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Lean Management from the Perspective of Health Professionals' Perceptions

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Abstract

Keywords:

Lean Management, Lean Hospital, Health Management, Health Care Staff, Professionals' Perceptions

Everything an organism can produce and the construction of systems are made possible by the presence of people. Traditionally, this element has been considered an untapped resource that is prone to depletion and has always functioned as a dependency on the market economy. In recent years, efforts have been made to make strategic use of human resources in order to enable organizations to maintain their activities and compete globally. In this context, many organizations have recently adopted lean management as a strategy to enhance their global competitiveness. Lean management practices interact with several factors within an organization. One such factor is the employees themselves. Since the healthcare sector is one of the most influential factors in the relationship between lean management and employees, the purpose of this study is "to determine the level of lean management in private hospitals as perceived by employees." In the present study, data were collected using the questionnaire method. The collected data were evaluated using SPSS software. The results showed that there is a relationship between lean management and employees' perception.

Sağlık Çalışanlarının Algılarına Göre Yalın Yönetim

Özet

Anahtar Kelimeler:

Yalın Yönetim, Yalın Hastane, Sağlık Yönetimi, Sağlık Çalışanı, Çalışanların Algısı

Kuruluşlarda sistemlerin üretimi ve inşası insanların varlığı ile mümkün olmaktadır. Geleneksel olarak bu unsur, tükenmez ve her zaman kullanılabilir bir kaynak olarak piyasa ekonomisine bağımlı görülmüştür. Ancak son yıllarda insan kaynakları, faaliyetlerini sürdürebilmek ve küresel olarak rekabet edebilmek için kuruluşlar için stratejik olarak kritik hale gelmiştir. Bu bağlamda, birçok kuruluş küresel rekabet güçlerini artırmak için yalın yönetimi bir strateji olarak benimsemiştir. Yalın yönetim

uygulamaları bir şirket içindeki birçok faktörle etkileşim halindedir. Bu faktörlerden biri de çalışanlardır. Sağlık sektörü yalın yönetim ve çalışanlar arasındaki ilişkiden en çok etkilenen faktörlerden biri olduğu için bu çalışmanın amacı "özel hastanelerde yalın yönetimin çalışanlar tarafından algılanma düzeyini belirlemektir". Bu çalışmada veriler anket yöntemi kullanılarak toplanmıştır. Toplanan veriler SPSS ortamında değerlendirilmiştir. Sonuçlar, yalın yönetim ile çalışanların algıları arasında bir ilişki olduğunu göstermiştir

INTRODUCTION

Globalization, which has led to increased competition, has caused significant problems for firms in both rich and developing countries (Kojima and Kaplinsky, 2003:19). The transition to the information society and increasing globalization require organizations to adapt to changing conditions by seeking smaller, more dynamic, more flexible, more agile and leaner structures. Rapid decision-making and adaptability are required to cope with rapid change. To develop these capabilities, business managers seek to eliminate excessive levels of hierarchy, organizational protection and procedural redundancy (Düren, 2002:71).

To address these issues, many manufacturers adopted lean production and lean management methods as strategies for global competitiveness in the 1990s (Bruun and Meffork, 2004:1). By uncovering problems in their own way and showing more efficient ways of working, lean management plays a role in achieving global products with the optimized locality and winning organizations and countries in global competition and quality (Amasaka, 2006:2).

In lean management, responsibility and capacities of front-line employees are increased. Problems can be identified at the root and can be solved during work by utilizing both physical strengths, mental creativity and hand skills of employees in lean management. This requires decentralized structures to decide. Involves internal measures, such as enriching the work environment for employee motivation in lean management and ensuring worker participation in tasks. There are constantly moving targets in front of employees in lean management. All of these increase employee motivation and job satisfaction. Employees in lean management have a new awareness and social role. There is much evidence that employees in lean organizations respond more positively to expanded roles (Vidal, 2007:247).

In terms of scope, the studies to be carried out to implement lean management in healthcare organizations are: reducing the waste of materials used, saving energy, improving patient and employee satisfaction, reducing employee turnover, improving efficiency in units such as intensive care units, operating theatres and wards, using visual stimuli and information signs in hospitals and simplifying the workflow in hospitals (Aksoylu, 2014). This study was conducted to investigate the level of perception about lean management of health workers, to explain their role and to emphasize to what extent they are important.

LITERATURE REVIEW

What is the Lean Management

The concept of 'lean' refers to the activities and solutions needed to eliminate waste, reduce non-value-adding tasks and increase value-adding tasks (Wee and Wu, 2009). When people think of lean thinking and lean management, the first thing that comes to mind is the Japanese production system, specifically the Toyota production system (Yamamoto et al., 2019). Toyota's engineering genius, Ohno Taichi, put production under the microscope every day, meticulously testing and evolving it step by step until the system we now define as 'lean production' emerged. The main objective of lean production is to prevent waste by identifying and eliminating tasks that do not add value to the process (Amaro et al., 2019). The goal is to provide high efficiency by adding value to each process when performing these tasks.

Lean management cuts off practices that do not add value to the system. The goal is to reduce the consumption of materials required to implement production, to involve technologically advanced equipment and trained personnel in the process, and to perform the work correctly without errors (Türkan, 2010). Lean management is considered an approach to implementing lean production, which aims to eliminate hierarchy by increasing delegation and taking responsibility for each person's work. With this approach, which is an intellectual approach shaped by meaning and method, firms adapt to the competitive process environment while creating a simple situation (Warnecke and Hüser, 2000:37).

Lean management is the process of minimizing the use of resources at the right price and minimizing quality costs. Quality costs; warranty costs due to insufficient inventory, lost products, production and operation delays, additional labor, waste, rework, reprocessing, repair work, delivery delays, additional transportation costs, inappropriate service or unsuitable products, product and service failures due to claims related to system failures, managing and investigating customer complaints, product recalls, additional customer service costs, loss of customer confidence (Bozkurt, 2000:11).

Lean management is an approach that shifts the focus from business management to relationship management (Panizzolo, 1998:223), includes elements of technology and theory (Rüling, 2005:177) and is based on product differentiation and focus strategies that work (Cooper, 1999:219). Lean management was developed in the Japanese automotive production system in response to mass production and was described by the Massachusetts Institute of Technology (MIT) in 1980 (Womack et al., 1990:1).

In this definition, lean management is called "JIT". But Womack, Jones, Roos believe in a simplicity that goes beyond JIT (Bruun and Meffor, 2004:1). Because JIT focuses on internal processes, lean production is focused on it, and lean management is focused on both internal and external processes (Zhu and Sarkis, 2004:265).

Comparing traditional management and lean management, in traditional organizational functions, planning is done by managers, whereas in lean management organizations, managers make plans with their teams. In traditional organizational management, training is provided mainly to non-managers on technical issues, while in lean management organizations, all employees receive training on management and technical issues. In traditional organizational management, methods and procedures are developed by managers, while in lean management organizations, all employees try to develop methods and procedures (Yangınlar and Bal, 2019). Most importantly, compared to traditional organizational management, more attention is paid to waste in lean management and studies have shown that the lean management approach improves performance (Gök and Arıcı, 2016).

Lean Management in Hospitals

Lean management practices are found in hospitals in various countries of the world. These practices are increasing. This section will first provide information about the need for lean management in hospitals, then what is needed for lean transformation in hospitals, and how lean management will be implemented in hospitals and the benefits that these practices will bring.

In the operations and transactions carried out under lean management, only those activities that add value to the activity should be considered and waste should be eliminated, and measures should be taken. Lean management is a management approach that should be adopted by top management and implemented by employees. This is because lean management is a cultural change and lean management should be applied at all stages of the organization. In this way, healthcare organizations can provide the services that patients want, anytime and anywhere (Tanyıldızı and Demir, 2019:15).

The Need for Lean Management in Hospitals

The use of lean management in healthcare is not as new as one might think (Deniz et al, 2021:44). Recognized as one of the first efficiency experts in the 20th century, Frank and Lillian Gilbreth contributed to the development of lean management with their various methods. Gilbreth conducted Lean research in the field of medicine and showed that industrial engineering methods could be used in hospitals. For example, Gilbreth suggested that surgical instruments should be delivered to the surgeon by the surgical nurse, rather than the surgeon leaving the patient to retrieve the instruments, which is the norm today (Graban, 2018:30-31).

In recent years, healthcare organizations have begun to implement lean management, which focuses on reducing waste and variation to improve effectiveness and efficiency (Vyacheslav et al., 2019; Doğan and Şimşek Yağlı, 2019:469).

Lean manufacturing is basically a concept to simplify inventory management and prevent potential wastage in the product supply chain, as shown in a study by Medeni (2022), who applied current and future value flow maps (VFM), Kanban and water spiders to a hospital clinical floor to investigate the differences before and after implementation. This study investigated. It was found that this method eliminated the loss and leakage of drugs and materials in the clinic, eliminated the inconsistency between actual and virtual inventory, and eliminated the over-inventory that occurred with the previous implementation of 7-day inventory with the implementation of 1-day inventory (Furkan and Akalın, 2023). Similarly, Dağcı (2019) studied lean production practices in hospitals; non-value-added activities in hospitals and value streams to eliminate these activities. And the findings and recommendations achieved using maps. Looking at the research on Six Sigma, Khoshnaw (2017) aimed to apply Six Sigma in hospitals by identifying the presence of key factors such as administrative, technical, financial and human factors from the perspective of senior managers.

One of the most important indicators of countries' socio-economic development levels is health services. The main purpose of health services is to provide the health care services that society need, at the price that the customer wants, at the right time and at the lowest possible cost. The health sector appears to be the most problematic sector in terms of ensuring customer satisfaction. Rapid change of technology, rising costs, growing complaints of patients and widespread desire for care make health care services more complex.

Despite the high cost of health, the dramatic growth of health-related technologies, and the availability of many new applications in diagnostic and treatment modalities, patients' expectations and suspicions have increased. The great stress that physicians, nurses and other health workers and managers working in the health sector have in them; significant changes in health require new methods and new practices to ensure the joint acquisition of health care workers, doctors, professionals, and patients benefiting from these services, patient relatives and health insurance organizations (http://www.yalinenstitu.org.tr/...). In short, in this millennium, all health organizations suffer from security, efficiency, accuracy, effectiveness and low cost (http://www.bostonworkstation.com/...).

Tailings in front of doctors, lab results expected for hours, days of referral chains are now common problems in the whole world. While health systems that are difficult to respond to disease give decadent signals all over the world (http://www.referansgazetesi.com/...); the situation is not very different in Turkey. Laack of resources, depending on other factors in emergency admissions and patient care, hospitals are becoming some services are inevitable bottlenecks and queues at the presentation. In a survey conducted by the Ministry of Health this issue they expect an average of 70 minutes after reaching the patients in Turkey, health care institutions, while the university hospital this shows that the average of two hours (Özen, 2020; Acar et al., 2012). It is expected that the lean production model, which compares Toyota to the American

automotive sector at the beginning of the 1990s, will also hope for the healthcare sector of our country (http://www.referansgazetesi.com/...).

It is anticipated that this model, which saves time for the patient and the doctor, will enable efficient use of the bed capacity with increasing patient turnover. Although the number of transactions seen in hospitals suggests that it is difficult to implement such a model, studies show that in general, 60 per cent of applications are collected in five basic problems. A road map that the units will most commonly identify with the case will leave more time for complicated problems by putting interventions in priority order. With this model, which regulates the hospital traffic, the wait times are not over, and the risk of misdiagnosis and treatment is decreasing (http://www.referansgazetesi.com/...).

Lean management, considered one of the most appropriate management models for hospitals, is being implemented in Norway, Sweden, Denmark, America, UK, Australia, and Germany. A hospital in a rural area in the United States has reduced hospital stay by 44%, increased the number of patients by 10%, and increased patient satisfaction by 92% through lean management practices (http://www.news-medical.net/?id=30365).

MATERIALS AND METHODS OF RESEARCH

Population and Sample

The survey covered about 100,000 employees working in 352 private hospitals. For this study, this sample was selected by simple randomization and 600 responses were considered. The sample was applied for the following reasons;

1. The cost of examining all units of the parent body is much higher than the cost of the sample and is almost impossible to meet.
2. Sampling of the main mass is inevitably large and continuous.
3. The mass is the size that will increase the probability of making mistakes.

The simplest sampling method is the "simple random sampling" method. This sampling method first defines the main mass and obtains a list of specialized hospitals containing units that make up this main mass. In the second step, the private hospitals containing units constituting the main mass are divided into groups according to geographical areas to avoid sampling error and improve the reliability of the sample. Here, hospitals were selected by region according to the simple random sampling method. Finally, 600 jobs working in these hospitals were surveyed and evaluated. Individuals who could not be contacted due to seizure, leave or health reasons or who did not complete the questionnaire form were excluded from the sampling.

Data Collection Technique

This study collected data from first grade students using the questionnaire method, which was the main method used for data collection, and provided information through written questions to the respondents. The questionnaire was tabulated by trained interviewers and face-to-face interviews. Pilots were also added to the sample before the questionnaire was administered to ensure surface validity of the questionnaire. The questionnaire contained 29 questions. The first five questions were demographic in nature, while 24 questions were related to lean management. The books "Sequences in the Implementation of Lean Production" by Par Ahlström, "Lean Production, Worker Empowerment, and Job Satisfaction: a Qualitative Analysis and Critique" by James P. Womack and Daniel T. Jones by Matt Vidal, and an unpublished doctoral thesis on "Career Management in Lean Organizations" by Ali Soylu were used to develop the questions on lean management.

Data Valuation Techniques

Reliability Analysis

In order to demonstrate the structural and functional nature of a phenomenon, the measurement process must be carried out in a realistic way. When probing with questions, the number of questions must be sufficient to be answered accurately, each question must be detailed to measure the information available and finally the number of subjects must be large enough. In particular, research conducted in the behavioral sciences investigates as a preliminary analysis whether the scale is sufficiently reliable. There are several statistical tools that have been developed for this purpose. The questionnaire must be consistent, relevant and contain a sufficient number of questions to reveal the true situation of the survey subjects. The questionnaire used must meet two characteristics. The reliability analysis of the questionnaire showed a Cronbach Alpha coefficient of 0.9017. Therefore, high reliability was confirmed.

Findings

The data obtained in the research will be analyzed and the findings will be briefly presented through tables.

Table 1. Employee Gender Distributions

Gender	N	%
Male	250	41,67
Woman	350	53,33
Total	600	100,0

As the table shows, 53.33% of the workforce is made up of women. The large number of female staff is a characteristic feature of this hospital.

Table 2. Age Distribution of Employees

Age	N	%
18-25	294	49,00
26-35	243	40,50
36-45	43	7,17
46-55	13	2,17
≥55	7	1,17
Total	600	100,0

As shown in the table, 49.0% of the participants were between the ages of 18 and 25, while 40.50% were between the ages of 26 and 35. As can be understood from this distribution, the majority of staff in the private hospitals surveyed is from a younger age group.

Table 3. Employee Education Level Distributions

Education Level	N	%
Doctorate	54	9,00
Undergraduate	318	53,00
High school	140	23,33
Primary education	88	14,67
Total	600	100,0

As the table shows, 23.33% of employees have a high school education. About 53.00% have an undergraduate degree and 9.00% have a postgraduate education. Based on this distribution, the educational level of employees in private hospitals in the study area is not very high.

Table 4. Task Distributions of Employees

Task	N	%
Cleaning staff	50	8,33
Doctor	54	9,00
Health Technician	75	12,50
Manager	26	4,33
Nurse	157	26,17
Others	81	13,50
Secretary	157	26,17
Total	600	100,0

As can be seen from the groups in the table, the majority of respondents are "*nurses and secretaries*".

Table 5. Employee Service Times Distribution

Years	N	%
0-5	549	91,50
6-10	38	6,33
11-15	8	1,33
16-20	3	0,50
≥20	2	0,33
Total	600	100,0

As shown in the table above, 91.50% of respondents have a very high percentage of 0 to 5 years of experience in their institution; the percentage of respondents working for more than 20 years is very low, 0.33%.

Table 6. Perceptions of Employees on "*Value of Institution Cared for*"

Values	N	%	$\bar{X}$	Standard Deviation
Ever	121	20,1	2,1184	1,0714
Partially	307	51,1		
Completely	172	28,8		
Total	600	100,0		

The table shows that more than half of the respondents stated that they "*partly evaluate*", 28.8% "*fully evaluate*" and the remaining 20.1% "*do not evaluate at all*". It is notable in this breakdown that the percentage of those who feel that their institution does not evaluate at all is not very low.

Table 7. Perceptions of Employees on "*Work Security Guaranteed by the Institution*"

Given to Personnel Job Security	N	%	$\bar{X}$	Standard Deviation
Completely	147	24,6	2,0517	0,6631
Ever	116	19,3		

Partially	337	56,1		
Total	600	100,0		

The table shows that more than half of respondents believe that institutional staff would provide part-time job security for life. Overall, 24.6% of respondents were of the opinion that they would provide adequate job security for lifetime employment, while 19.3% of respondents were of the opinion that they would never provide job security for lifetime employment.

Table 8. Perceptions of Employees on "*Justice Applied by the Institution*"

Staff Applied Justice	**N**	**%**	**X̄**	**Standard Deviation**
Completely	142	23,5	2,0238	1,1466
Ever	156	26		
Partially	303	50,5		
Total	599	100,0		

The table shows that more than half of the respondents said they were partially treated fairly, 26.0% felt they were not treated fairly at their institution and the remaining 23.5% said they were treated completely fairly. This distribution indicates that the percentage of those who feel they have never been treated fairly is not very low.

Table 9. Perceptions of Employees on "*Equal Fee Equity*"

Assets of the Equal Pay for Equal Work	**N**	**%**	**X̄**	**Standard Deviation**
Completely	104	17,5	1,8232	0,7046
Ever	209	34,9		
Partially	285	47,6		
Total	598	100,0		

Looking at the table above, almost half of the respondents believe that equal pay for equal work is partly implemented in institutions. Overall, 34.9% of the respondents believe that "*equal pay is not paid in institutions if it is equal in all respects*", while the remaining 17.5% state that "*the principle of equal pay is fully applied in institutions if it is equal in all respects*". This breakdown shows that there is a very high proportion who believe that "*the principle of equal pay is not paid to institutions if they are equal in every respect*".

Table 10. Perception of Employees in the "*Institution's Award for Overtime*"

Reward for Overtime	**N**	**%**	**X̄**	**Standard Deviation**
Ever	249	41,5	1,7302	0,7019
Partially	263	43,9		
Completely	87	14,6		
Total	599	100,0		

The table notes that 43.9% of respondents believe that "*the facility provides some compensation to staff for overtime*". The table also shows that 41.5% of respondents believe that "*the facility does not provide overtime pay for employees*", while the remaining 14.6% believe that "*the facility provides adequate overtime pay for employees*". Based on this breakdown, it appears that a much higher percentage of respondents believe that "*the facility does not provide overtime pay*".

Table 11. Perceptions of Employees on "*The Importance of the Institutional Staff for Labor Health*"

Importance of Institutional Employees for Work Health	Number	Percent	Arithmetic Mean	Standard Deviation
Ever	82	13,7	2,3028	1,3953
Partially	280	46,7		
Completely	238	39,6		
Total	600	100,0		

A glance at the table shows that almost half of the respondents believe that the staff of the establishments pay a lot of attention to their occupational health. Overall, 39.6% of respondents believe that facility staff pays a lot of attention to the health of workers in the workplace, while the remaining 13.7% believe that the facility does not pay attention to the health of the workers themselves. This distribution suggests that a much higher percentage of respondents believe that "*the health of the workers themselves is very important*".

Table 12. Perceptions of Employees on "*Innovations of Institutional Staff to Facilitate Their Work*"

Innovations of Institutional Staff to Facilitate Work	N	%	X̄	Standard deviation
Ever	104	17,3	2,5914	1,3307
Partially	338	56,3		
Completely	158	26,4		
Total	600	100,0		

The table shows that more than half of the respondents believe that the institution has made sufficient efforts to facilitate the work of the institution's staff. On the other hand, 26.4% of respondents believe that it has made sufficient innovations to facilitate the work of institutional staff, while the remaining 17.3% said that it has not made innovations to facilitate the work of institutional staff. This decomposition shows that the "*innovations made to facilitate the work of institutional staff*" are sufficient.

Table 13. Perceptions of Employees on "*Institele, Personele Sundeðu Training Opportunities*"

Institution, Personele Sundeugu Educational Opportunities	N	%	X̄	Standard deviation
Ever	168	28,0	2,0787	1,9677
Partially	286	47,8		
Completely	145	24,2		
Total	599	100,0		

Examination of the table shows that about half of the respondents believe that educational institutions provide part-time education. On the other hand, 28.0% of the respondents believe that they do not receive any education from educational institutions, while the remaining 24.2% believe that they receive a lot of education from educational institutions. Based on this distribution, the percentage of those who believe that "*educational institutions do not provide me with education*" does not seem very low.

Table 14. Perceptions of Employees in "*Personnel Social Facilities*"

Personnel Social Facilities	N	%	X̄	Standard deviation
Ever	313	52,1	1,6762	1,6537
Partially	221	36,9		
Completely	66	11,0		
Total	600	100,0		

Attention to the table shows that more than half of the respondents believe that these institutions do not provide social opportunities. Overall, 36.9% of respondents believe that institutions provide some social opportunities, while the remaining 11.0% believe that institutions provide many social opportunities. This breakdown shows that a much higher proportion of people believe that they do not provide social opportunities.

Table 15. Perception of Employees in the "*Socially, Socially Business Environment*"

Sincere Business Environment	N	%	X̄	Standard deviation
Ever	160	26,9	2,1150	1,9405
Partially	297	49,9		
Completely	139	23,2		
Total	596	100,0		

The table highlights that about half of respondents believe that facility staff provide a partially honest business environment. Overall, 26.9% of respondents believe that the organization does not provide an honest business environment, while another 23.2% of respondents believe that the organization provides a very honest business environment. This distribution shows that the percentage of those who believe that the organization does not provide any kind of honest business environment is not very low.

Table 16. Perceptions of Employees on "*Permission to Participate in Personnel Decisions*"

Permission to Participate in Personnel	N	%	X̄	Standard deviation
Ever	155	25,8	1,9799	0,7833
Partially	313	52,1		
Completely	132	22,1		
Total	600	100,0		

The table shows that more than half of the respondents believe that the institution allows staff to be partially involved in decision making: 25.8% of respondents stated that the institution does not allow staff to be involved in decision making, while the remaining 22.1% stated that the institution allows staff to be involved in many decisions. The remaining 22.1% stated that the institution allows its staff to participate in many decisions. This distribution indicates that the percentage of respondents who believe that the institution does not allow its staff to participate in decision making in any way is not at a very low level.

Table 17. Perceptions of Employees on "*Permission to Participate in Personnel Decisions*"

Permission to Participate in Personnel Decisions	N	%	X̄	Standard deviation
Ever	150	25,0	2,0302	0,7321
Partially	280	46,8		
Completely	168	28,2		
Total	598	100,0		

The table shows that almost half of the respondents believe that institutions partially encourage their staff to make proposals. On the other hand, 28.2% of respondents believe that institutions "go *to great lengths to encourage them to give advice*", while another 25.0% of respondents believe that institutions "*do not encourage them to give advice*". This decomposition shows that the proportion of respondents who believe that institutions do not encourage them to give their own advice is not very low.

Table 18. Perception of Employees in "*Encouraging the Institution to Solve Their Own Problems*"

Institution encouraging staff to solve their own problems	N	%	X̄	Standard deviation
Ever	140	23,3	2,0168	0,7057
Partially	309	51,6		
Completely	150	25,1		
Total	599	100,0		

The table shows that more than half of respondents believe that the institution partially encourages staff to solve their problems: 25.1% of respondents said "*I believe the institution provides a lot of encouragement to solve problems*", while the remaining 23.3% said "*the institution does not provide encouragement to solve problems*". "*No, no*", while the remaining 23.3% said "*no*". This decomposition indicates that the percentage of those who believe the institution does not encourage them to solve problems is not very low.

Table 19. Perception of Employees in the Team Spirit in the Organization

Team spirit in the organization	N	%	X̄	Standard deviation
Ever	159	26,5	2,0166	1,4516
Partially	302	50,4		
Completely	138	23,1		
Total	599	100,0		

The table shows that more than half of the respondents believe that team spirit in their organization can be partially identified: 26.5% of respondents believe that there is no team spirit at all, while the remaining 23.1% believe that there is team spirit. This distribution shows that the percentage of those who think that "*there is no team spirit at all*" is not at a very low level.

Table 20. Perception of Employees in Hierarchical Stages in the Organization

Hierarchical Steps in the Organization	N	%	X̄	Standard deviation
Ever	140	26,5	2,0166	1,4516
Partially	300	50,4		
Completely	157	23,1		
Total	597	100,0		

The table draws attention to the fact that almost half of the respondents consider that there are "*several rungs in the hierarchy*" in their institution; 26.5% consider that there are "*very few rungs in the hierarchy*" in their institution, while the remaining 23.1% state that there are "*no rungs in the hierarchy at all*". This distribution shows that the percentage of people who consider that there are "*no rungs in the hierarchy at all*" in their institution is not at a very low level.

Table 21. Perception of Employees on Health Communication in the Institution

Healthy Communication at the Institution	N	%	X̄	Standard deviation
Ever	130	21,7	2,1159	1,3591
Partially	304	50,7		
Completely	165	27,6		
Total	599	100,0		

The table draws attention to the fact that almost half of the respondents believe that there is healthy communication in the educational institution; 27.6% believe that there is healthy communication in the institution, while the remaining 21.7% state that there is no healthy communication in the institution. This distribution shows that the percentage of those who believe that there is no healthy communication in the institution is not at a very low level.

Table 22. Perceptions of Employees in the Role of the Administrators in the Institution

Role of Administrators in the Institution	N	%	$\bar{X}$	Standard deviation
Ever	140	23,3	2,1159	1,3591
Partially	299	49,9		
Completely	160	26,8		
Total	599	100,0		

The table shows that about half of the respondents believe that managers have a partial leadership role. On the other hand, 23.3% of the respondents believe that "*managers play a high leadership role*", while the remaining 26.8% stated that "*managers do not play a leadership role*". This distribution shows that the percentage of those who believe that "*managers do not play a leadership role*" is not at a very low level.

Table 23. Perception of Employees in Providing Information on the Goal of the Employee

Giving Information about the Employee's Goals	N	%	$\bar{X}$	Standard deviation
Ever	166	27,7	1,9984	0,7264
Partially	287	48,0		
Completely	146	24,3		
Total	599	100,0		

Looking at the table above, about half of the respondents believe that staffs are partially informed about the purpose of the institution. On the other hand, 24.3% of the respondents believe that they are fully informed about the purpose of the institution, while the remaining 27.7% believe that they are not at all informed about the purpose of the institution. Based on this distribution, the percentage of those who believe that they are "not at all informed about the purpose of the educational institution" does not seem to be very low.

Table 24. Perception of Employees on Authority and Responsibility Concerning the Authority

Authority and Responsibility of Institution	N	%	$\bar{X}$	Standard deviation
Ever	159	26,5	1,9516	0,7179
Partially	310	51,8		
Completely	129	21,7		
Total	598	100,0		

A glance at this table shows that about half of the respondents believe that "*the institution can achieve some power and responsibility*", 26.5% believe that "*the institution cannot provide any power and responsibility*" and the remaining 21.7% believe that "*the institution can achieve a lot of power and responsibility*". This decomposition shows that the percentage of respondents who believe that "*the institution cannot provide any authority and responsibility*" is not very low.

Table 25. The Perception of Employees about Providing a Simple Business Environment to the Employee's Office

Business Environment Agency's staff to be able to provide a simple	N	%	X̄	Standard deviation
Ever	85	14,1	2,2422	0,6866
Partially	293	49,0		
Completely	221	36,9		
Total	599	100,0		

Examination of the table shows that about half of the respondents believe that the staff of the institution provides a partially simple working environment, 36.9% believe that the staff of the institution provides a fairly simple working environment, while the remaining 14.1% believe that the staff of the institution cannot provide a simple working environment. stated that "*the staff of the institution does not provide a simple working environment*". This distribution indicates that a much higher percentage of individuals believe that "*the foundation staff provides a completely simple working environment*".

Table 26. Perceptions of Employees in Providing a Business Environment to Reduce Time and Labor Losses of Institution

Institution to Offer a Business Environment to Reduce Time and Labor Losses	N	%	X̄	Standard deviation
Ever	141	23,5	1,9801	0,6961
Partially	329	55,0		
Completely	129	21,5		
Total	599	100,0		

The table shows that more than half of respondents believe that the organization provides a partial work environment that reduces lost time and work. On the other hand, 23.5% of the respondents believe that the organization does not provide a work environment that reduces lost time and work, while the remaining 21.5% say that the organization provides a work environment that reduces lost time and work. This decomposition indicates that the percentage of those who believe the agency has never provided a work environment that reduces lost time and work is not very low.

Table 27. Employee Perceptions of Employing a Business Environment for Continuous Development

Opening a business environment where the foundation of the enterprise is constantly developing	N	%	X̄	Standard deviation
Ever	167	28,0	1,9081	0,7017
Partially	310	51,9		
Completely	121	20,1		
Total	598	100,0		

The table draws attention to the fact that half of the respondents believe that "*educational institutions partly provide a thriving business environment*". On the other hand, 28.0% of respondents believe that institutions cannot provide a thriving business environment, while another 20.1% of respondents believe that institutions provide a thriving business environment. This decomposition shows that the percentage of respondents who believe that institutions cannot provide a thriving business environment is not very low.

Table 28. The Perception of Employees About Providing Opportunity for Mutual Meeting

Presentation of the opportunity to make mutual meeting	N	%	$\bar{X}$	Standard deviation
Ever	165	27,5	1,9500	0,0808
Partially	319	53,3		
Completely	115	19,2		
Total	599	100,0		

The table shows that almost half of the respondents believe that the facility provides few opportunities for meetings with staff, 27.5% believe that the facility does not provide any opportunities for meetings, while the remaining 19.2% believe that the facility provides adequate opportunities for meetings with staff. This breakdown indicates that the percentage of individuals who believe that "*the facility does not provide opportunities for meetings*" is not at a very low level.

Table 29. Perception of Employees on the Timely Reception of Employee Personnel Requests

Timely Meeting of the Employee's Requests	N	%	$\bar{X}$	Standard deviation
Ever	100	16,7	2,2338	1,0768
Partially	286	47,8		
Completely	213	35,5		
Total	599	100,0		

A glance at the table shows that nearly half of the respondents believe that the facility responds to staff requests in a partially timely manner. Overall, 35.5% of respondents believe that the facility responds to staff requests in a timely manner, while the remaining 16.7% stated that the facility never responds to staff requests in a timely manner. Based on this breakdown, the percentage of "timely response to facility staff requests" appears to be an important indicator.

CONCLUSIONS AND RECOMMENDATIONS

Lean management is a method that is increasingly being applied in the healthcare sector. It is an improvement approach. Healthcare professionals and managers in many countries are using lean management techniques and tools to improve efficiency, clinical outcomes, staff and patient satisfaction and safety, and ultimately financial performance and sustainability. In fact, this approach stresses the importance of identifying elements of waste and inefficiency through process maps. Initially, the principles of the lean management approach as another way of developing evidence-based guidelines were not considered as reliable and 'scientific' as, for example, randomized controlled trials. It is important to increase this kind of evidence to convince managers and clinicians of the feasibility of this approach. The fact that this evidence is geared towards restructuring clinical practice to create more efficient and value-added procedures makes the research even more important. Among these are the following research findings.

It can be seen that the arithmetic mean of the lean management ratio of the organizations surveyed is 2,0328 (6775%). It can be said that this ratio is not a high average. In other words, it can be said that delegation is partial, each person is responsible at a certain operational level and the zero hierarchy is not fully achieved. At the same time, objectives such as minimum use of resources and minimum quality costs can be considered partially achieved.

The Lean Management factor with the highest average score in the surveyed organizations is the employees' perception of "innovation by the organization’s staff to facilitate business activity". The arithmetic mean for

this factor is 2.5913 (86.37%). In other words, employees believe that their institutions are adequately implementing the innovations needed for the smooth running of their businesses. Since these firms have completed their development with certifications such as ISO 9000, it is understood that perfection is the goal and that "the best is the enemy of the good". People can sit in their armchairs and watch a new play in New York, a concert in California or bullfighting in Mexico.

In a matter of seconds, we can be talking to a friend on the other side of the world and having dinner with them a few hours later. In the last 50 years, we have witnessed unimaginable methods of communication and transport, new sources of energy and new methods of production. These developments hold the promise of something decisive. That something is 'innovation'. This is one of the key elements of innovation, and perhaps the most important: "innovation is technology". Modern organizations must keep pace with technological developments. However, it is important to remember that management has an impact on these innovations, both in terms of staff and organizational structure. Bringing people and technology together can create tensions. The same can happen with technology at work. Human issues such as the size and composition of work teams and the frequency of contact with other workers can affect the social relationships between people brought about by technological innovations. To avoid unpleasant crowding, management must consider social and technological aspects and organizational needs in a balanced and timely manner. Failure to consider the impact of technology on individuals will undermine organizational effectiveness and productivity.

The factor "Lean management" has the second highest average value among the organizations surveyed. The arithmetic mean value of this factor is 2.3027 (76.75%). This indicates that employees believe the organization's staff think their professional health is important. In other words, the organizations that participated in the survey "consider human resources an important management parameter in today's competitive world".

Labor costs are increasingly driven by the rapid upgrading of firms to a healthier workforce, as all workers in lean production are required to produce goods and services in error-free and decision-free periods and to recognize anomalies that may cause disruptions to visible flow. In addition, this implementation ensures greater productivity and motivation for workers. The factor of lean management with the third highest average score in the organizations surveyed; the employees' perception that "institutional staff provide a lean business environment". The arithmetic mean for this factor is 2.2421 (74.73%). In other words, employees believe the organization provides a simple business environment for its employees. Simplicity means getting rid of things that don't really matter, but it doesn't mean "less". Simplicity is a powerful antidote to waste. Thinking lean means being able to produce with less labor, equipment, time, and space and getting closer to the real expectations of customers. In other words, the systematic perspective present in the organizations surveyed does not drown out the unnecessary details from the essence of the facts.

The lean management factor with the lowest average score in the organizations surveyed: employees' perceptions of "social facilities provided by the staff of the institution". The arithmetic mean for this factor is 1.6761 (56%). In other words, employees believe the organization does not provide enough social opportunities for its staff. In other words, the organizations that participated in the survey "consider human resources as an important management parameter in today's competitive world but neglect the dimension of social opportunities offered to their staff".

For lean management practices to be effective, management involvement and participation is required. Successful lean management is never done in a simple way. Rather, it is a long process that requires the involvement of all employees. Successful lean management is achieved through the involvement of all employees.

The biggest obstacle to the introduction and spread of lean management in our country seems to be that lean management is not widely known. In order to introduce lean management in the health sector in the right way certain changes need to be made in the education system to develop the required competent workforce.

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