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The impact of a continuing training program on the perceived improvement in quality of health care delivered by health care professionals

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ABSTRACT

There is abundant scientific literature concerning factors that affect patients' perceptions of the quality of health care. However, there are few published works that consider the opinions of health care professionals. This article aims to conjointly analyse two organisational strategies that determine professional health care practice: continuous training and quality of care. The objective is to examine the opinions of physicians and nurses on the improvement of the quality of care after a 'learning by doing' program. An evaluation method was designed that integrates the main variables that intervene in quality of care. An online questionnaire was utilised for collecting opinions on the effects of the training program. A total of 184 nurses and 180 other medical professionals participated in the program and all of them were asked to complete the questionnaire. A descriptive, and inferential statistical analysis was undertaken and results showed that there is a direct relationship between perceptions about: satisfaction, professional competence, training modality, optimisation of health resources and quality of care.

1. Introduction

Continuous quality improvement in health systems has become one of the priorities of health policies (Cunningham, Ferguson-Hill, Matthews, & Bailie, 2016). Implementation requires organisational knowledge and the participation of the different agents involved. The new definition of clinical governance aims to ensure high quality care for patients based on best practices, transparency, continuing interprofessional education and a commitment to professional responsibility (Gordon & Campbell, 2013; Kasvosve et al., 2014; Reeves, 2009; Ruiz, 2004).

According to the World Health Organization (2006), the quality of care provided by health care system depends on each patient receiving the most appropriate set of diagnostic and therapeutic services to achieve optimal health care, taking into account the knowledge of the patient and the medical services. The best results are achieved with the minimum risk of iatrogenic effects and the maximum satisfaction of patients. Patient care should be: "effective, efficient, accessible, acceptable, patient-centred, equitable and safe" (WHO, 2006: 18–19). Quality of care can therefore be seen as a concept that is both complex and multidimensional.

Donabedian (1989) suggests that multidimensionality involves technical-scientific aspects, interpersonal relationships and other elements of the environment, comprising services, management, information and other support processes. The importance of interpersonal relationships is reflected in the consideration of the patient as an agent in the health service. Villegas and Rosa (2003) argue that addressing the concept of quality of care requires the assessment of the expectations and needs of patients, health professionals and health administrators.

In addition to the attributes of multidimensionality and complexity, the measurement of the quality of a health service must take into consideration the fact that the concept of 'quality' is intangible, heterogeneous and subjective: the methodologies and instruments employed must be adapted to the identification of the concept by those who evaluate it.

In recent years there has been an intense and progressive interest in measuring patient satisfaction. This is probably due to the transformation of the bioethical and legal bases for the participation of the patient in the health system. Patients are consulted on a variety of issues that include: results; processes; health and support services; and professional actions. Assessment has utilised specific models and tools, such as SERVQUAL 15 (Zeithaml, Parasuraman, & Berry, 1992), which uses a standard questionnaire that evaluates the quality of service through five dimensions: reliability, responsiveness, safety, empathy and tangible elements. This model is an instrument for the

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measurement of strategies for the improvement of a system.

Based on SERVQUAL 15, Hernán, Jiménez, March, & Silió (1996) developed the SERCAL questionnaire which also measures perceived quality of service on a 5 dimensional scale in health care institutions: accessibility, comfort, personalised care, safety and confidence.

As previously mentioned, in comparison to studies on patients' opinions of quality of care, there has been little published research on the perceptions of health professionals, although there have been some works that deal with primary or specialised care: Campbell, Silver, Sherbino, Ten Cate, and Holmboe (2010); Moore, Green, and Gallis (2009); Parchman et al. (2016), Sibthorpe and Gardner (2007). Some of these have compared the opinions of the professionals and the users. Hernán, Gutiérrez, Lineros, Ruiz, and Rabadán (2002), found that the perceptions of professionals on the quality of service are usually in line with those of the users. The results of this type of research can lead to important synergies for the design of processes, services and the continuous improvement of the health system.

The published literature usually refers to the satisfaction of professionals with regards to specific issues such as electronic prescription, specific treatments, professional quality of life, burnout and collaborative environments (Tilden, Eckstrom, & Dieckmann, 2016). The evaluation of the training of health care professionals is of particular importance (McKillop, Doughty, Atherfold, & Shaw, 2016; Overeem et al., 2007) and a number of studies have considered preferences concerning training modality (Kempkens, Dieterle, & Butzlaff, 2009) and satisfaction (Rego et al., 2009).

In general, training programs are not evaluated due to difficulties in measuring outcomes and the lack of an evaluation culture in health care systems (Medina et al., 2015). Nevertheless, evaluation represents a significant resource for developing management processes, dealing with the complexity of health care systems, improving competences, integrating technology and empowering the patient (Ruiz, 2004). Continuous training needs quality standards for assessing the impact of programs on professionals and organisations (Varo, 1994).

A variety of learning models have been successfully implemented with health care professionals (Esteban et al., 2015), examples include: Problem-based learning (Strohfeldt & Khutoryanskaya, 2015); Collaborative learning teams (Nadeem, Olin, Hill, Hoagwood, & Horwitz, 2014); Competency-based portfolios (Gordon & Campbell, 2013; McEwen, Griffiths, & Schultz, 2015); and Group-based learning (Wenghofer et al., 2014).

With regards to continuing training and satisfaction, a range of dimensions related to applicability and practice have been taken into account (Hildebrand et al., 2009).

'Learning by doing' is based on the work of Miller (1990). It refers to the definition and operationalisation of professional competences in the learning process. The acquisition or improvement of professional competence starts with 'knowing' (the learning of new knowledge, skills and abilities) and ends with 'demonstrating'.

Professional competence is developed with the application of what has been learned in the workplace, resulting in an organisational improvement (in the case of health systems this means an improvement in the quality of care). According to the scientific literature, this modality means that the participant learns more and better; it is a method that is only surpassed by individual instruction and it has been shown to be superior to traditional teaching practices (Van Dam, 2004, quoted in Fernández et al., 2012).

This article is an analysis of the perceptions of Aragonese health service professionals on the improvement in the quality of care after the implementation of a continuous training program based on the 'learning by doing' methodology. The program is aimed at developing professional skills and has been used by the Aragon public administration system since 2005. The study examines the opinions of the health service professionals on the effects of the training program in the centres in which they work. The objective is to provide information that will help answer the question of whether training strategies have an influence on professionals and the health organisation and can produce observable results in clinical practice.

2. Methods

2.1. Universe and sampling

There were 385 participants, comprising all the health professionals who underwent the training programs: physicians, auxiliary nurses, nurses, technicians, engineers, physiotherapists, psychologists, social workers and midwives. All were working for the Aragon health service in primary and specialist care. Two professional categories were selected: physicians and nurses; the other professional groups were excluded. The two categories represented 94.54% (364 people) of the total. As this was a statistically approachable number, it was decided that sampling was unnecessary; the research was therefore based on the complete study universe and this avoided the application of statistical inference techniques.

A total of 182 individuals completed the questionnaires (n = 364); a participation rate of 50%. According to Couper (2000, quoted in De Marchis, 2012), the average response rate to an email survey request is around 10%. From this we were able to infer that our response rate was very high and it showed a significant level of acceptance and collaboration with the program. Furthermore, there was a good balance between the professional categories and areas of work (see Table 1).

The mean age of the participants was 44.41 (95% CI: 43.17–45.66). 78.8% were women and 21.2% were men. The average number of years worked in the Aragonese health service was 17.54 (95% CI: 16.24–18.83).

2.2. Instrument: dimensions and variables

The instrument was based on the work of Miller (1990) and the operational strategies of the SERVQUAL and SERCAL questionnaires. The dimensions and variables concerned learning factors, training activity, organisation and quality of care.

The evaluation of the training program considered five dimensions that were assessed by the students: Socio-professional; Satisfaction; Training Modality; Improvement of Professional Competence; and Economic Impact. The Socio-professional dimension included the variables of: age; sex; work experience; profession and the number of training courses undertaken. The variables for the dimension of Satisfaction were: the instructor; content; time; and management. The Training Modality variables were: methodology; and knowledge retention. Improvement of Professional Competence variables were: the acquisition, application and transmission of knowledge/skills; and the

Table 1
Percentages of the Sample of Participants in the Study Universe, by Professional Categories and Area of Work.

	Universe N	Sample n	% Sample/Universe
Professional category			
Physician	180	77	42.78
Nurse	184	105	57.07
Area of Work			
Primary care	213	103	48.36
Specialist care	106	54	50.94
Emergencies (061)	45	25	55.56
Professional category/Area of Work			
Primary care physician	107	44	41.12
Specialist care physician	43	22	51.16
Primary care nurse	106	59	55.66
Specialist care nurse	63	32	50.79
Emergencies physician	20	11	55.00
Emergencies nurse	25	14	56.00
Total	364	182	50.00