⁾.

The Short Assessment of Health Literacy for Portuguese-speaking Adults (SAHLPA) instrument has been used in clinical practice to track functional health literacy, standing out for its effectiveness in identifying social and emotional skills^(6,7). It provides a comprehensive assessment, essential for the development of personalized and effective interventions, aiming at significant improvements in the social adaptation and emotional well-being of patients^(6,7).

It is worth highlighting that understanding literacy and parental practices that influence the different contexts of interaction and development of the child and their relationships with auditory processing can help the development of strategies to approach the family in the clinical-care context. Considering the relevance of the concept in functional health literacy and the influence of the family environment in personal concept formation, this study aimed to verify the association between functional health literacy of parents/guardians with the resources of the family environment, sociodemographic, and clinical aspects.

METHODS

This is a preliminary stage of an analytical observational study, with a cross-sectional design, with a non-probabilistic sample. To carry out this work, we respected ethical aspects and all participants signed the Informed Consent Form (ICF). The Research Ethics Committee of the Federal University of Minas Gerais – CEP/UFMG approved this project under opinion number 2.093.022.

The sample consisted of 39 guardians of schoolchildren of both genders, from 9 to 12 years old. The inclusion criterion was having children in this age group. The exclusion criteria included not responding to all the proposed questionnaires/

instruments; not presenting neurological and cognitive conditions to understand the questions of the proposed instruments, and children presenting hearing loss.

Data collection procedures consisted of interviews and questionnaires with parents/guardians:

- Anamnesis: prepared by researchers, consisting of seven items that refer to the individual characteristics of children, sociodemographic issues, health history, and aspects related to auditory processing, such as maintaining attention to the verbal message, talking in a noisy environment, talking to several people at the same time and following instructions.
- Brazilian Economic Classification Criteria (CCEB-*Critério de Classificação Econômica Brasil*)⁽⁸⁾: it aims to estimate the purchasing power of families, based on household characteristics and the presence of assets, in addition to the level of education of the head of the family. For its analysis, each item has a specific score and the sum of these scores determines the corresponding classification of the family in six possible class modalities: A, B1, B2, C1, C2, D-E.
- Family Environment Resources Inventory (RAF-*Recursos do Ambiente Familiar*)⁽¹⁾: it aims to assess the resources in the family environment and how they can contribute to children's learning. It covers three domains: resources that promote proximal processes, predictable activities that indicate some degree of stability in family life, and parenting practices that strengthen the family-school bond. The inventory consists of open-ended and multiple-choice questions, divided into ten topics, and is administered with a semi-structured interview. During the application, each topic is presented as an open-ended question and the interviewer records the response provided by the interviewee. If the response is not listed in the test options, the item 'other' is marked. This methodology allows a comprehensive and detailed assessment of family resources that influence children's learning.
- Short Assessment of Health Literacy for Portuguese-speaking Adults (SAHLPA)⁽⁷⁾ – short version: instrument validated and adapted to Brazilian Portuguese, consisting of 18 items to assess the functional health literacy of adults. The application was carried out by printed cards containing the medical term in bold and two associative words. The individual was instructed to read the medical term aloud and then say which of the words was related to the term presented. The analysis was performed through a score obtained in the items answered correctly, indicating whether the individual's functional literacy was adequate or not. For this purpose, each item received one point and the total score was obtained by adding the points. The item is considered correct only when the individual correctly pronounces and associates the item. The total score is obtained by adding the items that range from 0 to 18, with a score between 0 and 14 suggesting inadequate health literacy.

Data collection was carried out at the Observatory of Functional Health in Speech Therapy of the institution where the research was conducted. First, a formal invitation was made through advertising on social media and at the Speech Therapy Outpatient Clinic of Hospital São Geraldo-UFMG. Interested

parties were contacted and, subsequently, prior appointments were made with the guardians, and each of them was evaluated in an individual session, in a reserved room and time.

The responses from the analyzed instruments were organized, digitized in a database, and checked. Functional health literacy (SAHLPA) was considered the dependent variable. The independent variables were economic classification (CCEB), family environment resources (stability, proximal processes, and family/school relationship), age, gender, presence of hearing complaints, school and attention difficulties, history of speech-language pathology evaluation, and the child's school year.

A descriptive analysis was performed using the frequency distribution of categorical variables and analysis of the measures of central tendency and dispersion of continuous variables. Pearson's Chi-square test and Mann-Whitney U test were used for association analyses, considering a significance level of 5%. SPSS software, version 25.0, was used for data entry, processing, and analysis.

RESULTS

The sample revealed that most participants were male (61.5%), studied in public schools (84.6%), were between 9 and 10 years old, 28.2% for each age group, and were in the 5th or 6th grade of middle school, with 28.2% of students in each of these school years. Regarding the Brazilian Economic Classification Criteria, most of them belonged to class B2 (34.2%). The level of education of most of the heads of the family (36.8%) had incomplete higher education. Regarding the age of the children, the average was 10.28 ± 1.03 years, with a median of 10 years.

Regarding the perception of parents/guardians of their children's auditory abilities, most parents identified greater difficulties in attention tasks (82.4%), school tasks (85.3%), and following directions (67.6%). The descriptive analysis is presented in Table 1.

Regarding the scores of the three RAF domains, higher mean values were observed in the item of resources that promote proximal processes. Table 2 shows the descriptive analysis.

In the descriptive analysis of the Short Assessment of Health Literacy for Portuguese-Speaking Adults (SAHLPA), 79.5% of parents/guardians had adequate functional health literacy.

The analysis of the association between SAHLPA 18 and sociodemographic data, using Pearson's Chi-square test, indicated that there was a statistically significant association between SAHLPA 18 and the education of the head of the family ($p=0.009$), in which parents who had incomplete higher education presented adequate SAHLPA 18. The other results did not have statistically significant results (Table 3).

The analysis of the association between SAHLPA 18 and anamnesis data, using Pearson's Chi-square test, revealed that there were no results with statistical significance in any of the results (Table 4).

The analysis of the association between the RAF domains and the SAHLPA 18 categories, using the Mann-Whitney U test, revealed that there was a statistical difference in the domains of proximal processes in activities outside of school ($p=0.01$), trips in the last year ($p=0.21$), activities with parents ($p=0.11$), toys that they have/had ($p=0.01$), and books at home (0.001). The associations between the SAHLPA 18 and the domains of predictable activities that show some degree of stability in

Table 1. Descriptive analysis of anamnesis data

Variables	N	%
Speech-language disorders		
Yes	15	42.9
No	20	57.1
Total	35	100.0
Your child hears well		
Yes	30	88.2
No	4	11.8
Total	34	100.0
Difficulty paying attention		
Yes	28	82.4
No	6	17.6
Total	34	100.0
Difficulty talking in noise		
Yes	13	38.2
No	21	61.8
Total	34	100.0
Difficulty talking to multiple people		
Yes	15	45.5
No	18	54.5
Total	33	100.0
School difficulties		
Yes	29	85.3
No	5	14.7
Total	34	100.0
Difficulties following guidelines		
Yes	23	67.6
No	11	32.4
Total	34	100.0

Subtitle: N = Number of parents/guardians interviewed; % = Percentage

family life and parenting practices that promote family-school connection did not reveal results with statistical significance.

DISCUSSION

This study analyzed the association between functional health literacy of parents/guardians, family environment resources, sociodemographic data, and clinical data of children between 9 and 12 years old.

Regarding the distribution of the sample, most of them belonged to social class B2 and the head of the family had incomplete higher education. This result does not reflected in the national panorama, especially in the Southeast Region, where there is a greater prevalence of classes C1 and C2 and a level of education up to complete elementary education⁽⁸⁾.

Regarding the parents' perception of their children's hearing health, we observed low identification of difficulties for auditory skills in which most of them stated that their children did not demonstrate difficulties, either in understanding speech in noisy environments or talking to many people. In other studies⁽⁹⁻¹¹⁾, the most common auditory complaints in children were difficulty in understanding what other people say, reduced sound tolerance, tinnitus, and auditory hallucinations. However, despite the relevance of these auditory complaints, most parents did not report being aware of their children's complaints⁽⁹⁾.

Table 2. Descriptive analysis of data from the Family Environment Resource Inventory

	Variables	Median	Mean (SD)	Minimum	Maximum
Prox.Proc.	Activities outside of school	5.71	5.74	1.00	10.00
	Walk in the last year	3.89	3.93	1.00	9.00
	Regular programmable activities	1.25	1.92	0.00	10.00
	Activities with parents	7.00	6.40	1.00	10.00
	Toys they have/had	8.17	7.72	3.00	10.00
	Newspapers/Magazines at home	2.50	2.93	0.00	8.00
F/S	Books at home	7.14	6.63	1.00	10.00
	Monitoring schoolwork	7.21	6.92	1.00	10.00
	Routines and schedules	7.81	7.65	3.00	10.00
Stability	Weekly family life	6.67	6.66	0.00	10.00
	Total score	58.08	57.86	34.00	82.00

Subtitle: SD = Standard Deviation; Prox/Proc= Proximal processes; F/E = Family/school relationship/Family/school relationship

Table 3. Association between the Short Assessment of Health Literacy for Portuguese-speaking Adults and sociodemographic data

Variable	SAHLPA		p-value*
	Adequate N (%)	Inadequate N (%)	
Gender			
Female	13 (41.9)	2 (25.0)	0.380
Male	18 (58.1)	6 (75.0)	
Total	31 (100.0)	8 (100.0)	
Age			
9 years old	10 (32.3)	1 (12.5)	0.526
10 years old	9 (29.0)	2 (25.0)	
11 years old	9 (29.0)	3 (37.5)	
12 years old	3 (9.7)	2 (25.0)	
Total	31 (100.0)	8 (100.0)	
CCEB			
A/B	17 (56.7)	2 (25.0)	0.111
C/D-E	13 (43.3)	6 (75.0)	
Total	30 (100.0)	8 (100.0)	
Instruction of the head of the family			
Illiterate/Incomplete elementary school	0 (0.0)	3 (37.5)	0.009**
Incomplete middle school	5 (16.7)	2 (25.0)	
Incomplete high school	3 (10.0)	0 (0.0)	
Incomplete higher education	12 (40.0)	2 (25.0)	
Complete higher education	10 (33.3)	1 (12.5)	
Total	30 (100.0)	8 (100.0)	

*Pearson's Chi-square test; **p-value \leq 0.005

Subtitle: N = Number of individuals; % = Percentage; CCEB = Brazilian Economic Classification Criteria; A/B,C/D-E = Economic classes; SAHLPA = *Short Assessment of Health Literacy for Portuguese-speaking Adults*

It was possible to observe a greater tendency for parents to identify complaints regarding their children's school performance. According to the literature⁽¹²⁾, such identification is more recurrent, as parents build their positive perception of this performance based on different indications about their children's school life, such as completion of school activities, care with school materials, and behavior in the classroom⁽¹²⁾. Therefore, these indications contribute to parents making such inferences more regularly.

In parenting practices that promote family-school bonding, a higher median score was observed for the toys they have/had and newspapers/magazines at home. The regular programmable activities and going out in the last year presented lower average scores, making it clear that, in this sample, there is a higher rate of acquisition of consumer objects and few families can

organize going out. This may be related to the family culture or even financial difficulties⁽¹³⁾, which may interfere with the leisure routine, necessary for the cognitive and affective development of children in the family environment.

In this study, there was no statistical significance between health literacy and the domains predictable activities that indicate some level of stability in family life and parenting practices that promote family-school bonding. This situation may reflect a limited relationship between family and school in the analyzed population, which may influence the maintenance of skills in children, considering that a healthy relationship between family and school is significant and beneficial for the educational process⁽¹⁴⁾.

The association between health literacy and the level of education of the head of household showed statistical significance.

Table 4. Associação entre o Short Assessment of Health Literacy for Portuguese-speaking Adults e dados da anamnese

Variables	SAHLPA		p-value*
	Adequate N (%)	Inadequate N (%)	
Speech-language disorders			
Yes	11 (40.7)	4 (50.0)	0.642
No	16 (59.3)	4 (50.0)	
Total	27 (100.0)	8 (100.0)	
Your child hears well			
Yes	23 (88.5)	7 (87.5)	0.941
No	3 (11.5)	1 (12.5)	
Total	26 (100.0)	8 (100.0)	
Difficulty paying attention			
Yes	22 (84.6)	6 (75.0)	0.533
No	4 (15.4)	2 (25.0)	
Total	26 (100.0)	8 (100.0)	
Difficulty talking in noise			
Yes	11 (42.3)	2 (25.0)	0.378
No	15 (57.7)	6 (75.0)	
Total	26 (100.0)	8 (100.0)	
Difficulty talking to multiple people			
Yes	12 (48.0)	3 (37.5)	0.604
No	13 (52.0)	5 (62.5)	
Total	25 (100.0)	8 (100.0)	
School difficulties			
Yes	23 (88.5)	6 (75.0)	0.347
No	3 (11.5)	2 (25.0)	
Total	26 (100.0)	8 (100.0)	
Difficulties following guidelines			
Yes	18 (69.2)	5 (62.5)	0.722
No	8 (30.8)	3 (37.5)	
Total	26 (100.0)	8 (100.0)	

*Pearson's Chi-square test

Subtittle: N = number of individuals; % = Percentage; SAHLPA = Short Assessment of Health Literacy for Portuguese-speaking Adults

Those who had incomplete higher education had adequate health literacy. Similar results were identified in other studies that identified adequate health literacy following a greater number of years of formal education^(5,15-19).

These findings suggest that, although functional health literacy and education are distinct measures^(16,17), actions that favor formal education can reduce the prevalence of inadequate health literacy^(5,13-19). The construction of this concept requires skills necessary to obtain and process health information, and for people to make appropriate decisions, according to such knowledge⁽¹⁸⁾. To this end, mastery of basic reading, writing, numeracy, communication, risk recognition, and critical thinking for analyzing conflicting information and making decisions concerning health are necessary^(5,18-19).

A study demonstrated that children whose families had high levels of parental practices that promote family-school bonding were more likely to be successful in school⁽²⁰⁾. It is possible to affirm that adequate resources in the family environment are strongly associated with better academic performance and children's socio-emotional development⁽²¹⁾. These findings reinforce the importance of a structured and stimulating family environment for the integral development of children.

Therefore, health teams must pay attention to individuals with lower levels of education regarding the effect of health literacy. Actions are needed to improve the performance of this skill, since access to quality information, offered through effective health communication can improve parents' understanding of

their children's health situations, offer assertive environmental resources, and provide effective family interventions^(22,23).

The number of families analyzed can be pointed out as a limitation of this study. In addition, lack of equal distribution between socioeconomic strata and the education of those responsible. However, since this is a preliminary study, these possible biases can be corrected through sample calculation and collection planning. Although the results indicate the feasibility of conducting the study, there is a need for stratification by gender, parental education, and socioeconomic strata to obtain more robust evidence, according to the parameters and prevalence of studies on health literacy in the Brazilian population.

The advances that we can mention are the relevance and applicability of the theme since the association between functional health literacy and resources in the family environment is an important predictor regarding the profile of families, being important factors in the acquisition of personal and interpersonal skills, decisive for the insertion and performance of the subject in the different social environments.

CONCLUSION

There is an association between functional health literacy and the parent's level of education, which may reflect on the

type of environmental resources offered to children in family dynamics.

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