ABSTRACT

Objective: To identify nurses’ knowledge and skills for evidence-based practice and their research practices. Methods: study conducted with 41 nurses from the Family Health Strategy, in southern Brazil. Data collection occurred through a questionnaire, script of auxiliary questions and focus group, after approval by the Ethics and Research Committee. Descriptive statistics and thematic content analysis were used for analysis. Results: it was identified that nurses lack knowledge and skills to produce and use scientific studies. Clinical experience is the main marker of actions, while patient preference in decision making has proved to be the least regarded element among the pillars of evidence-based practice. Conclusion: It is still a challenge to develop evidence-based practice, intending to reflect on the process of vocational training and the emphasis that research has on undergraduate and health services.

Descriptors: Nursing Research; Primary Health Care; Evidence-Based Nursing.

RESUMO

Objetivo: identificar os conhecimentos e habilidades de enfermeiros para a prática baseada em evidência e suas práticas de pesquisa. Método: estudo realizado com 41 enfermeiros da Estratégia Saúde da Família, no Sul do Brasil. A coleta de dados ocorreu por questionário, roteiro de questões auxiliares e grupo focal, após a aprovação do Comitê de Ética e Pesquisa. Para análise utilizou-se estatística descritiva e análise de conteúdo temática. Resultados: foi identificado que os enfermeiros carecem de conhecimentos e habilidades para produzir e utilizar estudos científicos. A experiência clínica é o principal balizador das ações, enquanto a preferência do paciente nas tomadas de decisões revelou-se como o elemento menos considerado entre os pilares da prática baseada em evidência. Conclusão: ainda é um desafio desenvolver a prática baseada em evidência, tencionando reflexões acerca do processo de formação profissional e da ênfase que a pesquisa tem na graduação e nos serviços de saúde.

Descritores: Pesquisa em enfermagem; Atenção primária à saúde; Enfermagem baseada em evidências.

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RESUMEN

Objetivo: identificar el conocimiento y las habilidades de las enfermeras para la práctica basada en evidencia y sus prácticas de investigación. Método: estudio realizado con 41 enfermeras de la Estrategia de Salud Familiar, el sur de Brasil. La recolección de datos se realizó por cuestionario, un guión de preguntas auxiliares y un grupo focal, después de la aprobación del Comité de Ética e Investigación. Las estadísticas descriptivas y el análisis de contenido temático se utilizaron para el análisis. Resultados: enfermeras carecen de conocimientos y habilidades para producir y utilizar estudios científicos. La experiencia clínica es el principal marcador de acciones, mientras que la preferencia del paciente ha revelado el elemento menos considerado entre de la práctica. Conclusión: es desafiante desarrollar prácticas basadas en evidencia, con la intención de reflexionar sobre el proceso de capacitación vocacional y el énfasis que la investigación tiene en los servicios de pregrado y de salud.

Descritos: Investigación en Enfermería; Atención Primaria de Salud; Enfermería Basada en la Evidencia.

INTRODUCTION

Nursing is a science and as a profession, it performs several activities, including research, which is fundamental because it allows us to understand specific work situations, explain phenomena, predict results, control adverse events, in addition to qualifying the service to people. However, research is commonly a complex task, especially for those professionals who dedicate themselves only to care.¹

Among the care activities of nursing, the universe of Primary Health Care stands out an environment in which nurses develop actions for promotion, prevention, recovery, rehabilitation, and palliative care. In addition, it must offer comprehensive care, focusing on the family and the socio-economic, cultural and epidemiological context of the community in which it operates.²

For nurses to develop their activities in line with scientific and technological advances, it is necessary to overcome the challenges of keeping continuously updated, since scientific production in the health field has an accelerated pace. For this, it is necessary to be skillful and judicious in deciding your sources of information.³ One of the great challenges is to train and train professionals with discernment and competence to interpret clinical research and apply it in the model of an Evidence-Based Practice.⁴

Evidence-Based Practice is defined as an approach that associates the best scientific evidence with clinical experience and the choice of the patient, being developed in order to reduce the error in care, qualifying health work.⁴ For its development, it is necessary for health professionals to know basic research
tools/elements. Specifically, in Nursing, through the National Curricular Guidelines, training aims to provide nurses with the knowledge to develop, participate, and apply research and/or other forms of knowledge production that aim to qualify professional practice. However, even with this incentive in graduation, research development is still incipient.

Using research results is one of the pillars of Evidence-Based Practice; which involves the definition of a problem, the search and critical evaluation of available scientific evidence, its implementation, and the evaluation of the results obtained. Thus, considering the available resources and the level of clinical expertise, evidence-based decision-making is supported. It is understood that the knowledge generated through research should be used in professional practice since new knowledge brings benefits to people, families, and communities and define, explain and identify fundamental phenomena for nursing care.

The relevance of this research is justified since the application of research evidence not only increases the quality of nursing care but can also improve the personal and professional performance of nurses. In several contexts, Evidence-Based Practice has been investigated and suggest that, although nurses have a positive attitude towards this approach, many institutional and personal barriers hinder its execution. Thus, the objective of this investigation was to identify nurses' knowledge and skills for practice based on evidence and its research practices in Primary Health Care.

**METHOD**

This is a descriptive study, with a quantitative and qualitative approach, developed with nurses working in the 49 teams with the Family Health Strategy (FHS), in the city of Chapecó, a reference in the health area for the western region of the State of Santa Catarina, Brazil. All nurses who worked in the FHS were included, however, in four teams there was a shortage of professionals, due to the transition from public tenders, and four nurses were on vacation, totaling 41 participants.

In the quantitative phase, data were collected, from July to August 2016, using the Evidence-Based Practice Questionnaire and Clinical Effectiveness culturally adapted to Brazilian Portuguese using the original Evidence-Based Practice Questionnaire and an auxiliary questions questionnaire. This script was developed by the researchers to cover issues not contained...
in the Evidence-Based Practice Questionnaire and Clinical Effectiveness. The auxiliary questions questionnaire has 14 multiple-choice questions, and the questions were related to the characteristics of the participants, the frequency of the Evidence-Based Practice elements in the assistance exercise, resources in the work environment (such as access to computer and internet), and performance research at work. This instrument underwent a pilot test, with an audience similar to that of the study, in three neighboring cities.

The second instrument for collecting quantitative data, the Evidence-Based Practice Questionnaire and Clinical Effectiveness, has a total of 24 items scored on a Likert-type scale and is organized in three dimensions: Evidence-Based Practice, Attitudes Related to Practice Based on Evidence and Knowledge and skills associated with Evidence-Based Practice. In the Evidence-Based Practice and Attitudes dimensions, responses are presented on a scale ranging from 1 (Never) to 7 (Frequently). In the Knowledge and skills dimension, the answers are presented on a scale ranging from 1 (Bad) to 7 (Excellent). It is noteworthy that in this work the dimensions referring to Attitudes will be presented, which includes 4 variables, and the Knowledge and skills associated with Evidence-Based Practice, which covers 14 variables.

For the application of the instruments, previous telephone contact was made to explain the objective of the research and to schedule the date and time according to the preference of each participant. These were self-applied in the respective workplaces of those involved. The mean filling time was 20 minutes.

To analyze the quantitative data, initially, the variables investigated were typed into a spreadsheet formatted in the Excel program and transported to the Statistical Package for the Social Sciences software, version 22.0. In this program, position (mean) and dispersion (standard deviation) measurements were performed.

After the quantitative phase and subsequent statistical analysis of the data, in November 2016, there was the development of the qualitative stage with the realization of a focus group with six nurses (minimum number considered appropriate for a focus group) to put it into debate the topic under study. These professionals were intentionally selected by the researchers since they work in different socioeconomic areas in the municipality. Half of them work in family health teams in a neighborhood considered
workers, with specific demands for that region. The rest work in the city center, with a population with a more favorable economic class.

The focus group was considered the most appropriate technique, as it makes it easier to extract the expression of the participants and allows the researchers to generate a conversation both with and between the members and with the issues of interest. In the group, the professionals were willing to circulate and between them were an animator and a rapporteur. Each nurse, to preserve their identity, chose a code name (flower species) and used it in the form of a badge. The topic of discussion was the knowledge and skills of professionals to practice research in the daily work of Primary Health Care, specifically in the FHS. The meeting took place in the Health Unit and lasted for about an hour. The entire dialogue was recorded on two digital recorders to guarantee the totality of the speeches.

For qualitative analysis, the information was transcribed and organized with the aid of Excel and Word software, allowing a panoramic reading of the content. Subsequently, they were analyzed using the thematic content analysis technique based on the sequence of steps proposed by Bardin: Pre-analysis, Exploration of the material and Treatment of the results obtained and interpretation.

This study followed Resolution 466/12 of the National Health Council for research conducted on human beings and received authorization from the Research Ethics Committee number: 1.573.371 and CAAE: 55913616.3.0000.0116. Participants signed the Informed Consent Form.

RESULTS

Among the 41 nurses who participated in the quantitative stage of the study, 95.1% were female, with a mean age of 37.54 years (SD ± 9.68). The length of training had a mean of 12.64 years (SD ± 7.52), while the length of experience in primary care had a mean of 10.29 years. A percentage of 87.8% has some specialization in the health area.

According to nurses, in their practices, clinical experience is the main marker of their actions. While the patient's preference in decision-making is revealed as the least considered element among the pillars of Evidence-Based Practice (Table 1).
Table 1- Frequency that nurses consider the elements of Evidence-Based Practice in Primary Health Care

<table>
<thead>
<tr>
<th>Variables*</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your clinical experience</td>
<td>6,34 ± 1,15</td>
</tr>
<tr>
<td>Scientific evidences</td>
<td>5,95 ± 1,41</td>
</tr>
<tr>
<td>Patient’s preference</td>
<td>4,83 ± 1,7</td>
</tr>
</tbody>
</table>

* Answers presented on a Likert scale from 1 (Never) to 7 (Frequently). SD = standard deviation

Also, according to the auxiliary questions questionnaire, all nurses assumed to have access to a computer with internet at their workplace and 84.8% said they used it to do scientific research and also, 36.6% said they had developed some research in the FHS (data collection, community diagnosis, field research, etc.) in the last three years.

Regarding the attitudes of professionals related to Evidence-Based Practice, on a Likert scale that ranged from 1 (Never) to 7 (Frequently), nurses marked a more frequent mean (n= 4) for the high workload to keep up to date with all the new evidence. While to define time in the work agenda to seek new knowledge, the professionals pointed out that it is rarely possible (n= 3).

Another aspect investigated was the knowledge and skills of nurses associated with Evidence-Based Practice. It is observed (Table 2) that on a scale that ranged from 1 (Bad) to 7 (Excellent), professionals place themselves in a moderate mean for research skills. Participants scored skills to review their own practice, share their ideas and knowledge with colleagues, as well as to identify gaps in professional practice.
Table 2 - Presentation of the dimension of nurses’ knowledge and skills for Evidence-Based Practice in Primary Health Care

<table>
<thead>
<tr>
<th>Variables*</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge for:</strong></td>
<td></td>
</tr>
<tr>
<td>Identify the main types and sources of existing information</td>
<td>4.68 ± 0.88</td>
</tr>
<tr>
<td>Gather evidence</td>
<td>4.54 ± 1.23</td>
</tr>
<tr>
<td><strong>Skill for:</strong></td>
<td></td>
</tr>
<tr>
<td>Review your own practice</td>
<td>5.46 ± 0.93</td>
</tr>
<tr>
<td>Share your ideas and knowledge with co-workers</td>
<td>5.37 ± 1.2</td>
</tr>
<tr>
<td>Disseminate new ideas about care among co-workers</td>
<td>5.37 ± 1.07</td>
</tr>
<tr>
<td>Identify gaps in professional practice</td>
<td>5.1 ± 0.94</td>
</tr>
<tr>
<td>Applying knowledge to individual cases</td>
<td>4.93 ± 0.99</td>
</tr>
<tr>
<td>In IT</td>
<td>4.78 ± 1.06</td>
</tr>
<tr>
<td>Determine how clinically applicable the material is</td>
<td>4.73 ± 1.12</td>
</tr>
<tr>
<td>Monitor and review practices</td>
<td>4.73 ± 0.87</td>
</tr>
<tr>
<td>In search</td>
<td>4.66 ± 0.79</td>
</tr>
<tr>
<td>Determine how valid the material is</td>
<td>4.63 ± 1.14</td>
</tr>
<tr>
<td>Critically analyze the evidence against the standards already established</td>
<td>4.56 ± 1.21</td>
</tr>
<tr>
<td>Convert your knowledge needs into a research question</td>
<td>4.29 ± 0.98</td>
</tr>
</tbody>
</table>

* Answers presented on a Likert scale from 1 (bad) to 7 (excellent). SD = standard deviation

Regarding the qualitative stage of the study, two categories emerged: a) Research practices in Primary Health Care and b) Barriers to Evidence-Based Practice. As for the first category, when debating, in the focus group, on the conduct of research and the search for scientific knowledge, it was obtained as information that, predominantly, nurses use the knowledge that is produced and made available by the Ministry of Health of Brazil, in the form of manuals and protocols:

At least I always tend to follow protocols established by the Ministry of Health. What is being done is to try to follow the protocols. (Tulip)

I use the Ministry's protocol, I look for it and download it on my computer. (Violet)

I'm going to the Ministry of Health [website] to see what appears. (Rose)
It has not been demonstrated that nurses produce scientific knowledge or have the initiative to develop research in their primary care services, but they participate by collaborating, subtly, in the supervision of undergraduate students:

*I have supervised some course completion work. So, there is an incentive for research, we end up not leaving aside the academic part.* (Perfect love)

*[The academic] is a way of maintaining the protocol, whoever teaches must always be updated.* (Gerbera)

They [academics] bring the virus, contaminate us, so we have to go after [the information]. (Rose)

The lack of a service organization that promotes research and the high demand for activities were mentioned by nurses, as obstacles to Evidence-Based Practice:

*Nor does the university do this* [teach to research] with us. (Rose)

*My training is very old. There was no talk, no discussion [the search for scientific articles] at graduation.* (Sunflower)

*There is a great difficulty, I think the university still has a lot to do. There is a lack of training [Evidence-Based Practice].* (Perfect love)

*I have this difficulty, I spend a lot of time looking for information.* (Rose)

Regarding the second category, on the difficulties for the development of research and Evidence-Based Practice, in Primary Health Care, the deficiency in academic training for research skills was reported, as reported:

*Time, system [bureaucracy], has a lot of things that hinder it, so you end up leaving research aside.* (Rose)

*The agenda is always full.* (Sunflower)

*It's more quantity than quality, sometimes.* (Perfect
Really, while developing a scientific work, a scientific verification, until now we have not done anything, because it is very difficult to deviate a little to this area of research, and leave the care area aside, so, there is no such symbiosis. (Rose)

DISCUSSION

The study showed that despite the evidence of nurse’s recognition of the need and importance of conducting research, from the perspective of an Evidence-Based Practice, it is still very much centered on the pillar of clinical experience and to a lesser extent on the pillars of scientific evidence and preference of the patient. Besides, there is a deficit in knowledge and skills in the search for scientific evidence. However, without the use of the best evidence, nursing care becomes outdated and the probability of errors in conduct increases. Likewise, listening to the patient and considering their opinions and beliefs are also part of the Evidence-Based Practice process, with the ultimate goal that the person receives the best result, within the available resources.7

There is a consensus that nursing is a science and that it is essential to derive its work from research findings. The nurse's practice should serve as a basis for studies, just as research should serve as a basis for practice.6 However, professionals, in large part, have knowledge based on experience, from their observations or colleagues, and these opinions appear as the most used medium as sources of information, in contrast to the critical appraisal of the literature.3,14,15

It can be inferred that in the context of Primary Health Care, the role of the nurse requires the search for innovative methods of action because of the needs of the population, as well as the analysis of problems through recent literature.14 However, the results of this investigation indicate that the nurses do not feel completely qualified and/or qualified to do research, but are anchored in protocols provided by the Ministry of Health. This fact has already been pointed out in the literature, which demonstrated a low research capacity and its application in nursing practice, since they also showed low frequency in the attitude of asking research questions, inability to understand the statistical terms used and to critically evaluate the literature, in addition to pointing out that the
development of studies is an arduous task and that it demands effort from nurses.\textsuperscript{3,6,16} Researchers have a way of solving these barriers, in presenting research reports in a simple, clear, and concise manner to facilitate the understanding of nurses and the transfer to daily practice, as well as of managers, by equipping Health Unit with IT infrastructure and increasing the availability of time to search for new health evidence.\textsuperscript{6}

The use of information technology is another significant element related to the search for evidence, and in this research, the scores showed a moderate level (4.78 out of 7). The finding corroborates studies carried out in other countries, such as China and Iran, which also used the Evidence-Based Practice Questionnaire and Clinical Effectiveness as a data collection instrument, although in different contexts.\textsuperscript{7,9} The results of these investigations showed that having research, computer skills, and being able to convert knowledge needs into a research issue, are fundamental in nursing work. In Brazil, a study carried out in the scope of primary care on the use of the computer showed that a significant part of nurses does not use this equipment because many do not know to search for articles, books or other information.\textsuperscript{14}

It should be noted that research is an activity that allows reflection and the transformation of professional practice. Although the quantitative data, in this investigation, reveal the nurses' capacity for research, the qualitative information indicates that it is driven mainly by academics during the supervision of internships, and not on the nurse's initiative for the search and production of scientific knowledge.

The lack of training focused on the Evidence-Based Practice approach, with a methodological basis that encourages scientific practice, as well as the continuity of encouragement of the research process after graduation, are limiting factors to keep up to date. It is noticed that there is still a deficit in teaching methodologies aimed at encouraging scientific initiation and the production of research since the first semesters of graduation. As important as acquiring the knowledge already published is to awaken the development of students' critical thinking through the act of doing research.\textsuperscript{17}

It is understood that training students with a 'scientific spirit' require creating favorable conditions from their entry into graduation until the last year of the course. Initiatives aimed at research programs can contribute to improving the skills of nursing
students, as well as alleviating some barriers in the development of Evidence-Based Practice.\textsuperscript{1} In this sense, it is necessary to encourage academics and involve them in research and university research groups.\textsuperscript{18}

It is pointed out that nursing education should be strengthened to increase the skills and confidence of academics for the implementation of Evidence-Based Practice, considering that nurses qualified to provide care with an evidence-based approach have great potential to improve patient results.\textsuperscript{19} In summary, health professionals are required to have greater training in research methodologies, to critically appreciate the studies and their practical applicability, which is a way to bridge the gap between research and research. clinical practice.\textsuperscript{3}

It is imperative that nursing remains, through research, updated, and efficient. Therefore, permanent training focused on research skills is an essential condition for good professional practice, and it is also opportune to expand research in the field of nursing through the development of theories and models that contribute to the promotion of professionals engaged in well-being, healthy or sick person.\textsuperscript{20}

Another factor that makes it difficult to carry out research and Evidence-Based Practice by nursing, reported in this study, is the organization of primary care work. According to nurses, the high demand for activities added to the lack of time allocated to keep up to date is the main obstacle. Equivalent manifestations expose that the central barriers to implementing Evidence-Based Practice include insufficient time in the workplace to read research articles, as well as the lack of resources and support from the organization and authority to implement changes.\textsuperscript{6,9,20}

Although the development of research and an Evidence-Based Practice is considered important activities by nursing, as they lead to the improvement of personal and professional performance, the integration of scientific evidence with clinical practice seems to be a slow process in health services.\textsuperscript{20} Thus, there is a gap between what is known in the results of scientific research and the routine of professionals.\textsuperscript{6} In this way, it is revealed that nursing praxis does not depend solely on the position of nurses, it is also normalized by the organization and policy of nurses. health services. However, the movement to change this reality needs to be raised by its stakeholders: nursing professionals. However, it is recognized that this transformation is not something easy/simple,
since aspects of training, organization of services and incentives of professional representation bodies need to be reviewed and improved.

CONCLUSION

It was identified that nurses need knowledge and skills to produce and use scientific studies, within the scope of their work in Primary Health Care. Clinical experience is the main marker of actions, while the patient's preference in decision-making was revealed as the least regarded element among the pillars of evidence-based practice. Also, they mention that the organization of the services does not favor the conduct of scientific investigations.

Given this, it is imminent to reflect on the aspects that involve research in the nurses' work context, in a perspective of not blaming, but of (re) thinking the process of professional training, of the emphasis that research has on undergraduate and nursing services. Although this study has the limitation of having been carried out in a single municipality, a regional reference in health for the State of Santa Catarina, this investigation brings results that could be transposed to other places where nurses work, as it identifies the gaps knowledge and skills of this professional about the act of doing and using scientific research, stimulating speeches on how to strengthen the process of professional training (academic and health services) from the perspective of Evidence-Based Practice.

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