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Patient satisfaction factors and their correspondence with hospital logistics activities

Youness Frichi, Fouad Jawab, Said Boutahari, Nassima Laaraj, Kawtar Akoudad, Karim Zehmed, Imane Moufad,
Laboratory of Manufacturing, Energy and Sustainable Development
Sidi Mohamed Ben Abdellah University
Fez, Morocco

youness.frichi@usmba.ac.ma, fouad.jawab@usmba.ac.ma, boutahari@yahoo.fr, nassima.laaraj1@usmba.ac.ma, kawtar.akoudad1988@gmail.com, karim.zehmed@usmba.ac.ma, imane.moufad@gmail.com

Abstract

The main objective of this paper was to highlight the correspondence between patient satisfaction and hospital logistics. We sought to demonstrate that the factors influencing patient satisfaction are dependent on logistics activities within hospitals. In this perspective, we tried, in a first step, to establish a synthesis of the different factors influencing patient satisfaction. In a second step, we focused on hospital logistics, its activities and opportunities to improve the patient satisfaction. The methodology followed is based on an analysis of the research studies relating to patient satisfaction and hospital logistics. The main result of this research states that, to improve the quality of healthcare services and patient satisfaction, healthcare institutions could take advantages from the improvement of the efficiency of hospital logistics activities.

Keywords :

Patient satisfaction ; hospital logistics; satisfaction factors; satisfaction improvement.

Introduction

The main mission of healthcare organizations is to respond to the health needs of the society, the communities and the individuals. Respect for patients' needs and wishes is central to a health system (Cleary *et al.*, 1991). Patient satisfaction is an important and commonly used indicator for measuring the quality in health care (Prakash, 2010). It is, according to various international organizations including WHO[1], IOM[2] and OECD[3], one of the main dimensions of quality of care (WHO, 2006; Institute of Medicine, 2001; Kelley and Hurst, 2006).

In the United States and Europe, patient satisfaction plays a very important role in quality of care reform and in the delivery of care generally (Mohan and Kumar, 2011; Bleich *et al.*, 2009). In France, since 1996, measuring patient satisfaction has been a regulatory obligation for hospitals (Perruche *et al.*, 2008), also in Germany, it has been mandatory since 2005 as part of quality management reports (Schoenfelder *et al.*, 2011). Therefore, healthcare institutions need to know where to focus their improvement efforts and which problems to prioritize, hence it is very important to identify and understand factors affecting patient satisfaction as it would enable health facilities to focus their improvement efforts. In this context, several researches have concerned the study of patient satisfaction issue and have identified various factors that affect the level of satisfaction.

In order to enhance patient satisfaction level, hospitals may take advantages from hospital logistics. According to (Kriegel *et al.*, 2013), logistics activities in hospitals have a major influence on how patients view the quality

[1] World Health Organization
[2] Institute Of Medicine
[3] Organization for Economic Co-operation and Development

of the services. The aim of this paper was to identify and have a general view of factors influencing patient satisfaction and highlight the link between these factors and hospital logistics activities. This paper seeks to make clear that patient satisfaction requires, beyond the clinical and technical performance of care, the consideration of logistics and support activities that are strongly involved in the delivery of the service.

Methods

The methodology followed was, first, based on the analysis of the results of patient satisfaction studies and surveys carried out in different countries on various types of patients. Then we have proceeded to the association of these factors with hospital logistics activities to show the strong relationship between patient satisfaction and hospital logistics.

The bibliographic research was concentrated on two principal topics: *patient satisfaction* and *hospital logistics.* With a focus on recent articles, generally published between 2000 and 2017, and available in electronic databases: ScienceDirect, Springer, Scopus, Cairn, PubMed and Google Scholar. The keywords used are combinations of: *quality of care*, *patient satisfaction*, *hospital logistics*, *factors* and *activities*. The research was conducted in both French and English languages. A total of eighty articles were detected by the search engines, about forty documents were selected for this paper based on their relevance.

Factors affecting patient satisfaction

Patient satisfaction is defined as an evaluation that reflects the perceived differences between expectations of the patient to what is actually received during the process of care (Mohd and Chakravarty, 2014). The measurement of patient satisfaction is considered as an essential element of the assessment of the quality of care (Más *et al.*, 2016), and taken as an indicator of its evaluation (Bouaiti *et al.*, 2016). Information on patient satisfaction is often obtained through questionnaires, which are filled by patients in various ways: self-administration, direct interview, telephone interview, email or by mail (Quintana *et al.*, 2006).

In order to identify the factors influencing patient satisfaction, several studies were conducted in different countries and care departments to determine the components of care that impact how patients value and judge the quality of the service. Waters *et al.*, (2016) have identified seven themes influencing patient satisfaction with orthopaedic clinic assessment: waiting time, clinical contact time, trust, empathy, communication, expectation and relatedness. Other studies have emphasized the importance of interpersonal aspects, interaction and communication between caregivers and patients (Kapoor, 2014; Bouaiti *et al.*, 2016). Furthermore, Chang and Chang (2013) have conducted a study in a dentistry department and concluded that most patients consider two elements to be very important and crucial attributes of their satisfaction: cleanliness and sterilization of care instruments, the non-compliance with the requirements associated with these two elements induces a strong dissatisfaction of the patients. The Perruche *et al.*, (2008) literature review of factors influencing patient satisfaction in emergency departments, highlighted two key factors of patient satisfaction: The first factor is waiting time, and the second relates to the quality of the relationship between the health care team and the patient. Other studies have highlighted the influence of socio-demographic and health characteristics on satisfaction such as health status, gender, nationality, age and education (Nguyen Thi et al., 2002; Majeed Alhashem, et al., 2011; Kasouati et al., 2015; Bleustein et al., 2014).

In the *table 1,* we have summarized the main results of patient satisfaction studies, specifying the reference, the country and the care department that was the object of the study.

After identifying the factors involved in patient satisfaction, we completed this review with the results of surveys on patient satisfaction. The objective was to point out the patient's views concerning the service offered by the healthcare facilities. It turned out that the waiting time, considered too long, was raised by most surveys as the primary source of dissatisfaction (Lerebours *et al.*, 2015; Kasouati *et al.*, 2015; Gaujal *et al.*, 2016; Delanian Halsdorfer *et al.*, 2011). Heavy administrative procedures have also been identified as factors causing dissatisfaction among patients (Amazian *et al.*, 2013; Canoui-poitrine *et al.*, 2008). Hotel services: accommodation, meals, hygiene, cleanliness, etc. are elements to which patients pay close attention and in most cases are unsatisfactory (Chougrani and Ouhadji, 2014; Nguyen Thi *et al.*, 2002; Diouf *et al.*, 2010). The quality of the relationship between providers and patients is emphasized by many studies as an essential attribute of satisfaction, and is considered satisfactory in most surveys (Más *et al.*, 2016).

Table 1 : literature review on factors affecting patient satisfaction

Reference	Country	Care department	Factors affecting patient satisfaction
(Waters *et al.*, 2016)	Australia	Orthopaedic outpatient clinic	- Waiting time - Consultation time - Interpersonal aspects: communication, trust, empathy, relational - Patients' expectations.
(Chang and Chang, 2013)	Taiwan	Dentistry department	- Cleanliness and hygiene - Sterilization of the instruments of care
(Kapoor, 2014)	USA	Urology office	- Interpersonal aspects - Practice aspects: cleanliness, safety, etc. - Logistics: scheduling appointments, information on delays, etc.
(Bouaiti *et al.*, 2016)	Morocco	Emergency department	- Information, confidentiality and communication - Reception and waiting times.
(Ko *et al.*, 2009)	Canada	Endoscopy unit	- Doctor's and nurse's personal manner; - Doctor's technical skills - Physical environment - Consultation time - Waiting time
(Bleustein *et al.*, 2014)	USA	44 ambulatory clinics	- Waiting time - Age - Previous visits

Generally, patient satisfaction studies and surveys demonstrate the multiplicity of patient satisfaction factors. Indeed, these factors and their appreciation differ from one study to another, without being contradictory or divergent, but they are complementary. We have tried to synthesize the different factors involved in patient satisfaction (*figure 1*). These factors need to be known and understood by healthcare decision makers wishing to improve their patient satisfaction level.

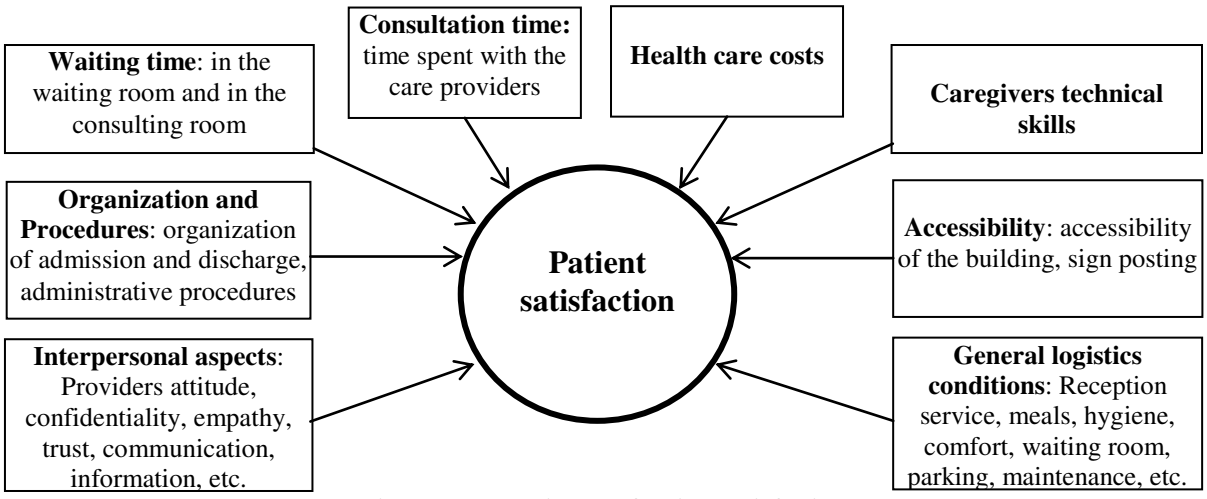

Figure 1. Determinants of patient satisfaction

The role of hospital logistics in improving patient satisfaction

Hospital logistics is concerned with the management of flows, it is *a set of processes that exchange physical, information and financial flows in order to ensure all the necessary conditions to offer a better quality to the patient* (Ibn El Farouk *et al.*, 2012). It includes traditional logistics, which focuses on the management of raw materials used directly or indirectly for the production of the service, and service logistics, which is the management of patient flows by acting on the demand and capacities, it aims to arbitrate between patient waiting times and optimization of capacities (Sampieri-Teissier, 2002). Costin (2010) argues that hospital logistics can play an important role in improving patient satisfaction. Its role is essential in the care process; it provides the various actors of the hospital with the material resources to function.

Hospital logistics covers a wide range of activities including design for resource sizing, scheduling and demand management, supply of medical and non-medical supplies, product and patient transportation, hotel activities such as meals, laundry, cleanliness, etc. (Jawab *et al*., 2018; Jawab, 2007; Pokharel, 2005). All of these activities are necessary for the provision of the service provided to the patient. They largely determine the conditions of the care delivery and intervene during the whole process of care from the admission to discharge (Beaulieu *et al.*, 2014). Maybe most of these logistics activities are invisible for patients but they have a significant impact on the way patients experience a visit to hospital (Dobrzańska *et al*., 2013).

To enhance patient satisfaction, hospital logistics can play a crucial role in reducing patient waiting times by providing a rapid service (Azzi *et al.*, 2013). Indeed, the waiting time and the consulting time are important areas to address, they can be improved by freeing the caregivers from the logistical and administrative tasks to which they are not trained and have neither the expertise nor the resources to execute efficiently (Landry and Beaulieu, 2013; Sampieri-Teissier, 2002). It is estimated that nurses spend 30% of their time on executing logistics activities (Bourgeon *et al*., 2001). Relieving care providers from these logistical tasks would enable them to refocus on their core mission and better take care of their patients. The reduction of waiting time can also be achieved through better planning and the assurance of the availability of material resources.

Administrative procedures can also be optimized and simplified by the introduction of the electronic medical record (EMR), through the use of hospital information systems (Zemour *et al.*, 2016), that facilitate the management of information flows. Improved information systems for recording and tracking patient data, their health, and the care they receive are critical to making significant progress in improving quality (OECD, 2004). The optimization of administrative procedures would also reduce waiting times as the time spent on organizing files, looking for information and follow-up care would be reduced thanks to an efficient information system.

Hotel activities such as catering, cleanliness and hygiene, reception, etc. have a great influence on patient satisfaction. These activities are performed during the entire stay in the hospital and to which the patient is very sensitive and can judge easily. The organization of cleanliness and hygiene activities requires better planning of the interventions of the hygiene teams, the availability of cleaning products, detergents, and other sanitary supplies. The catering activity also requires better planning and supply system to guarantee fresh meals at the right time, as well as a better coordination between the catering department and the healthcare teams to take into account the nutritional specificities of each patient. The improvement of hotel activities is conditioned by the efficient of hospital logistics. The same is true for the accessibility of health care facilities which depends on transportation activity, maintenance and building design, etc.

In order to highlight the relationships between logistics activities and the determinants of patient satisfaction, we have drawn the scheme of the *figure 2,* to conclude that many factors of patient satisfaction are dependent on the efficiency of hospital logistics.

Conclusion

Patient satisfaction is one of the defining elements of quality of care and an indicator of its assessment. To improve patient satisfaction, healthcare facilities need to rely on the optimization of hospital logistics. Indeed, it turns out that numerous factors influencing patient satisfaction are dependent on the efficiency of logistics activities. Improving the efficiency of such logistics can provide opportunities for healthcare institutions and health systems to increase the quality of hospitals' services (Landry and Beaulieu, 2013; Landry and Philippe, 2004). As a perspective of this work, we recommend the development of logistics indicators based on logistics activities that intervene in patient satisfaction. Measuring these logistics activities would help to establish a patient satisfaction improvement plan.

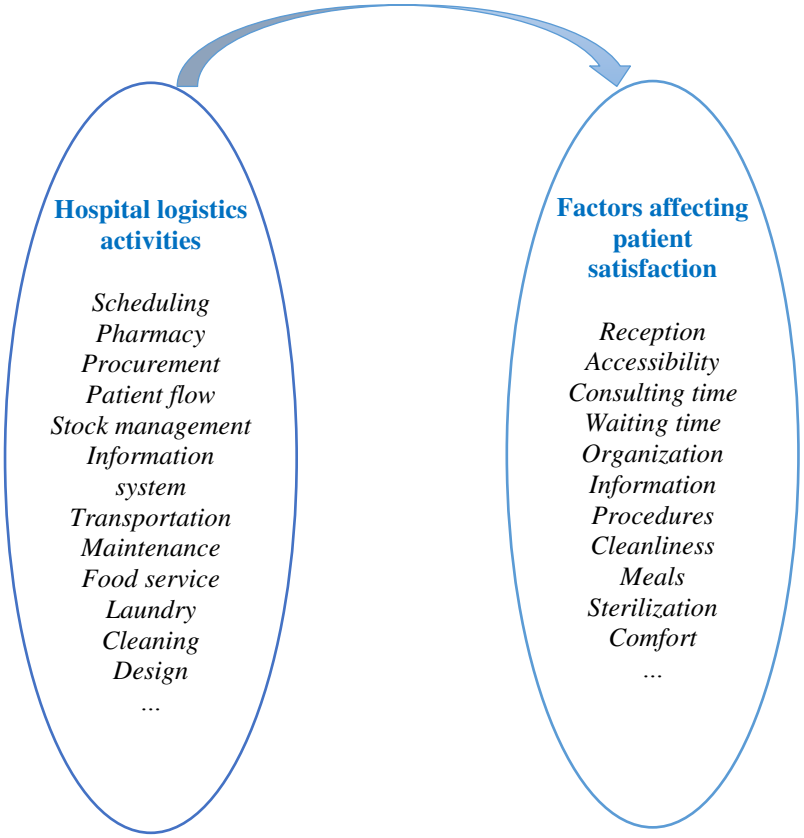

Figure 2. the impact of logistics activities on patient satisfaction factors

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Youness Frichi received the engineering degree in industrial engineering from the National School of Applied Sciences in 2013. He joined the Ministry of Industry, Investment, Trade and Digital Economy since July 2014. He is, in parallel, a PhD student in the Laboratory of Manufacturing, Energy and Sustainable Development at Sidi Mohamed Ben Abdellah University, Fez, Morocco. His research interests are mainly focused on logistics and in particular hospital logistics.

Fouad Jawab is a professor of higher education at Fez Higher School of Technology (EST) in Morocco. He is member of the Research Laboratory of Manufacturing, Energy and Sustainable Development and Director of the Research Laboratory in International Management, Decision Making and Logistics. He has headed the Department of Management Science and Technology and directed the Logistics Management and Transportation training program at the EST, and is currently coordinating the "LOGISTICS" professional license. Hospital logistics is one of its main areas of research interest.

Said Boutahari is a research professor (Grade professor of higher education) in the Department of Mechanical Engineering, Production and Industrial Maintenance at Fez higher School of Technology. He is also member of the research Laboratory of Manufacturing, Energy and Sustainable Development at Sidi Mohamed Ben Abdellah University, Fez. His research areas include Automated Production, Industrial Engineering and Logistics.

Nassima Laaraj received the engineering degree in industrial engineering from the National High School of Electricity and Mechanics in Casablanca, Morocco in 2014. She is a PhD student in the Laboratory of Manufacturing, Energy and Sustainable Development at Sidi Mohamed Ben Abdellah University, Fez, Morocco. Her research works are in the field of logistics and transport, and particularly faucalised on road safety.

Kawtar Akoudad is an industrial engineer from the National School of Applied Sciences and a PhD student at the Laboratory of Manufacturing, Energy and Sustainable Development at the College of Technology of Sidi Mohamed Ben Abdellah University - Fez - Morocco. She is interested in management sciences and industrial engineering and specializes in the field of logistics, international transport, and Supply Chain Management.

Karim Zehmed holds a master's degree in economics and management and he's, currently, a PhD student at Research Laboratory of International Management, Decision-making techniques and Logistic at the high school of technology of Sidi Mohamed Ben Abdullah University-Fez-Morocco. He is interested in the field of governance and performance of urban public transport.

Imane MOUFAD received the engineering degree in industrial engineering from the National School of Applied Sciences in 2013. She is a PhD student in the Laboratory of Manufacturing, Energy and Sustainable Development at Sidi Mohamed Ben Abdellah University, Fez, Morocco. His research interests are mainly focused on logistics and transport in particular urban logistics and urban Freight transport.