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Learning transfer of communication skills from simulation to clinical practice in nursing students

Vega-Retamal Cynthia¹, Jaramillo-Larson María^{2*}, Palma-Guerra Claudia¹, Novoa-Burgos Pía¹
Méndez-Celis Paula³, Recabarren-Recabarren Valeria¹

¹Centro de Simulación clínica, Facultad de Salud, Universidad Santo Tomás, Chile.

²Hospital Dr. Mauricio Heyermann, Angol, Chile

³Escuela de Enfermería, Facultad de Salud, Universidad Santo Tomás, Chile.

ABSTRACT

Introduction: Procedural training with Clinical Simulation (CS) has been shown to have a high level of transfer to practice according to the perception of students, however, there is little research on communication skills trained with this methodology, which motivates this study, seeking to establish whether there is transfer of the use of SBAR learned in the controlled environment of CS to clinical practice. **General objective:** Evaluate the transfer of learning to use the SBAR technique in clinical practice after having been trained with CS in nursing students. **Materials and methods:** Quantitative, cross-sectional, quasi-experimental correlational study between October 2022 and January 2023 in nursing students from second to fourth year of the 13 campuses of the Universidad Santo Tomás, Chile, who underwent post-training clinical practices on the use of SBAR with CS. The sample was randomly stratified with proportional affixation of 332 students from a universe of 2,370. Data were analyzed in IBM SPSS Statistics using frequencies, measures of central tendency and Spearman correlation. **Results and discussion:** There is transfer of learning using the SBAR technique from simulation to clinical practice and correlation between year studied and percentage of achievement, which could be explained by the number of simulations performed by students. **Conclusion:** After a training program in communication skills using the SBAR technique, it is possible to achieve high levels of performance in students, evidenced by the ability to transfer these learnings in CS to clinical practice, which is generated progressively as they advance in the formative levels.

Keywords: Transfer, Clinical simulation, Communication, SBAR.

Introduction

The training of clinical skills, with clinical simulation (CS), is proven to be effective in the training of students as well as in the updating of professionals. However, there is little research on CS in non-technical skills, such as communication in clinical teams.

According to McGarry et al. (2014) considers Kirkpatrick's model to assess the importance of evaluating learning in CS and how it is transferred to real clinical experience. To evaluate the scope of these learnings, we can appeal to the descriptions of Boulet et al. regarding the evaluation of simulation specifically in the degree of knowledge acquisition and the ability to perform the skills learned on the field.

Training with CS has been shown to have a high level of transfer according to the perception of the students, (Johnston, S et al. 2017) where high levels of transferability stand out after the experience of CS. However, learning surveys based on satisfaction, self-assessment or self-perception have little value for assessing learning in disciplines such as nursing or

medicine (McGarry et al. 2014), therefore it seeks to improve the tools to evaluate learning with CS and measuring tools for different knowledge domains (Adamson, K. A. 2013).

Regarding the quality and safety of care, several associations call for the use of standardized methods to make health care safer, which has been disclosed after the publication of "to err is human" in 1999. Since then, interventions have been carried out to achieve this goal, where organizations such as the Joint Commission incorporate as a safety goal for 2023, improve communication among health personnel (Jointcomission.org. 2023) To improve the communicative act, there are several clinical strategies, for example, the use of SBAR mnemonics (situation, background, assessment, recommendation) that structures the delivery of clinical information (verbal or written) to avoid omissions (Palma. G et al. 2022).

In 2021, a systematic review regarding SBAR was published, which concludes that the greatest impact is regarding the clarity of the information provided, when it's evaluated in educational environments over clinical

environments. Former distractors explain this. (Lo L, Rotteau et al. 2021) In other studies, the effectiveness of the use of the tool among professionals has been measured, demonstrating that the use of these instruments improves the quality and clarity of the information delivered, reducing risks and increasing patient safety (Shahid S et al. 2022a, Wilson D et al. 2017b, de Assis-Brito et al. 2022c)

Another point to consider is the number of educational sessions needed to achieve proficiency or skill acquisition, Kattan (2021). Logishetty (2020) and Amick (2021) explain it by describing that the acquisition of the skill is achieved after the use of CS with statistical significance, however, in most the durability of this over time is not studied. On the contrary, Willis (2017) describes in his study that the transfer of learning is not achieved and mentions that it is probably associated with the scarce number of training sessions, having courses with four clinical skills training versus other procedures trained in up to 40 sessions.

Therefore, after designing and validating an instrument to assess the use of the SBAR tool, it is proposed to carry out this study to evaluate the transfer of the acquired skills trained with simulation to clinical practice in nursing students who are in their second to fourth year out of a 5-year career.

The objective of this study was to evaluate the transfer of learning using the SBAR technique in clinical practice after having been trained with CS in nursing students.

Material and Methods

A quantitative, cross-sectional, quasi-experimental correlational study was conducted between October 2022 and January 2023 in nursing students from second to fourth year, who underwent post-training in the use of SBAR with CS to clinical practices. The sample was randomly stratified with proportional allocation of 332 students from a universe of 2,370 nationwide (Hernández-Sampieri 2014). Those students who failed the topics with clinical practice and those who took them for the second time were excluded.

The general objective was to evaluate the transfer of learning using the SBAR technique in clinical practice after having been trained with clinical simulation in nursing students. Among the specific objectives of this study we propose: 1. To establish the percentage of overall achievement of the use of the SBAR technique of nursing students during clinical practice; 2. To determine the percentage of achievement of each item of the SBAR technique achieved by nursing students during clinical practice; 3. Identify the level of submission with elements of general appreciation of order, clarity and vocabulary in

the use of the SBAR technique and 4. To analyze the relationship between year studied and achievement of the use of the SBAR technique of nursing students during clinical practice.

Initially, the relationship between training in the use of SBAR with CS and the students' academic level was analyzed, then the validated questionnaire "Instrument for evaluating delivery of clinical information according to SBAR technique" was applied, which covers the four items of the SBAR technique and general criteria for its application (Palma G., C., et al, 2022).

For the statistical analysis, the database was worked in Microsoft Excel and analyzed in IBM SPSS Statistics using frequency tables, measures of central tendency and Spearman's correlation to evidence the level of achievement and with it the transfer from CS to clinical practice was considered over 70% of achievement in the criteria of each item of the SBAR technique contained in the questionnaire used.

Results

The sample of 332 students is stratified by year of study, by geographical area and by percentage of achievement of use of the SBAR technique, where it is observed that 107 second-year students correspond to 32% of the total sample, who were exposed to 1 SBAR workshop in SC and their percentage of SBAR achievement according to the geographical area was 10% in the center with 40 students, 2.9% in the south with 35 students and 31.3% in the north with 32 students.

In the case of third year, 34% of the sample with 113 students had 12 SBAR sessions in SC and their percentage of achievement according to the geographical area was 26.2% with 42 students in the central zone, 37.8% in the south zone with 37 students and 11.8% in the north zone with 34 students.

In the graph you can see the level of achievement of the general criteria of order, clarity and language distributed by geographical area and year studied, this highlights that, in the second year, the order of the information delivered in the north is the criterion with the best achievement, 88%, while in the south it reached 34% being the lowest achievement observed. In the third year, the best achieved criteria with 81% were clarity and use of formal-technical vocabulary, both in the central zone, while the criterion with the lowest achievement was the order in the delivery of information in the northern zone with 26%. In the fourth year, with a 79% achievement, the criteria of use of language and clarity in the information were the highest, both in the north, while the order with an achievement of 46% in the south was the least achieved criterion.

The table shows the correlation of the SBAR instrument with the level of achievement, where although it is possible to see that in each item of the SBAR technique there is correlation, this is statistically significant when considering the overall achievement of the technique, where the correlation

coefficient is 0.330 indicating moderate positive correlation, that is, the higher the year studied, the greater the achievement of using the SBAR technique (p-value is < 0.05). With respect to the criteria of order, clarity and language, there is no correlation.

Table 1. Sample distribution according to level of overall achievement of the SBAR technique in clinical practice and geographical area (n=332).

SBAR Achievement by level	Center		South		North		Total	
	n	%	n	%	n	%	n	%
SECOND YEAR	40	32,5%	35	32,1%	32	32%	107	32,2%
Achievement	4	10%	1	2,9%	10	31,3%	15	14%
THIRD YEAR	42	34,1%	37	33,9%	34	34%	113	34%
Achievement	11	26,2%	14	37,8%	4	11,8%	29	25,7%
FOURTH YEAR	41	33,3%	37	33,9%	34	34%	112	33,7%
Achievement	27	65,9%	9	24,3%	22	64,7%	58	51,8%
Total	12	100%	109	100%	100	100%	332	100%

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Source: Authors.

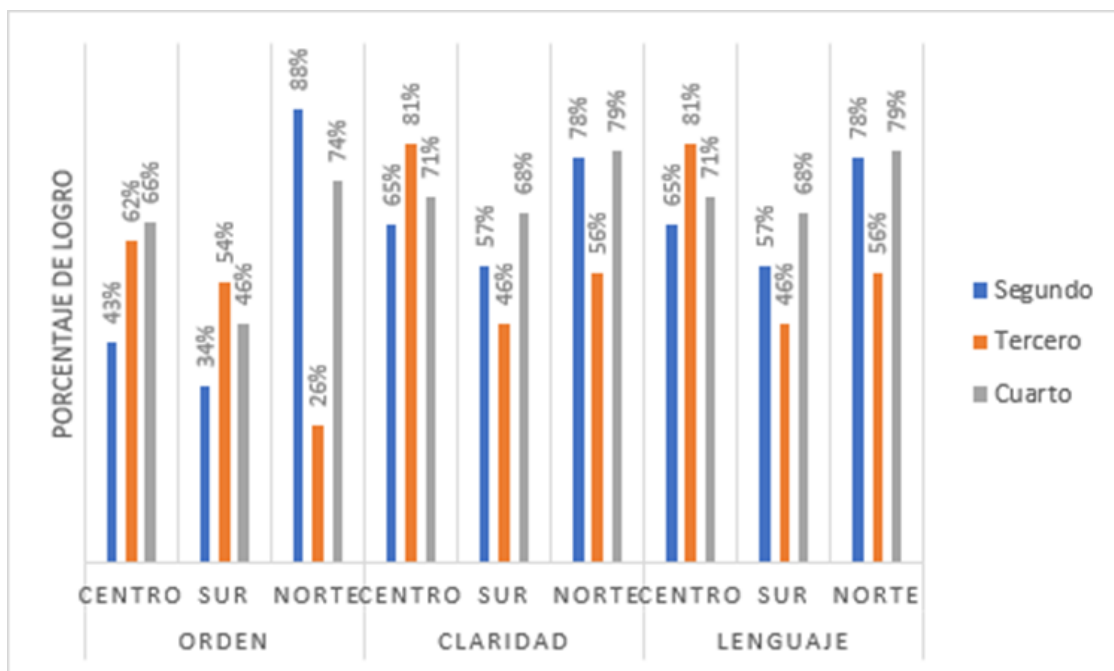


Figure 1. Distribution of the level of achievement of the general criteria of order, clarity and language during the use of the SBAR technique in clinical practice and geographical area.

Table 2. Spearman correlation of SBAR achievement level and general criteria with level of year completed of the career (n=332).

Variables	Years of career Studied	
	Coef. Correlation	Significance (p-value)
Situación (S)	0,126	0,022
Background (B)	0,225	0,000
Assessment (A)	0,196	0,000
Recommendation (R)	0,271	0,000
FINAL ACHIEVEMENT SBAR	0,330	0,000
Order	0,070	0,206
Clarity	0,053	0,336
Language	0,091	0,096

Source: Authors.

Discussion

To deepen the results obtained, it is necessary to consider the limitations of this study, where the main one was that being a national study and due to the geography of the country, complex logistics were required to obtain the sample, consequently, for data collection the support of academics external to the research group was required.

In global terms, there is transfer of learning to use the SBAR technique, in clinical practice after training with CS in nursing students, this is related to what was described by (Remia et al. 2019) where the use of communication tools such as ISBAR (Identify, situation, background, assessment, recommendation) during the simulation highlighted the benefits of a systematic approach to communication to transmit key clinical information to other members of the health care team. It is also relevant that training in the transfer of information and its subsequent application to clinical experiences, where training becomes so valuable for an adequate execution of the transfer of information that it is even possible for trainees to isolate interruptions, distractors and external noises when executing it (Vidya Menon et al. 2021).

Regarding the general criteria of the instrument, there is no correlation or statistical significance according to the year studied: in the second year, the order of the information was the criterion with the greatest achievement, probably because the CS of this level is in zone 1 (Roussin, C. J. et al. 2017), where following instructions and procedural order is the most worked, while clarity and technical vocabulary are skills in the process of being acquired. While in third and fourth year, the criteria of clarity of the information delivered and use of technical vocabulary were the most developed, which could be explained because the simulations of these students transit between zones 2 and 3, which added to having taken subjects of medical-surgical nursing and / or pediatric and emergency nursing, It makes them mobilize from

an intuitive term, according to Carrillo Algarra (2013) based on Dreyfus' skill acquisition model. However, it is pending to work this criterion with higher levels, since the SBAR mnemonics, has a predetermined logical order.

There is also a correlation between year studied and percentage of achievement, which could be explained due to the number of SBAR simulations performed, where second year (with 14% of achievement) only performed one, in third year they performed 13 (with 26% of achievement) and finally in fourth year (52% of achievement), they performed 51 when accumulating all years of training in SC, so the premise is fulfilled that the greater the number of simulations, the better performance in clinical practice (Johnston, S 2017, Lo L, Rotteau 2021), which is also related to the fact that by using a standardized system recommended by international organizations it is possible to give structure to this communication framework, and in turn, train it with clinical simulation as a skill (Jointcomission.org. 2023) in line with what was proposed by Vidya Menon et al. (2021) where there are significant improvements in simulation-based curricula designed to teach and hone these skills.

Conclusion

After a training program for communication skills among professionals with the SBAR technique, it is possible to achieve high levels of performance and in students it is also evident in the ability to transfer these learnings from simulation to clinical practice, with a progression in the development of this communicative skill as they go through higher academic levels, Since the acquisition and application to practice of this trained skill ranges from lower courses, with a smaller number of trainings to higher courses where this number of trainings increases considerably, since it is cumulative, which improves performance.

In the future, it is of interest to complement this research with others that allow us to know the number of optimal simulations to achieve the acquisition of the trained skills and also to establish if they are maintained over time. In this way, contribute to the retraining of this and other skills, technical and non-technical, so that they persist over time.

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References

- Adamson, K. A., Kardong-Edgren, S., & Willhaus, J. (2013). An updated review of published simulation evaluation instruments. *Clinical Simulation in Nursing*, 9(9), e393-e400. <http://dx.doi.org/10.1016/j.ecns.2012.09.004>
- Amick, A. E., Feinsmith, S. E., Davis, E. M., Sell, J., Macdonald, V., Trinquero, P., ... & Barsuk, J. H. (2022). Simulation-based mastery learning improves ultrasound-guided peripheral intravenous catheter insertion skills of practicing nurses. *Simulation in Healthcare*, 17(1), 7-14.
- Palma G. C., Vega R. C., Jaramillo. L. M., & Bustamante A. M. (2022). Assessment Instrument Validation of the Sbar Technique as a Clinical Communicative Skill in Nursing Professionals in Training. *Transylvanian Review*, 30(2). <http://transylvanianreviewjournal.com/index.php/TR/article/view/906>
- Bruce, R., Levett-Jones, T., & Courtney-Pratt, H. (2019). Transfer of learning from university-based simulation experiences to nursing students' future clinical practice: An exploratory study. *Clinical Simulation in Nursing*, 35, 17-24.
- Carrillo Algarra AJ, Garcia Serrano L, Wilches Cotrina NY, Cardenas Orjuela CM, Diaz Sánchez IR. Patricia Benner's philosophy and clinical practice. *Enferm Glob* [Internet]. 2013;12(4) <http://dx.doi.org/10.6018/eglobal.12.4.151581>
- de Assis Brito, M., Carneiro, C. T., Bezerra, M. A. R., Rocha, R. C., & da Rocha, S. S. (2022). Effective communication strategies among health professionals in neonatology: an integrative review. *Enfermería Global*, 21(3), 548-591. <https://dx.doi.org/10.6018/eglobal.502051>.
- Howard, S. K., Gaba, D. M., Fish, K. J., Yang, G., & Sarnquist, F. H. (1992). Anesthesia crisis resource management training: teaching anesthesiologists to handle critical incidents. *Aviation, space, and environmental medicine*, 63(9), 763-770
- ANESTHESIA CRISIS RESOURCE MANAGEMENT TRAINING | Anesthesiology | American Society of Anesthesiologists (asahq.org)
- Icart, M. y Pulpón, A. (2016). Problem and research objectives. En M. Icart (Ed.), *How to prepare and present a research project, a dissertation and a thesis*. (pp.43-49). Publicacions i Edicions de la Universitat de Barcelona.
- Johnston, S., Parker, C. N., & Fox, A. (2017). Impact of audio-visual storytelling in simulation learning experiences of undergraduate nursing students. *Nurse education today*, 56, 52-56. <http://dx.doi.org/10.1016/j.nedt.2017.06.011>
- Kattan, E., De la Fuente, R., Putz, F., Vera, M., Corvetto, M., Inzunza, O., ... & Bravo, S. (2021). Simulation-based mastery learning of bronchoscopy-guided percutaneous dilatational tracheostomy: competency acquisition and skills transfer to a cadaveric model. *Simulation in Healthcare*, 16(3), 157-162.
- Lo L, Rotteau L, Shojania K. (2021) Can SBAR be implemented with high fidelity and does it improve communication among healthcare workers? A systematic review. <http://dx.doi.org/10.1136/bmjopen-2021-055247>
- Logishetty, K., Gofton, W. T., Rudran, B., Beulé, P. E., & Cobb, J. P. (2020). Fully immersive virtual reality for total hip arthroplasty: objective measurement of skills and transfer of visuospatial performance after a competency-based simulation curriculum. *JBJS*, 102(6), e27.
- Matern, L. H., Farnan, J. M., Hirsch, K. W., Cappaert, M., Byrne, E. S., & Arora, V. M. (2018). A standardized handoff simulation promotes recovery from auditory distractions in resident physicians. *Simulation in Healthcare*, 13(4), 233-238.
- McGarry, D., Cashin, A., & Fowler, C. (2014). Is high fidelity human patient (mannequin) simulation, simulation of learning?. *Nurse Education Today*, 34(8), 1138-1142. <https://www.sciencedirect.com/science/article/pii/S0260691714001257>
- Menon, V., Bhoja, R., Reisch, J., Kosemund, M., Hogg, D., & Ambardekar, A. (2021). Acquisition of teamwork and communication skills using high-technology simulation for preclerkship medical students. *Simulation in Healthcare*, 16(6), e181-e187.
- National Patient Safety Goals (2023) <https://www.jointcommission.org/standards/national-patient-safety-goals/-/media/88c13498e39f48d0a56e806db38ad255.ashx>

- Roussin, C. J., & Weinstock, P. (2017). SimZones: an organizational innovation for simulation programs and centers. *Academic Medicine*, 92(8), 1114-1120.
<http://dx.doi.org/10.1097/acm.0000000000001746>
- Sampieri, R. H. (2018). *Research methodology: the quantitative, qualitative and mixed routes*. McGraw Hill México.
- Wilson, D., Kochar, A., Whyte-Lewis, A., Whyte, H., & Lee, K. S. (2017). Evaluation of situation, background, assessment, recommendation tool during neonatal and pediatric interfacility transport. *Air medical journal*, 36(4), 182-187.
<http://dx.doi.org/10.1016/j.amj.2017.02.013>