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Developing and Writing the Thesis: Difficulty Perceived by Pharmacists to Graduate as Hospital Pharmacy Specialist

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Authors' contributions

This work was carried out in collaboration among all authors. Authors SAU and EMV helped in conceptualization, investigated the work, performed data curation as well as formal analysis, wrote and edited original draft of the manuscript. Author MEO supervised the study, wrote, reviewed and edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Hospital Pharmacy Specialization (HPS) is a postgraduate career for pharmacists at the National University of Córdoba and the first in Argentina. It is a six semester's course organized by units.
Objective: To analyze and compare the difficulties perceived by the pharmacists for obtaining the specialist title, in two different moments of the HPS career.
Methodology: Investigational study of pharmacists' perception using a nominal group technique in two different moments of the didactic curriculum.
Results: Nineteen hospital pharmacists participated in the first workshop identifying 16 barriers, while 15 professionals in the second meeting perceived 15 difficulties. All of them were HPS students.

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Difficulties were grouped in six themes: research/thesis, time, data access, financing, knowledge, and others.
Conclusions: In both moments of the course, pharmacists prioritized the barriers related to the research necessary to develop the thesis. Minor barriers as English knowledge and Informatics were overcome from one year to another.

Keywords: Hospital pharmacist; specialization; difficulties; nominal group technique.

1. INTRODUCTION

As healthcare environments change, also there are changes in practice affecting the role of pharmacy that have prompted the need for a workforce that requires specialized training or credentialing to competently assume responsibility for certain roles. Additionally, there is a renewed call for change in continuing professional education in healthcare [1,2]. The education to health workers must reflect the challenges that define the current professional work environment, with epidemiologic and geographic transitions, globalization, access and quality issues, and increasingly multidisciplinary and collaborative work [3].

"Specialization in pharmacy can be described as the conceptual basis upon which differentiated practice areas require competences beyond the implied by mere licensure alone" [4]. One aim of specialty recognition is to ensure that the professional has achieved a certain level of skills and competence [5].

The hospital pharmacist oversees caring for patients in their pharmacotherapeutic needs, through the selection, acquisition, preparation, control, dispensing, information of medicines and other activities aimed at achieving an appropriate, safe, and cost-effective use of medicines and health products, for the benefit of patients treated in the hospital and its scope of action [6].

Some of the problems that can be addressed by hospital pharmacists are multiplicity of drugs with similar or identical pharmacological effects; unlicensed or off label prescribing supported by strong evidence of efficacy; monitoring response to drug therapy and participation in interdisciplinary patient care rounds [1, 7].

Besides, the goal of hospital pharmacists, in terms of the revised FIP Basel statements on the future of Hospital Pharmacy, is to optimize patient's outcomes through collaborative, interprofessional, responsible use of medicines and medical devices. The statements declare that not only the undergraduate pharmacy curricula should include hospital-relevant content but also specializations in hospital pharmacy should be developed [8].

In USA, national pharmacy organizations as well as schools and colleges of pharmacy have been working toward board certification. After strategic planning (2011-2012), the Board of Pharmacy Specialties reaffirmed the seven criteria that must be addressed for a proposed area of pharmacy practice to be recognized as a specialty: need, demand, number and time of human resources, specialized functions, education and/or training, and transmission of knowledge [9].

In Argentina, the Resolution 1186/2013 of the National Health Ministry recognized pharmacy specialties in the whole country and promoted their development as required by population's needs. Hospital pharmacy is one of the seven specialties approved by the rule. To certify as a specialist, a pharmacist must credit a certificate given by either a special commission, a specialty scientific society, or three years specialized residency training; have a specialist degree (academic title) by a recognized university; or be a regular professor in the specialty area [10,11].

The Hospital Pharmacy Specialization (HPS) is a postgraduate career for pharmacists at the School of Chemical Sciences (FCQ in Spanish), National University of Córdoba (UNC in Spanish), -where the pharmacy career is studied- and IS the first of this area in Argentina. It is a six semester's course organized by units [12].

The requisites and the hours needed to obtain a specialist academic title, are shown in Fig. 1.

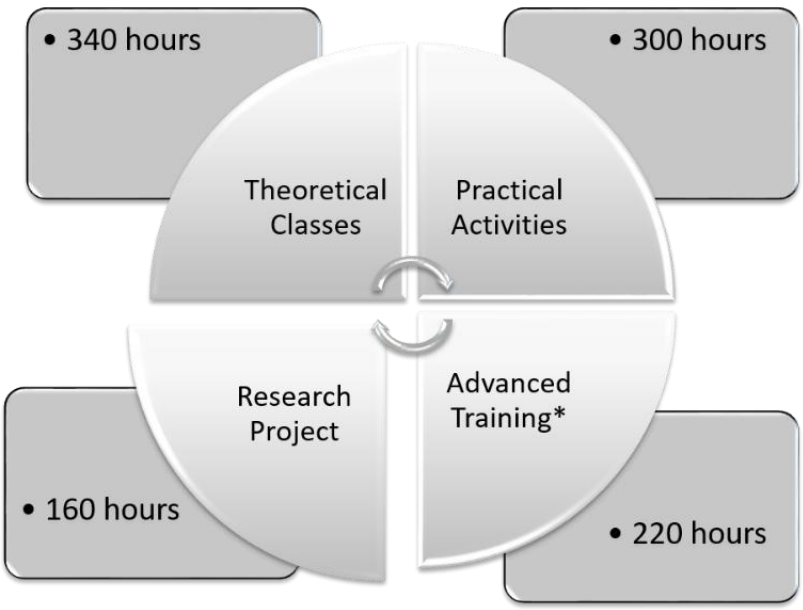

Fig. 1. Requirements to obtain the Hospital Pharmacy Specialist academic title
** Advanced or specialized training: in centers of practice recognized by FCQ-UNC*

Also, the results of the research project are expected to be presented in a congress and published in a scientific or professional journal. Another requisite is reading comprehension of scientific and technical texts in English. The research work should be ready for public defense once the four semesters of theoretical classes and practical activities have been approved, over 70%, during the following 12 months and after finishing an advanced training [12].

Pharmacists with, at least, two years of experience documented in their resume were admitted to the HPS after an interview with a committee. The first cohort began in July 2009 and completed the course in June 2012. Finally, 19 pharmacists obtained their specialist degrees from December 2012 to July 2014.

The aim of this work is to analyze and compare the difficulties perceived by the pharmacists for obtaining the specialist title, in two different moments of the HPS career.

2. METHODOLOGY

This was an investigational study of pharmacists' perception using a qualitative method in two different moments of the didactic curriculum.

The parameter of the study was a barrier or difficulty perceived by the participants. The barrier/difficult was defined to be an item that could be construed as a reason not to pursue the postgraduate course.

In May 2010 and June 2011, two workshops were carried out to identify the barriers of the HPS course, along the teaching and learning process. Pharmacists' participation on the workshops was voluntary and both workshops were planned as activities during the classes.

The Nominal Group Technique (NGT) was used in both workshops, where the pharmacists followed these four stages: silent generation, round robin, clarification, and voting (ranking). During the voting stage a weight was assigned to each barrier [13-15].

After each workshop, the authors grouped the identified barriers by themes, and compared the results obtained in 2010 and 2011. Results were processed in spread sheets.

3. RESULTS AND DISCUSSION

Nineteen hospital pharmacists participated in the first workshop identifying 16 barriers, while 15 professionals in the second meeting perceived 15 difficulties. All of them were HPS students.

In the first workshop, the top prioritized opinions that weighted 50% were: thesis writing and dissertation, congress presentations, and reading comprehension of scientific and technical texts in

English. In the second workshop, they were: thesis theme election, lack of time, research development, and advanced training in centers of practice. This priority order was the result of the weight assigned by the participants selection of the barriers defined in clarification stage of NGT (during voting stage).

Difficulties were grouped in six themes: research/thesis, time, data access, financing, knowledge, and others. Then, each theme was weighted following the voting stage in NGT, as showed in Table 1.

In 1967, Dr. Don E. Francke wrote about the necessity of specialization in hospital pharmacy practice. [16].

Afterward, the discussion centered on how to demonstrate that a pharmacist had the unique expertise which confirms that he/she is a specialist. Academic programs are a way to obtain recognition as specialist in hospital pharmacy [17].

University-based continuing education fulfills an important role to support the professional development of pharmacists, advance the practice of pharmacy, and contribute to societal needs for research and healthcare services. As institutions of research and education, universities are uniquely positioned to bridge the gap between academic and practice environments, providing opportunities for translation of knowledge to practice [1]. Nevertheless, academia seems slower than societal needs or professional demands in developing or monitoring specialty programs; and it has the challenge to adjust curricular content by integrating general pharmacy knowledge with specialized knowledge bases [5].

Table 1. Comparison of Difficulties Perceived by the Students, grouped by Themes and their Scores in 2010 and 2011

Themes	May 2010	%	June 2011	%
Research / thesis	1. Scientific writing 2. Thesis writing and dissertation 3. Congress presentations	47,4	1. Applicability of thesis results 2. Thesis theme election 3. Research development 4. Dissertation 5. Publication 6. Scientific writing 7. Publishable research results	49,2
Time	4. Course attendance 5. Training in centers of practice 6. Punctuality 7. Reports, homework, and evaluation delivery or uploading 8. Lack of time for homework 9. Lack of time for collecting data	25,3	8. Lack of time 9. Training in centers of practice 10. Lack of time to prepare semestrial exams 11. Clinical visiting/practicum	26,9
Data access	10. Data collection at the institution 11. Data collection at another institution	8,4	12. Data access for research	9,6
Others	12. Agreement with coworkers about absence for training in centers of practice 13. Medical conditions	1,6	13. Anxiety/Uncertainty 14. Ending of the course	11,7
Financing	14. Costs	0	15. Total costs and transportation*	2,5
Knowledge	15. English 16. Informatics	17,4		0

**discussed by pharmacists living in other city*

The postgraduate course created in the National University of Córdoba established several requisites; among them, the skills related to design and run a research project are a mandatory requirement. That could be the reason why the thesis items weighted almost the half of the difficulties perceived. And if we add the barriers related to the access and collection of the data necessary to run a project, they got around the 60% in the second meeting.

However, these difficulties changed from 2010 to 2011 becoming more specific in the second workshop. The search of a theme that would be applicable in each institution and, at the same time, would generate publishable results was the main concern for the students in the second year of the course.

The phenomenon “all but dissertation” was described for doctoral candidates that do not complete their dissertations. This phenomenon also could be described for other postgraduates’ students [18,19].

One of the strategies selected to face this problem was encourage the students to select dissertation topics that hold intrinsic task value for them. Some authors affirm that intrinsic task value predicted self-regulated learning in which the learners analyze tasks, set goals, and then attempt to monitor and regulate their cognition, motivation, and behavior in support of these goals [20].

To overcome scientific writing problems, professors designated one or two instructors to guide the candidate through the process of congress presentation, paper writing and thesis preparation. In the HPS, 19 of 24 pharmacists completed the course but all of them needed more than two semesters to finish the dissertation.

All the situations grouped under the theme “time” were perceived in second place of importance and could be explained because all pharmacists worked in a hospital at the same time they were studying, as an admission requisite. Time organization to study and the compatibility with work and family life are described as reasons to leave postgraduate studies [21].

Also, in HPS to get permission and extra time to assist to the centers of practice in Córdoba was manifested as a difficulty, because leaving the job could generate some disturbances with the coworkers. This was an argument particularly sustained by pharmacists living and/or working outside the city. Meanwhile, Australian pharmacists mentioned the learning opportunities as one of the most enjoyable aspects of working in hospital pharmacy [22].

From one year to another, barriers related to knowledge of English and Informatics, were not mentioned. Being aware of the difficulties perceived by the students in the first workshop, the professors could implement strategies to overcome these specific problems. Also, a generational gap was observed between adults returning to school for retraining, and technologically oriented young people [3].

In both moments, financial issues were mentioned as a barrier but in the “voting stage” were not considered a priority.

The second workshop was carried out in the 4th semester, after which these pharmacists had to begin the research project by their own. Both the election of the theme and the first draft of the project relied on themselves. This situation generated much anxiety as they manifested, even though they were guided by HPS teachers.

The NGT, which allows arriving to a consensus in a matter, problem or solution based on their importance and priorities established by the group, was used [14-16]. This technique balanced the influences of individuals by limiting the power of opinion-makers and diminished competition and pressure. But NGT lent only to a single-purpose, single-topic meeting and required preparation [15].

During the undergraduate course, there are no experiences of thesis, nor congress presentation, nor publications. Communications in scientific and professional settings allow teamwork approaches to solve problems in practice. From the postgraduate continuous training perspective, there is a need to promote the pharmaceutical professional practice research, especially in health care settings, and the dissemination of this knowledge, with the University support and academic assistance.

4. CONCLUSION

This work showed the difficulties perceived by the pharmacists in the process of teaching-learning in two different stages of the HPS. A set of problems was identified to obtain the specialist

tittle and the participants also reached consensus on the priority of them for the group.

In both moments of the course, pharmacists prioritized the barriers related to the research necessary to develop the thesis and other requirements associated. Minor barriers as English knowledge and Informatics were overcome from one year to another.

The NGT allowed the professors know the opinion of the students in a reasonable time, in both moments.

CONSENT

As per international standard or university standard, participants, written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

On August 2019, the Health Research Ethics Committee pertaining to the Faculty of Medical Sciences of the National University of Córdoba certified that it has reviewed the final manuscript *Developing and writing the thesis: difficulty perceived by pharmacists to graduate as specialist in hospital pharmacy*, whose authors are Uema S, Olivera ME, Vega EM.

According to its reading, the Committee interpreted that the data, intended to publish, are the results of two workshops with the voluntary participation of students of the Specialization in Hospital Pharmacy.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Schneider PJ, Pedersen CA, Ganio MC, Scheckelhoff DJ. ASHP national survey of pharmacy practice in hospital settings: Workforce-2018. Am J Health Syst Pharm. 2019;76(15):1127-1141.
2. Schindel TJ, Kehrer JP, Yuksel N, Hughes CA. University-based continuing education for pharmacists. Am J Pharm Educ. 2012;76(2):20.
3. National Academies of Science, Engineering and Medicine. Envisioning the future of health professional education: workshop summary. Washington, DC: The National Academies Press; 2016. DOI: 10.17226/21796.
4. Laven DL. A Review on Specialization in Pharmacy-Part I. J Pharm Pract. 2002; 15(3):267-78.
5. Laven DL. A Review on Specialization in Pharmacy-Part II: A Commentary on Postgraduate Training and Pharmaceutical Care. J Pharm Pract. 2002;15(6):504-14.
6. Vega EM, Bustos-Fierro C, Olivera ME. Hospital Pharmacy in Argentina: Experience to Connect Theory with Practice. HPS Newsletter 92 - Mar 2021. Accessed 28 April 2022 Available:https://mailchi.mp/f8c001fea77e/hps-newsletter-76-wpro-feature-10869714? e=433d29f0d3
7. Sofat R, Cremers S, Ferner RE. Drug and therapeutics committees as guardians of safe and rational medicines use. Br J Clin Pharmacol. 2020;86(1):10-12. DOI: 10.1111/bcp.14088
8. International Pharmaceutical Federation. Revised FIP Basel statements on the future of Hospital Pharmacy. Bangkok: FIP; 2015. Available:https://www.fip.org/files/content/pharmacy-practice/hospital-pharmacy/hospital-activities/basel-statements/fip-basel-statements-on-the-future-of-hospital-pharmacy-2015.pdf. Accessed March 26, 2019
9. Board of Pharmacy Specialties. White paper five-year vision of Pharmacy Specialties. BPS; 2013. Available:https://www.accp.com/docs/positions/misc/BPS_Whitepaper_Jan2013.pdf. Accessed February 9, 2019
10. International Pharmaceutical Federation. Advanced Practice and Specialisation in Pharmacy: Global Report. The Netherlands: FIP; 2015. Available:https://www.fip.org/files/fip/PharmacyEducation/Adv_and_Spec_Survey/FIPEd_ Advanced _2015_web_v2.pdf Accessed November 24, 2018
11. List of Pharmaceutical Specializations, Resolution 1186/2013 of the National Health Ministry, National Executive Power, República Argentina (Aug 28, 2013).
12. Creation of Hospital Pharmacy Specialization, Ordenanza 001/06 HCD, Facultad de Ciencias Químicas, Universidad Nacional de Córdoba (July 2006).

13. Straker D. The Quality Toolbook: Nominal Group Technique. Syque© Changing Works 2002-2015.
Available:http://syque.com/quality_tools/toolbook/NGT/ngt.htm.
Accessed November 11, 2016
14. Evaluation Research Team. Gaining Consensus among Stakeholders through the Nominal Group Technique. Evaluation Briefs #7. Department of Health and Human Services, Centers for Disease Control and Prevention; 2006.
Available
https://www.cdc.gov/healthyyouth/evaluation/pdf/brief7.pdf
Accessed January 6, 2019.
15. McMillan SS, King M, Tully MP. How to use the nominal group and Delphi techniques. Int J Clin Pharm. 2016;38:655–62.
16. Walton CA. Specialization in Pharmacy Practice: Relevant and Irrelevant Criteria for the Assessment of Clinical Competence. Drug Intel Clin Pharm. 1986;20:279-80.
17. Schindel TJ, Kehrer JP, Yuksel N, Hughes CA. University-based continuing education for pharmacists. Am J Pharm Educ. 2012;76(2):20.
18. Gaffner JM, Wilson CM. An investigation of factors contributing to all but dissertation status: doctor of education students. Administrative Issues Journal. 2015; 5(3): Article 11.
19. Gascón Y. The syndrome of everything but thesis as influential factor in the research work. Rev Copérnico. 2008; V(9):46-57.
20. Kelley M. The Role of Self-regulation in Doctoral Students' Status of All But Dissertation (ABD). Innov High Educ. 2016;41:87–100
21. Fresán M. Factores que propician el abandono y obstaculizan la culminación de los estudios de posgrado. III Conferencia Latinoamericana sobre Abandono en la Educación Superior; 2013.
Available https://revistas.utp.ac.pa/index.php/ clabes/article/view/877/904
Accessed April 15, 2018. Spanish
22. Liu CS, White L. Key determinants of hospital pharmacy staff's job satisfaction. Res Social Adm Pharm. 2011;7(1): 51-63.

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