Original Article

Verbal and nonverbal communication of a blind mother with limited dexterity during infant feeding*

Comunicação verbal e não verbal de mãe cega e com limitação motora durante alimentação da criança

Comunicación verbal y no verbal de madre ciega y con limitación motora durante la alimentación del niño

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ABSTRACT

Objective: To analyze the verbal and nonverbal communication, of the blind mother with limited dexterity with her son and a nurse during infant feeding. **Methods**: This exploratory, descriptive case study used a quantitative approach, and was completed in 2009. The interviews were recorded, videotaped and analyzed by three evaluators. **Results**: The results of verbal communication demonstrated the predominance of the mother as a recipient and the use of emotional function in the verbalizations with the child, and the non-verbal communication showed the prevalence of intimate distance between mother / son, personal space between the mother / nurse and the sitting posture . There was little face to face contact and physical contact with the child stood out. **Conclusion**: The mother suffered no losses in the establishment of the verbal communication process. The distance facilitated maternal interaction with the baby and with the professional.

Descriptors: Visually impaired persons; Blindness; Feeding; Communication; Nursing

RESUMO

Objetivo: Analisar a comunicação verbal e não verbal, de mãe cega e com limitação motora com o filho e enfermeira durante alimentação da criança. **Métodos:** Estudo exploratório, descritivo, tipo estudo de caso, com abordagem quantitativa realizado no ano de 2009. As entrevistas foram gravadas, filmadas e analisadas por três avaliadores. **Resultados:** Os resultados da comunicação verbal mostraram a predominância da mãe como destinatária e a utilização da função emotiva nas verbalizações com a criança, e a comunicação não verbal mostrou a prevalência da distância íntima entre mãe/filho, da pessoal entre mãe/enfermeira e da postura sentada. Houve pouco contato face a face e sobressaíram-se os contatos físicos com a criança. **Conclusão:** A mãe não sofreu prejuízos verbais no estabelecimento de seu processo comunicativo. A distância facilitou a interação mãe com o bebê e com a profissional.

Descritores: Portadores de deficiência visual; Cegueira; Alimentação; Comunicação; Enfermagem

RESUMEN

Objetivo: Analizar la comunicación verbal y no verbal, de madre ciega y con limitación motora con el hijo y la enfermera durante la alimentación del niño. **Métodos:** Estudio exploratorio, descriptivo, tipo estudio de caso, con abordaje cuantitativo realizado en el año 2009. Las entrevistas fueron grabadas, filmadas y analizadas por tres evaluadores. **Resultados:** Los resultados de la comunicación verbal mostraron el predominio de la madre como destinataria y la utilización de la función emotiva en las verbalizaciones con el niño, y la comunicación no verbal mostró la prevalencia de la distancia íntima entre madre/hijo, de la personal entre madre/enfermera y de la postura sentada. Hubo poco contacto cara a cara y sobresalieron los contactos físicos con el niño. **Conclusión:** La madre no sufrió prejuicios verbales en el establecimiento de su proceso comunicativo. La distancia facilitó la interacción de la madre con el bebé y con la profesional.

Descriptores: Personas con daño visual; Ceguera; Alimentación; Comunicación; Enfermería

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INTRODUCTION

In the human development process, care attributes are fundamental and the best persons to talk about, demonstrate and dedicate themselves to care for children are the parents. These practice a special form of care, which often turns into their existential and fundamental reason for child development[1]. Like other women, blind women are also mothers and take care of their own children. For health professionals, this understanding is important, particularly because few studies on the theme are available[2].

For blind mothers, simple acts like breastfeeding, bathing, feeding and administering medication gain complex dimensions and even generate stress and insecurity for childcare[3]. Therefore, nurses should provide pertinent orientations about care for the baby, like complementary feeding care for example. As from six months of age, other foods need to be introduced into the child's diet, including juices, fruits and soups[4]. When using stone fruit, blind parents should be oriented to remove these or ask someone for help to avoid accidents like choking and suffocation[3].

In general, human beings communicate to share information, ideas, thoughts or even attitudes[5]. Communication is a process that comprises verbal and non-verbal forms, which the sender uses to share information. In this study, the theoretical framework to support verbal[6] and non-verbal communication was adopted[7].

Verbal communication

According to Verbal Communication Theory[6], the occurrence of a communication act involves six elements: sender, receiver, message, context, code and contact. The sender or issuer is the person or group that sends a message to one or more receivers. The issuer corresponds to the first person of the verb, the I or WE; it is the person who speaks. The receiver is the individual or group that receives the message; it is whom one talks to. Message is considered the act of speech, set of statements, it means selecting and combining signs, it is the concrete transmitted to the receiver. Context or referent is the content, topic of the message, it is the object of the message. The code is the language spoken; it is the instrument of speech, conventional signs and their syntax, which the sender and receiver share. The physical means can involve sound or image, and it is also the psychological connection between sender and receiver[6]. Other functions should also be observed in the messages a sender transmits to a receiver. To give an example, the reference function is the context of the message when information is exchanged. The conative function, then, is the orientation to the receiver and refers to the declarations whose truthfulness can be tested. This function is subdivided into vocative and imperative[6]. The sender is accompanied by the emotive or expressive function, a direct expression of the speaker's attitude towards what is being said. It arouses true or simulated emotion. The purely emotive layer of language is presented through interjections and differs from referential language by its sound configuration. Interjections evidence the emotive function, which colors verbal manifestations[6].

Non-verbal communication

Proxemic Theory[7] assesses individuals' body position and spatial relations as the elaboration of the culture they are inserted in. It involves eight factors that compose its primary categories: Posture-gender: analyzes the participants' gender and interlocutors' basic position; Sociofugal-sociopetal axis: the former discourages interaction and the latter implies the opposite, as demonstrated by the shoulders' angle towards the other person and the interlocutors' position; Kinesthetic: analyze short-distance physical contact; Contact behavior: tactile relations like caressing, grabbing, palpating, lengthy holding, tightening, localized touching, accidental brushing or no physical contact; Visual code: visual contact during interactions; Thermal code: heat the interlocutors perceive; Olfactory code: smell the interlocutors feel; Voice volume: speech volume and intensity the interlocutors use[7]. This theory establishes four interpersonal distances: intimate (between 0 and 50cm): when physical contact, human warmth, smell transmission and personal encounters occur; personal (between 50cm and 1.20m): although close, physical contact may not happen, and smells and body heat are no longer felt; social (between 1.20m and 3.60m): no physical contact anymore, visual contact with the interlocutor persists; public (more than 3.60m): during meetings and conferences; sight is collective[7].

In the search for blind mothers to develop a study on verbal and non-verbal communication between the mother and her child, a pregnant woman was indicated who was not only blind but also severely motor-impaired, involving the lower limbs and one upper limb. This mother's socioeconomic and family condition was informed as highly precarious. Also, as informed, she needed nursing monitoring to prepare her for childcare. When asked about her interest in being followed by a nurse and nursing students, she agreed, which motivated this case study. The goal was to analyze the verbal and non-verbal communication between a blind and motor-impaired mother with her child and a nurse during child feeding.

METHODS

This exploratory and descriptive study aimed to explore the dimensions of the phenomenon, the way it is manifested and other related factors[8]. A case study was developed, which permits the in-depth description of a phenomenon's dimensions and essential processes[9]. A

blind and motor-impaired mother participated, together with her child and two nursing students. The mother was filmed at her home while feeding her child during two-weekly collection sessions for five months, totaling 2h30 of recordings, which were processed to a total 30 minutes for verbal analysis and 30 minutes for non-verbal analysis. The criteria to select the excerpts were the moments the child was being fed. Six evaluators were responsible for data analysis, three for verbal and three for non-verbal communication. The evaluators received previous research training, involving the nurse and the blind person 1, at the Health Communication Laboratory of the Nursing Department at UFC, and also received the synthesis of verbal[6] and non-verbal[7] communication theory before the analysis, when they met with the researchers. A simulated situation was organized to confirm their mastery of the method. The registration session started when the recording was assessed once uninterruptedly. Next, it was repeated and paused every 30 seconds to register the assessment on a specific form. Both communication types were analyzed separately. At each interruption, the evaluators filled out the instrument, assessing the mother's communication with the child and interaction with the nurse. As evidenced, the registration instruments adopted in earlier studies are appropriate for verbal as well as non-verbal communication assessment[10-11].

In the instrument used for verbal communication, the mother's behavior towards the child and the nurse was addressed as sender or receiver; the conative message was presented; whether it was transmitted imperatively; the message was transmitted accompanied by the emotive/ expressive function; emotive/expressive verbalizations used; prevalent topic in the context; contact used; and whether the sender and received shared a common code. For non-verbal communication, the instrument contained information about the interlocutors in terms of distance; posture; axis; contact; gestures (emblematic, illustrative and regulatory); facial behavior; eye opening and voice volume.

Data were analyzed quantitatively using SPSS version 14.0 after transcribing the assessments made on the forms. In the quantitative approach, interest is focused on objectively detected and observable facts, whether in its production or development[12]. To analyze the association among the variables, the Chi-square (X2) and Cohen's non-weighted Kappa coefficient were used, as the categories of the study variables were not ordered. Besides, this coefficient takes into account the probability of agreement by chance[13]. As required, approval for the research project was obtained from the *Universidade Federal do Ceará* Institutional Review Board under number 287/07. Moreover, all principles inherent in research involving human beings were complied with. The Informed Consent Term was obtained through the digital saving of the study subject's right thumb, in the presence of a sighted witness.

RESULTS

The mother in this study was 22 years old and illiterate, but attended a special school for the visually impaired. She was born blind due to cerebral palsy, suffered from lower limb paraplegia and limited movements of one upper limb. She lived with her grandparents and a cousin. Due to the family's precarious socioeconomic situation, she received a retirement benefit. As she was bedridden and used a wheelchair, she stayed in her room most of the time, which did not comply with accessibility requisites for her locomotion. Her grandmother took care of her personal hygiene and prepared her food. The mother ate alone, held the child with some difficulty and bottle-fed her. Her locomotion inside the house depended on the grandmother, who carried her in her arms. She participated in antenatal care at a public maternity. Delivery happened through a cesarean section without complications. At the start of the research, the child was six months old, had received all scheduled vaccines and had already weaned. Always with the grandmother's help, the mother took care of the infant related to bathing and feeding.

Table 1- Interactions according to the elements and functions of the mother's verbal communication with the child and nurse during feeding. Fortaleza, 2009

Elements	Mother/ Child		Mother/ Nurse		p* value
	No	%	No	%	
Role					
Sender	72	100.0	21	29.6	0.0001
Receiver	-	-	50	70.4	
Conative					
Yes	51	70.8	23	36.5	0.0001
No	21	29.2	40	63.5	
Imperative					
Yes	28	38.9	4	6.3	0.0001
No	44	61.1	59	93.7	
Emotive					
Yes	69	95.8	20	31.7	0.0001
No	3	4.2	43	68.3	
Emotive/ expressive functions					
Satisfaction	49	30.4	14	16.3	0.0001
Tranquility	52	32.4	20	23.2	
Empathy	49	30.4	30	34.9	
Other	11	6.8	22	25.6	
Framework /Context					
Meals	66	91.6	51	81.0	0.067
Personal issues	6	8.4	12	19.0	
Contact/ Channel					
Hearing	48	28.9	43	41.3	0.0001
Speech	72	43.4	61	58.7	
Tact	46	27.7	-	-	
Code					
Yes	60	83.3	63	100.0	0.0001
No	12	16.7	-	-	

*Kappa Test; X2 Test.

For all verbal communication elements and functions, all variables with p<0.05 were associated, except for the framework/context variable, whose p-value=0.67 thus showed disagreement (Table 1).

Associations were verified using the Chi-square test and Kappa test in all categories (Table 2) (p<0.05).

Table 2 – Analysis of Distance, Posture, Axis and Contact categories of the mother's non-verbal communication with the child and nurse during feedings. Fortaleza, 2009

Categories	Mother/ Child		Mother/ Nurse		p* value
	n	%	n	%	
Distance					
Intimate	117	95.1	1	1.1	
Personal	6	4.9	82	94.3	0.0001
Social	-	-	4	4.6	
Posture					
Sitting	85	69.1	81	93.1	0.0001
Lying	38	30.9	6	6.9	
Axis					
Face-to-face	12	5.6	3	2.0	
Other angle	111	52.1	83	54.2	0.0001
Sociopetal	81	38.1	22	14.4	
Sociofugal	9	4.2	45	29.4	
Contact					
Touch	45	25.9	3	3.3	
Caress	7	4.0	-	-	
Grab/ Tighten	31	17.9	-	-	
Palpate	2	1.1	-	-	
Lengthy hold	43	24.7	-	-	-
Localized touch	15	8.6	2	2.2	
Accidental brush	11	6.3	7	7.7	
No contact	20	11.5	79	86.8	

*Kappa Test; X2 Test.

Table 3 – Analysis of Emblematic, Illustrative and Regulatory Gestures categories of the mother's non-verbal communication with the child and nurse during feeding. Fortaleza, 2009

Categories	Mother/ Child		Mother/ Nurse		p* value
	n	%	n	%	
Emblematic gestures					
Move hands	42	34.1	11	12.6	0.0004
Not identified	81	65.9	76	87.4	
Illustrative gestures					
Complements language	9	7.3	-	-	0.0011
Does not complement	114	92.7	87	100.0	
Regulatory gestures					
Shake head	25	19.6	15	16.6	
Move eyes	27	21.1	6	6.7	0.007
Not specified	76	59.3	69	76.7	

*Kappa Test; X2 Test.

In all categories related to the gestures mother/child and mother/nurse produced, associations were found between statistically significant variables, with p<0,05 (Table 3)

Two of the categories in Table 4 were associated during feeding (p<0.05), except in the category Voice Volume, with p=0.968.

Table 4 – Analysis of Facial Behavior, Eye Opening and Voice Volume categories of mother's non-verbal communication with the child and nurse during feeding. Fortaleza, 2009

Categories	Mother/ Child		Mother/ Nurse		*p** value
	n	%	n	%	
Facial behavior					
Joy	58	46.4	23	26.4	
Sadness	4	3.2	-	-	0.0011
Other	63	50.4	64	73.6	
Eye opening					
Joy	48	38.7	19	21.9	
Sadness	3	2.4	1	1.1	0.014
Not identified	73	58.9	67	77.0	
Voice volume					
Whispering	5	4.0	3	3.4	
Normal	59	47.6	41	46.6	0.968
Silence	60	48.4	44	50.0	

*Kappa Test; X2 Test.

DISCUSSION

As data showed, the mother served as the sender towards the child in 100% of interactions and as the receiver in 70.4% of interactions with the nurse. In the feeding context, the mother constantly talked to the child, even without a reaction, encouraging her to get the right amount of food and highlighting its benefits. The predominance of the receiver function was observed in communication with the nurse, which the latter's interventions during feeding can explain, identifying difficulties and enhancing comfort for mother and child. With regard to non-verbal communication, in the Voice Volume category, silence was evidenced in half of the interactions with the nurse. The above described verbal communication assessment can justify this, underlining the mother's readiness to listen to the nurse. As literature mentions, professionals need to be aware that communication is constant information exchange and that, if this aspect is not respected, the message may be one-directional[10].

As for the conative function, the mother used it during most interactions with the child (70.8%) and, to a lesser extent, with the nurse (36.5%). The mother talked to the child, giving orientations for her to behave adequately, despite being aware of the child's limited understanding due to the young age. When the mother interacted with the professional, the latter provided further information and clarifications to help her in this process. One study

appoints the need for professionals to add communication skills with a view to the mother's effectiveness in the care process[14].

Communication is the means professionals adopt to develop therapeutic relations with clients and to put in practice the nurse/client relation. With a view to enhancing humanistic and personalized care in line with needs, the communication process needs to be efficient[15]. As they possess scientific knowledge, nurses should transmit orientations clearly, using accessible language. According to perceptions, the imperative mode did not stand out in the blind mother's expressions. In view of her need for help in childcare and her vulnerability because of her limitations, it is presupposed that the lower percentage is due to these factors. The presence of the emotive function was evidenced to a greater extent with the child though (98.5%), and to a lesser extent with the nurse (31.7%). In line with non-verbal communication, in the Facial Behavior category, the predominant expression of joy instead of sadness is observed. Despite the mother's difficulties to feed the child, she demonstrated joy while performing this care.

As data reveal, the feelings identified in the analyzed verbalizations with the child were satisfaction (30.4%), tranquility (32.4%) and empathy (30.4%). Other feelings, like joy and tenderness, were recognized in 6.8% of verbalizations. With regard to communication with the professional, satisfaction (16.3%), tranquility (23.2%), empathy (34.9%) and manifestations like relaxation (25.6%). Based on the obtained results, it could be concluded that a therapeutic bond was established between nurse and client. According to literature, therapeutic communication plays a determinant role in nursing practice by permitting the client's learning, which can originate a feeling of trust between client and nurse[16].

During feeding, interactions with the child predominated (91.6%). Personal issues were also identified (19.0%), between the blind mother and the nurse, but the evaluators did not specify these. This fact may be related to the mother's interest in care for her child. Personal issues during nursing care are aimed at starting a more intimate relation[17]. In mother/child communication, the identified channels were hearing (28.9%), speech (43.4%) and tact (27.7%), although more than one item could be recognized at the same time. According to one study, in the blind, spatial representation results from the convergence between auditory, proprioceptive, vestibular and tactile verifications[18]. In non-verbal communication analysis, in the Contact between mother and child category, touching, grabbing and holding were identified as dominant. Thus, what was verbally said was in accordance with non-verbal communication.

The speech (58.7%) and hearing (41.3%) channels are also present in verbalizations with the professional. Tact, however, the channel used when the nurse corrected the way the mother held the child, could not be identified in the analyzed recordings. In non-verbal communication, the predominant distance between mother and professional was personal. In Proxemic Theory[7], it is identified that, although close, at this distance, physical contact may occur or not. With the child, a common code was used in 83.3% of interactions, against 100.0% in mother/nurse verbal communication. The mother considered she was capable of interpreting the child's needs based on the sounds the produced. The presence of a sensory impairment does not limit the blind's development[19]. According to literature, the child can communicate by producing sounds or crying. Both constitute a kind of reaction, which can change in accordance with the development phase[4]. This characteristic was present in both verbal and non-verbal communication.

With regard to non-verbal communication, Tables 2, 3 and 4 display the obtained data. In the first category, Distance, the subcategory intimate distance corresponded to 95.1% of interactions with the child. As verified, the mother constantly shared her bed with the child and, during feeding, the child sat on her lap, which facilitated interaction. Personal distance prevailed between mother and nurse though, in 94.3% of cases. No social distance was found between mother and child, but in 4.6% of interactions with the professional. A study affirms that, when distance is very close, this may be seen as an invasion of one's intimacy and, when excessive, may be interpreted as lack of interest. In that sense, no specific limit exists either, which varies with culture and position[11].

When the sender and receiver maintain the same posture, this means that both are in tune, sharing the same rhythm, level of interest and movement[11]. In the second category, Posture, the sitting posture prevailed, towards the child (69.1%) as well as the nurse (93.1%). The lying posture was less prevalent, as the mother's motor impairment hampered interactions with the child (30.9%) and professional (6,9%). Blindness did not impede the occurrence of synchrony though. According to the verbal communication analysis, the mother demonstrated satisfaction, tranquility, empathy and relaxation, all of which the sitting posture observed during non-verbal communication facilitated.

As the Axis category revealed, 52.1% of interactions were related to another mother and child angle and 54.2% to the mother and nurse. Face-to-face interaction occurred in 5.6% of interactions with the child and in 2.0% of interactions with the professional. In this study, the mother kept her head turned down, even after the nurses instructed her to direct her face towards the person she is talking to, mainly the child. The blind's lack of visual contact with the interlocutor undeniably

makes them ignore the importance of face to face for sighted people and, often, they do not turn their face to the person they are interacting with. According to literature, at the start of a baby's life, the face is the visual stimulus (s)he most often receives[20]. The sociopetal axis stood out in the mother/child relation (38.1%), against the sociofugal axis in the mother/child relation (29.4%). Hence, greater encouragement was present when interacting with the child than with the professional, as this analysis took place during the child's feeding process.

In the Contact Category, the mother mainly interacted through physical contact with her child, demonstrating touch (25.9%), caressing (4.0%), grabbing/tightening (17.9%), lengthy holding (24.7%), localized touching (8.6%), among others. The mother had no physical contact with the nurse though (86.8%). As literature affirms, the human being's contact with the world starts through the senses, which are capable of transmitting pleasure and displeasure[21]. In this study, physical contact between mother and child, exchange of body warmth, of cuddles turn the feeding process into a healthy and pleasant experience[22].

As for Emblematic Gestures, the mother moved her hands in 34.1% of interactions with the child and in 12.6% of interactions with the nurse. To calm down the child and stimulate her feeding, the mother moved her hands little. Illustrative gestures are learned by imitation. They accompany speech, emphasizing the pronounced word or phrase[23]. In the Illustrative Gestures category, the gestures the mother produced did not complement verbal language in 92.7% and 100% of interactions. The mother's motor impairment justifies this fact, who experiences difficulties to make gestures and, as she is blind, she has no reference framework of gestures, entailing poor non-verbal communication. With regard to Regulatory Gestures, most of these were not specified for both frameworks, as the mother's visual impairment did not allow her to demonstrate such gestures.

Another category was Facial Behavior. This revealed the mother's facial expressions while feeding her child with the nurse's help; showing joy (46.4%), sadness (3.2%) and indifference (50.4%) towards the child. Although this task was a source of difficulties, the mother demonstrated joy when feeding her baby, showing the essential nature of childcare. Verbal communication analysis confirmed this fact. In the referential function, the topic feeding predominated, evidencing the mother's interest in obtaining further information to take better care of the child. When referring to the professional, joy (26.4%) and indifference (73.6%) were identified in the mother. Literature appoints the need for nurses to understand, as possible, the source or origin of the expressions that are constantly manifested around them, as well as to know their own expressions. Thus, they can more easily recognize them in the patients' face[11]. Thus, the face is the main site the nurses need to observe[24].

In the Eye Opening category, a large percentage of mother/child (58.9%) and mother/nurse (77.0%) interactions was due to the evaluators' non-identification of eye opening, as the mother kept her head down in many interactions. As for the Direction of the Look, the evaluators could not observe this aspect due to the mother's visual impairment. The mother's Voice Volume towards the child demonstrated normal pitch (47.6%) and silence (48.4%). Normal pitch (46.6%) and silence (50.0%) were also observed towards the nurse. As observed, the mother's voice volume was almost equally divided between normal pitch and silence, sometimes talking with the child and nurse, sometimes feeding silently to calm down the child. A study mentions that the act of listening to another person is a non-verbal communication attitude, which is part of essential interpersonal relations with a view to further understanding the stakeholders in the process[25].

CONCLUSION

As the verbal communication analysis evidenced, independently of motor and visual difficulties, no verbal losses were found in the establishment of the mother's communication process. Trust was established between the mother and the professional, resulting in an effective therapeutic relation. The nurse's relevant action in mother/child care was perceptible, and verbal communication played a determinant role in this process.

Although without sight, interactions with the child were permeated by physical contact, including touch, caresses and tactile relations. The following are also highlighted; the gestures the mother demonstrated did not complement her verbal language, representing a loss in her non-verbal communication. These facts derived from the mother's motor impairment and blindness. As this case study was accomplished at the mother's home, difficulty to use the equipment during data collection was highlighted. The lack of satisfactory acoustics at the mother's home compromised video and audio recordings. As a result, the evaluators experienced difficulties during data analysis. The researchers hope this study will encourage health professionals to develop actions aimed at mother/child interaction, even in case of motor impairment and blindness.

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