A Study to Assess the Existence of Sustainable Healthcare Quality Culture and Application of 5's Technique

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Abstract: *The healthcare sector in India witnessed a paradigm shift from a noble profession to a multisectoral corporate. The development of hospitals from place of shelter for the homeless and ill, to the hub of modern medical knowledge, technology, professionals, quality maintenance is a recent phenomenon. In healthcare sector in India corporate houses ventured into the medical care landscape, modernized the concept of wellness and sustainable quality culture, and turned it into a data driven, efficiency oriented system. A wealth of knowledge and experience in enhancing the quality of health care has accumulated globally over many decades. In spite of this wealth of experience, the problem frequently faced is to know which quality strategies – complemented by and integrated with existent strategic initiatives – would have the greatest impact on the outcomes delivered by their health systems. 5's the name of a workplace organization method that uses a list of five Japanese words: Seiri (sort), Seiton (segregate), Seiso (shine), Seiketsu (standardise), and Shitsuke (sustain). The list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order.*

Keywords: sustainable, healthcare, quality, 5's (sort, segregate, shine, standardise, sustain

1. Introduction

Quality is never an accident; it is always the result of high intension, sincere efforts, intelligent direction and skilful execution; it represents the wise choice of many alternatives".

As medical science and technology has advanced at a rapid pace, the health care delivery system has floundered in its ability to provide consistently high quality of care to all. A focus on quality in health systems make informed strategic choices to advance quality improvement at all level. Quality is an important aspect of healthcare; indeed for most people it is the most important aspect. The concern for quality in healthcare is as old as care itself. Quality is defined in the dictionary as "degree of excellence" or "superiority in kind.[1]

Quality in healthcare is a production of cooperation between the patient and the healthcare provider in a supportive environment. Personal factors of the provider and the patient, and factors pertaining to the healthcare organization, healthcare system, and the broader environment affect healthcare service quality. Healthcare quality can be improved by supportive visionary leadership, proper planning, education and training, availability of resources, effective management of resources, employees and processes, and collaboration and cooperation among providers.[2]

Increasingly, healthcare organizations are becoming aware of the importance of transforming organizational culture in order to improve patient safety. Growing interest in safety culture has been accompanied by the need for assessment tools focused on the cultural aspects of patient safety improvement efforts. Changes in quality culture can be used as evidence of the effectiveness of patient safety programs and interventions. In this context, culture change is regarded as an "outcome measure", usually in conjunction with more direct measures of patient safety such as error rates and clinical outcomes. Culture assessments provide a way of tracking progress in cultural transformation over time.[3]

5's the name of a workplace organization method that uses a list of five Japanese words: Seiri (sort), Seiton (segregate), Seiso (shine), Seiketsu (standardise), and Shitsuke (sustain). The list describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order.[4] 5S is considered as the starting point for healthcare quality improvement initiative for improving safety, efficiency, or patient centeredness aspects in low and middle income countries. It could be not only a tool for health workers and facility managers but also a strategic option for policymakers. 5S could be applied to health-care facilities regardless of locations. The low cost of 5S implies that this method is appropriate initial step toward quality improvement even among resource constrained healthcare facilities.[5]

5S can be applied to healthcare services with beneficial effects such as cleaner, organized, efficient workplaces for enhanced safety and increased productivity; reduction of inventory and supply costs and recapturing of valuable spaces and minimizing overhead costs. Sustain is a key to success.[6]

2. Review of Literature

Quality culture is a set of group values that guide how improvements are made to everyday working practices and consequent outputs.

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2.1 Need to focus on healthcare quality culture

A wealth of knowledge and experience in enhancing the quality of health care has accumulated globally over many decades.

Even where health systems are well developed and resourced, there is clear evidence that quality remains a serious concern, with expected outcomes not predictably achieved and with wide variations in standards of health-care delivery within and between health-care systems.

Where health system- particularly in developing countries- need to optimize resource use and expand population coverage, the process of improvement and scaling up needs to be based on sound local strategies for quality so that the best possible results are achieved from the new investment.[7]

2.2 Impact of healthcare quality culture

It provides continue improving quality of care for patients in safe, effective and person centred ways. With a holistic framework for sustainability, health care managers can implement strategies for multidisciplinary teams to respond to the constant change, fine-tune operations and successfully manage quality of care. Sustainable healthcare quality culture provides in-service learning experiences that integrate knowledge, skills, and abilities. [8] Several cultural influences such as excellence in care delivery, ethical values, involvement, professionalism, value-for-money, cost of care, commitment to quality and strategic thinking were found to be key cultural determinants in quality care delivery.[9]

2.3 Dimensions of sustainable healthcare quality culture

- Effective, delivering health care that is adherent to an evidence base and results in improved health outcomes for individuals and communities, based on need.
- Efficient, delivery of health care quality in a manner which maximizes resource use and avoids wastage.
- Accessible, delivering healthcare that is timely, geographically reasonable, and provided in as setting where skill and resources are appropriate to medical call need.
- Acceptable/patient-centred, delivering health care which takes into account the preferences and aspirations of individual service users and the cultures of their communities.
- Equitable, delivering healthcare which does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographical location or socio economic status.
- Safe, delivering health care which minimizes risks and harm to service users [7]

2.4 Sustainable healthcare quality culture assessment: A tool for improving patient safety

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2.5 Need of 5's technique

The cost of health care are increasing very rapidly, health care providers, clinics, hospitals, are under significant pressure to reduce costs despite more pressure to improve service and patient safety, reduce patient waiting times, and minimize errors and associated litigation. The implementation of 5S resulted in improved productivity, quality and safety. [6]

Most of the Japanese 5S practitioners consider it useful for not only improving their physical environment but also for improving their thinking processes. Apparently, the 5s can help in all levels and aspects of life. It is practiced from "Womb to tomb" in human life. Many of the day to day problems can be solved by adopting the 5S model and practicing it earnestly.

- **Sorting** is about separating the things which are necessary for the job from those that are not keeping the number of necessary ones as low as possible and at convenient location.
- **Segregating** is the question of how quickly you can get the things you need and how quickly you can put them away. You have to study this for both the people using the things frequently and those who seldom use them.
- **Shine** refers to the sweeper cleaning should be done by everyone in the organization from managing director to sweeper.
- **Standardization** means continually and repeatedly maintaining the organization through neatness and cleanliness. The emphasis here is on the visual management and 5s standardization.
- **Sustain** means instilling the ability of doing things the way they are supposed to be done. The emphasis here is on creating a workplace with good habits. This is done by teaching everyone what needs to be done and having everyone practicing it.
- In industries 5S has been applied for better housekeeping and is equally relevant for healthcare organizations.[10]

2.6 Impact of 5's technique

Much attention has been drawn to the demand for improvement of quality in Healthcare organisations and to achieve improved outcomes for patients as well as to bring increased patient satisfaction and staff satisfaction. Some important areas to be addressed in this regard are

improvement of work environment, reduction of waste and correction of delays in the various care processes and procedures. 5S is a simple, easy to understand management approach that was originally applied in the manufacturing sector for workplace organisation. It is now being practiced in the service sector also it is a standalone approach that originated in Japan and increasingly used as the first step towards quality improvement in the service sector.

If practiced in a hospital it helps to maintain a high degree of cleanliness and orderliness in the work place, and reduces waste in the processes of care, and improves patient flow. It is known for its ability to establish the essential prerequisites of working environment, practices and mind-set, which are the necessary foundations for an effective quality improvement.[11]The changes resulting from the 5S application were presented as potential in the improved process flows, increased capacity, and shorter stay for all patient classes.[5] 5S is intended for the physical work environment and is the simplest to implement for organizing, standardizing and maintaining the workplace.[12]

3. Methodology

A survey type research approach adopted in this study included collection of information, opinions from 150 patients and 100 healthcare professionals of Fortis Escorts Hospital, Amritsar through well structured questionnaire.

3.1 Inclusion Criteria

1) Patients visiting Fortis Escorts Hospital Amritsar.
2) Patients and attendants more than 18 years.
3) Healthcare Professionals employed more than 6 months in job

3.2 Exclusion criteria

1) Patients less than 18 years.
2) Mentally unfit/ retarded.
3) Visually impaired.
4) Interns/ Trainees or healthcare professionals employed less than 6 months in job.

3.3 Procedure

Those subjects were chosen who either in a condition to fill questionnaire themselves was or who had their attendants with them. They were asked to read the questionnaire thoroughly and clearly before marking the options and they were asked to clarify if they had doubt in any question. Questionnaire filling procedure and objective of the study were explained to each subject and their informed consent was taken on questionnaires provided to them individually.

4. Results and Discussions

In this paper, we tried to assess the existence of sustainable healthcare quality culture and application of 5's technique. The study constituted 250 samples, out of which 150 were patients and 100 were employees of Fortis Escorts Hospital, Amritsar.

Out of the sample chosen for patients, 58.6% were males and rest were females.

According to all the patients healthcare quality was important to them. 74.6% respondents stated proper healthcare services were provided to them. Majority patients 95.3% stated hospital physical facilities were visually appealing and pleasant and 85.3% rated cleanliness as satisfactory. Only 62.7% patients responded that toilets were clean as stated in Figure 1.
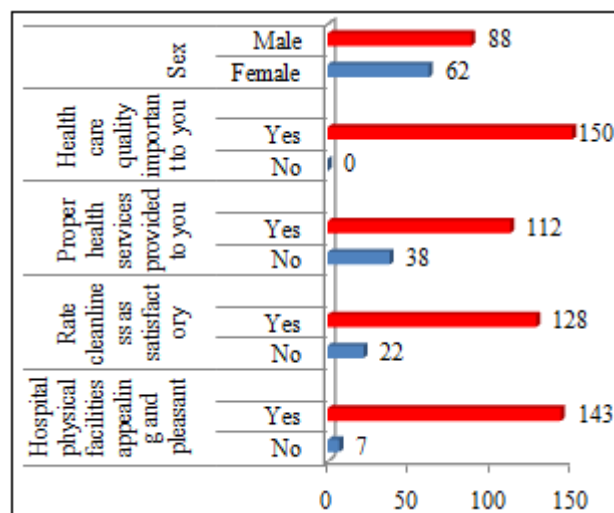

Figure 1: Patient Perspectives

More than half of the patients stated that 65.3% that they didn't felt difficulty in making appointment followed by 73.3% who stated sufficient consultation time was provided by doctor and nurse and they explained the things to them in a way they could understand easily. Majority 72.7% stated they didn't felt any difficulty related to insufficient equipment working and 74.6% stated hospital demonstrates sincere interest in solving their problems. Some stated that they faced problems related to linen services. It was stated by 76% patients that their length of stay in the hospital was more than 5 days as stated in Figure 2.
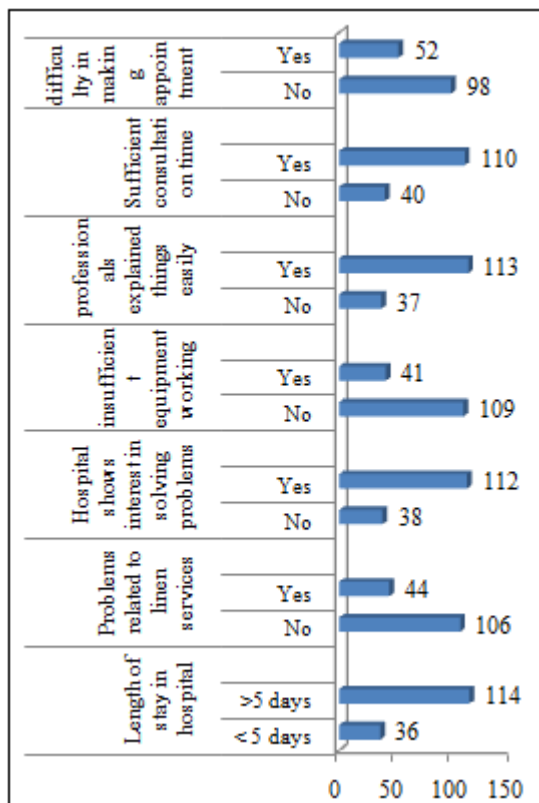
Figure 2: Patient Perspectives

Healthcare Providers

Majority of healthcare providers included in this study were doctors 40% and nurses 44% who worked either in IPD 55%, OPD 17% and emergency 28% departments. Majority stated that team work and participation is important for achieving quality and training along with education are vitals for effective quality implementation. All healthcare providers said organization conduct quality audits. It was stated by 82% that top management show commitment to quality culture as stated in Figure 3.
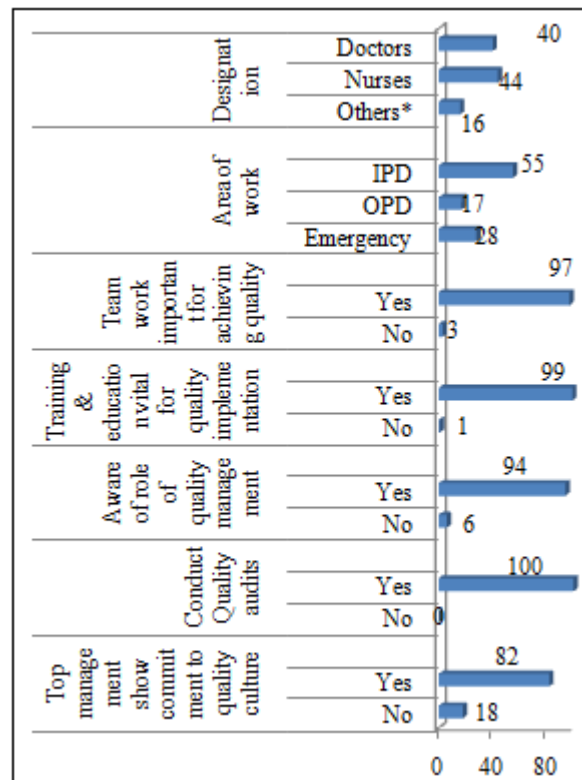

Figure 3: Healthcare Providers Perspectives

When asked about utility services 77% of the healthcare providers stated that noise level was in the limits as shown in Figure 4.
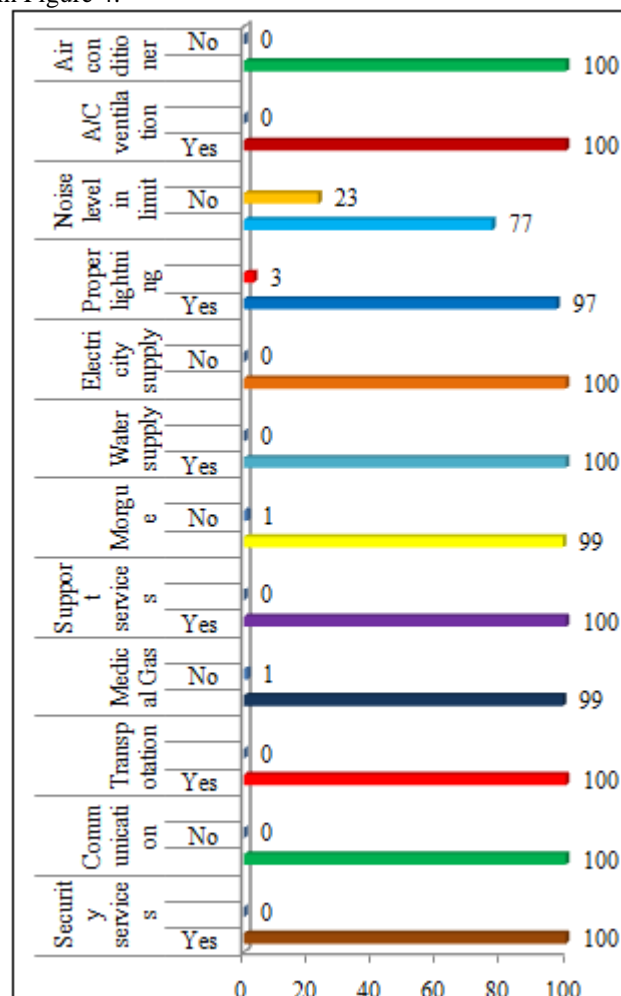

Figure 4: Healthcare Providers Perspectives

Above 94% of the healthcare providers stated department maintain specific goals to improve quality and education along with training were important for effective quality improvement. Also, more than 95% stated that first aid equipments, instruments, life saving and non life saving drugs material and injections were available to them. According to 99% of healthcare providers hospital is taking steps to control hospital acquired infection. Also, 98% stated hand hygiene is followed in the hospital as shown in Figure 5.
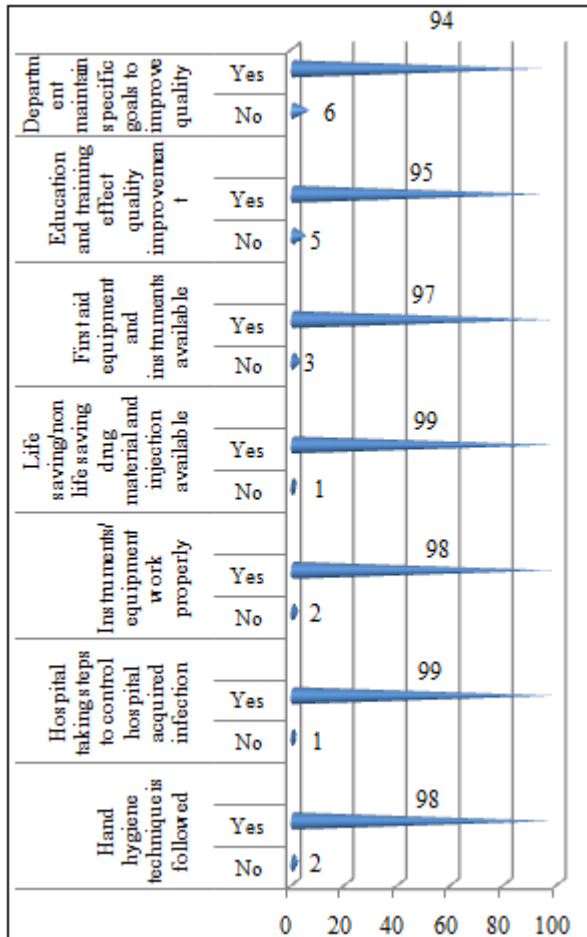

Figure 5: Healthcare Providers Perspectives

More than 78% stated that they had sufficient staff working in their unit and staff was available at time of emergency. More than half 85% state employees have authority to correct problems when quality standards not being met. According to 66% average length of stay of patient was more than 5 days. It was stated by 70% that rate of readmission is average. It was stated by only 83% that toilets were clean but 99% stated that aisles were marked and floors were clean and sanitary as shown in Figure 6.
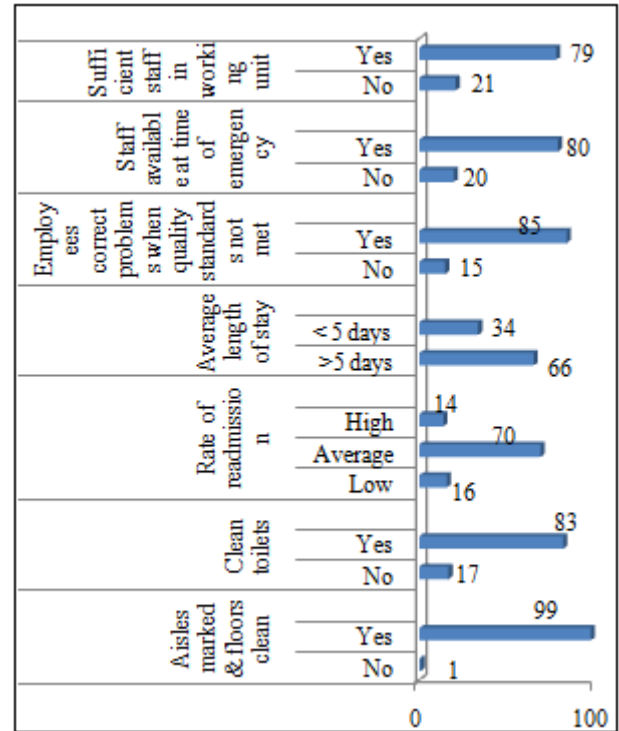

Figure 6: Healthcare Providers Perspectives

5S is a system to reduce waste and optimize productivity through maintaining an orderly workplace and using visual cues to achieve more consistent operational results. Checking with checklist was done at different sites like OPD, emergency, third floor, fourth floor and fifth floor (IPD). In OPD and emergency almost same problems were there in first two categories of sort and set in order. At the time of inspecting floors 4th floor was the best floor as no problems were found. In 3rd floor and 5th problems were almost same related to 'sort', 'set in order' and 'sustain' categories.

5. Conclusion

This study concluded that it is important to have noise level in limits in the hospital as it is a cater area for critical ill patients. This not only disturbs the patient but also affects the sustainable quality culture of the hospital. Patient satisfaction is thus a proxy but a very effective indicator to measure the success of healthcare workers and hospitals. Quality in healthcare is a production of cooperation between the patient and the healthcare provider in a supportive environment. It is important to have neat surroundings. Neat toilets always add to the quality of the services provided. Hospital readmissions also act as stigma to the institution and they can be avoided by implementing quality measures in hospital.

5S is a system to reduce waste and optimize productivity through maintaining an orderly workplace and using visual cues to achieve more consistent operational results.

6. Future Scope

The present study was based on questions which were of prime interest to patients as well as to healthcare professionals in simplest language understood. The feedback

on a wider sample was taken personally and it clearly depicted the point of view of all respondents.

The study of application of 5s technique in healthcare is still in its nascent level. Lots of research issues can be undertaken as to assess the areas of weakness in service delivery of sustainable healthcare quality culture. A large sample can improve the feedback both qualitatively and quantitatively. Moreover this study was based upon single super speciality hospital in one region. The results can be compared to the feedback from other regional hospitals and also with patients visiting and healthcare professionals working in government hospitals.

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