

Root Cause Analysis: Examples of Scenario

Kök Neden Analizi: Senaryo Örnekleri

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ABSTRACT

Root cause analysis covers the studies directed on the precautions to be taken in determination of what the mainsprings are in starting points of the faults occur and in not repetition of these errors. In this study, root cause analysis and the process is evaluated and it is tried to be shown how it is applied in health institutions.

A scenario about incidents and faults was developed within the scope of patient and employee safety in health institution for understanding of the issue. Root cause analysis was carried out to identify errors preventing strategies related to the scenario fictionalized.

The issues threatening patient safety are detected and prevention strategies related to the issue are determined. Prevention strategies can be named as inadequate orientation and training, not carrying out patient identity verification, inadequate communication, and the deficiencies on the issue of exercising routine controls of the personnel and usage of protective equipment.

Development of preventing strategies in consequence of root cause analysis related to the issues threatening patient and personnel safety has a significant role in preventing and decreasing unexpected incidence. Examples of the incidence to be done about the precautions to be taken within the direction of these strategies, new technical applications and personnel safety and patient care and treatment are presented.

Keywords: Root Cause Analysis, Patient Safety, Employee Safety.

ÖZET

Kök neden analizi, meydana gelen hatalarda hataların çıkış noktasındaki asıl nedenin ne olduğunun tespitinde ve hataların tekrarlanmaması için alınacak tedbirlere yönelik çalışmaları kapsamaktadır. Bu çalışmada kök neden analizi ve süreci incelenerek, sağlık kurumlarında nasıl uygulandığı gösterilmeye çalışılmıştır.

Konunun anlaşılması için sağlık kurumlarında hasta ve çalışan güvenliği kapsamında olay ve hatalara yönelik senaryo geliştirilmiştir. Kurgulanan senaryo ile ilgili olarak hata önleme stratejilerini belirlemek için kök neden analizi yapılmıştır.

Senaryo analizi sonucunda hasta güvenliğini tehdit eden durumlar tespit edilerek, konu ile ilgili önleme stratejileri belirlenmiştir. Önleme stratejileri; yetersiz oryantasyon ve eğitim, hasta kimlik doğrulamasının yapılmaması, yetersiz iletişim, çalışanların rutin kontrollerinin yapılmasındaki ve koruyucu ekipmanların kullanımı konusundaki eksiklikler gibi nedenler sayılabilmektedir.

Hasta ve çalışan güvenliğini tehdit eden durumlarla ilgili kök neden analizi sonucunda önleme stratejilerinin geliştirilmesi, beklenmedik olayların önlenmesi ve azaltılmasında anahtar bir rol oynamaktadır. Bu stratejiler doğrultusunda alınacak önlemler, yeni teknik uygulamalar ile çalışan güvenliği ve hasta bakımı ve tedavisi kapsamında neler yapılabileceğine dair öneriler sunulmuştur.

Anahtar Kelimeler: Kök Neden Analizi, Hasta Güvenliği, Çalışan Güvenliği.

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INTRODUCTION AND AIM

The patient and employee safety programs are a part of quality improvement programs and quality units focused on continuous improvement in health-care organizations. The patient safety is preventing of errors depend on the health services and redesigning the entire system in order to remove injuries and deaths caused by these errors.¹ Also, the employee safety is used to qualify the studies that aims and provides the employees to work in a safe environment and safe conditions and that are carried out for the employees to be in good condition either physically or spiritually and socially.²

Some situations as nearly error, adverse event, and unexpected events can happen in health-care organizations. There is necessary to carry out the root cause analysis in order to find the reasons of the errors that actualized and to prevent recurrence of these errors.³

The root cause analysis includes the studies that are intended to determine the mainspring that is in errors occurred, behind the apparent causes and fountain head of the errors and the studies that are intended to the

measures to be taken and changes to be done in order to prevent the reoccurrence of the errors.⁴

The root cause analysis is important in terms of the facts that doing the works in a better way and developing the action plan for “overreaching the blaming” and helping give the best care services for the patients accordingly; and ensuring employee safety; and it is sharable inside the organization for preventing lessons learned, regeneration and nearly errors; and it includes redesigning of the faulty systems that can be repeated in the future.⁵

The root cause analysis can start the improvement process with plan-do-check-act (PDCA) and HTEA studies by using one of the methods as fish-bone diagram, pareto analysis, brain blooming.⁶

The cases were existed or are going to be existed within the scope of patient and employee safety were built as a scenario and aimed to identify the root causes of the errors and to develop the avoiding strategies.

METHODS AND MATERIALS

Some scenarios were built in health-care organizations for the events and errors within the scope of patient and employee safety in order to understand the subject of root cause analysis scenario; subject to be in accordance with experiences and knowledge-being inspired of the cases currently happening or already happened-there was built two scenarios that are threatening the patient and employee safety by taking into consideration also the examples given in a wide range of literature search and based on own working experience. The scenarios built are as follows:

Scenario example 1

Doctor A gave instructions to beginner (for one week) clinic nurse for giving the Coumadin tablet to the patient numbered 404/2. However, the patient in 404/2 was taken to the private room by caregiver upon

the instruction of Doctor B from one-upper seniority. Also, a new patient (whose surgery is planned) who was brought to the service newly was hospitalized to the sickbed numbered 404/2. The clinic nurse made the Coumadin tablet drink to the patient without making the identification for patient. While there was learned that the patient took Coumadin tablet before surgery – because of the fact that this medicine can result bleeding after surgery-the planned surgery of the patient was not operated that day accordingly.

Scenario example 2

While cleaning staff A was collecting the medical waste from treatment room (the needle drilled the red pocket and its spike gone out) during his/her daily routine works, he/she was injured from the leg because of the pinprick. The cleaning staff A who is just

three months employee reported this situation to unit supervisor; and unit supervisor also reported the situation to employee safety committee. The extensive research on the subject was conducted.

The root cause analysis was performed in potential errors and risks about the scenarios built and preventing strategies were developed accordingly.

RESULTS

While scenario 1 is evaluated; it is suitable to carry out the root cause analysis aimed to preventing the medicine errors that are threatening patient safety.

There was reached some root causes as inadequate training and orientation of employees, deficiency of experience, problems arising from the communication system between the health staff and errors in

teamwork, not to realize patient authentication process, carelessness.

While also scenario 2 is evaluated, some fact were identified as the root causes identified in the situations that threaten the employee safety; as inadequate training and orientation of employees, not to question about the vaccines of the cleaning staff during the start of work, problems about using of personal protective equipment.

DISCUSSION

The scenarios developed in the scope of patient and employee safety were analyzed. The root causes were determined as a result of analysis; and preventing strategies were developed accordingly.

The patient safety about the analysis of *Scenario 1*; the medicine are passing through several stages until they reach the patient. These stages include the purchasing process of the medicine that will be used in hospital, the storing of the medicine by the chemist properly after they entered the hospital, distribution of the medicine to the usage areas, giving the order by the doctor for the medicine to be applied on patient, preparing of the medicine by chemist or nurse and labelling of the medicine and applying of the medicine on the patient by the nurse.⁴

Root cause 1

Inadequate training and orientation.

Prevention strategies; It is necessary to give patient safety targets, basic education and in service training during orientation period about the risks of medicine to the employees in order to create patient safety culture in organization.

Root cause 2

Deficiency of experience and carelessness.

Prevention strategies; Working together with the coaches for the beginners (not to treat the patients alone) in their orientation process about treating the patients may prevent the errors.

Root cause 3

The deficiencies about the communication system between the health-care staff and the errors about the teamwork.

Safe medicine implementation institute determined 10 system elements as the reasons of medicine errors. One of these elements is communication and the errors about the teamwork.⁷

Prevention strategies; while it is thought that there is more than one health-care staff in a department, this situation results miscommunication between them and some errors. Establishing a clear communication between the health-care staff while transferring information about the patient seriously prevents the errors that may occur. Thus, the informing between the health-care

staff about the articles of patient should be carried out completely. This also requires an effective teamwork.

Some policies should be created in order to prevent the miscommunication between the staff to result the errors. One of these policies should be as-follows; the employees should communicate each other by using the name of the patient not the room.

Root cause 4

Not to realize the patient authentication process.

Prevention strategies; the patient wristbands that include the identifying information are used in all patients who are having the inpatient treatment. The nurses should verify the identity of the patient by asking his/her name, date of birth as day-month-year before the treatment and should control the protocol number from the wristband of the patient and then give the medicine. Thus, it becomes possible to prevent the error. The authentication process can also be carried out by barcode scanners in some cases.

About the Scenario 2 analysis; employee safety

In accordance with the “regulations about providing the patient and employee safety “that was issued for the purpose of providing a safe environment for the individuals having services and the employees (Employee Safety Circular (14.05.2012); the annual employee safety targets are determined.⁸ The Employee Safety Program should be created and put in writing in accordance with these

targets. The annual targets and target-specific planning should be adopted by the employees by having training.

Root cause 1

Inadequate training and orientation of employees.

Prevention strategies; The training about the employee safety should be given to all employees (Employee Safety Circular (14.05.2012)⁸. It should be provided that the needles are thrown away to the needle waste boxes in order to prevent the stab wounds that originated of the needle tips. The training should be organized, controls should be done and sanctions should be applied about this case.

Root cause 2

The vaccines of the cleaning staff were not questioned during the start of work.

Prevention strategies; the routine health screening of the employees should be recorded and followed in the scope of employee safety.

Root cause 3

The employees should take individual protective measures.

Prevention strategies; the awareness of the employees about the usage of personal protective equipment should be increased with in-service training. Also, the usage of them should be promoted with controls and sanctions.

The corrective and preventive actions should be carried out for each root cause.

CONCLUSION

Generally, it seems that the problems were not individual and there is a system problem while the errors were examined. The reasons of the errors should be found out and taken under control rather than punishing employees in order to decrease the errors. While the errors and unexpected events were

investigated with reactive methods the preventing strategies should also be developed with proactive methods as well. It is a reality that patient and employee safety will be affected positively with the effective usage of the quality tools in health-care organizations.

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