

Characterization of the type of maternal communication used during mother-child interaction

Caracterização do tipo de comunicação materna utilizada durante interação mãe-criança

Caracterización del tipo de comunicación materna utilizada durante la interacción madre-hijo

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Abstract

Introduction: The mother can be defined as a co-author in her baby's language development. For this, maternal speech has its own characteristics expressed through the communicative function in the different moments of interaction with the child. **Objective:** To identify and analyze forms of communication used by the mother in the process of interacting with the child. **Methodology:** An integrative literature review was performed by the selection of scientific articles published between 2011 and 2020, on SciELO and LILACS databases, that passed through relevance tests. The data analysis was: performed by the identification of the article, the main techniques of data collecting applied on studies, and the communication ways used by mothers to communicate with their babies, being divided by verbal, nonverbal, and motherese. **Results:** Through oral communication (91%), the mother uses communicative functions in the interaction moment, resorting mainly to questions (80%), nominations (50%), meaning/describing an object (40%), and affirmation (30%). As for maternal utterance, it has been found mostly the use of compliments (30%) and as a way to direct the attention (50%). In the nonverbal communication (73%), it was highlighted the performance of gestures like pointing (63%), showing (38%) and representative (38%), and at the facial expressions, the prevalence was the use of smiles (38%) and looks (38%). The use of motherese was observed in 45% of the articles. **Conclusion:**

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Authors' contributions:

ACB: Main researcher, data collection and analysis; article writing and review.

BSB: Researcher adviser, data collection and analysis; article guidance and review.

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Received: 11/23/2021

Accepted: 10/11/2022

It is concluded that by the interaction process, according to what was observed on results, the mother contributes to her child's communicative-linguistic development, because she uses different ways to communicate with the child, mainly verbal communication.

Keywords: Mother-Child Relations; Language Development; Communication.

Resumo

Introdução: A mãe pode ser definida como coautora no desenvolvimento da linguagem de seu bebê. Para isso, a fala materna apresenta características próprias expressas através da função comunicativa nos diversos momentos de interação com a criança. **Objetivo:** identificar e analisar formas de comunicação utilizadas pela mãe no processo de interação com a criança. **Métodos:** Realizou-se uma revisão integrativa de literatura, selecionando artigos científicos publicados entre 2011 e 2020, nas bases de dados SciELO e LILACS, que passaram por teste de relevância. A análise de dados foi: realizar a identificação dos artigos, das principais técnicas de coleta de dados aplicadas nos estudos e das formas de comunicação utilizadas pelas mães para comunicar-se com seu bebê, sendo divididas em comunicação verbal, não verbal e *manhês*. **Resultados:** Através da comunicação oral (91%), a mãe utiliza das funções comunicativas no momento de interação recorrendo principalmente a perguntas (80%), nomeações (50%), significado/descrever objeto (40%) e afirmações (30%). Quanto aos enunciados maternos, encontrou-se em sua maioria o emprego de elogios (30%) e como forma de direcionar a atenção (50%). Na comunicação não-verbal (73%), destacou-se a realização de gestos como apontar (63%), mostrar (38%) e representativos (38%), e nas expressões faciais, a prevalência foi pelo uso de sorrisos (38%) e olhares (38%). Observou-se o uso do *manhês* em 45% dos artigos. **Conclusão:** Conclui-se que por meio do processo de interação, de acordo com o observado nos resultados, a mãe contribuiu para o desenvolvimento comunicativo-linguístico de seu filho, pois utiliza de diferentes meios para se comunicar com ele, principalmente o da comunicação verbal.

Palavras-chave: Relações Mãe-Filho; Desenvolvimento da Linguagem; Comunicação.

Resumen

Introducción: La madre puede definirse como coautora en el desarrollo del lenguaje de su bebé. Para eso, el habla materna tiene características propias expresadas a través de la función comunicativa en los diferentes momentos de interacción con el niño. **Objetivo:** identificar y analizar las formas de comunicación utilizadas por la madre en el proceso de interacción con el niño. **Métodos:** Se realizó una revisión integradora de la literatura, por la selección de artículos científicos publicados entre 2011 y 2020, en las bases de datos SciELO y LILACS, los cuales pasaron por una prueba de relevancia. El análisis de los datos consistió en identificar los artículos, las principales técnicas de recolección de datos aplicadas en los estudios y las formas de comunicación utilizadas por las madres para comunicarse con su bebé, las cuales se dividieron en comunicación verbal, no verbal y maternés. **Resultados:** A través de la comunicación oral (91%), la madre utiliza las funciones comunicativas en el momento de la interacción, utilizando principalmente preguntas (80%), nominaciones (50%), significado/objeto descriptivo (40%) y declaraciones (30%). Ya las expresiones maternas, encontramos principalmente el uso de elogios (30%) y como unamaneira de llamar la atención (50%). En la comunicación no verbal (73%) se destacaron los gestos como apuntar (63%), mostrar (38%) y representativo (38%), y en las expresiones faciales, la prevalencia fue el uso de sonrisas (38%) y miradas (38%). El uso de maternés se observó en el 45% de los artículos. **Conclusión:** Se concluye que mediante el proceso de interacción, de acuerdo a lo observado en los resultados, la madre contribuye al desarrollo comunicativo-lingüístico de su hijo, ya que utiliza diferentes medios para comunicarse con ella, especialmente la comunicación verbal.

Palabras clave: Relaciones Madre-Hijo; Desarrollo del Lenguaje; Comunicación.

Introduction

There are several internal, anatomo-physiological, and external, socio-environmental factors involved in the development of children's communication and language. In this sense, children receive numerous auditory, visual, tactile and linguistic stimuli, especially in the first years of life, through their relationship with the environment and the people involved.¹⁻³

In this process, although each individual has individual characteristics and paces of development, environments that provide greater experiences facilitate the stimulation of language by providing communicative initiatives. Therefore, adults play an important role of interaction and stimulation with the baby. This reasoning is in line with reports by Vygotsky (1962/1992)⁴, who reports that the baby is in constant interaction with adults from birth, and that adults not only ensure their survival, but also mediate their relationship with the world. Adults seek to incorporate children into their culture, attributing meaning to behaviors and cultural objects that have been formed throughout history⁴.

Given these specifically human characteristics, it can be said that it is impossible to assess the development of the subject as a predictable, universal, linear or gradual process. According to the author⁴, development is closely related to the sociocultural context in which the person is inserted and is dynamically processed, through ruptures and imbalances that cause continuous reorganizations on the part of the individual⁴.

In this perspective, maternal behavior is highlighted through dyad interaction, since the mother is the person who spends more time with the child soon after birth.^{2,3}

When caring for her child, the mother uses responsiveness as a way of understanding each cry and facial expressions, which will evolve into social smiles, gestures and vocalizations produced by the child, being attentive to interactive actions and seeking to respond to them. It should be noted that interaction using nonverbal communication is essential before the beginning of infant speech, being the basis for the development of the baby's receptive and expressive language^{2,3}

In this context, *motherese* is among the communicative functions performed by the mother, that is, the reason for her intention to communicate with the child.⁵ *Motherese* refers to a style of maternal

speech addressed to the baby, which includes its own characteristics with wide melodic variations, slower emissions, predominantly short and concrete phrases and words, among others.¹ As a result of *motherese*, the mother adjusts her language to her child's level of cognitive and linguistic development, influencing the development of prosodic aspects, exchanges and social references.³

The transmission of language culture to the child is provided from the dyad interaction, which is performed through routine actions or through joint games, in addition to helping the child's emotional and sociocognitive development and stimulating dialogic, grammatical aspects, pragmatics and vocabulary.¹⁻³

Since the child is considered an active agent in the construction of language from the mother's speech, the mother can be defined as a co-author in the communicative-linguistic development of her baby.⁷ In turn, the mother exerts linguistic input throughout her utterances, making it possible to observe different styles in her communicative intentions in which requests, feedbacks, information and maternal directives are highlighted.⁸

Therefore, this study aimed to identify and investigate forms of communication used by the mother in the process of interacting with the child.

Method

This is an integrative review of literature of a quantitative and qualitative nature that selected scientific articles published in full, between 2011 and 2020, aiming to identify the means of communication used by the mother to interact with her child.

The researchers searched for studies in the Scientific Electronic Library Online (SciELO) and *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) databases, using the following Health Sciences Descriptors (DeCS) in Portuguese, English and Spanish: "Interação Mãe-Criança", "Comunicação", "Linguagem Infantil", "Desenvolvimento da Linguagem", "Desenvolvimento Infantil", "Mother-Child Relations", "Communication", "Child Language", "Language Development", "Child Development", "Relaciones Madre-Hijo", "Comunicación", "Lenguaje Infantil", "Desarrollo del Lenguaje" and "Desarrollo Infantil". The descriptors "Interação Mãe-Criança", "Mother-Child Relations" and "Relaciones Madre-Hijo" were the main ones, being combined with

the other descriptors, according to their language, using the Boolean operator “and”.

The following inclusion criteria were established: scientific articles published in full in the chosen databases; in Portuguese, English or Spanish; articles published between 2011 and 2020; and studies that address the mother’s forms of communication with her child.

On the other hand, the exclusion criteria were the following: scientific articles not available in full; publications that were not in Portuguese, English or Spanish; studies outside the stipulated period of analysis; articles that were not related to the topic addressed, that is, the relationship of the mother; literature review articles and case studies; and studies in which the participants had issues, such as prematurity, alterations, developmental delay and syndromes.

Search Strategy

The search in the chosen databases began by combining the DeCS with the use of the Boolean operator “and”, which found 2,362 results, 244 in SciELO and 2,118 in LILACS.

Based on the number of publications found, a new search was carried out in the databases with the same combinations of DeCS, but applying the “year of publication” filter, which resulted in only articles that met the inclusion criteria of having been published between 2011 and 2020. After this filter, a total of 1,192 publications were obtained, being 161 in the SciELO database and 1,031 in the LILACS.

After reading the titles and eliminating the replicated articles in the databases, a total of 106 studies were obtained, of which 24 were in the SciELO database and 76 in the LILACS. Then, the researchers verified the duplicate publications in both databases, resulting in 86 articles for reading the abstracts.

Following the inclusion and exclusion criteria, 50 articles were eliminated, as 40 did not correspond to the selected topic, 1 did not have the complete scientific article, 6 were literature reviews and 3 were considered studies and case reports. As a result, 36 articles remained for full reading.

After reading the articles, the researchers considered that 25 of the studies did not meet the criteria present in the Relevance Test, which resulted

in the final sample of 11 articles. The analysis of the articles aimed at meeting the inclusion criteria followed the Relevance Test is shown in Table 1, while the flowchart of the steps for selecting the articles is shown in Figure 1.

Data analysis

A descriptive analysis was performed after the complete reading and selection of the final articles, which found the following information, which were divided into tables: identification of articles, main data collection techniques applied in the studies and the forms of communication used by the mothers to communicate with their baby at the time of interaction.

1. Identification of articles: in order to identify the final articles selected, the researchers described the article’s title, number of studies found and publication data (author(s), year and journal).
2. Main data collection techniques: the following techniques were identified as the main techniques used as a method in the publications, identifying the number and percentage of articles in which they were used: observation of free mother-child interaction; observation of play/activity between the dyad; and/or through an interview with the guardian to understand the interaction and communication with her child.
3. Forms of communication used by mothers: the forms of communication used by mothers described in the studies were analyzed according to the type of communication, presented and counted through the number and percentage of articles that used them. The following were considered as communicative means:
 - Verbal communication – in which the communicative act included the emission of phonemes that make up the language. Its analysis was divided into: communicative functions developed by mothers, responsible for expressing the interlocutor’s communicative intentions, such as affirming, asking, naming or explaining, and maternal utterances, characterized by manifesting a communicative function, being a complement applied in the interaction process.⁴

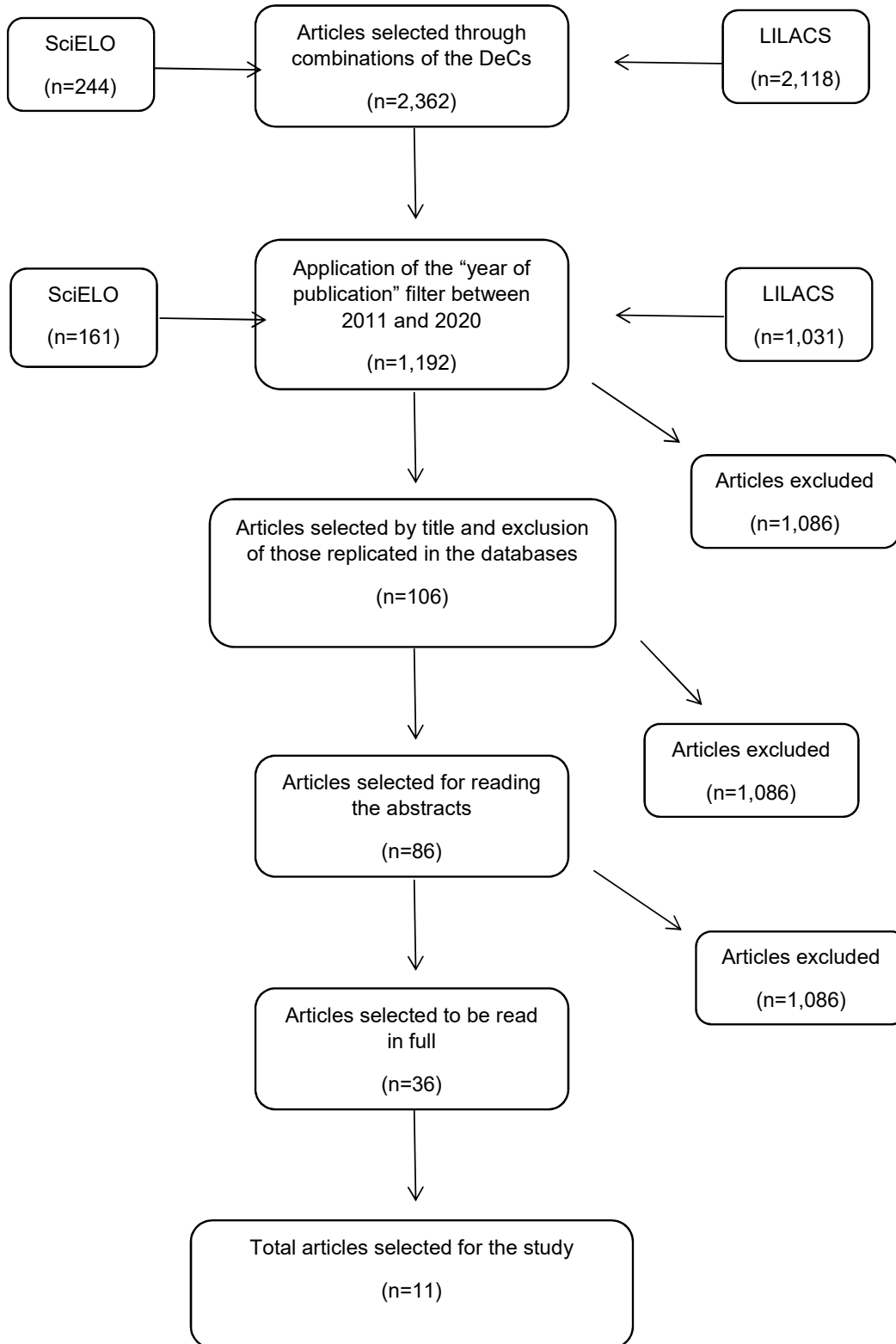


Figure 1. Flowchart of the article selection steps

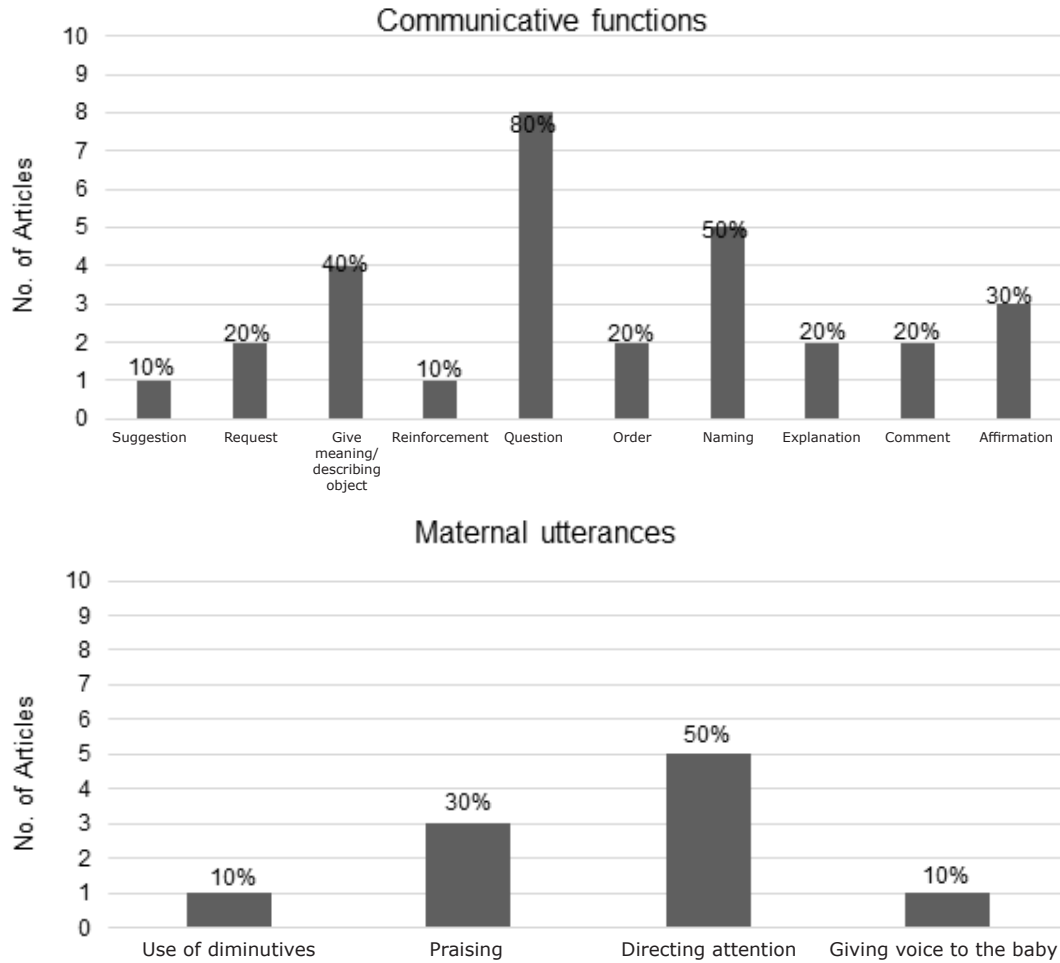


Figure 2. Verbal forms of communication most used by mothers to communicate with their children

- Nonverbal communication – composed of movements with the face and body as a communicative act.⁴ Its segmentation was defined by: gestures (to point and show and representative gestures, in which they have a meaning that is independent of the inserted context)⁸ and facial expressions (approval/reprimand, emotional states, gaze and smile).
The use of *motherese* was observed in qualitative terms, in which the characteristics of maternal speech were analyzed in the articles found.

Results

After filtering the studies, eleven articles were selected related to the forms of interaction

between mother-child and the means of communication between the dyad. Table 1 shows the identification of the articles selected for this study (Chart 1).

Chart 1. Identification of articles selected for review

	Article Title	Author(s)	Year	Journal
1	Estudo comparativo acerca do comportamento e comunicação materna e paterna em atividade conjunta com os seus filhos de idade pré-escolar ⁹	Fernandes I, Barroso I, Ferreira A, Branco M, Ladeiras A, Veloso C, et al.	2018	Análise Psicológica
2	Habilidades sociocomunicativas de bebês no primeiro ano de vida: um estudo longitudinal ¹⁰	Aquino FSB, Salomão NMR.	2011	Paidéia (Ribeirão Preto)
3	Habilidades sociocomunicativas e de atenção compartilhada em bebês típicos da primeira infância ¹¹	Machado AC, Bello SF.	2015	Rev. Psicopedag.
4	Intencionalidade comunicativa e atenção conjunta: uma análise em contextos interativos mãe-bebê ¹²	Aquino FSB, Salomão NMR.	2011	Psicol. Reflex.
5	Interação e linguagem dirigida a crianças de quinze meses ¹³	Fuertes M, Castro S, Alves MJ, Faria A, Osório T, Souza O.	2017	Psicologia USP
6	Interação mãe-bebê: um processo de descobertas ¹⁴	Arpini DM, Zanatta E, Marchesan RQ, Faraj SP, Ledur CS, Mozzaquatro CO.	2015	Interação Psicol.
7	O impacto da responsividade materna aos oito meses da criança sobre as práticas de socialização maternas aos 18 meses ¹⁵	Alvarenga P, Malhado SCB, Lins TCS.	2014	Estud. Psicol. (Natal)
8	Os gestos na comunicação mãe-bebê: um estudo longitudinal ¹⁶	Camargo JF, Salomão NMR, Aquino FSB, Nunes LL.	2015	Estud. Pesqui. Psicol.
9	Percepções maternas acerca das habilidades sociocomunicativas de bebês ¹⁷	Aquino FSB, Salomão NMR.	2011	Psicol. Cienc. Prof.
10	Método de codificação e categorias de conteúdo do discurso materno dirigido a bebês ¹⁸	Santos AK, Santos LS, Bussab VSR.	2019	Psic.: Teor. e Pesq.
11	O manhês e suas implicações para a constituição do sujeito na linguagem ¹⁹	Flores MR, Beltrami L, Souza APR.	2011	Distúrb. Comun.

In turn, Table 1 shows the main data collection techniques used in the analyzed publications, in order to understand the forms of mother-child interaction. The observation of the play/activity between the dyad was the most applied technique,

which can be observed in most studies, followed by the observation of the free interaction between the mother-child, observation of the free interaction of the dyad together with an interview and, finally, only an interview with the guardian (Table 1).

Table 1. Main data collection techniques used in the selected articles

Variables	No. of Articles	Percentage
Observation of free mother-child interaction	3	27%
Observation of play/activity between the dyad	5	45%
Observation of the free interaction of the dyad + Interview with the mother	2	18%
Interview with the mother	1	9%

Figure 3 shows that the mother addressed her child through verbal communication in most of the selected articles. As for the maternal communicative functions towards the child, according to the results, the mothers included in the studies asked questions more frequently, in addition to naming objects and actions present in the dyad's routine. In addition, other communicative functions were described following the decreasing number of studies, such as: giving meaning/describing objects, affirmation, comment, explanation, order, request, reinforcement and suggestion. In turn, the use of language to direct the child's attention was the most used maternal utterance, followed by the use of praise, giving voice to the baby and the use of diminutives (Figure 2).

More than half of the articles showed the use of nonverbal communication in the interaction process of mothers with their baby, as shown in Figure 2. The use of gestures was found in this type of communication, such as showing something, pointing to some object, representative and unspecified gestures, as well as facial expressions, being manifested through smile, look, transmission of emotional states, approval/reprimand of something and unspecified expressions (Figure 3).

The use of *motherese* by mothers was identified in a significant part of the studies. The use of *motherese* with prosodic variations was observed in Article 2 along with changes in maternal facial and verbal expressions directly reflecting the child's behavior. In turn, Article 10 shows that the use of *motherese* aimed to keep the child's attention focused on the guardian, as a way of directing their attention, as well as in the Article 6. However, in Article 6 this behavior was observed together with the practice of exchanging looks and stimulating language through expressions said by the mother, strengthening the bond between the dyad.

However, the observation of play/activity between dyads was the method most applied by the researchers in collecting data from the selected articles, as well as the majority use of communicative functions by the mothers, with utterances as a complement to the socialization intentions towards the child. In addition, the findings showed that the gesture of pointing was the most used by the guardians to communicate with the child in a nonverbal way, as well as the look and smile in communicative exchanges through facial expression. Finally, *motherese* was found in five of the eleven final articles, which proves to be a customary practice among mothers of preschool-aged children.

Chart 2. Relevance test for study selection

Questions	Yes	No
Is it an original scientific article in its entirety?		
Is the article in Portuguese, English or Spanish?		
Was the article published between 2011 and 2020?		
Is the type of study in the article not characterized as a literature review or a case study?		
Are study participants no older than 6 years of age or do they have issues such as prematurity, changes, developmental delay and syndromes?		
Does the publication address the forms of interaction between the dyad?		
Does the publication address the mother's means of communication with the child?		

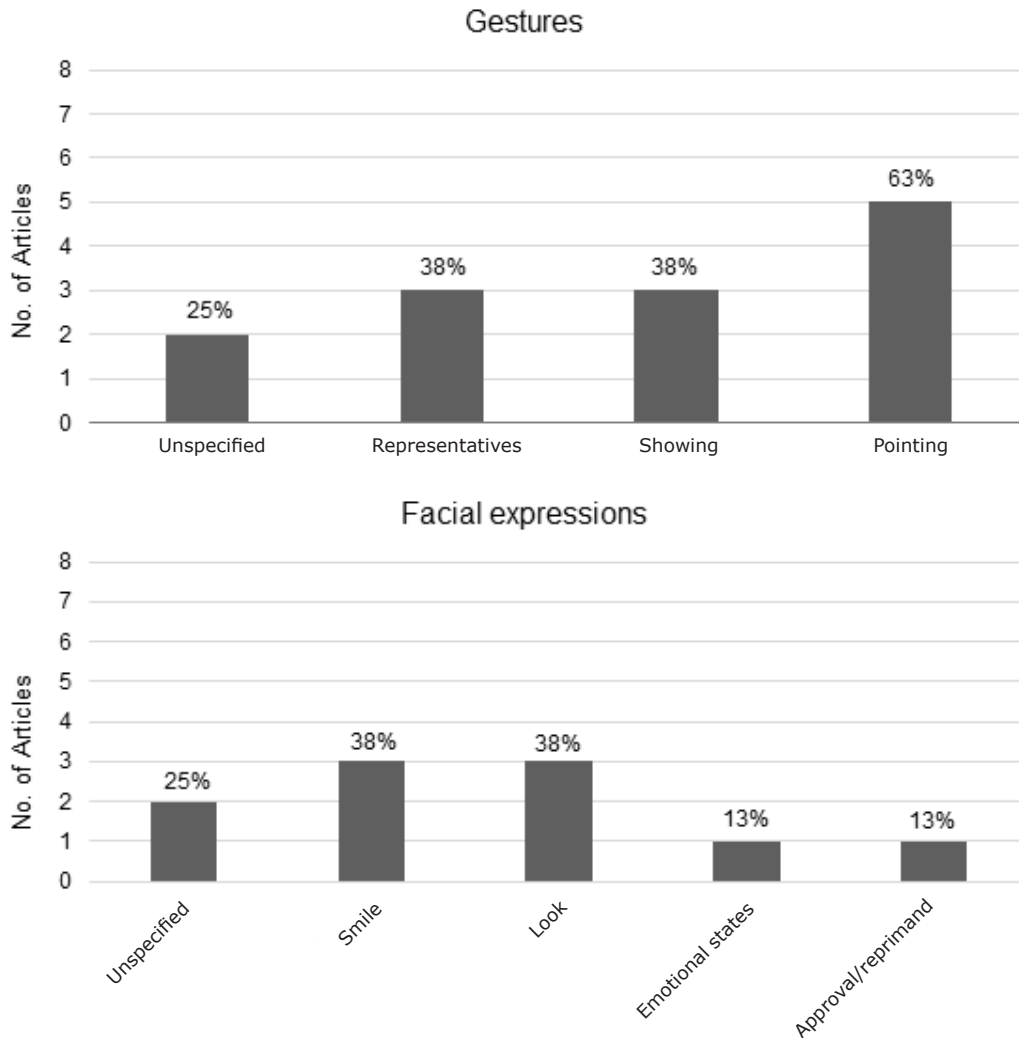


Figure 3. Nonverbal forms of communication most used by mothers to communicate with their children

Discussion

This study aimed to carry out an integrative literature review in order to identify and analyze studies focused on the forms of communication between mother-child in their interaction. Despite the relatively small number of articles found in the chosen databases, the findings proved to be relevant to meet the objective of the study.

The findings show that the mother shapes her speech according to the child's reactions from the mother's interaction and linguistic input in different

contexts, interpreting her behaviors and expressing them verbally and nonverbally.^{3,21} In this way, the mother is understood as a co-author in the development of language, since the child has an active role in this transmission.⁷

As the mother is the caregiver who spends more time with the child soon after birth, her forms and moments of interaction are expanded through daily care.³ This can be reinforced by the choice of observation of free interaction between mother and child as a form of data analysis in the articles selected for study.

The researchers' preference for observing play/activity among the dyad as a form of data collection, according to the analyzed articles, shows that language is inserted and explored through play activities, in addition to stimulating sociocognitive and emotional aspects. During this interaction, the mother introduces the child to the game, experiencing degrees of difficulty, thus developing different communicative contexts, symbolism, speech and child socialization, as well as favoring the mother-baby relationship.⁶

In this context, the participants used verbal communication to interact with their child in ten of the eleven final articles. According to authors, maternal speech transmits social communication to the baby spontaneously from the dyad interaction. In this way, the child is gradually inserted into the oral language culture, learning its grammatical structures through the maternal model.²¹ However, it is necessary to adapt the speech to the child's cognitive level, shaping the speech in short and simple sentences, in order to arouse interest and stimulate communicative intentions.²²

The results showed that maternal communicative functions have wide possibilities according to their motivation and relationship with the child. The researchers also found that the use of questions was the most used by mothers as a way of interacting with the baby compared to the use of affirmations. However, a study with dyads showed that mothers produce a greater amount of both interrogative and affirmative expressions during interaction with their children. This occurs mainly from the speeches or vocalizations produced by them, as well as their behaviors, dyad relationship and scenario of the environment in which they find themselves.²³

Regarding the use of naming and the act of describing objects, these may be related to maternal responsiveness, in which the child explores language, expands its vocabulary and meanings, based on maternal speeches present in the communicative and interactional context.⁵

It is necessary to be attentive to the construction of the speech so that the speech is understood and, as such, the mother makes adjustments in her speech to maintain joint attention, between her and the baby, at the time of communication and interaction.²³ This can be related to the fact that the mothers participating in the studies used their statements to direct the attention of their child. A study shows that caregivers of five-month-old

babies mainly use the phatic function in interactive moments, which means that they seek to draw and keep the child's attention.¹

Also in the analysis, the use of praise and the verbal behavior of giving voice to the same were found as utterances, which suggest the development of a greater bond with the baby through affective actions. According to the results of a survey, the use of praise and attribution of meaning through maternal speech to the behaviors, needs and wishes expressed by the baby can be understood as an emotional function on the part of the mother, based on her culture and beliefs.²¹

The use of non-verbal communication by the dyad stands out especially in the first year of the baby's life, when the child is in the pre-verbal phase.^{3,9} According to the results, gestures were mainly used to point something, followed by showing something to the child. This data is in line with the findings of a survey carried out with mothers and babies, including the age group from nine to 12 months, in which caregivers preferentially showed the gesture of showing something to the child during interactions.⁹

Data from the dyad interaction in the same study showed the importance of gestures, as well as facial expressions on the part of the mother (gaze direction, smiles), as precursors of vocabulary acquisition, essential to maintain episodes of joint attention, approve or fail some activity and experience the baby's communicative intentions.⁸ In addition, another study reported that looking and smiling are one of the first communicative acts used by the mother to interact with the newborn, varying the duration of the episodes, being longer during breastfeeding.²⁴

Regarding the use of *motherese*, which is characterized by the presence of suprasegmental traits in maternal speech and specific characteristics in their utterances, it is shown to be an important element to strengthen dyad interaction, since, mothers used it to direct the baby's attention. Authors describe *motherese* in a way that "the mother does not speak to the child, but with the child", that is, seeking their attention and inserting them in the interaction.²² As for language stimulation and development, data from a survey of twenty-one-month-old babies showed that they had a significant expansion of the lexicon when exposed to this maternal speech style compared to speech intended for adults.^{23,24} All these data are important contributions

to the monitoring of the language of typical and atypical children. Speech-language pathologists can use this information above to guide parents, guardians and educators on the importance of shared attention and the entire repertoire included in the interaction process (gestures, expressions, etc.) for the development of communication. Joint attention makes the child understand and develop intentional attitudes and perceive the reaction of his gestures in others.^{25,26} The variety of intentions used by adults in gestural communication can be a differential in vocabulary development.²⁶

The importance of the study should also be highlighted when reporting the frequency and number of articles that have been published in the databases related to mother-child communication. In addition, it is possible to understand the communicative means provided by the mother during the interaction with the child at different times, strengthening the dyad bond and promoting the development of children's language. Although this study focused on the observation of the mother's communication, mothering can be exercised by different people (and not just the biological mother) and in different family settings. Thus, it is suggested to carry out further studies focused on the child's relationship with different types of mothering.

As all the final articles selected are in Portuguese, with eight studies from Brazil and two from Portugal, it was not possible to compare different forms of communication between mother and baby in other languages. Thus, this finding shows the need to develop new research on the topic for future cross-referencing of data.

Conclusions

Given the essential role of maternal speech in the baby's communicative-linguistic development and that this stimulation is only possible through socialization, communication and interaction with the baby, the integrative literature review showed that the mother uses communicative functions and utterances to communicate with the child, using mainly questions, naming, statements, offering meaning and describing objects, most of the time seeking to direct her child's attention.

Gestures, facial expressions and *motherese* are an important form of interaction with the child, especially in the first months of life, reinforcing

the mother's role in the baby's language development process.

Despite the relevance of the topic, there were a small number of articles found. Bearing in mind the importance of the topic, further research is suggested on the forms of mother-child interaction, focusing on the means of communication used by the mother to communicate with the child. Longitudinal studies are needed to compare and progress the communicative intentions of caregivers, as well as methodological improvement for more detailed data collection.

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