# Care strategy: towards teaching structured and effective communication between healthcare providers and patients Specialization: Instructional Design and Training Engineering

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## Abstract

Communication between the healthcare provider and the patient is essential, enabling the progressive development of the healthcare provider-patient relationship through exchanges. It is therefore necessary to assess communication skills to allow students to acquire specific skills. Our study aims to evaluate students' knowledge of communication and to gather their opinions on the usefulness of an assessment guide, to develop a training protocol for healthcare provider-patient communication. This is a cross-sectional, descriptive, and quantitative study, carried out by a self-administered questionnaire between December 2023 and June 2024, involving 257 students at the Higher Institute of Nursing Professions and Health Techniques in Fez-Morocco. The study analyzed six aspects of healthcare provider-patient communication. Most respondents (95.20%) supported the idea of training, although they encountered difficulties with medical jargon, non-verbal communication, exploring the patient's context, and integrating the patient into their care. The results showed that these communication techniques are not yet well mastered and that interest in this skill remains mainly intuitive.

Communication between healthcare providers and patients is essential for building trust. Assessing communication skills is therefore crucial for training students in this skill. This study aims to evaluate students' knowledge of communication and to gather their opinions on the usefulness of an assessment guide, to develop a training protocol.

**Keywords:** Verbal and non-verbal Communication, Communicative skills, Patient comfort, Phraseology and Care strategy

## 1. Introduction

Communication is inherent to human life. For everything to happen, at every moment, every day, human beings have to communicate (Landolo, 2007)[1]. The relationship between the healthcare provider and patient is based on communication, a two-way exchange of verbal, written, or behavioral messages between individuals (Mantz & Wattel, 2005)[2]. However, one thing is clear: communication is generally deficient (Wolton, 2005)[3]. The majority of disputes, and even conflicts, between healthcare providers and patients, are due to a lack of communication, the consequences of which include non-adherence to prescriptions (Queneau & Mascret, 2004)[4], self-medication, medical nomadism and refusal of care (National Consultative Ethics Committee for Health and Life Sciences, 2005)[5] all of which bear witness to this change in mentality. At the same time, it has been shown that successful communication leads to greater patient satisfaction (Mikesell, 2013)[6] (Warnecke, 2014)[7], better adherence and compliance with treatment (Ratanawongsa et al, 2015)[8], as well as improved therapeutic results, and, as a result, better patient health (Stewart, 1995)[9]. In nursing, the nurses and the members of the care team play a crucial role in the quality of care, giving a profound meaning to the therapeutic relationship. This relationship is built through meaningful communication that will benefit both the healthcare provider and the patient. For healthcare providers, communication is the foundation on which the care relationship rests, making it possible to optimize patient care (Bouzekoura, 2020)[10]. For patients, it is essential to build trust, which is vital for their well-being and understanding of their condition. For staff, it provides support and collaboration to help prevent burnout. With this in mind, the Higher Institutes of Nursing Professions and Health Techniques have designed a training module on professional communication techniques for first-year students, comprising a range of relevant elements. In a constantly changing context, it is crucial to evaluate these communication skills to encourage the development of specific skills. To answer the question of our study: 'Does the evaluation of the healthcare provider's communication enable students to improve their

[1] Landolo C. Guide pratique de la communication avec le patient – Techniques, art et erreurs de la communication. Masson. 2007.
[2] Comité Consultatif National d'Ethique pour les sciences de la vie et de la santé. Avis no 87, Refus de traitement et autonomie de la personne, 14 avril 2005.
[3] Wolton D. — Il faut sauver la communication. Paris, Flammarion, 2005, 220 p.
4 Queneau P., MASCRET D. Le malade n'est pas un numéro. Paris, Odile Jacob, 2004, 357 p.
[5] Comité Consultatif National d'Ethique pour les sciences de la vie et de la santé. Avis no 87, Refus de traitement et autonomie de la personne, 14 avril 2005.
[6] Mikesell L. The cross-cutting edge Medicinal relationships: caring conversation. Med Educ. 2013:443-452.
[7] Warnecke E. The art of communication. Aust Fam Physician. 2014 ;43(3) :156-158.
[8] Ratanawongsa N, Karter AJ, Parker MM, Lyles CR, Warton EM, Schillinger D. Communication and Medication RefillAdherence. Am Med Assoc. 2015; 173(3):210-218.
[9] Stewart MA. Effective Physician-Patient communication and health outcomes: a review. Can Med Assoc J. 1995;152(9):1423-1433.
[10] Bouzekoura F, REVUE DE L'INPFP, 17 octobre 2020, E-ISSN: 2602-7909.

communication skills?'. This survey was conducted at the Higher Institute of Nursing Professions and Health Techniques in Fez-Morocco. We interviewed nursing students in semesters 2, 3, 4, 5, and 6 in the following options: General nursing, anesthesia and intensive care nursing, mental health nursing, Emergency and intensive care nursing, Neonatology, and pediatrics nursing, Family, and community health nursing, operating theatre nursing and Hemodialysis nursing. Our study aimed to devise a phraseology for care that brings together clear, simple, and precise rules that can govern the oral communication of the healthcare provider /patient during a care operation and should subsequently be shared by all.

This guide will promote language skills with communication dimensions including.

Verbal: to exchange information

Tone: to inform, but this time using authority and assertion, and of course non-verbal communication.

All this and more can constitute the rules making up this guide, relating 'what needs to be said' and 'how'. Concerning for example:

- The message
- The attitude
- The nature of the exchange
- The situation of agreement and disagreement
- The way of communicating, either rigidly or excessively, and other points influencing the operation.

With this formalization of the communication process in the provision of care, we manage to reduce the complexity of the concept, and consequently make these language skills acquire a collective aspect likely to remedy any constraint and complexity.

## 2. Materials and methods

### 2.1. Study location

Our study was conducted at the Higher Institute of Nursing Professions and Health Techniques in Fez between December 2023 and June 2024. This institute includes the administrative and technical staff, permanent teachers, temporary teachers, and 770 Moroccan and foreign students. Like all Higher Institutes of Nursing Professions and Health Techniques, the training system at Fez Institute consists of a series of modules delivered through theoretical courses, placements, practical work, and tutorials. The institute offers five streams and nineteen options (table 1).

**Table 1: Programs and options at the Higher Institute of Nursing Professions and Health Techniques at Fez**

| Stream | Option healthy |
|---|---|
| **Nursing** | • General nursing<br>• Neonatology and Pediatrics Nursing<br>• Anaesthesia and Intensive Care Nursing<br>• Mental Health Nursing<br>• Emergency and Intensive Care Nursing<br>• Family and Community Health Nursing<br>• Operating Room Nursing<br>• Hemodialysis Nursing |
| **Health techniques** | • Laboratory<br>• Radiology<br>• Health Statistics<br>• Environmental Health<br>• Pharmacy assistant<br>• Psychomotricity |
| **Midwifery** | • Midwife |
| **Medical social assistance** | • Social worker |
| **Rehabilitation** | • Physiotherapist<br>• Speech therapist<br>• Orthoptics<br>• Occupational therapy |

### 2.2. Target population

This study concerns nursing students at the Higher Institute of Nursing and Health Techniques in Fez. The total number of these students was 770 (Table 2). The inclusion criteria included all nursing students in semesters 2, 3, 4, 5, and 6 of the following options: general nursing, anesthesia and intensive care nursing, mental health nursing, emergency, and intensive care nursing, neonatology and pediatrics nursing, family and community health nursing, operating theatre nursing and hemodialysis nursing. All these students had already completed placements during the second semester for a period of two weeks, and this period was then extended to the other semesters. The exclusion criteria concerned first-semester students, because they had not done any work placements, and foreign students, because they were unable to communicate well with the local population due to language differences. These students speak French, English, Spanish, or Portuguese, which can be an obstacle to communication with the public. Our target population is distributed as follows:

**Table 2: Distribution of students by option**

| Option | Number of students |
|---|---|
| General nursing | 260 |
| Anesthesia and intensive care nursing | 95 |
| Mental health nursing | 85 |
| Emergency and intensive care nursing | 90 |
| Neonatology and Pediatrics Nursing | 90 |
| Family and Community Health Nursing | 30 |
| Operating Room Nursing | 60 |
| Hemodialysis nursing | 60 |
| Total | 770 |

### 2.3. Data collection method

**a. Student recruitment**

Students were approached by various means: During hospital placements, at scientific days organized by the institute, by e-mail, and by telephone.

**b. Data collection**

It is a three-page questionnaire (Appendix 1) consisting of six sections divided into nineteen items, following the progression of a care procedure, with two additional questions at the end concerning the need for and timing of training in healthcare provider-patient communication. We evaluated the students' level of satisfaction with communicative tasks using a Likert-type scale, containing two categories of responses: Dissatisfied, and satisfied.

### 2.4. Type of study

This is a cross-sectional, descriptive, and quantitative study based on the use of a questionnaire for data collection. The questionnaire was tested with a group of 30 students (General nursing) drawn from the target population. This made it possible to check whether the questions were clear and understood by the students. Following the results of the pre-test, a final version of the questionnaire was finalized and distributed to the students during group meetings in the classrooms and on the placement sites.

### 2.5. Sample size

The study concerns nursing students at the Higher Institute of Nursing Professions and Health Techniques in Fez, with a sample of 257 students from different nursing options. The sample was calculated using the following formula:

$(tp^2 \times P\ (1 - P) \times N) / (tp^2 \times P(1 - P) + (N-1) \times y^2)$

With:

p: Expected proportion of a response from the population or actual proportion p = 0,5

tp: Confidence interval tp= 1,96

y: Margin of error y= 0,05

And N: Size of target population N= 770 (**Gerville-Réache & Couallier**, 2011)[11]

Sampling is stratified and proportional. The sample size per option is calculated as follows:

**Table 3: Sample size by option**

| Option | Sample size | Percentage |
|---|---|---|
| General nursing | 87 | 33,76% |
| Anesthesia nursing | 32 | 12,33% |

[11] Gerville-Réache, L., & Couallier, V. (2011). Échantillon représentatif (d'une population finie) : définition statistique et propriétés. https://hal.archives-ouvertes.fr/hal-00655566.

| | | |
|---|---|---|
| Mental health nursing | 28 | 11,03% |
| Emergency nursing | 30 | 11,68% |
| Neonatology and pediatrics nursing | 30 | 11,68% |
| Family and Community Health Nursing | 10 | 3,89% |
| Operating theatre nursing | 20 | 7,79% |
| Hemodialysis nursing | 20 | 7,79% |
| Total | 257 | 99,95% |

### 2.6. Analysis of the results

Using the questionnaire administered, we assessed six parts of healthcare provider-patient communication, namely.

- Starting the interview
- Gathering information
- Discovering the patient's context
- Exchanging information
- Ending the consultation
- Analysing non-verbal behaviour

Each part comprises a certain number of items. Our data were analyzed using IBM SPSS statistics software version 26 to create a database and for statistical analysis. We first analyzed our sample population using descriptive statistics. Then, for the satisfaction scale, we calculated the average score for each student. We then compared the categories of students according to their levels of satisfaction. To do this, we used Chi-square tests. This test is used to determine whether there is a statistical relationship between two variables X and Y. When there is no statistical relationship between X and Y, they are considered independent, which means that knowing the value of X provides no information about Y. The null hypothesis (H0) of this test states that the two variables X and Y are independent. In terms of p-values, the null hypothesis is generally rejected when $p \leq 0.05$ (Djallal & Mechab, 2015)[12].

- **Cronbach's Alpha coefficient**

[12]Djallal, R. H., & Mechab, B. (2015). Modèle Discrets, Test de KHI 2 et Test D'indépendances. https://doi.org/10.13140/RG.2.2.10433.81763.

Cronbach's alpha coefficient measures the internal consistency of a scale (the level of inter-correlation between the different items) (Laveault, 2014)[13]. This coefficient is most commonly used to measure the reliability of a scale made up of several items. Reliability refers to the degree of stability of a measurement over time, independently of the participants, such that the measurements are error-free, thus allowing consistent results to be obtained (Moussa, 2008)[14].

## 3. Results and discussion

### 3.1. Quantitative results

#### 3.1.1. Participant characteristics

Of the 257 questionnaires distributed, 228 were completed correctly, giving a response rate of 88.71%. According to Table 4, 92.1% of respondents were over 18 years old, and only 7.9% were under 18. The majority of these students were female, representing 75.4% of respondents (n = 172), compared with 24.6% (n = 56) who were male. There were therefore more female than male respondents, which reflect the reality of the nursing student population, which has been increasingly feminized in recent years.

The respondents were distributed as follows: 83 students in the general nursing option (36.4%), 30 students in anesthesia and intensive care (13.2%), 25 students in the emergency and intensive care nursing option (11.0%), 25 students in the mental health nursing option (11, 0%), 30 neonatology and pediatrics nursing students (13.2%), 8 family and community health nursing students (3.5%), 12 operating room nursing students (5.3%) and 15 hemodialysis nursing students (6.6%). 21.9% of participants were studying in semester 2 (n=50), 43.9% in semester 4 (n=100) and 34.2% in semester 6 (n=78).

**Table 4: Characteristics of the participants surveyed**

| Characteristics of the participants | | | |
|---|---|---|---|
| | | **N** | **(%)** |
| Age | >18 | 210 | 92,1% |
| | <18 | 18 | 7,9% |
| Gender | Male | 56 | 24,6% |
| | Female | 172 | 75,4% |

[13] Laveault, D. (2014). Soixante ans de bons et mauvais usages dualpha de Cronbach. Mesure et évaluation en éducation, 35(2), 1-7. https://doi.org/10.7202/1024716ar.
[14] Moussa, S. (2008, mars 7). L'alpha de Cronbach et l'estimation de son intervalle de confiance : L'étude de deux approches.

| | | | |
|---|---|---|---|
| Option | General nursing | 83 | 36,4% |
| | Mental health nursing | 25 | 11,0% |
| | Anesthesia and intensive care nursing | 30 | 13,2% |
| | Emergency and intensive care nursing | 25 | 11,0% |
| | Neonatology and pediatrics nursing | 30 | 13,2% |
| | Family and community health nursing | 8 | 3,5% |
| | Operating theatre nursing | 12 | 5,3% |
| | Hemodialysis nursing | 15 | 6,6% |
| Semester level | Semester 2 | 50 | 21,9% |
| | Semester 4 | 100 | 43,9% |
| | Semester 6 | 78 | 34,2% |

### 3.1.2. Results of the parts of healthcare provider-patient communication

Our scale measuring students' satisfaction with communication during a care procedure, is made up of 6 parts (19 questions) (table 4): the first part, which represents the start of the interview, contains three questions aimed at establishing contact and creating a climate of trust with the patient: introducing oneself and specifying one's role and the nature of the interview, ensuring that the patient is "at ease" and acting in the event of obvious discomfort, and announcing the care steps. The second part concerns information gathering. It covers three questions: Using a mix of open and closed questions, clarifying patient statements that are ambiguous or need further clarification, and obtaining sufficient information to complete the care. The third part aims to discover the patient's context through three questions: Gathering information about the patient's life context, allowing the patient to talk about his or her expectations, concerns, and representations, welcoming the patient's points of view and emotions, and providing support. The fourth part focuses on the exchange of information during a care interview, through three questions: giving clear explanations, avoiding medical jargon, ensuring the patient's understanding, and encouraging the patient to ask questions. The fifth part concerns the final phase of the care interview and comprises three questions: checking with the patient whether they agree with the action plan and whether their concerns have been addressed, summarizing the discussion, and suggesting that contact be maintained.

Finally, the last part of our scale is a sort of evaluation of the student's satisfaction with their non-verbal communication during a care interview. It looks at their satisfaction with eye contact with the patient, posture, positions and movements, vocal cues (rate, volume, and tone), and the way they use a computer or paper file during the care interview.

**Table 5: Components of healthcare provider-patient communication**

| | Observation | Number | Percentage |
|---|---|---|---|
| **Beginning of the interview** | Question N°1: Introduce yourself and explain your role and the nature of the interview | | |
| | Satisfied | 181 | 79,4% |
| | Dissatisfied | 47 | 20,6% |
| | Question N°2: Make sure the patient is at ease' and take action in case of obvious discomfort | | |
| | Satisfied | 92 | 40,4% |
| | Dissatisfied | 136 | 59,6% |
| | Question N°3: Explain the stages of care | | |
| | Dissatisfied | 215 | 94,3% |
| | Satisfied | 13 | 5,7% |
| **Gathering information** | Question N°4: Ask a set of open and closed questions | | |
| | Satisfied | 175 | 76,8% |
| | Dissatisfied | 53 | 23,2% |
| | Question N°5: Clarify statements made by the patient that are ambiguous or which require more details | | |
| | Dissatisfied | 115 | 50,4% |
| | Satisfied | 113 | 49,6% |
| | Question N°6: Obtain sufficient information to ensure success in the treatment | | |
| | Satisfied | 84 | 36,8% |

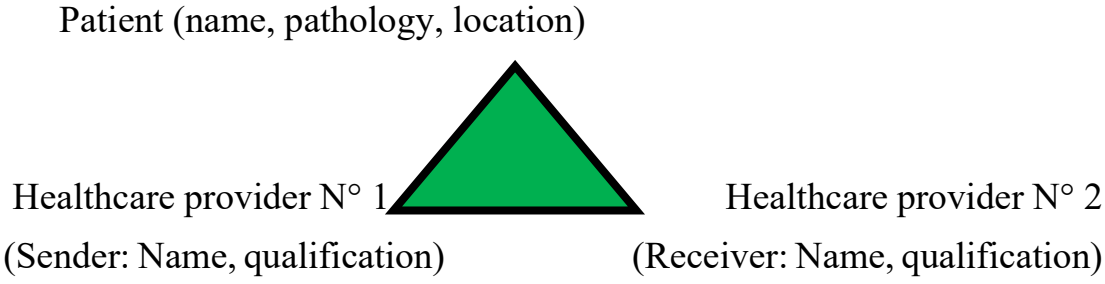
| | | | |
|---|---|---|---|
| | Dissatisfied | 144 | 63,2% |
| Learn about the patient's context. | Question N°7: Gather information about the patient's life context | | |
| | Satisfied | 77 | 33,8% |
| | Dissatisfied | 151 | 66,2% |
| | Question N°8: Encourage the patient to talk about his expectations, concerns, representations, etc. | | |
| | Satisfied | 14 | 6,1% |
| | Dissatisfied | 214 | 93,9% |
| | Question N°9: Acknowledge the patient's views and emotions, and provide support | | |
| | Satisfied | 13 | 5,7% |
| | Dissatisfied | 215 | 94,3% |
| Exchanging information | Question N°10: Provide clear explanations, avoiding medical jargon | | |
| | Satisfied | 32 | 14,0% |
| | Dissatisfied | 196 | 86,0% |
| | Question N°11: Ensure that the patient understands | | |
| | Satisfied | 147 | 64,5% |
| | Dissatisfied | 81 | 35,5% |
| | Question N°12: Encourage the patient to ask questions | | |
| | Satisfied | 79 | 34,6% |
| | Dissatisfied | 149 | 65,4% |
| Complete the care | Question N°13: Verify with the patient whether he/she agrees with the action plan and whether his/her concerns have been addressed. | | |
| | Satisfied | 31 | 13,6% |
| | Dissatisfied | 197 | 86,4% |

| | | | |
|---|---|---|---|
| | Question N°14: Summarize the discussion | | |
| | Satisfied | 60 | 26,3% |
| | Dissatisfied | 168 | 73,7% |
| | Question N°15: Suggest maintaining contact | | |
| | Satisfied | 65 | 28,5% |
| | Dissatisfied | 163 | 71,5% |
| **Regarding non-verbal behavior, are you satisfied with** | Question N°16: Maintaining eye contact with the patient | | |
| | Satisfied | 29 | 12,7% |
| | Dissatisfied | 199 | 87,3% |
| | Question N°17: Your posture, position, and movements | | |
| | Satisfied | 32 | 14,0% |
| | Dissatisfied | 196 | 86,0% |
| | Question N°18: Your vocal cues (speed, volume, tone) | | |
| | Satisfied | 55 | 24,1% |
| | Dissatisfied | 173 | 75,9% |
| | Question N°19: Your way of using a computer or paper file in a way that does not hinder communication | | |
| | Satisfied | 55 | 24,1% |
| | Dissatisfied | 173 | 75,9% |

At the start of the interview, the majority of students (79.4%) said they were satisfied with the way they introduced themselves, specifying their role and clarifying the nature of the interview. However, only 40.4% of students felt comfortable ensuring the patient's comfort and reacting in the event of obvious discomfort, revealing difficulties in managing patient discomfort. Furthermore, a large majority of students (94.3%) were dissatisfied with the way they announced the stages of patient care, suggesting that they often went straight to the act, neglecting this important stage. Bonel, in his 2008 survey of student training in the healthcare provider-patient relationship, found that 76.5% of students admitted to having encountered difficulties in their relationships. Napol and Kuhn

(2018)[15] pointed out that, during the reception, patients attach particular importance to how the healthcare provider approaches and greets them. The fact that the healthcare provider calls patients by name or shows a certain closeness is generally much appreciated.

In addition, to alleviate these difficulties in managing the patient's discomfort, it is necessary to integrate the idea of identifying the healthcare provider and the patient. To do this, the carer, during an exchange, must always check the use of a communicative skill of great importance; this is the figure of the « who » triangle:




This triangle enables the healthcare provider to personalize their contact with the patient, the aim being to facilitate the disclosure of the stages of care.

The process of gathering information during the care interview elicited 76.8% satisfaction from the students, particularly about the use of open and closed questions. However, opinions were almost divided regarding the clarification of the patient's statements, with 50.4% of students dissatisfied and 49.6% satisfied, which shows that this stage remains a challenge for many of them. The majority of students (63.2%) said they were dissatisfied with their ability to gather enough information to complete the care.

Knowing how to orient the care interview, using open and closed questions, and clarifying the patient's statements that required more details were techniques used by students at the Nice Faculty of Medicine in 2016, who were questioned about the information gathering process as part of a thesis on the competence of healthcare provider-patient communication (Guessoum et Armengau, 2016)[16].

Regarding the phase of discovering the patient's context, most students said they were dissatisfied with the gathering of information about the patient's life context (66.2%), with the opportunity given to the patient to discuss their

[15]Maud Napol, Sarah Kuhn. médicalesRangueil. 2009, 173p. Critères de qualité selon les patients, de la communication médecin-patient en médecine générale. Thèse de médecine. Université Grenoble Alpes. Faculté de médecine de Grenoble, 2018.

[16] Guessoum I, Armengau C. Opinions d'internes en médecine générale sur l'évaluation de leur compétence de communicateur au moyen d'un guide d'auto-évaluation à la communication.

expectations, concerns, and representations (93.9%), and with their ability to welcome the patient's views and emotions and provide support (94.3%).

In a review of the literature published in 2011, Neumann and his colleagues noted a decline in empathy among healthcare students during their training. The main cause put forward to explain this decline was the distress felt by students, linked to work overload, anxiety, and pressure from superiors. Clinical placements and the first exposure to the reality of hospital life, with patients' suffering, death, and illness, also contribute to this decline in empathy, with students establishing a distance from the patients to protect themselves and avoid identifying with their distress.

Concerning the exchange of information, only 14.0% of students were satisfied with their ability to provide clear explanations without using jargon, indicating that most (86.0%) used language that was too technical for patients. In addition, 64.5% of students checked the patient's understanding during a care interview, which is a positive point. However, 65.4% of students do not feel able to encourage the patient to ask questions. Napol and Kuhn (2018)[17] showed that patients prefer a healthcare provider who uses simple, jargon-free vocabulary. They appreciate it when the healthcare provider rephrases medical explanations in simple terms and directly checks that the patient has understood. Patients also feel that the healthcare provider can rely on visual aids, such as diagrams, drawings, or pictures, to comment on results and make explanations more accessible (Napol et Kuhn, 2018)[18].

The majority of students are dissatisfied with their communication skills in the final care phase. Most do not check the patient's agreement to the action plan (86.4%). In addition, 73.7% of students said they were dissatisfied with their ability to summarize the discussion, which shows that this stage is often forgotten or poorly carried out. Lastly, 71.5% of students were dissatisfied with their ability to suggest that contact be maintained. At the end of the consultation, patients should leave the healthcare establishment with the feeling that they have been understood and relieved of their worries. Patients do not tolerate uncertainty well and need information about the long-term course of their condition, the decisions to be taken, and any possible recourse. For many, it is important that the healthcare

[17] Maud Napol, Sarah Kuhn. médicalesRangueil. 2009, 173p. Critères de qualité selon les patients, de la communication médecin-patient en médecine générale. Thèse de médecine. Université Grenoble Alpes. Faculté de médecine de Grenoble, 2018.

[18] Maud Napol, Sarah Kuhn. médicalesRangueil. 2009, 173p. Critères de qualité selon les patients, de la communication médecin-patient en médecine générale. Thèse de médecine. Université Grenoble Alpes. Faculté de médecine de Grenoble, 2018.

provider offers to see them again and shows some availability, assuring them that they will be monitored in the long term (Napol et Kuhn, 2018)[19].

Similarly, the majority of students were dissatisfied with aspects of non-verbal communication. Indeed, 87.3% of them had difficulty maintaining adequate eye contact with the patient. In addition, 86.0% expressed dissatisfaction with their posture, positioning, and movements. Furthermore, 75.9% of students said they were dissatisfied with their voice modulation and vocal tone. Finally, 75.9% of students acknowledged that the use of digital or paper tools often disrupted communication during a care interview.

According to Mehrabian, the importance of non-verbal elements in communication is considerable: he estimates that in exchange, 55% of the total message comes from body language, 38% from the voice, and only 7% from the words used (Mehrabian, 2007)[20]. Non-verbal expression is therefore an essential pillar of communication. Most information is conveyed through form and context. The verbal (the content of the informative message), must be supported by its non-verbal dimension because if there is a conflict between the two, the patient will tend to consider the non-verbal message as the real message. This is because the nonverbal is often less conscious and partly beyond voluntary control (Richard et Lucier, 2005)[21].

Thus, the results show that nursing students encounter difficulties in several aspects of the care interview, including announcing steps, considering patients' expectations, exchanging information, and managing non-verbal communication. This highlights the need to improve training to better prepare students.

### 1.1.1. Desire for training in communication in the healthcare provider-patient relationship and the appropriate timing of such training

A total of 95.2% of participants expressed a need for training in the field of communication, to improve their communication practices between healthcare providers and patients (Figure 1). This percentage is even higher than that of participants dissatisfied with their level of communication with patients, which shows that students are fully aware of the crucial importance of effective communication in healthcare. Optimal communication not only ensures better patient understanding and satisfaction but also contributes to improving the quality of care provided. By developing specific communication skills, healthcare providers can create a more empathetic and collaborative environment, leading to better patient compliance and an overall enriched care experience.

[19] Maud Napol, Sarah Kuhn. médicalesRangueil. 2009, 173p. Critères de qualité selon les patients, de la communication médecin-patient en médecine générale. Thèse de médecine. Université Grenoble Alpes. Faculté de médecine de Grenoble, 2018.
[20] Mehrabian A. Nonverbal Communication. Broché. 2007.
[21] Richard C, Lucier M. La Communication Professionnelle En Santé. Broché. 2005 ; 131-135.

In her thesis defended in 2018 on the evaluation of interns' expectations regarding training in doctor-patient communication, Larapidie reported that 81.5% of the students surveyed were in favor of such training. In many countries, the teaching of communication skills in medical training is recognized as essential, even fundamental. As a result, the teaching and assessment of communication skills have been incorporated into medical curricula in these countries. (Peterson et al., 2014)[22].

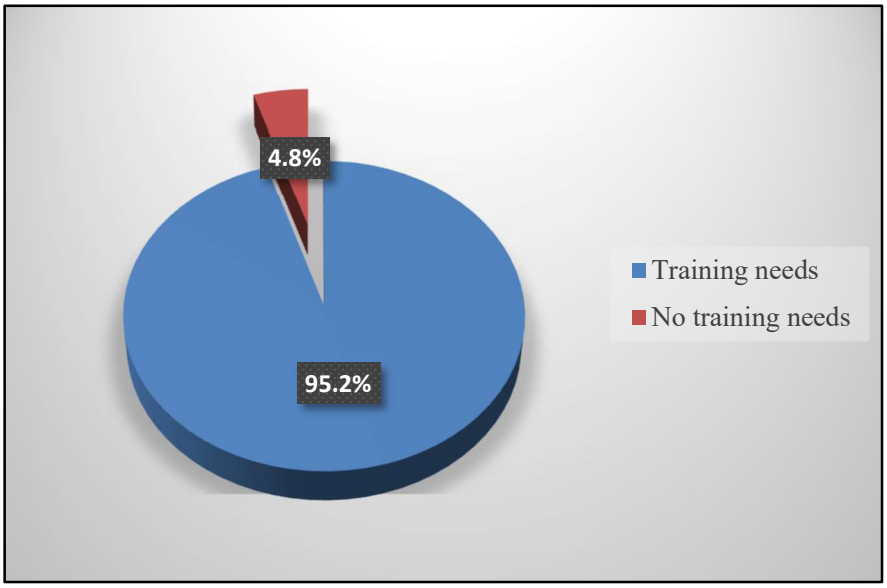



**Figure 1: Need for training**

In North America, current recommendations from the American Association of Medical Colleges emphasize the crucial importance of communication skills training during the medical curriculum (Peterson et al., 2014)[23]. Similarly, in Belgium, Switzerland, and Germany, numerous programs for learning communication techniques and assessing interpersonal skills have been developed (Kiessling et al., 2010; Alfonso-Roca, 2013)[24].

According to the majority of participants (67.1%), communication training should be introduced during the 2nd year of training at the higher institute of nursing and health techniques (Figure 2). Furthermore, 18.4% of respondents felt that this training would be more beneficial if it was organized in the 1st year, while 14.5% preferred it to be given in the 3rd year.

[22] Peterson EB, Calhoun AW, Rider EA. The reliability of a modified Kalamazoo Consensus Statement Checklist for assessing the communication skills of multidisciplinaryclinicians in the simulatedenvironment. Patient EducCouns. 2014.

23 Peterson EB, Calhoun AW, Rider EA. The reliability of a modified Kalamazoo Consensus Statement Checklist for assessing the communication skills of multidisciplinaryclinicians in the simulatedenvironment. Patient EducCouns. 2014.

[24] Kiessling C, Dieterich A, Fabry G, Hölzer H, Langewitz W, Mühlinghaus I, et al. Communication and social competencies in medicaleducation in German-speakingcountries: the Basel consensus statement. Results of a Delphi survey. Patient EducCouns. 2010.

Indeed, basic techniques and communication skills should be taught in the very first contact with patients, as is the case in Créteil where a course entitled "Introduction to the doctor-patient relationship" was introduced in the 3rd year in 2001 (Even, 2006)[25]. This approach would provide better support for students during their first clinical experiences.

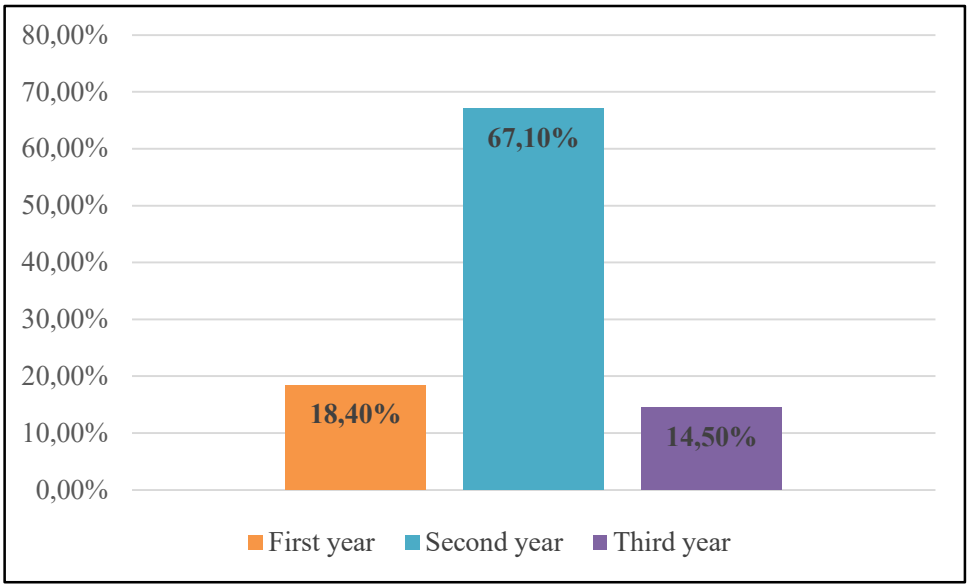



**Figure 2: Appropriate time for training**

### 3.2. Results analysis

#### 3.2.1. Reliability of the scale

To ensure the reliability of the scale used to measure the students' satisfaction level of their communication with the patient and its suitability for our test sample, we used the scale reliability test, which gave us the following results (Table 6):

**Table 6: Cronbach's Alpha results**

| Reliability statistics | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha based on standardized items | Number of items |
| 0.753 | 0.780 | 19 |

From this table, we can see that the value of Cronbach's alpha is 0.753, which is good since it exceeds the minimum threshold of 0.70 required. Consequently, we can say that this nineteen-item scale has satisfactory internal consistency, so it is reliable and adequate for measuring students' degree of satisfaction with the various elements of communication during a patient care interview.

[25] Even G. Enseigner la relation médecin-malade : Présentation d'une expérience pédagogique développée à la faculté de médecine de Créteil. Pédagogie Médicale. 2006;7(3):165-73.

### 3.2.2. Degree of student satisfaction with the various elements of communication during a care interview with the patient

Our study revealed that 88.2% of the participants were dissatisfied with the various elements of communication during a care interview. They were dissatisfied with the way they communicated with the patient from the start of the interview, during the gathering of patient information, during the questioning aimed at discovering the patient's context and the exchange of information, and even during the final phase of care.

**Table 7: Participants' satisfaction with the different elements of communication during a care interview with the patient**

| | Frequency | Percentage | Valid percentage | Cumulative percentage |
|---|---|---|---|---|
| Satisfied | 27 | 11,8% | 11,8% | 11,8% |
| Dissatisfied | 201 | 88,2% | 88,2% | 100,0% |
| Total | 228 | 100,0% | 100,0% | |

### 3.2.3. Results of the Khi-Square test

According to Table 8, the chi-square ($X^2$) = 0.002 is below the significance level (p =0.05), indicating that there is a statistically significant difference between the satisfaction levels of men and women. The chi-square ($X^2$) = 0.509 indicates that there is no significant difference between the satisfaction levels of the age groups of students under 18 and those over 18 (0.509> p =0.05). The chi-square ($X^2$) = 0.000 suggests that there is a significant difference between the satisfaction levels of the different study programs. This indicates that the study option is a factor that influences satisfaction (0.000< p =0.05). Finally, the chi-square (0.009) indicates that there is a significant difference between the satisfaction levels of students in semesters 2, 4, and 6. (0,009 < p =0,05).

**Table 8: Khi-Square test results**

| | | Level of satisfaction | | Total | $X^2$ |
|---|---|---|---|---|---|
| | | Satisfied | Dissatisfied | | |
| Gender | Male | 0 | 56 | 56 | 0,002 |
| | Female | 27 | 145 | 172 | |
| Total | | 27 | 201 | 228 | |
| Age | <18 | 3 | 15 | 18 | 0,509 |
| | >18 | 24 | 186 | 210 | |
| Total | | 27 | 201 | 228 | |
| Option | General Nursing | 20 | 63 | 83 | 0,000 |
| | Mental Health Nursing | 0 | 25 | 25 | |
| | Anesthesia and Resuscitation nursing | 0 | 30 | 30 | |
| | Emergency and Intensive Care nursing | 7 | 18 | 25 | |
| | Neonatology and Pediatrics nursing | 0 | 30 | 30 | |
| | Family and Community Health Nursing | 0 | 8 | 8 | |
| | Operating Room Nursing | 0 | 12 | 12 | |
| | Hemodialysis Nursing | 0 | 15 | 15 | |
| Total | | 27 | 201 | 228 | |
| Level | Semester 2 | 2 | 48 | 50 | 0,009 |
| | Semester 4 | 9 | 91 | 100 | |
| | Semester 6 | 16 | 62 | 78 | |
| Total | | 27 | 201 | 228 | |

In conclusion, there is a significant difference between satisfaction levels according to gender, study option, and level of study, but not according to age. In

other words, the nursing student's level of satisfaction during a care interview depends on three factors: the student's gender, the study option, and the student's level of study.

At this stage of the analysis, we can consider what this quality of communication with the patient must depend on. Regardless of the type of care, it depends on the information patients receive and the way they interpret it. In this context, the use of a coherent discourse among all those involved in the care process is essential, as it is one of the relevant tools for avoiding patient mistrust and can actively contribute to the patient's well-being. From this, we can deduce one of the collective skills making up the phraseology mentioned above: ***« Good communication between healthcare providers is, therefore, a prerequisite for good communication with patients »***. In other words, communication is an integral part of treatment, and its effectiveness is a key factor in ensuring patient adherence to the treatment protocol. Furthermore, adapting the language used with the patients is essential for maximizing their understanding. Therefore, healthcare providers are supposed to avoid using acronyms, as they can hinder comprehension during interactions with the patient.

In addition, the successful implementation of a care protocol requires structured tools that form part of a communication protocol. The initiators of medical communication have described this as the **« SBAR »** method, which consists of four stages, each contributing to the development of this communication protocol:

- **Stage 1: Situation**
- **Stage 2: Background**
- **Stage 3: Assessment**
- **Stage 4: Recommendation**

In the same way, reliable and effective communication with the patient is not limited to verbal exchanges but also includes written documentation. This takes the form of a report describing the patient's condition, which can then be shared with others.

Hence the need to develop the skill of report writing, which is an added value for the success of this care strategy. Oral communication shared with the patient can have limitations, whereas written documentation is resistant to the distortion and loss of information. Moving on from the verbal to the non-verbal aspects of communication, as presented in the discussion of the results, we found that body language had the highest impact, while words had the lowest, which means that non-verbal communication is more difficult to control than verbal communication. In healthcare, this refers to the **« tone »** of the healthcare provider, which conveys meaning when communicating with the patient. This « tone » and manner can create barriers between healthcare provider and patient when it is aggressive, whereas it can establish comfort and confidence when it is

calm and composed. This communicative skill should be taught as part of students' training in communication skills: « The healthcare provider is expected to communicate with the patient courteously and professionally ». Failure to do so risks undermining the success of the entire care strategy, of which communication is a vital component.

## Conclusion

The quality of the healthcare provider-patient relationship largely depends on the quality of communication. A structured assessment of communication skills, using a validated guide, has enabled students to evaluate their abilities in this area. This assessment should therefore be integrated into a coherent, longitudinal training program, extending from the beginning to the end of paramedical studies. Such an approach would foster early awareness of the skills to be acquired, along with their continuous updating, and their reinforcement over the years. Our study revealed the need to enhance current training at the higher institute of nursing professions and health techniques by incorporating more practical teaching, particularly emphasizing clinical themes that students consider essential, using the simulation center. Repeated practice, along with regular feedback, could not only maintain but also improve communication skills. This approach could help to improve the quality of the healthcare provider-patient relationship and reduce the risk of burnout among caregivers. One way forward is to reinforce communication skills training by developing a nurse-patient communication training protocol based on the needs expressed by students.

## Conflicts of interest

The authors declare that they have no known competing financial interests or personal relationships that might appear to influence the work presented in this article.

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