



Acta Paulista de Enfermagem

ISSN: 0103-2100

ISSN: 1982-0194

Escola Paulista de Enfermagem, Universidade Federal de São Paulo

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Acta Paulista de Enfermagem, vol. 30, núm. 4, Julho-Agosto, 2017, pp. 343-349  
Escola Paulista de Enfermagem, Universidade Federal de São Paulo

DOI: 10.1590/1982-0194201700051

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# Proxemic behavior of nursing in the hemodialysis setting

Comportamento proxêmico da enfermagem no espaço da hemodiálise

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## Keywords

Nursing care; Advanced practice nursing; Behavior; Nurse-patient relations; Unidades Hospitalares de Hemodiálise

## Descritores

Cuidados de enfermagem; Prática avançada de enfermagem; Comportamento; Relações enfermeiro-paciente; Hemodialysis Units, Hospital

## Submitted

January 7, 2017

## Accepted

August 7, 2017

## Abstract

**Objective:** To identify the proxemic factors determining nursing professionals' communication during hemodialysis, and analyze the influence of behaviors in interaction and care.

**Methods:** Qualitative, exploratory and descriptive study developed with 22 nursing professionals from a systematic observation script, individual records of proxemic communication factors described by Hall, and a recorded situational interview. Content analysis by topic and observations resulted in a person-centered behavioral mapping.

**Results:** Patients' gestures and the verbalization of the nursing team determine oscillations in the use and amplitude of bodily senses, and predominantly define the care actions in personal, social and public spaces.

**Conclusion:** The physical space influences and can determine the proxemic behavior and the actions adopted by hemodialysis professionals. The mapping allowed the verification of how both can be favorable or not in interactions and care provided to patients.

## Resumo

**Objetivo:** Identificar os fatores proxêmicos que determinam a comunicação dos profissionais de enfermagem durante a hemodiálise e analisar a influência dos comportamentos na interação e cuidado.

**Métodos:** Estudo qualitativo, exploratório e descritivo, desenvolvido com 22 profissionais de enfermagem a partir de roteiro sistematizado de observação, registro individual dos fatores da comunicação proxêmica descritos por Hall e entrevista situacional gravada. A análise de conteúdo por temas e as observações resultaram no mapeamento comportamental centrado na pessoa.

**Resultados:** Os gestos do paciente e a verbalização da equipe de enfermagem determinam oscilações no uso e na amplitude dos sentidos corporais, demarcam predominantemente as ações de cuidado nos espaços pessoais, sociais e públicos.

**Conclusão:** O espaço físico influencia e pode determinar o comportamento proxêmico e as ações adotadas pelos profissionais na hemodiálise. O mapeamento permitiu verificar como ambos podem ser favoráveis, ou não, nas interações e no cuidado prestado ao paciente.

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## DOI

<http://dx.doi.org/10.1590/1982-0194201700051>



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**Conflicts of interest:** no conflicts of interest to declare.

## Introduction

Proxemic communication studies the social meaning of space in the interactional field, and is determined from the distances and proximity that people maintain in relation to each another.<sup>(1)</sup> It is a form of communication capable of producing reactions or changes in behavior, influenced mainly by vision, hearing, smell and touch, which are sensitive and perceptible radars to the way people stand and move in relation to each another, and how they manage and occupy the space.<sup>(2)</sup>

Since nursing care is a communication channel marked by the intersubjectivity of bodies, capture and decodification of verbalized and nonverbalised messages, the bodily senses are fundamental for the identification of distances maintained by nursing professionals and patients.<sup>(3)</sup>

Consciously or not, the nursing team use their bodies, senses and perceptions when interacting with patients. As there are several types of communication, they may influence people's lives significantly. Given the intersubjective richness involving the hospital scenario of hemodialysis (HD), communication in this context must be dynamic, renewed and continuous.<sup>(3,4)</sup>

The value and experience of researching with the senses to translate proxemic communication may reveal the factors capable of influencing and/or interfering in the perception, behavior and interaction with the patient, and vice versa. Among these factors, the language used by health professionals stands out. It should be clear, without metaphors and accessible to all individuals at all times, regardless of gender, voice and patient's appearance.<sup>(2-5)</sup>

This study seeks to determine how the proxemic nonverbal communication of the nursing team determines the interactions with patients during hemodialysis sessions. This implies recognizing expressions of pain, face turning, the person's nodding or shaking the head, or even the attribution of meaning to a moan, which can reveal people's emotion or point out changes in their physical state that demand constant approaches from professionals for evaluation and intervention.<sup>(2,3)</sup>

To present the proxemic communication of the nursing team in hemodialysis, were established the following objectives: to identify the proxemic factors determining the communication of nursing professionals during hemodialysis and analyze the influence of the behaviors in interaction and care.

## Methods

This is a qualitative, exploratory, descriptive study. It was developed from a systematic observation script, individual records of proxemic communication factors described by Hall,<sup>(1)</sup> and a recorded situational interview.

The study scenario was the department specialized in renal disease treatment of a university hospital located in the city of Rio de Janeiro, southeastern region of Brazil. The choice was because this scenario is easily accessible, offers substitutive renal therapy, and working hours are from Monday to Saturday in a three-shift regime.

Twenty-two nursing professionals aged over 18 years of both sexes were responsible for providing care to hemodialysis patients during their stay in the second work shift, from January to March 2013.

Team professionals assigned to the reuse room, for external hemodialysis, material replacement, to the peritoneal dialysis room, those performing another function not inclusive of provision of patient care during the hemodialysis session, and professionals on vacation or leave did not participate in the study.

The head of nursing team was informed about the study and ensured about the maintenance of uninterrupted patient care. Therefore, daily observations performed in the second shift (from 11:30 a.m. to 3:30 p.m.) would not influence the service operation. The relationship of the researcher with respondents before the beginning of the study was of technical support for developing actions related to spatial and territorial behavior.<sup>(6)</sup>

The individual and collective observation was during four daily hours, with participation of four leader nurses, fourteen nursing technicians and four nursing assistants, and reached 176 hours in total.

It was based on the systematized observation script to record the factors of proxemic communication by Hall, with items about position, distance, tone of voice, axis of interlocutors, physical and/or visual contact behavior.<sup>(1)</sup>

Only after observation, participants were invited to participate in the interview, and voluntarily signed the Informed Consent form. Subsequently, they answered structured questions regarding items about personal and professional identification, the interaction of each subject with the patients during care at the hemodialysis session, and about the needs manifested by patients that led them to approach them.

To maintain rigor in the study, were used the Consolidated Criteria for Reporting Qualitative Research - COREQ as support. The results of the transcription of recorded audio testimonies and the observation were organized and presented to participants mainly to define the division of the environment and the behavioral mapping of the proxemia of the nursing team during the care of hemodialysis patients.<sup>(7)</sup>

Content analysis considered the themes and observations emerging from the person-centered behavioral mapping, and resulted in a category entitled "distances and proximities translated by bodily senses".<sup>(8-9)</sup>

The study complied with national and international standards of research ethics involving human subjects, and was approved by the Research Ethics Committee under number CAAE: 09129712.2.0000.5238.

## Results

The analysis of the participants' profile demonstrated that eighteen were of the female gender, average age of 43 years, time since nursing training of more than nine years, and the time these professionals have been working in the service was superior to six years.

Among the identified proxemic factors, the distances maintained and established between the bodies of the nursing team and patients in

interactions stand out. Of these, the highlights were the emerging manifestations of the shoulders, neck and head regions of professionals during interactions with patients, which generated a graphic representation of the human occupation in the physical space through the behavior of participants.

The graphical representation of the hemodialysis scenario was developed from the SketchUp 3D Modeling Software Review program with the objective to demonstrate visually and color-coding the behavioral mapping resulting from the observed synthesis of proxemias. Note the red color represents the intimate distance of approximately 45 centimeters and involves professionals' real physical contact until distancing from the patient. The orange color measures between 45 centimeters to 1.20 meters, and reveals the personal distance maintained between people. The yellow color measures from 1.20 meters to 3.60 meters, and reflects the social distance. The green color measures between 3.60 meters until the limits of visibility or hearing, and characterizes the public distance, as represented in figure 1.

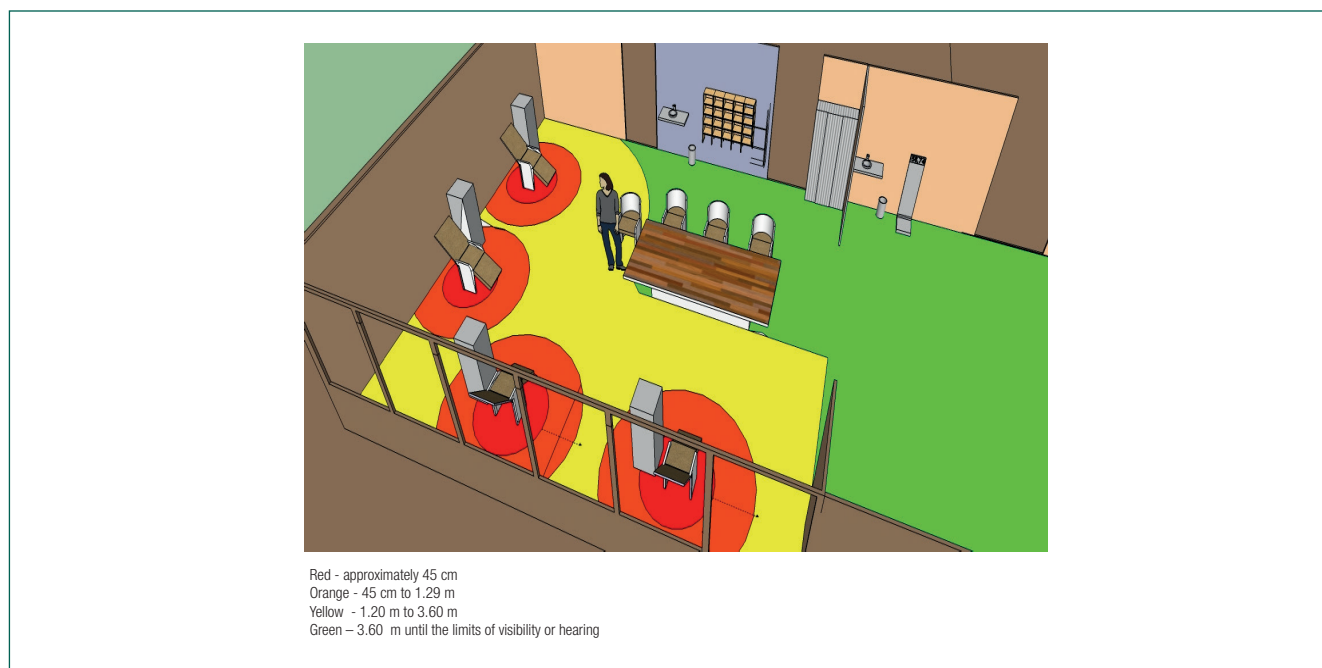
The sitting position was observed during arteriovenous fistula (AVF) puncture, in the nursing team evolution, and when approaching patients for a conversation, as mentioned:

*[...] we approach every hour to check the pressure, or there are patients who like to chat and call us, then, I grab a chair and give some attention [...]* (Technician Mar Calmo)

There was a change of position of the nursing team with the patient specifically when the professional stood up to silence the machine when the alarm went off, as in the following statement:

*[...] Every time the machine beeps, I approach to see what's happening. The alarm noise can wake up the patients nearby and make them worried about the colleague. Some people, when they see a colleague unwell, also start to feel unwell, and end up making everyone agitated [...]*. (Technician Mar Calmo)

Of the distances maintained between the nursing team and the patient in the hemodialysis sector, the intimate distance occurred more frequently during patients' arrival in the sector, in user embracement,



**Figure 1.** Behavioral mapping of the distances and approximations of the nursing team

accommodation to the machine, arteriovenous fistula puncture, removal of venous access, and while performing dressings, as highlighted:

*When they arrive, we check the weight and start to evaluate their condition in that day, ask something, how was the weekend, we have this habit of talking to them [...]* (Assistant Estrela)

*[...] when I stop the machine, remove the venous access, he needs me around to help him. Someone has to come along, to help in AVF compression.* (Technician Água)

The personal distance was adopted during conversations with clients and preparation or monitoring of the HD machine. At this distance, interlocutors can touch each other through their extremities or maintain a closer dialogue without touching, but body heat is not felt and it becomes easier to detect the facial expressions of the other.

*I approach because I have to monitor his dialysis, 'cause sometimes a small care will avoid a great loss [...] there are days when I will be much closer to him, because he already arrived different, because he said so, or because he shows signs of change during dialysis.* (Technician Pedra)

*[...] several times, I get close to the patient, seek an interaction relationship, rather professional*

*and not personal, even if he doesn't understand the reason for many questions, I have to be aware of him, know who he is, how his life is, this will all help with planning and developing the care plan.* (Nurse Razão)

The fact that nursing professionals are at a social distance from patients, who in turn are connected to a machine that allows measuring their physiological parameters, is relevant (Figure 1). For some participants, a better visualization of patients' expression and nonverbal manifestations may assist them in detecting important cues for care, such as shared below:

*[...] some patients don't call, feel bad and stay quiet, think they're going to bother, or think the symptom will pass, then, one has to come and get closer because I know if he feels unwell he won't call, he'll keep waiting [...]* (Technician Trovão)

*[...] Some patients report they are not well then, I try to get closer more often that day, stay alert, see their face, how they're behaving, especially fistula patients, how they feel 'cause their arm goes numb. With time and experience, we start to know the patient, and with more observation, if they become hypotensive, we see the facial expressions and [...]* (Technician Tempo)



*Every time she calls me, I come [...] make patients as comfortable as possible, talk to them, give them a bit of attention.* (Technician Fogo)

Interactions between the nursing team and patients did not occur through public distance, and were adopted by a few professionals, specifically during weighing, patient reception in the hemodialysis setting, information recording in medical records, and preparation of medications.

## Discussion

The environment where people communicate often contributes to a greater approach or distancing of bodies. Both the frequency and content of messages are influenced by several aspects of the environment. This environment influences our behavior, but we can also modify it to provoke certain types of response. When one knows the environment, it is possible to use it deliberately to obtain the desired answers, and proximity clearly allows obtaining more information about the other person.<sup>(1,10)</sup>

The size and arrangement of objects, furniture, proper lighting, wall color, and the room temperature influence the path and physical and visual contact between people. If a more accessible environment can increase the frequency of interaction, small spatial modifications can favor and facilitate by increasing access and contact, the proxemia of approximation.<sup>(1,11)</sup>

In care, these factors influence communication by defining the skills and competencies in the relationship with the other. Being close, keeping interested, as well as readiness and bonding allow the expression of feelings, needs, and assessment during interaction.<sup>(12)</sup>

For the viability of thought, discussion, elaboration and development of strategies for patient interventions, the nursing team must firstly understand the space as one of the elements surrounding the interlocutors, sometimes influencing the level and type of interaction that occurs.<sup>(5)</sup>

Investigating the behavior in the hospital environment of high complexity such as hemodialysis

is a process of difficult operationalization because behaviors and gestures are not often identified and named easily. Hemodialysis treatment is continuous and becomes a routine, and nursing care involves technical actions and reaches the understanding of the unspoken, of what cannot be said in words, but through gestures.<sup>(3,13,14)</sup>

In this scenario, the intimate distance predominates during patients' arrival, at the times of user embracement, in patients' accommodation to the machine, in the arteriovenous fistula puncture, removal of venous accesses and while performing dressings. Care provision requires a maximum approximation between nursing professionals and patients. There is close bonding because relationships occur all the time, on alternate days, month after month, year after year, determining an intense approximation because of the length of stay and continuous treatment.<sup>(13-15)</sup>

Considering the nonverbal communication of the nurse and the patient each day, it stands out that the social distance established during interactions depends on the relationship of individuals involved, the present feeling, and the type of care needed at that time. In the intradialytic period, there was predominance of social proxemic communication that changed to intimate distance only when the patient presented clinical involution.<sup>(12,16)</sup>

In the public distance (the greatest), the angle of vision and the sharpness of images are impaired, the tone of voice must be elevated and it can be compared to an escape behavior. Therefore, finding means to identify the proxemic manifestations reflected in the reality of the nursing team routine becomes a great challenge. Nonverbal cues provide clues on the relationship of people and the environment that would not be obtained by other means of research.<sup>(1,10-12)</sup>

Proxemic behavior as part of a nonverbal language can often be enigmatic in the communication process. In general, interactions between the nursing team and patients did not occur through public distance, only when requested, or when identifying something different. In these cases, there was an approximation posture for better visualization of the machine or the patient.<sup>(14)</sup>

The behavioral map developed from the distancing zones was used to associate distances between people, and the colors in it were used to describe the proxemic characteristics of the nursing team in hemodialysis care. It allowed a broader capacity of observation, and detection of verbal or nonverbal cues of patients. The analysis and modification of a particular behavior or position in the approach to the individual and in the space contribute to more effective communication and interpersonal relationships between professionals and patients.<sup>(1,17)</sup>

Nursing, as a profession in the health area concerned with human beings, must also be concerned with the pattern of proxemic communication in the care setting. The means, instruments, techniques, abilities, skills and competencies to offer patients the opportunity of a more dignified and comprehensive existence require mastery of the body language and the mapping of its position in the therapeutic environment.<sup>(2,10)</sup>

Patients' gestures and the verbalization of the nursing team determine oscillations in the use and amplitude of bodily senses, and predominantly define the care actions in personal, social and public spaces.<sup>(17)</sup>

Although this study was developed in a public teaching institution in the hemodialysis setting, the information obtained does not universalize the behavior of professionals, nor the expectations of satellite clinics about this setting because it has differentiated care from professionals.

## Conclusion

The results indicate the behavioral mapping favored the identification of verbal and nonverbal manifestations of the nursing team in interactions with patients, and reflected on the use of bodily senses to detect gestural cues. The hemodialysis setting and the way nursing professionals behave in it has required the development of an instrument for the evaluation of interactions in care. In this study, the nursing team maintained a close bond with patients by expressing interest,

respect and care, which were identified from an intense proximity through continuous visual surveillance. The physical space influences and can determine the proxemic behavior and the actions adopted by hemodialysis professionals. The mapping allowed the verification of how both can be favorable or not in interactions and care provided to patients. Studies on the proxemic communication of the nursing team with patients undergoing hemodialysis treatment are still incipient in our country. This study can be considered a starting point for further research, especially to perform the team actions and (re) evaluate the communication and challenges imposed by it in the care provision.

## Acknowledgements

The authors are grateful to the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES; 1<sup>st</sup> year Master's degree scholarship granted to Moreira, AGM) and to the Fundação de Amparo à Pesquisa and the Desenvolvimento Científico e Tecnológico do Rio de Janeiro (FAPERJ; 2<sup>nd</sup> year Master's degree grade 10 scholarship granted to Moreira, AGM) for their support in the development of the study.

## Collaborations

Moreira AGM, Azevedo AL, Figueiredo NMA, Oliveira LPD and Araújo STC declared they contributed to the project design, data analysis and interpretation, critical review of the intellectual content and approval of the final version to be published.

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