

Nurses in Public Health: A profession in continuous evolution

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ABSTRACT

Today, nurses play a fundamental role in Public Health. In the last few decades the health profession has seen strong professional growth, in the areas of Clinical practice, Management and Education. In particular, this growth has been also informed by the progress being made in nursing research. In fact, nursing research has contributed to the establishment of support tools to facilitate and evaluate the daily work done by nurses, contributing significantly to the improvement of their professional performance.

Key words: Nurses, nurses' role evolution, nursing tools, nursing research

INTRODUCTION

In Public Health a fundamental role is played by nurses. Nursing is a profession within the *health care* sector, which focuses on the care of individuals, families, and communities so they may attain, maintain, or recover optimal health and quality of life.

Nursing, as an integral part of the Health System, includes health promotion, disease prevention and both physical and psychological care for patients and disabled people of all ages, in all health care and community settings. Within this broad spectrum of health care, the particular areas of concern are the patient as an individual, their family and group responses to current or potential health problems. These human responses vary widely from the reactions of restoring health to a single episode of

illness, to the development of policies to promote long term health in the population. [1]

Today nurses are seen as very important health care professional within areas such as:

1. Clinical practice: nurses develop a care plan, working collaboratively with physicians, therapists, the patient, the patient's family and other team members, focusing on treating illness to improve the patient's quality of life. Nurses may help coordinate the patient care performed by other members of a multidisciplinary health care team such as therapists, medical practitioners and dieticians, and they provide care both in synergy with physicians, and independently as nursing professionals [1].
2. Management: coordination functions according

to their duties and skills, such bed management in general hospitals [2,3], direction and supervision of the nursing staff, maintaining quality assurance by ensuring the implementation of nursing policy and procedures, and monitoring the turnover of nurses [4,5].

3. Educational: protection and promotion of health and quality of life through the educational process that aims at the integral and harmonious development of each person and, in its application to health care. For example, education on risk factors, such as the transmission of infectious and/or sexually transmitted infections, to the exchange of commonly used objects, such as razors or toothbrushes, tattooing and piercing practice and the lack of hand hygiene. Finally the Educational section also includes both training, such as assessing the knowledge, attitude and behaviour of nurses in their clinical practice, and higher levels of academic education, such as Masters and Doctorates .

What is more management roles also depend on a legal level of education (law no.43/2006 regarding head nurses in a single unit or department, law 251/2000 regarding nurse managers), that is, in this case, Management is linked to educational level i.e. Educational area.

In fact, a nurse's role can often involve all the areas described above simultaneously. For example both management and the assistance of patients with chronic disease (heart failure, diabetes, etc), involve the education the patient on the benefits of a healthier lifestyle, such as education on self-care, and correct drug therapies in order to avoid the worsening of conditions and/or rehospitalizations. Self-care is a decision-making process where the subject adopts behaviors to maintain the physiological stability of the disease with the monitoring of symptoms and the observance of treatments [6]. In this way, it is possible to manage symptoms when necessary, using specific techniques.

The objective of this paper is to highlight how the nurse's role is evolving and how this development is closely associated with the progress being made in nursing research.

Methods and search Criteria

Many tools have been developed to help healthcare workers, through scientific research. In fact these tools, which are being introduced more and more often into clinical practice, represent a real support mechanism to the nurses both in their decision making in their chosen strategies and their performance evaluations.

The tools developed in nursing research are usually based on questionnaires, composed of two or more

sections, depending on survey type, and where every section includes more questions. The questionnaires are carried out through interviews (qualitative methods) with patients, parents or nurses.

These tools give a total score based on the evaluation of all answers collected.

This global score classifies, according to scale previously defined with opportune procedure of validation, for example if a patient is pathological or not (videogame addiction) [7], the stress level for parents of children with chronic disease [8,9], if it is necessary to transfer a patient to Intensive Care Unit (ICU) [10], etc.

In addition each answer is characterised by two or more options that are classified according to Likert scales. Particularly the most used is the Likert scale with five-point bipolar response (for example: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often) [11,12] .

Following we reported some tools and methods developed in nursing research.

1. CiTAS (Chemotherapy-induced Taste Alteration Scale), is a tool to evaluate the taste alteration in patients undergoing chemotherapy [13-16];
2. C-CHEWS (Cardiac Children's Hospital Early Warning Score), is a tool to evaluate if a child requires a transfer to Intensive Care Unit (ICU) following cardiac surgery [10,17];
3. SBAR (Situation-Background-Assessment-Recommendation) [18,19] is a structured method used to facilitate prompt and appropriate communication or transmission of clinical information and improving patients'care;
4. NAS (Nursing Activities Score) is a tool used to assess the nurses'workload [20].

Regarding the continuous progress obtained in nursing research, in Figure 1 we showed the number of scientific papers published in the nursing field and reported in PUBMED from 1968 to 2018.

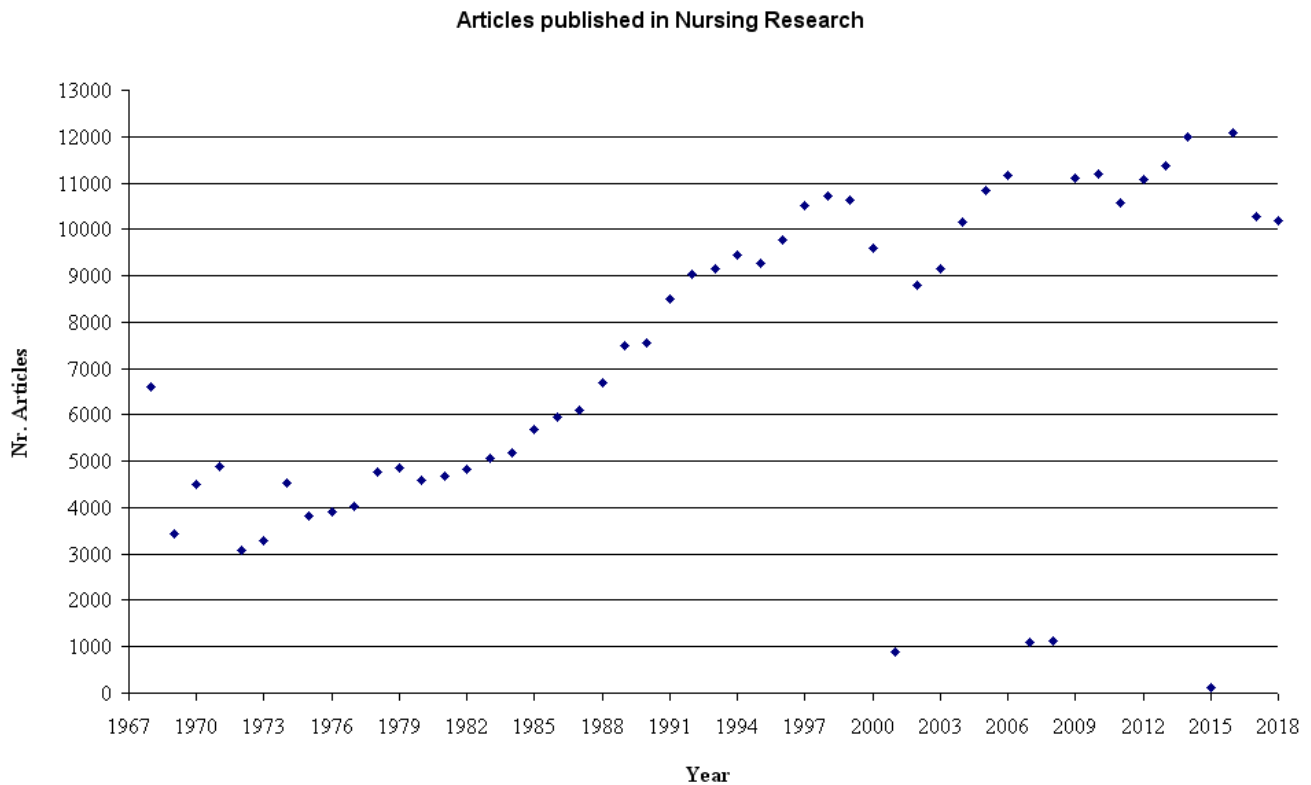
The information was obtained with an advanced search in PUBMED, where we considered the following search options: " All fields", key words:

("1968"[Date - Publication] : "2019"[Date - Publication]) AND (Nursing[MeSH Terms]) OR (Nursing Research[MeSH Terms]) OR (Nursing Education[MeSH Terms]) OR (Nursing Management[MeSH Terms]) OR (Nurse[MeSH Terms]) OR (Nurses'role[MeSH Terms]) NOT (Breast Feeding) NOT (Biology) NOT (Macrophage) NOT (DNA) NOT (Genome)

DISCUSSION

Over the last 50 years nursing research has increased significantly alongside changes in the important role assumed by nurses within the health care area.

To evaluate the growth of nursing research, we searched all scientific papers published in the field of

FIGURE 1. Papers published in nursing research and reported in PUBMED from 1968 to 2018


nursing in PUBMED, according to search method described in the Methods and search Criteria paragraph. We found 365,264 papers. In 1968 6,603 papers nursing papers were published, whereas in the year 2019, 3,689 papers were published from January 1st to December 7th, and not included in this discussion because we only considered full years, i.e. from January 1st to December 31st.

Moreover, we underline that despite using many combined key words, the number of articles found in PUBMED is very large, therefore the possible presence of few records no connected to nursing research or incorrectly excluded, it cannot in any way condition what has been discussed in this paper.

The measurement scales and tools development in nursing research, such as those described above, contribute to increasing nurses' performance. Essentially, nursing research represents a fundamental phase which permit to transfer the research results in the daily work done by nurses, and this is confirmed by the importance that nurse's role has obtained over the last 50 years through a continuous evolution also connected to scientific research.

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Competing interests statement

There are no competing interests for this study.

References

1. Web page of International Council of Nurse. Nursing Definitions. Available from <https://www.icn.ch/nursing-policy/nursing-definitions> [Accessed October 20, 2019]
2. He, L., Madathil, S. C., Oberoi, A., Servis, G., & Khasawneh, M. T. (2019). A systematic review of research design and modeling techniques in inpatient bed management. *Computers & Industrial Engineering*, 127, 451-466.
3. Converso, G., Di Giacomo, S., Murino, T., & Rea, T. (2015, September). A System Dynamics Model for Bed Management Strategy in Health Care Units. In *International Conference on Intelligent Software Methodologies, Tools, and Techniques* (pp. 610-622). Springer, Cham.
4. Sasso, L., Bagnasco, A., Petralia, P., Scelsi, S., ... & Aiken, L.H., (2017). RN4CAST@ ITPed: Nurse staffing and children's safety. *Journal of advanced nursing*, 74 (6).
5. Sasso, L., Bagnasco, A., Zanini, M., Catania, G., ... & Sermeus, W., (2016). The general results of the RN4CAST survey in Italy. *Journal of advanced nursing*, 73 (9).
6. Riegel, B., Dunbar, S. B., Fitzsimons, D., Freedland, K. E., Lee, C. S., Middleton, S., ... & Jaarsma, T. (2019). Self-care research:

- Where are we now? Where are we going?. *International Journal of Nursing Studies*, 103402.
7. Lemmens, J. S., P. M. Valkenburg and J. Peter (2009). "Development and validation of a game addiction scale for adolescents." *Media psychology* 12(1): 77-95.
 8. Abidin, R. R., & Abidin, R. R. (1990). *Parenting Stress Index (PSI)* (p. 100). Charlottesville, VA: Pediatric Psychology Press.
 9. Pinquart, M. (2018). Parenting stress in caregivers of children with chronic physical condition—A meta-analysis. *Stress and Health*, 34 (2), 197-207.
 10. Simeone, S., Platone, N., Serra, N., Assanta, N., Guillari, A., Rea, T., Pucciarelli, G., Da Valle, P., Gargiulo, G., Baratta, S., McLellan, M., (2019). *Cardiac Children's Hospital Early Warning Score: Italian validation*. *J. Pediatr Nurs.* 2019 Jun 28. pii: S0882-5963(18)30535-9. doi: 10.1016/j.pedn.2019.06.011.
 11. Joshi, A., Kale, S., Chandel, S., & Pal, D. K. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, 7(4), 396.
 12. Rensis Likert, "A Technique for the Measurement of Attitudes," *Archives of Psychology*, 1932, Vol. 140, No. 55
 13. Rea T., Esposito, M.R., Simeone, S., Guillari, A., Tessitore, G., Lanzuise, A., Bosco, G., Gargiulo, G., Coratella, C., Scarlata, F., Serra, N., *An investigation of Taste alteration in patients undergoing cancer chemotherapy*, 2018 October; 177(10):509-17
 14. Guillari, A., Esposito, M.R., Simeone, S., Tessitore, G., Lanzuise, A., Gargiulo, G., Coratella, C., Scarlata, F., Serra, N., Rea, T., *Dysgeusia in women undergoing cancer chemotherapy: results of a preliminary observational study*, 2018 October; 177(10):518-26
 15. Simeone, S., Rea, T., Esposito M.R., Tessitore, G., Lanzuise, A., Gargiulo, G., Coratella, C., Scarlata, F., Serra, N., Guillari, A.,. *Taste disorders in younger and older patients undergoing cancer chemotherapy: A preliminary multicenter study*, 2018 October; 177(10):527-31
 16. Simeone, S., Esposito, M.R., Gargiulo, G., Lanzuise, A., Botti, S., Serra, N., Continisio, G.I., Rea, T., Guillari, A., *The CiTAS scale for evaluating taste alteration induced by chemotherapy: state of the art on its clinical use*. *Acta Biomed.* 2019 Jul 8;90(6-S):17-25. doi: 10.23750/abm.v90i6-S.8278
 17. McLellan, M. C., & Connor, J. A. (2013). The Cardiac Children's Hospital Early Warning Score (C-311 CHEWS). *J Pediatr Nurs*, 28(2), 171-178. doi: 10.1016/j.pedn.2012.07.009.
 18. Rea, T., Simeone, S., Annunziata, M., Serio, C., Esposito, M. R., Gargiulo, G., & Guillari, A. (2018). Effectiveness of the Situation-Background-Assessment-Recommendation (SBAR) methodology in patient handovers between nurses, Italy. *Igiene e Sanità Pubblica*, 74(3), 279-293.
 19. Ruhomaulu, Z., Betts, K., Jayne-Coupe, K., Karanfilian, L., Szekely, M., Relwani, A., ... & Jaffry, Z. (2019). Improving the quality of handover: implementing SBAR. *Future Healthc J*, 6(Suppl 2), 54-54.
 20. Stafseth, S. K., Tønnessen, T. I., Diep, L. M., & Fagerstrøm, L. (2018). Testing the Reliability and Validity of the Nursing Activities Score in Critical Care Nursing. *Journal of nursing measurement*, 26(1), 142-162.

