

(RESEARCH ARTICLE)



## Staff satisfaction with the quality of hospital's logistics services and materials

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### Abstract

**Background:** Logistics in hospitals can be a key source of cost savings. Hospital resources management has been identified as one way to control healthcare costs in countries. Logistics management applied to care chains can reduce expenses, enhance patient service, and shorten wait times, resulting in clinical and financial benefits. The study aimed to assess the availability and quality of logistical services at King Faisal Hospital and determine the level of satisfaction with those services among hospital staff.

**Methods:** An analytical institution-based cross-sectional study was conducted from December 2, 2021, to February 25, 2022, at the King Faisal General Hospital. Data were collected using a pretested and structured interviewer-administered questionnaire which was distributed to respondents.

**Results:** (63.8%) of participants thought the availability and quality of logistic services were good, whereas only (36.2%) thought it was neutral. Fortunately, no one got a poor total score of perception when it came to staff opinions of logistic service availability and quality. In addition, nearly a third of the participants in the study (34.5%) were clearly satisfied with the whole service.

**Conclusion:** Finally, it may be concluded that the majority of participants thought logistics services were available and of good quality. Furthermore, nearly a third of the study participants were clearly satisfied with the entire service.

**Keywords:** Hospital Logistics Services; Logistics Management; Satisfaction of Hospital Logistics

### 1. Introduction

Nowadays, quality plays an ever-increasing role in our lives. Quality products and services remain in high demand. Quality has become an integral part of any service and production process around the world as a result of this desire for quality (Alexander JA, 2006). Compared to other sectors, healthcare service quality is more difficult to measure and define (McLaughlin CP, 2006; Mosadeghrad A. M., 2014).

Over the past 15 years, the logistics utility has played an increasingly significant role in hospital management (Ageron B, et al., 2018). The user's total rating of what is received and delivered is the perceived quality of the service provided in hospitals (Duggirala, M., et al., 2008).

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In hospitals, logistics include not only support services like purchasing, stores, and pharmacies but also health care essential services for example patient care units and operating rooms (Poulin E., 2003). The logistics management process contains information about administrative processes and practices, flexibility, efficiency, and high customer service. Goals include reducing lead times and costs, enhancing customer service, and increasing revenue and profits. Logistics management applied to care chains can reduce costs, improve patient service, and shorten wait times, resulting in clinical and financial benefits (Olsson and Aronsson, 2015, Sampson et al., 2015).

According to various studies, 30 to 40% of hospital spending is invested in various logistical activities, where approximately half is spent on purchasing materials and services directly, while the other half is spent on managing them once they've been obtained. To reduce the current high cost of healthcare, healthcare providers are trying to improve their logistics and supply chain management (Poulin E., 2003; Aptel O., Pourjalali H., 2001).

Furthermore, the hospital's logistics can be a key source of cost savings (Kidd, 2002). Hospital materials management has been identified as one way to control healthcare costs in countries (Volland J., 2017). Healthcare logistics applications require different tools than those used for manufacturing applications (Al-Qatawneh L., 2019). In order to improve access to quality health care, health care professionals play a central and critical role. The improvement of the quality, accessibility, acceptability, and availability of health services depends on the availability, accessibility, and acceptability of health workers in the health systems (World Health Organization, 2016).

Additionally, numerous previous studies have shown that staff satisfaction can be positively influenced by a variety of factors, including compensation and benefits, effective communication, training, and career advancement, supportive leadership, recognition by managers, and a safe working environment (Bekru ET, et al., 2017; Bekru ET, et al., 2017). Therefore, this study aimed to assess the quality of logistical services at King Faisal Hospital and determine the level of satisfaction with those services among hospital staff.

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## **2. Material and methods**

### **2.1. Study design**

An analytical cross-sectional study was conducted from December 2, 2021, to February 25, 2022, at the King Faisal General Hospital.

### **2.2. Sample size**

All the entire hospital staff were invited. The questionnaire was distributed to doctors, nurses, and other medical staff in clinical departments. The data was collected using a convenient sample. The morning shift staff was asked to complete the questionnaire.

### **2.3. Ethical consideration**

On November 30, 2021, the KFHH RCA No. 58-EP-2021, Institutional Review Board (IRB) approved this study. Along with the provided questionnaire, a letter of informed participation was delivered detailing the project's goals and objectives. This study gave participants the option of participating or not participating. Participants' privacy and confidentiality were secured according to a confidentiality agreement and an anonymity policy.

### **2.4. Data Management and Analysis**

The statistical software for social sciences (SPSS) was used to organize and evaluate all of the data collected. Range (minimum and maximum), mean, and standard deviation were used to describe the data. The significance of the acquired results was assessed at a 5% level.

### **2.5. Data collection tools and procedure**

Data were collected using a pretested and structured interviewer-administered questionnaire which was distributed to respondents. Before answering the questionnaire, all of the participants agreed to participate. After receipt of information regarding the study's purpose and objectives, respondents were asked to reply to each of the 20 questions using a three-point Likert Scale with categories ranging from "agree" to "disagree".

In order to build the item pool of the questionnaire, previous surveys and studies of logistic services were studied and reviewed. The final questionnaire version contains three primary items, including the first section is about background

data, like age, education, department, and years of experience. The second section contains 8 questions related to Availability and the quality of the logistic services. Finally, the third section is for the satisfaction of the staff and contains 6 questions. The questionnaire was made in English. Furthermore, the questionnaires were pretested at the hospital by 5 nurses. To ensure the reliability of the tool, the questionnaire was also checked by two experts.

### 3. Results

In total, 58 health care professionals participated in the study. The table below shows the sociodemographic information of the participants. Table (1) shows that 34 (58.6%) of the 58 respondents were between the ages of 20 and 30 years old. Twenty-six of the study participants (44.8%) worked in a medical emergency room. In terms of educational attainment, 48 (82.8 %) have received a university education or higher. In terms of years of experience, 37 (63.8 percent) had fewer than five years of work experience.

**Table 1** Study participants' socio-demographic characteristics

Item	Frequency	Percent
<b>Age with a complete year</b>		
20 TO 30	34	58.6
31 TO 40	17	29.3
MORE THAN 40	7	12.1
<b>Department</b>		
Pedia ward	4	6.9
Delivery Room	6	10.3
OR	4	6.9
Medical ER	26	44.8
Gyn ER	4	6.9
OB-Gyne ward	7	12.1
OPD	2	3.4
Medical Ward	5	8.6
<b>Years of Experience</b>		
0-5	37	63.8
6-10	14	24.1
more than 10	7	12.1
<b>Education level</b>		
Bachelor	48	82.8
Diploma	10	17.2
<b>Position</b>		
Head of the department	3	5.2
Staff nurse	46	79.3
Other	9	15.5
<b>Gender</b>		
Female	56	96.6
male	2	3.4

Table (2) illustrates the staff perceptions of the availability and quality of logistic services. It was obvious that the majority of the workers (62.1%) believes the logistic supplies are insufficient. When it came to wasting time seeking supplies, nearly half of the participants (53.4%) thought that the time spent looking for supplies is excessive. When asked if the equipment was working properly, about a third of the participants (37.9%) replied positively. When asked if there was an appropriate location for personnel in the unit to rest and eat, (56.9%) answered yes. Only (22.4%) of respondents stated yes when asked if they would get a speedy response to their request or requirement.

**Table 2** Staff perceptions of the availability and the quality of the logistic services

Item	Frequency	Percent
<b>Are there enough logistic supplies for your department</b>		
Agree	6	10.3
Disagree	36	62.1
Neutral	16	27.6
<b>Are you wasting time looking for these supplies? *</b>		
Agree	31	53.4
Disagree	10	17.2
Neutral	17	29.3
<b>Is the equipment functioning properly?</b>		
Agree	22	37.9
Disagree	10	17.2
Neutral	26	44.8
<b>Do you think that the staff is using extra supplies? *</b>		
Agree	6	10.3
Disagree	40	69.0
Neutral	12	20.7
<b>Do you See extra Supplies in patient rooms? *</b>		
Agree	4	6.9
Disagree	41	70.7
Neutral	13	22.4
<b>Is there supply waste in the units? *</b>		
Agree	7	12.1
Disagree	36	62.1
Neutral	15	25.9
<b>Is there a suitable place for staff in your unit to rest and eat</b>		
Agree	33	56.9
Disagree	9	15.5
Neutral	16	27.6
<b>Do you receive a quick response to your request or need?</b>		
Agree	13	22.4
Disagree	19	32.8
Neutral	26	44.8

\*Reversed items

Table (3) shows that (63.8%) of participants thought the availability and quality of logistic services were good, whereas only (36.2%) thought it was neutral. Fortunately, no one got a poor total score of perception when it came to staff opinions of logistic service availability and quality.

**Table 3** Total score for the availability and quality of logistic services, as perceived by the staff

Item	No	Percent	Mean ± Std. Deviation
Good Quality	37	63.8	14.6379 ± 2.76379
Neutral	21	36.2	

Table (4) shows the staff satisfaction with logistic unit services. Only (15%) of respondents said they were satisfied with the materials and equipment. Nearly a third of respondents (36.2%) stated they were pleased with the location and place. Close to a fifth of respondents (20.7%) believed the services were satisfactory. Almost a quarter of respondents (25.9%) indicated they were satisfied with their rest time. Additionally, approximately a third of respondents (35.7%) indicated they were satisfied with the logistics unit's communication channels.

**Table 4** Staff satisfaction with logistic unit services

Item	Frequency	Percent
<b>Are you satisfied with the supplies and kits?</b>		
agree	9	15.5
Disagree	26	44.8
neutral	23	39.7
<b>Are you satisfied with the place?</b>		
agree	21	36.2
Disagree	13	22.4
neutral	24	41.4
<b>Are you satisfied with the services?</b>		
agree	12	20.7
Disagree	15	25.9
neutral	31	53.4
<b>Are you satisfied with the rest time?</b>		
agree	15	25.9
Disagree	14	24.1
neutral	29	50.0
<b>Are you satisfied with the communication channel?</b>		
agree	20	34.5
Disagree	13	22.4
neutral	25	43.1

Table (5) shows the overall satisfaction rate with the logistics unit's services. Nearly a third of the participants in the study (34.5%) were clearly satisfied with the whole service.

**Table 5** Satisfaction Rate

Item	No	Percent	Mean ± Std. Deviation
Satisfied	20	34.5	11.8966 ± 3.27505
Neutral	34	58.6	
Unsatisfied	4	6.9	

Table (6) shows the association between participants' characteristics and the total perception score. The total perception score (out of 8) was significantly associated with socio-demographic characteristics, including age, years of experience, and educational level ( $p < 0.05$ ). There was no significant relationship between staff position and their perception.

**Table 6** Association between demographics of the studied participants and total perception score

Demographic data and total knowledge score		
	Chi-Square	PV
age	0.259*	0.049*
Years of experience	0.272*	0.039*
Educational level	0.380*	0.003*
Position	-0.181-	0.173

\*Correlation is significant at the 0.05 level (2-tailed).

\*\*Correlation is significant at the 0.01 level (2-tailed).

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## 4. Discussion

One of the most significant attributes used to assess the availability and quality of logistics essential services is the satisfaction of staff with these services. The current study was conducted among King Faisal General Hospital's healthcare professionals to evaluate the availability and quality of logistical services at King Faisal Hospital and determine the level of satisfaction with those services among hospital staff.

The need for constant improvement in healthcare quality and therapeutic interventions has become clear, especially in order to increase patient satisfaction (Sanad A., et al., 2020). A conceptual model relating logistic unit service quality to hospital utilization and employee satisfaction has been developed by this study. The analysis results support the finding that hospital service quality is positively related to staff satisfaction

According to the findings of the current study, the majority of the participants (63.8%) rated logistics services as good overall, in terms of quality and availability, this may imply that the logistic unit supports all hospital departments. Nearly a third of the participants in the study (34.5%) were clearly satisfied with all the logistics unit's services. Essentially, it means that the staff respects the quality of work that the logistical unit submits. The evaluation of logistic services quality dimensions could be a major element of a value-driven total quality management approach from the perspective of supply chain actors, according to Tennant (2017). From the perspective of supply chain actors, evaluating logistic services quality dimensions may be a critical component of a value-driven quality management approach (Gaudenzi, B., 2021).

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## 5. Conclusion

According to the findings of the study, the logistics unit has an impact on staff satisfaction. The availability of services, as well as the quality of those services and the channels via which they can be communicated, all contribute to the level of satisfaction among the staff. In the present study, the availability and quality of logistic services were rated as good by two-thirds of the participants. Around one-third of the participants expressed satisfaction with their work environment, time for rest, and materials and services.

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## Compliance with ethical standards

### *Acknowledgments*

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### *Disclosure of conflict of interest*

There was no conflict of interest in this study.

### *Data Availability*

The researchers will promptly make the data on which this article is available to readers.

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