Checklist for identifying children with risk factors for oral language disorders: new proposal

Checklist para identificação de crianças de risco para alterações de linguagem oral: nova proposta

Checklist para identificación de niños de riesgo para cambios de lenguaje oral: nueva propuesta

Ana Carulina Spinardi Panes*
Camila de Castro Corrêa**
Luciana Paula Maximino*

Abstract

INTRODUCTION: A quick and efficient evaluation method of oral language developmental is the use of checklists. OBJECTIVE: The aim of this study was to develop an instrument (checklist) for early identification of children with language development disorder or who have risk factors of developing it. METHODS: The process to checklist elaboration was divided in the following steps: stage 1 - analysis (preparation of a preliminary instrument to be analyzed by judges), stage 2 - review (adaptation of the instrument), stage 3 -evaluation by users and judges, and stage 4 - finalizing. RESULTS: The checklist developed in this study was named *"Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder*– ICCCRELD*"*. In stage 1, eight speech language pathologists analyzed the previous version of the checklist and most of them considered the instrument's information clear and its content, appropriate. After analyzing all the answers, the checklist was reformulated (stage 2) and an Application Manual inserted, besides additional information. The same speech-language pathologists evaluated the

* Universidade de São Paulo (FOB-USP), Bauru, SP, Brazil.
**Universidade Estadual Paulista 'Julio de Mesquita Filho' (UNESP-FMB), Botucatu, SP, Brazil.

Authors' contributions:
ACSP and LPM planned the research, the data collection, and wrote the manuscript.
CCC analyzed the data collected, wrote, corrected and submitted the manuscript.

Correspondence address: Luciana Paula Maximino lumaximino@uol.com.br
Received: 13/11/2017
Accepted: 01/06/2018

reviewed version, and also the health and educational professionals (stages 3 and 4). CONCLUSION: The *"Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder – ICCCRELD"* was developed and it was considered a relevant, wide range, clear and applicable instrument.

Keywords: Risk Factors; Child Language; Language Development Disorders; Checklist.

Resumo

INTRODUÇÃO: Um método de avaliação rápida e eficaz do desenvolvimento da linguagem oral é a utilização de *checklists.* OBJETIVO: O objetivo do estudo foi desenvolver um instrumento (*checklist*) para identificação precoce de crianças com risco para desenvolver alterações de linguagem oral ou que já apresentam sinais dessas alterações. MÉTODOS: O processo para a elaboração do *checklist* foi dividido nas seguintes etapas: etapa 1 - análise (preparação de uma versão prévia para ser analisada por fonoaudiólogos juízes), etapa 2 - revisão (adequação do *checklist*), etapa 3 - avaliação por usuários e juízes e etapa 4 - finalização. RESULTADOS: O *checklist* desenvolvido neste estudo foi denominado "*Checklist para Identificação de Crianças com Risco ou Indícios Clínicos para Alteração de Linguagem*- CICRICAL". O instrumento foi dividido em duas partes: a primeira contemplou os aspectos relacionados à presença de fatores de risco e a segunda os principais marcos do desenvolvimento linguístico. Na etapa 1, oito juízes analisaram a versão prévia do *checklist* e a maioria considerou que o instrumento possuía informações claras e conteúdo adequado ao objetivo pretendido. A partir da análise das respostas, o *checklist* foi reformulado (etapa 2), tendo sido inserido um Manual de Aplicação e algumas informações adicionais. A versão reformulada foi avaliada pelos mesmos fonoaudiólogos que analisaram a versão preliminar e também por profissionais da saúde e educação (etapas 3 e 4). CONCLUSÃO: O "*Checklist para Identificação de Crianças com Risco ou Indícios Clínicos para Alteração de Linguagem* - CICRICAL" desenvolvido foi considerado um instrumento pertinente, abrangente, claro e relevante.

Palavras-chave: Fatores de Risco; Linguagem Infantil; Transtornos do Desenvolvimento da Linguagem; Lista de Checagem.

Resumen

INTRODUCCIÓN: Un método de evaluación rápida y eficaz del desarrollo del lenguaje oral es el uso de *checklists*. OBJETIVO: El objetivo del estudio fue desarrollar un instrumento (*checklist)* para identificación precoz de niños con riesgo para desarrollar alteraciones de lenguaje oral o que ya presentan signos de alteraciones. MÉTODOS: El proceso para la elaboración del *checklist* fue dividido en las siguientes etapas: etapa 1 - análisis (preparación de una versión previa para ser analizada por fonoaudiólogos jueces), etapa 2 - revisión (adecuación del *checklist*), etapa 3 - evaluación por usuarios y jueces y etapa 4 - finalización. RESULTADOS: El *checklist* desarrollado en este estudio fue denominado "*Checklist para Identificación de Niños con Riesgo o Indicios Clínicos para Cambio de Lenguaje*- CICRICAL". El instrumento fue dividido en dos partes: la primera contempló los aspectos relacionados con la presencia de factores de riesgo y la segunda los principales hitos del desarrollo lingüístico. En la etapa 1, ocho jueces analizaron la versión previa del *checklist* y la mayoría consideró que el instrumento poseía informaciones claras y contenido adecuado al objetivo pretendido. A partir del análisis de las respuestas, el *checklist* fue reformulado (etapa 2), habiéndose insertado un Manual de Aplicación y algunas informaciones. La versión reformulada fue evaluada por los mismos fonoaudiólogos jueces y también por profesionales de la salud y educación (etapas 3 y 4). CONCLUSIÓN: El "*Checklist para Identificación de Niños con Riesgo o Indicios Clínicos para Cambio de Lenguaje* - CICRICAL" fue desarrollado y considerado un instrumento pertinente, amplio, claro y relevante.

Palabras clave: Factores de Riesgo. Lenguaje Infantil. Trastornos del Desarrollo del Lenguaje. Lista de Verificación.

Ana Carolina Spinardi Panes, Camila de Castro Corrêa, Luciana Paula Maximino

Introduction

Speech-language alterations, the least detected disability, especially in primary care settings, are prevalent in infancy, affecting 5 to 10% of all children [1]. One of the biggest problems faced in the Speech and Language Pathology and Audiology scenario in the child language field, is the delayed referral, because the alteration is already established making rehabilitation difficult, in addition to the possibility of secondary symptoms coexisting to language alterations.

Identification can be done in several ways, in which some behaviors can be considered signs of alert for some impairment in language acquisition and development [2]. Risk factors can be divided in: biological - pre, peri, and postnatal [3,4], and environmental - poor health conditions, lack of social/educational resources, mother's education, intrafamiliar stresses (violence, abuse, and mistreatment), children who have genetic syndromes, mental problems present in the mother or caregiver, inadequate practices of care and education [3,4].

Identifying risk factors for language alterations within a previously defined context, such as children who have a genetic syndrome, is apparently simpler than identifying specific alterations. Health professionals, in general, can identify language alterations more frequently when looking at more severe alterations in a child's development [5].

Thus, the first step towards the process of identification of children with communication alterations [6] is taken whenever a risk factor is recognized, indicating the need for an evaluation by the Speech and Language Pathologist and Audiologist so that a speech-language diagnosis is established, in addition to offering early intervention programs necessary to limit the negative effects of language

and speech disorders [2,7], for instance the impact in their academic life and social relationships [8].

In this sense, there is a Protocol for Identifying Risk Factors for Language and Speech Alterations - PIFRAL, which allows identification of risk factors related to children and their parents associated to speech-language alterations for hearing and language [9].

The development of checklists is also necessary. They can be lists of items in form of questions or actions to be taken [10], making screening fast and efficient, specifically questions related to language development, applied by professionals who are not necessarily specialists in the field. Also, considering child development milestones is a differential so that professionals from several areas can use the same instrument, with a wider view about language development in children. Even though, this application needs to be thorough, careful, and monitored when it is not done by a Speech, Language Pathologist and Audiologist.

Thus, the Speech and Language Pathologist and Audiologist, holder of knowledge about language development and its alterations, becomes responsible for developing activities of promotion/protection of health and educational consultations/orientations to different professionals, including the elaboration of instruments of this nature.

Therefore, the objective was to develop an instrument (checklist) for early identification of children at risk for language alterations or that show signs of alterations.

Method

In order to elaborate the checklist, the process was divided in the following stages, considering Stufflebeam's proposal (2000) [11] (Figure 1).
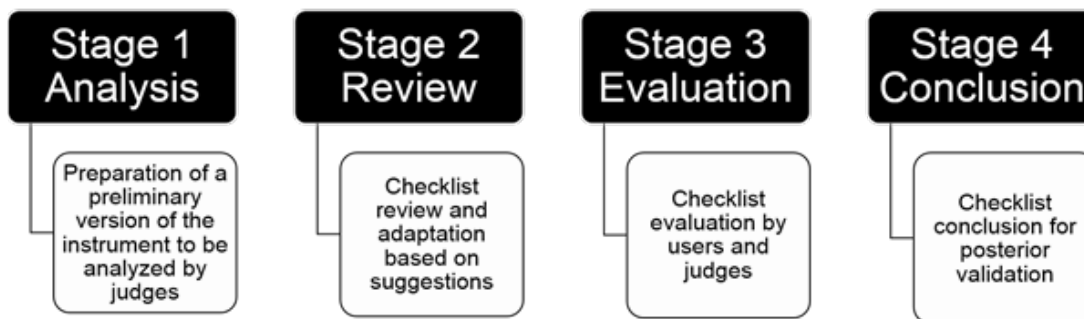
Figure 1. Stages in checklist development (proposal by Stufflebeam, 2000) [11].

Stage 1 - Analysis

Preparation of the previous version: a literature review was done so that risk factors for language alterations in the Brazilian population could be collected, in addition to considering the researcher's clinical and scientific experience. This way, the aim was to elaborate an instrument that could contemplate not only cases of children who did not present manifestations of language alterations but that comprised risk factors (aspects related to risk factors), but also those that presented signs of alteration (major milestones in the linguistic development).

Selection of judges: their education, qualification, and their availability were considered based on the guidelines proposed in the literature[12,13]. Through the access to the Lattes Platform of the National Council for Scientific and Technological Development (CNPq), 12 Speech, Language Pathologists and Audiologists with proven clinical experience in the Language field and research about the topic and/or about building questionnaires and scales were invited to participate in this study.

Analysis form: For the participants to analyze the previous checklist, a specific online form was created - based on the literature[14-16], and a 30-day deadline was given for completion. The five questions were yes/no questions and the participants could justify their answers and give suggestions, since their opinions were used as basis for stage 2.

Stage 2 - Review

The answers received within the deadline were tabulated and analyzed individually by the researcher, contributing to the restructuring of the checklist.

Stage 3 - Evaluation

After 10 days of having received and analyzed all the answers from the Speech, Language Pathologists and Audiologists, a restructured checklist was sent to them. During this stage, 30 users were also invited - 15 health professionals and 15 education professionals - chosen randomly to participate in the evaluation of the checklist, following these criteria: meets minimum requirements of relevance, comprehensiveness, clarity, applicability to the entire population intended and ease of use [14-16]. The replies received within the 30-day deadline that were completed adequately were tabulated and analyzed by the researcher.

Stage 4 - Conclusion

With the results from this evaluation, the checklist was formatted and finalized and will be validated on a later study.

Data analysis

Data was analyzed via descriptive statistics and the McNemar test, adopting the significance level of 5% ($p<0.05$) for the comparison of the evaluation of preliminary and reformulated versions by the Speech, Language Pathologists and Audiologists.

Results

The checklist developed in this study was named *"Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder– ICCCRELD"*. The instrument was divided in two parts (APPENDIX 1): the first one considered the aspects related to the presence of risk factors

(STEPS 1 and 2) and the second, the major milestones for linguistic development (STEP 3).

In Step 1, eight Speech, Language Pathologists and Audiologists sent their responses within the deadline, which means their answers were considered. Most of the evaluators thought the instrument had clear information and adequate content related to the intended objective. However, some aspects regarding the way this content was presented, and the application of the instrument were highlighted. Some of the evaluators suggested that more detailed explanations be added regarding the application and use of terms and expressions that were less technical.

Most of the evaluators questioned the scoring system and the interpretation of the results obtained through the checklist. However, it is important to highlight that these aspects will only be established by the validation process of the instrument, through longitudinal future studies of practical application. Consequently, the relationship between the number of risk factors present and the levels and degrees of risk can be established.

Another item questioned was some missing risk factors - in part 1 of the checklist - which are commonly identified in speech-language clinical practice, such as occurrence of constant colds or frequent infections of the upper airways. It is emphasized that the items reported in the risk factors were gathered after the revision of national literature and that this aspect can be found in the item "auditory alterations".

Based on the analysis of the responses received, the checklist was reformulated (Stage 2) and a user guide was added. Some additional information was added in part 1, such as prematurity, very low birth weight, genetic syndrome, positive family history, and the mother's level of education. Also, scoring related to the degree and levels of risk was added.

After reformulation, the same Speech, Language Pathologists and Audiologists analyzed ICCCRELD again (Stage 3). Thus, the five questions before and after Stage 2 were compared using inductive statistics, as seen in Table 1. No statistically significant difference was found considering the first and second versions of the instrument (Table 1), even though in the qualitative manner, a higher satisfaction rate from the judges was observed.

Table 1. Comparison between the evaluation of preliminary and reformulated versions by the Speech, Language Therapists and Audiologists and "p" value.

Questions	Frequency of answers		p value
	Preliminary version	Reformulated version	
Does the instrument have clear information about how it should be applied?	Yes: 5 No: 3	Yes: 8 No: 0	0.248
Is the content of the instrument pertinent and applicable to what it is intended?	Yes: 7 Partially: 1 No: 0	Yes: 7 Partially: 1 No: 0	1.000
After training, could the instrument be used by a Community Health Agent?	Yes: 4 No: 4	Yes: 8 No: 0	0.134
After training, could the instrument be used by Teachers?	Yes: 4 No: 4	Yes: 8 No: 0	0.134
Is the instrument relevant to the speech-language clinical practice?	Yes: 8 No: 0	Yes: 8 No: 0	1.000

Legend: Statistical test - McNemar, significance level 5% (p<0.05).

Still in Stage 3, seventeen professionals evaluated the reformulated version of the checklist, out of which 70% were teachers, 17.6% were doctors, and 11.8% were nurses. The answers are listed in Table 2. Fifteen professionals (88.3%) considered the instrument pertinent. Regarding comprehensiveness, fourteen (82.4%) professionals mentioned that the checklist could be used in different levels of health promotion and by different professionals, with the possibility of also being used in education. Regarding the user guide produced after Speech, Language Pathologists and Audiologists' suggestion, 88.3% of the users reported the document expresses clearly how the instrument should be used. Fifteen professionals mentioned that the checklist can be used both for children who present risk factors in their history, and for children who already present alterations.

Table 2. Characterization of user responses for each question posed.

Questions	Answers			
	Yes	Maybe	I don't know	Did not answer
Is the instrument pertinent?	15	2	-	-
Regarding comprehensiveness, can the instrument be widely used? In other words, it can be used in different levels in health and by different professionals. Can it be used in education settings?	14	2	-	1
Does the user guide clearly state how the instrument should be used?	15	-	-	2
Is the content of the instrument clear?	16	-	-	1
Can the instrument be used in case of children with risk factors and who already show evidence of alterations?	15	-	1	1

Therefore, the instrument - "Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder" was finalized and edited (Appendix 1).

Discussion

Knowing that there are few studies that associate risk factors and language development available to health professionals[17], building an instrument to assess risk factors and linguistic development milestones has become important, searching to optimize the child's access to a Speech, Language Pathologist and Audiologist, preventing secondary and deep alterations in the child's development.

Literature suggests that children who present one or more risk factors - that had statistical significance in their study - must have periodical follow up regarding their communication development and, if necessary, be referred to early intervention [9]. Here, the criterion adopted on the ICCCRELD checklist item "risk level" is justified. Some well-established instruments in the evaluation of children with developmental alterations, including language, are: Age and Stage (ASQ) [18],

Bayley Scale of Infant Development (Bayley II e III) [19], Early language Milestone Scale (ELM) [20], and the Denver II [21]; however, these did not evidence the identification of risk factors in an associated manner, which is a differential in the proposed instrument.

In Stage 1, the number of evaluators and their qualifications were based considering the characteristics of the instrument, the education, qualification, experience, and their availability[12,13]. The inclusion of laymen who are potentially related to the population of this study is indicated in future studies. The inclusion of laymen would ensure the adaptation of sentences and technical terms that are not clear[22]. In this stage, most of the Speech and Language Therapists evaluated the preliminary version positively, suggesting the inclusion of more detailed explanations regarding how it should be applied and the use of less technical terms and expressions.

After the reformulation of the checklist (Stage 2) with the inclusion of the user guide and adaptation of some technical terms, most of the evaluators judged the checklist pertinent (Stage 3), comprehensive, clear, and relevant (Table 2). Thus, the reformulation and evaluation are considered

fundamental for the prioritization of the overall comprehension of the instrument, respecting the specificities of the objective, as well as the specificities of the target population that will handle it[18].

Still in Stage 3, it was possible to observe that the Speech and Language Therapists showed higher satisfaction in the reevaluation, even if quantitatively no statistical difference was found via inductive statistics (Table 1). It is essential to point out the importance of the evaluation being done by judges who are expert in the subject[12,13,23], in this case, Speech, Language Pathologists and Audiologists, since it is a science that studies language development and its alterations.

The checklist developed was named *"Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder* – ICCCRELD*"* (Stage 4, Appendix 1) and it intends to be, above all, a resource for adequate orientation about children who present risk factors in their history or clinical signs/indications (already present) of language alterations and must be validated in a later study. It is important to highlight the need for future studies considering a sample that represents the target population of children, in different age groups expected to have certain linguistic behaviors, being the instrument applied by Speech, Language Pathologists and Audiologists, and especially by those who are not, to verify its efficacy in the usability of the instrument.

The next stage of this study will be ICCCRELD content validation, which will allow for parameters to be established that will conform each case in its own respective degree of risk, according to some statistical criteria applied for this purpose. Therefore, it will be possible to define the relationships between the number of risk factors present in the child's history and the language alteration presented. Consequently, the continuity of the study is of utmost importance for the applicability of the clinical instrument proposed here.

Conclusion

The "Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder – ICCCRELD" developed was considered a pertinent, comprehensive, clear, and relevant instrument.

References

1. Prelock PA, Hutchins T, Glascoe FP. Speech-Language Impairment: How to Identify the Most Common and Least Diagnosed Disability of Childhood. Medscape J Med. 2008; 6(10): 136-80.

2. Harrison LJ, McLeod S. Risk and protective factors associated with speech and language impairment in a nationally representative sample of 4- to 5-year-old children. J Speech Lang Hear Res. 2010; 53(2): 508-29.

3. Graminha SSVG, Martins MA. O. Condições adversas na vida de crianças com atraso no desenvolvimento. Medicina (Ribeirão Preto). 1997; 30(2): 259-67.

4. Bradley H, Corwyn RF. Socioeconomic status and child development. Annu Rev Psychol. 2002; 53: 371-99.

5. Figueiras AC, Souza ICN, Rios VG, Benguigui Y. Manual para vigilância do desenvolvimento infantil no contexto da AIDPI. Washington, 2005. Disponível em: < https://www.nescon.medicina.ufmg.br/biblioteca/imagem/1711.pdf>. Acesso em: 12 set. 2017.

6. Maia JMD, Williams LCA. Fatores de risco e fatores de proteção ao desenvolvimento infantil: uma revisão da área. Temas psicol. 2006; 13(2): 91-103.

7. Gibbard D, Coglan L, MacDonald J. Cost-effectiveness analysis of current practice and parent intervention for children under 3 years presenting with expressive language delay. Int J Lang Commun Disord. 2004; 39(2): 229-44.

8. Reilly S, Wake M, Ukoumunne OC, Bavin E, Prior M, Cini E, et al. Predicting language outcomes at 4 years of age: findings from early language in Victoria study. Pediatrics. 2010; 126(6): e1530-7.

9. Silva GMD, Couto MIV, Molini-Alvejonas DR. Identificação dos fatores de risco em crianças com alteração fonoaudiológica: estudo piloto. CoDAS. 2013; 25(5): 456-62.

10. Forbat L, Chapman M, Lovell C, Liu WM, Johnston N. Improving specialist palliative care in residential care for older people: a checklist to guide practice. BMJ Support Palliat Care. 2017.

11. Stufflebeam DL. The CIPP model for evaluation. In: Stufflebeam DL, Madaus GF, Kellaghan T. Evaluation models (2nd ed.). Boston: Kluwer Academic Publishers. cap 16. 2000.

12. Alexandre NMC, Coluci MZO. Validade de conteúdo nos processos de construção e adaptação de instrumentos de medidas. Ciênc Saúde Coletiva. 2011; 16(7): 3061-8.

13. Coluci MZO, Alexandre NMC, Milan D. Construção de instrumentos de medida na área da saúde. Ciênc Saúde Coletiva. 2015; 20(3): 925-36.

14. Pulga MJ, Spinardi-Panes AC, Lopes-Herrera SA, Maximino LP. Evaluating a speech-language pathology technology. Telemed J E Health. 2014 Mar; 20(3): 269-71.

15. Campos K, Maximino LP, Oliveira JRM, Pardo-Fanton CS, Blasca WQ. Análise de material informativo em DVD na adaptação de idosos usuários de aparelho de amplificação sonora individual. Audiol, Commun Res. 2014; 19: 367-74.

16. Fanton CSP. Teleducação: criação e verificação de um material educacional na língua inglesa e portuguesa em fonoaudiologia. 2013. Dissertação (Mestrado) – Faculdade de Odontologia de Bauru, Bauru, 2013. Disponível em: <http://www.teses.usp.br/teses/disponiveis/25/25143/tde-30012014-093344/pt-br.php>. Acesso em: 13 set 2017.

17. Gurgel LG, Vidor DCGM, Joly MCRA, Reppold CT. Fatores de risco para o desenvolvimento adequado da linguagem oral em crianças: uma revisão sistemática da literatura. CoDAS. 2014; 26(5): 350-6.

18. Filgueiras A, Pires P, Maissonette S, Landeira-Fernandez J. Psychometric properties of the Brazilian-adapted version of the Ages and Stages Questionnaire in public child daycare centers. Early Hum Dev. 2013; 89(8): 561-576.

19. Bayley N. Bayley scales of infant and toddler development. 3rd ed. San Antonio (TX): Pearson; 2006.

20. Coplan J, Gleason JR, Ryan R, Burke MG, Williams ML. Validation of an Early Language Milestone Scale in a High-Risk Population. Pediatrics. nov 1982; 70 (5): 677-83.

21. Frankenburg WK, Dodds J, Archer P, Shapiro H, Bresnick B. Denver II: training manual. 2nd ed. Denver(CO): Denver Developmental Materials; 1992.

22. Fernandes BSM, Reis IA, Pagano AS, Cecilio SG, Torres HC. Construção, validação e adequação cultural do protocolo COMPASSO: Adesão ao autocuidado em diabetes. Acta Paul Enferm. 2016; 29(4): 421-9.

23. Zanin LE, Melo DH, Carneiro MSM, Gomes JM, Pinto VPT, Silva LWB, et al. Proposta e validação de um protocolo de triagem para identificar as manifestações fonoaudiológicas na hanseníase. Rev Bras Promoç Saúde. 2016; 29(4): 564-73.

ARTICLES

Ana Carulina Spinardi Panes, Camila de Castro Corrêa, Luciana Paula Maximino

APPENDIX 1

ICCCRELD - "Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder".

USER GUIDE
Identification Checklist for Children with Clinical Risk or Evidence of Language Disorder - ICCCRELD was developed for early identification of alterations in language development and can be applied quickly in (so many) minutes. The instrument does not replace a speech-language evaluation. The Speech and Language Therapist is a professional legally qualified to diagnose and treat children with speech alterations. Referral for a Speech and Language Pathologist allows for early intervention in cases where there is an established risk (presumed) for language alterations.

Step 1 -Completing the first table related to risk factors.
The professional must check, on the right column, the risk factor PRESENT in the child's history. This information can be obtained via an interview with those responsible for the child or collected from the existing patient records, or another document that contains this information (vaccination records or similar document).

Step 2 - Identification of the risk degree and level
After identifying the risk factors in the child's history, the professional will need to locate the line corresponding to the number of factors found on the table, thus identifying the risk degree and level.
When there is no risk to the linguistic development, the professional will note the result in the file and will archive with the patient's records.
For children identified as 'LOW RISK', the professional must go to the next step (STEP 3) - verify the child's linguistic development considering developmental milestones.
Children at 'RISK' for language alterations must be referred for speech-language evaluation.

STEP 3 - Verification of linguistic development
The professional must locate in the first column (age group) the line corresponding to the current chronological age of the child and mark in the last column the behaviors that are PRESENT (YES) AND ABSENT (NO).
In the **ABSENCE** of one or more behaviors, the child must be referred for speech-language evaluation.

STEP 1 - Check the line corresponding to the risk factor PRESENT in the child's history.

Type of risk	Risk factors	
Biological	Prematurity (<37 weeks)	
	Very low birth weight (≤1.500 grams)	
	Prematurity + low weight	
	Genetic syndrome (congenital malformations)	
	Hearing alterations	
Environmental	Positive family history (some relative with speech or language alteration)	
	Low maternal education level	
	Little verbal interaction with the child	

STEP 2 - Identify the degree and level of risk considering the risk factors identified previously.

Identified risk factors	DEGREE	RISK LEVELS	CONSEQUENCES
0	Free	No risk	No consequences
1 to 2	Alert	Low risk	Follow the development / verify the linguistic development*
>2	Risk	Risk	Refer to speech-language evaluation

*fill out the table below (linguistic behavior)

STEP 3 - Mark the corresponding column if the child PRESENTS or NOT the linguistic behavior expected for their age group. Verify only the items that correspond to the age group in which the child is at the moment of the application of the checklist. In the ABSENCE of one or more behaviors, the child must be referred for speech-language evaluation.

Age group	Expected linguistic behavior	YES	NO
0 - 3 m	Vocalizes and/or smiles showing pleasure or satisfaction		
	Vocalizations vary as to modulation/tone of voice		
	Reacts (smiling or making sounds) when someone speaks to him/her		
4 - 6 m	Produces sounds showing pleasure or satisfaction		
	Produces sounds like those of speech (p, m, b)		
	Laughs		
	Babbles (plays with their voice)		
7 m - 1 a	Imitates sounds made by other people		
	Produces sequences of different syllables (dada...)		
	Understands familiar words		
	Communicates through gestures (points, signals)		
	Speaks isolated words		
1 - 2 y	Points to pictures/objects when named (Where's the dog?)		
	Produces simple sentences		
	Ask for things using one or more words		
2 - 3 y	Produces sentences with more than 2 words		
	Speaks in a way that is understood by the family		
	Tells stories with the help of adults		
	Makes use of oral language (speech) to ask for, inform, ask questions, and interact		
3 - 4 y	Answers to simple questions with: What? Who? Where? Why?		
	Uses sentences with 4 or more words		
	Can be understood most of the times when s/he speaks		
	Tells short stories		
4 - 5 y	Makes complete sentences		
	Uses grammar like an adult		
	Speaks correctly		
	Tells stories		