

Root cause analysis (RCA), a little-known tool for medical errors pathology during the COVID-19 pandemic

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Dear Editor,

Medical errors are defined as “unintentional acts or events”. Scientific estimates show that medical errors are among the most important causes of death globally (1). Medical mistake is the third leading cause of death in the United States and a significant problem in the European Union (2). These errors have many adverse effects, including mortality, prolongation of treatment, reduced quality of care, increased treatment costs, distrust of patients and clients in the health system, and thus, reduced performance of health forces (3).

The prevalence of COVID-19 has caused sleep disorders, increased irritability, frequent work shifts, intense work pressure, long hours of care with high stress and anxiety, which have had a significant impact on the decision and calculation of medical staff, and thus, increased medical errors (4). Because of failure to assess drug sensitivity due to high workload, prescribing drugs with incomplete instructions and misuse of drugs, errors based on the lack of experience and skills due to the sudden nature of COVID-19, poor knowledge and awareness of the virus, unfair service to patients due to scarce health system resources and a large number of patients, insufficient attention to non-patients, COVID-19 has increased medical errors compared to before (4).

Root cause analysis (RCA) is defined as a collective term that describes a wide range of approaches, tools, and techniques used to uncover causes of problems. Some RCA approaches are geared more towards identifying true root causes than others, some are more general problem-

solving techniques, and others simply offer support for the core activity of RCA. There are many methodologies, approaches, and techniques for conducting RCA. A typical design of an RCA in a problem or patient is performed through the following steps: 1) A small team to conduct the RCA; 2) Team members that experiences the problem; 3) The analysis, equal emphasis is placed on defining and understanding the problem, brainstorming its possible causes, analyzing causes and effects, and devising a solution to the problem (5).

Quality of care, reducing medical errors and ensuring proper, efficient, and effective care have now received serious attention as a scientific branch in medical sciences (6). RCA is a systematic approach used in the world's health systems before the outbreak of COVID-19 to discover the causes of medical errors to take preventive measures. Scientific evidence shows that RCA significantly reduces medical errors if done correctly and completely. It seems that according to the experiences before the outbreak of the virus, the use of RCA to identify and analyze errors during the COVID-19 pandemic as a structured method and a valuable and efficient tool to investigate the mistakes caused by human factors and errors caused by facilities, equipment and service delivery processes are critical.

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Authors' contributions

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Competing interests

The authors declare that they have no conflict of interests.

Ethical issues

The authors certify that this manuscript is the authors' original work. All data collected during the study are presented in this manuscript, and no data from the research has been or will be published elsewhere separately.

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