

A multicriteria decision-making framework for assessing the performance of gynecobstetrics departments: a case study

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Abstract

Gynecobstetrics departments (GDs) oversee diagnosing, monitoring, and treating female reproductive diseases as well as assisting women during pregnancy. Their importance motivates the creation of suitable performance evaluation approaches for identifying weaknesses and designing focused interventions. Therefore, the aim of this paper is twofold: (a) provide an approach for GD performance evaluation and (b) propose interventions tackling the GDs' weaknesses. The fuzzy analytic hierarchy process (FAHP) was first applied to calculate the initial criteria and subcriteria weights under vagueness. Then, the decision-making trial and evaluation laboratory (DEMATEL) was implemented to evaluate interrelations. FAHP and DEMATEL were later combined to estimate the final criteria and subcriteria weights under vagueness and interdependency. Finally, the technique for order of preference by similarity to ideal solution (TOPSIS) was used to rank the GDs and detect improvement opportunities. A case study of a cluster including three GDs is presented to validate the proposed approach. The results evidenced that patient safety and service quality are the most critical aspects in GD performance evaluation. The results from this application can be used by healthcare managers for designing focused interventions targeting improved performance of GDs. This paper fully exploits the advantages of FAHP, DEMATEL, and TOPSIS methods for evaluating performances of GDs. Furthermore, this study presents a novel decision-making model representing the multifactorial context of the GD performance.

Keywords:

Decision-making, Gynecobstetrics, Performance evaluation