Review Article

Journal of Blood

Using Lean Six Sigma (LSS) and Total Quality Management (TQM), how to improve ineffective communication among care providers, which leads to medication errors in hospital settings – A Review.

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Received : May 10, 2024
Accepted : May 12, 2024
Published : June 12, 2024

ABSTRACT

Introduction: Inadequate communication among health-care providers jeopardises patient safety in hospitals and clinics. Several studies are currently being conducted to improve effective communication in order to save many patients' lives and to reduce medication errors that result in scout events. Though advanced techniques and fashionable machines have been introduced in health care settings, effective communication is still very important in producing patient safety and avoiding adverse outcomes of the intended treatment. Ineffective communication is the leading cause of medication errors in hospitals. There is a need to pay attention to this critical issue, its causes, and solutions. The study's goal is to improve communication among health-care providers in order to reduce medication errors that result in scout events.

Methods: As a result of the incident described in this article, will the American government consider how to reduce these blunders in medical settings? This thought compel the American state to review material that is already available on the internet, such as a large number of articles from Google scholar, Pub Med, and other programmes studied and completed that there should be improved communication among health care providers exploitation management method that will be useful in hospital settings.

Conclusion: Drug inaccuracies, also known as a medication slip, occur during the prescribing, administering, and distributing of medications, and are simply harm that can be avoided via the use of a management technique and careful execution. These inaccuracies are divided into three categories: minor, moderate, and severe on the negative outcomes Medication Error (ME) rates are astronomically high in developing countries due to inadequate infrastructure and a lack of effective policies/manuals. Most MEs square measure the outcomes of ineffective medication and administration communication or information. This increased risk can be reduced by utilising 2 management methods such as Lean Six Letters of the Alphabet (LSS) and Total Quality Management (TQM), which reduce MEs through effective communication between health care providers. because existing methods for avoiding MEs do not appear to be satisfactory and want to associate the significance of a research towards surplus consumer mistreatment

Keywords

Ineffective communication; Medication errors; Lean six sigma; Total quality management; Management process; Effective communication; Communication among health care providers; Medication errors in hospital settings; Variable Rate blood vessel hypoglycaemic agent Infusion (VRIII); HBA1C; Case situations

Abbreviations

LSS: Lean Six Sigma; TQM: Total Quality Management; MP: Management Process; HBA1C: Glycated Hemoglobin; VRIII: Variable Rate blood vessel hypoglycaemic agent Infusion; BSL: blood glucose Level; NPO: Nothing per Oral; LASA: Look Alike Sound Alike; TAH+BSO: Total Abdominal ablation and Bilateral Salpingo-Oophorectomy

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INTRODUCTION

Case situation

An 80-years-old woman was admitted in hospital for elective surgery. She was a illustrious case of cervix cancer with breast mets. She had co- morbid like cardiovascular disease, kind II polygenic disorder and dyslipidemia. She was taking Tab: antidiabetic drug HCL five hundred mg thrice on a daily basis and Tab: Glibenclamide five mg once daily from 15-years- and with these medicines she had glorious management over polygenic disorder with HBA1C (Glycated hemoglobin) worth at intervals traditional vary six.9%. She was admitted in hospital's surgical department one day before surgery. Variable Rate blood vessel hypoglycaemic agent Infusion (VRIII) protocol was started by a feminine resident doctor to regulate patient's polygenic disorder. She had no ought to begin it as she wasn't meeting the standards of VRIII protocol as per hospital policy statement and yank polygenic disorder association, There ought to be HBA1C worth over eight.5% however patient's report worth was six.9% as mentioned higher than, she was neither captivated with hypoglycaemic agent (Type II diabetes) nor had 2 consecutive blood glucose Level (BSL) worth over two hundred mg/dl.

The mentioned protocol was on flow endlessly for over seventy two hrs. Moreover, authority was ordered to prevent the VRIII protocol, however it absolutely was not seen by on duty employees nurse and resident doctor, thus protocol was continuing for concerning sixteen hrs when the consultant's order. Incident was reportable for inappropriate treatment and ineffective communication among health care suppliers and shared with the relevant department. involved employees apologized and secure to be a lot of thorough before prescribing such high alert medication [1,2].

As the allotted nurse took patient's over on dated sixteenth March 2019 on evening shift, open work reports to visualize HBA1C worth and see consultants order, thancome toknow thatthepatientwas prescribed wrong medication which will cause serious hurt to her, as a result of she is associate married woman and fall in hospital's vulnerable list because of age. Moreover, she was illustrious case of cervix cancer with breast Mets; she had h/o previous surgery Total Abdominal ablation and Bilateral Salpingo- ovariectomy (TAH+BSO) in 1990 and was at risk of infection and different medical risks. She was on VRIII protocol, prescribed by feminine resident doctor while not specialist consultation and he or she conjointly not thought of work values. Violation of hospital policy and yank polygenic disorder association pointers occur. though patient reached no hurt, however it may be fatal.

This was caused by failure of communication among care suppliers. Similarly, error was occurred at employees nurse facet too as a result of she didn't check the work values and specialist order and followed the doctors order blindly while not exploitation her own vital thinking and clinical information. in line with yank polygenic disorder association pointers VRIII protocol is desired in patients WHO square measure relative quantity by Oral (NBO) for a few medical reason; those with type1 polygenic disorder associated admitted for surgery and has h/o hypoglycaemic agent administration; those with uncontrolled polygenic disorder (defined as an HbA1c>69 mmol. mol−1) (8.5%); utmost patients with polygenic disorder would like emergency operation. VRIII should be administered and checked by befittingly proficient and trained employees [3].

Our patient was known case of type II diabetes was not on insulin previously and has excellent control over diabetes with HBA1C value of 6.9%. Diabetes should be controlled as early as possible before planned surgery and to avoid postponements of surgical procedure due to deprived control. The Working Party supports the agreement guidance published in the 2011 NHS Diabetes recommendation that the HbA1c value must be<69 mmol. mol−1 (8.5%) for planned surgeries [3]. Ineffective communication between health care professionals is one among a budget sources of medical inaccuracies and patient ill-treatment. Communication failures were associated at the basis of over seventieth of picket events [4]. one among the foremost roots of medication errors is communication barrier. it should ensue to barrier in verbal communication of briefings, orders written in scribbled handwriting and/or Look-Alike Sound-Alike (LASA) medications. The ensuing mistakes may at one time involve wrong patient, inappropriate dose, improper route, or incorrect prescribing medication itself [5].

Implementation of management processes

Many studies are conducting since currently to attenuate the medication errors within the hospital setting thanks to miscommunication of care takers each nurses and physicians. I steered applying 2 Management Processes (MP) to cut back errors whereas caring patient's in hospital; these ar Lean Six letter of the alphabet (LSS) and Total Quality Management (TQM). antecedently mentioned each MPs ar accustomed improve the standard of labor in a company, the aim to use them in hospital setting is to hide all aspects of management to eradicate medication errors, as LSS outline the prevailing state of affairs, make a case for the measures that investigate the matter that improves the assembly and provides complete or partial management over the state of affairs and TQM is solely targeted centered that involve the workers to figure for consumer satisfaction, it's a strategic and systematic approach supported higher cognitive process and facts that is opening move toward continues improvement through communication.

Hence these MPs facilitate to cut back medication errors as LSS was antecedently been utilized in totally different

organizations to cut back medication errors and was prove effective. Their study proves that LSS is a wonderful process/ methodology to cut back medication errors in developed also as developing countries [6]. currently the question arouses however LSS works? It defines the method or the difficulty, measures the current performance, then analysis the basis causes of the making crisis, improves the potential actions through the implementation and determination and eventually works for the upkeep of improved method (Figure1).

Total Quality Management (TQM)

TQM works entirely for communication and quality perfection to reinforce consumer satisfaction. It believes in to place consumer at priority, demands to figure exhausting for the advance of excellence of labor with current progress towards shaping goals, with the aim of zero defect through trainings and development of processes. TQM is two-dimensional method works with 6Cs (Commitment, Culture, continue improvement, Cooperation, client centered and Control). These 6Cs ar Key Performance Indicators (KPIs) for the accomplishment of expecting outcomes. the aim to use this method is to enhance communication between care suppliers and to attenuate risk factors that cause serious hurt to patients throughout hospitalization throughout the method of their treatment thanks to medication errors. the first components of TQM ar shown in Figure two.

Use of LSS and TQM as Combination

Hospital will't afford mistakes as a result of it can cause fatal consequences like picket event, loss of physical or psychological ability, permanent loss of limb or organ, shock and should death occur in sever causes. as a result of implementation of policies or manual and determinations aren't enough to beat this case till communication between care suppliers, worker involvement and consumer satisfaction isn't achieved. in keeping with Revere 2003, desegregation LSS hooked on the accessible TQM agenda, that helps to enhance quality of labor and provision of needed outcomes. a wonderful approach to spot root cause examination of circumstances exploitation LSS considerably enhances the conferred TQM method [8]. the connection between LSS and TQM are going to be clearer and a lot of intelligible in Figure three. The Figure three shows that however operational excellence and client satisfaction be won exploitation LSS on TQM through an entire shaping pathway and also the factors that influence its success.

DISCUSSION

In a shell the mixture of prescribing, dispensing and taking medicines is that the most ordinarily applied medical intervention.

Because there's vital human interaction concerned, this method is thought to be liable to errors. A wrong prescription of medication will cause serious hurt and typically became fatal. during this case the patient diagnosed with kind II polygenic disorder that is non-insulin dependent was administering wrong medicine; there was outlined criteria before begin any medication protocol for patient within the hospital, that wasn't followed properly. though the patient remains hurt free, however it shouldn't be like that. Ineffective communication among medical care suppliers Associate in Nursingd professionals is an in depth drawback and an injury to effective care coordination. Resolutions of challenges in primary specialty communication ar needed so as to diminish the matter of obstruction in health services created by complications in communication and to support optimize patient care regarding primary and specialty care in hospital and different settings Use of LSS and TQM as Combination : Hospital can't afford mistakes because it can cause fatal consequences such as sentinel event, loss of physical or psychological ability, permanent loss of limb or organ, shock and may death occur in sever causes. LSS alone cannot work properly and completely to eradicate errors, so in order to improve its ability TQM work hand in hand with it [7]. Because implementation of policies or manual and determinations are not enough to overcome this situation until communication between care providers, employee involvement and client satisfaction is not achieved. According to Revere 2003, integrating LSS hooked on the accessible TQM agenda, which helps to improve quality of work and provision of required outcomes. An excellent approach to identify root cause examination of circumstances using LSS significantly enhances the presented TQM process [8]. The relationship between LSS and TQM will be clearer and more understandable in Figure 3. The Figure 3 shows that how operational excellence and customer satisfaction be won using LSS along TQM through a complete defining pathway and the factors that influence its success.

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to effective care coordination. Resolutions of challenges in primary specialty communication area unit needed so as to diminish the matter of obstruction in health services made by complications in communication and to support optimize patient care regarding primary and specialty care in hospital and different settings.

CONCLUSION

There is got to develop a system to reduce medication error. Error got to be detected, known and according because it was worn out this case. If these forms of drawback arouse it got to be self-addressed properly to avoid any complication. Improve data of health care professionals and communication between nurses and physicians through the effective use and applying of above-named management method LSS and TQM, each processes area unit proved effective once combined in hospital settings. Reducing the possibility for workarounds may be a key step in making certain applicable use of systems to scale back errors.

Measure comfort of communication and as an example communication challenges supposed by Primary health care suppliers and first care personnel within the hospital settings. correct education associate degreed coaching systems area unit necessary for excellence of labor and reduction of mistakes as per TQM and an understanding of drawback, its analysis, alternatives; answer of drawback and full management over problematic state of affairs is essential steps of LSS. With the applying of each MPs the drugs errors are restricted to lowest incidence, organization are ready to develop appropriate policies and procedures, the availability of applicable work atmosphere for workers are created attainable, All medication errors are according responsibly, health care suppliers can feel additional direction and fewer guilt, a clear system can get reality and death rate because of wrong prescription are at minimum level.

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