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What's new in Emergencies, Trauma and Shock? Tackling prehospital delay to reperfusion therapy in ST-elevation myocardial infarction: A global problem, a glocal approach

Due to its ubiquitous occurrence, acute coronary syndrome is a global health problem. The necessity for early transportation to a facility with reperfusion strategies is well established given the fact that delay of reperfusion is associated with increasing mortality and morbidity.^[1] The American College of Cardiology Foundation (ACCF) and the American Heart Association (AHA) advocate that patients with ST-elevation myocardial infarction (STEMI) as well as non-STEMI to be transported via ambulances rather than using own transportation.^[1,2] Eight reasons are listed in the ACCF/AHA 2013 guideline on why patients delay in seeking treatment for STEMI.^[1] These are (1) atypical symptoms presentation, (2) inappropriate reasoning that the symptoms experienced are not serious, (3) attribution of symptoms to other preexisting conditions, (4) fear of embarrassment should symptoms turn out to be a “false alarm,” (5) reluctance to trouble others unless they are “really sick,” (6) preconceived stereotypes of how a heart attack patient should look like, (7) lack of knowledge of the importance of rapid action, the benefits of calling for reperfusion therapies and (8) attempted self-treatment to relieve the symptoms.^[1] As such, one may wonder is there any additional value of publishing yet another study on the causes of prehospital delay to reperfusion strategy in STEMI.

Nonetheless, in this study, the authors must be applauded for showing that besides the well-established contributing factors, there are a number of local and regional variations in South India that may further exaggerate the delay in receiving reperfusion therapy.^[3] For example, the authors show that patients who are staying in rural areas, patients with no past history of diabetes mellitus, patients with difficulty in arranging money, patients who are being transported using public transportation (as opposed to using ambulances) are among the patients who are significantly more likely to experience delay in receiving reperfusion therapy.

Nonetheless, perhaps the authors could map out these global and local causes of delay in a generic Ishikawa fishbone diagram. First created by Kaoru Ishikawa in a management setting back in 1968, the fishbone diagram is a useful management tool in brainstorming and identifying the possible causes for an effect or a problem.^[4] Ishikawa fishbone diagram aids in sorting out causes of an effect into broad categories that can be easily memorized by the 8 Ms, viz., manpower, machine (technology), methods, material (e.g., drugs), measurement (e.g., investigation modalities), the milieu (or environment), management pathway, and money.^[4] For example, the rural locality identified as a cause of prehospital delay in this study can be grouped as a milieu (environment) cause whereas the use of public transportation is a machine cause. However, there are perhaps other causes that are not entirely clear under which category of causes they result in the delay. For example, exactly why the absence of a previous history of diabetes mellitus results in prehospital delay? Exactly, why the symptom misinterpretation and symptom onset at home contribute to this delay?

This is perhaps due to the fact that we have not been asking deeper questions. Sakichi Toyoda of the Toyota Motor Corporation says that to get to the bottom of a problem, one should keep asking why iteratively with each question forms the basis for the next, up to 5 times (as a rule of thumb). This is known as the “5 Whys” approach in root cause analysis.^[5] Although not a hard-and-fast rule, the principle is, most people deliver a quick fix to a problem by dealing with causes that maybe immediately apparent but are not the most important ones. In this regard, symptom misinterpretation and symptom onset at home are identified as causes of prehospital delay in receiving reperfusion therapy. One should then ask why symptom misinterpretation is a cause of delay? An obvious postulation could be that it is due to the lack of patient education. However, if that is really the case, one should not just stop at this juncture. Rather, one should continue asking, why is there a lack of patient education? By probing deeper and deeper, one would probably get to the root cause or causes of the problem, and would then be able to categorize under which groups in the Ishikawa fishbone diagram do these factors belong to.

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In summary, tackling the problem of prehospital delay in receiving reperfusion therapy in STEMI may not be as straightforward as described in textbooks and journals. A number of local and regional variations in national healthcare delivery system, clinical management pathways, sociocultural factors, economic factors, etc., must taken into consideration. In other words, although acute coronary syndrome is a global health problem, a glocal approach is perhaps more appropriate in addressing this problem.

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