

Assessing alternative interventions in digestive cancer

Health economics, namely the economic assessment of healthcare technologies, support a comprehensive analysis over the impact of novel technologies. Most of the studies aim at understanding the differential impact of these candidate technologies, combining both economic and clinical insights. The goal of cost effectiveness (CE) studies – the technique in the area with the highest profile – is to assess whether the intended clinical results can be achieved in a more efficient way, leading to the least consumption of resources.

This issue of the Saudi Journal of Gastroenterology addresses the economic evaluation perspective over important topics in gastroenterology. Out of all gastrointestinal diseases, cancer has featured prominently in the past years in health economics research, probably due to the research and development efforts in the area and to the high incidence in the population. In fact, from a worldwide perspective, all digestive cancers combined make a cluster that tops in cancer incidence and is also the main cause of death in noncommunicable diseases, for different populations. Despite digestive cancers being more common in men, these cancers can affect both men and women, and have a high death toll, that is partially explained by the diagnosis at later stages.

On one hand, according to Abuderman, in the past 50 years, the incidence and mortality of gastric cancer has dropped significantly.^[1] Despite this decline, gastric cancer is the fourth most common cancer and the second leading cause of cancer-related death worldwide. In the specific case of Saudi Arabia, an incidence report from 2013 explains that the incidence rate is 2.7% in the country. The adenocarcinoma morphology represents between 42% (in men) and 38% (in women).^[1]

On the other hand, colorectal cancer is the third most common cancer in men and the second most common cancer in women. It is also the second leading cause of cancer death worldwide. In Saudi Arabia, Alsanea *et al.*^[2] suggest that colorectal cancer occurs at a younger age, especially in women. This fact may be relevant for the design of screening schemes. Survival in this country has increased in past years, but there is still room for improvement.^[3] It will probably reach world reference levels, with more screening, a greater proportion of cases

detected earlier, and the increasing capabilities of clinical centers outside large cities.^[3]

Going through these numbers raises the question of how to reduce mortality, which health interventions are effective (e.g., screening, treatments, others), on which patients, and how? These questions have compelled two international groups of authors to write two papers.^[4,5] These papers will contribute to finding credible answers and will influence the practice in this area in a decisive way.

Naber *et al.*^[4] discuss the cost-effectiveness analysis of colorectal cancer screening. The authors focus on Saudi Arabia, a low-incidence country for colorectal cancer. They discuss strategies, quality of life, budget impacts, and alternatives. They also point out the system's capacity as a moderator of the results – in this sense the door becomes open to further discussion of opportunity costs. In the end, it becomes clear that patients will benefit from screening and that some strategies may meet a CE criterion.

A second study by AlRuthia *et al.*^[5] focuses on strategies for eradication of *Helicobacter Pylori* – an established risk factor, namely for duodenal and gastric ulcer, and gastric cancer. This is also a CE study that sheds light on the use of therapeutical strategies for *Helicobacter Pylori*. Again, there is country-specific focus on Saudi Arabia. They compare a sequential therapy (i.e., esomeprazole 20 mg twice daily for 10 days, amoxicillin 1000 mg twice daily for 5 days, then clarithromycin 500 mg and tinidazole 500 mg twice daily for 5 days) to standard triple therapy (i.e., esomeprazole 20 mg, amoxicillin 1000 mg, and clarithromycin 500 mg twice daily for 14 days). The authors conclude that sequential therapy seems to be more cost effective than the standard treatment.

However, although these studies focused on a country-specific level, the conclusions can be translated to other geographies or, at least, the methodologies can be easily replicated in other settings as a means to validate, in international grounds, these results.

These two papers move our scientific community in the direction of better decisions regarding clinical approaches to concrete questions, and also from a managerial point of view to support the sustainability of the systems. In fact,

patients may benefit from several strategies. However, some are more efficient than others, meaning that they offer more value for money. Also, since the resources in healthcare systems are scarce and there are competing uses for limited budgets, managers and clinicians need to be reassured that those funds are being allocated to the most promising interventions.^[6] Such efficiency in health economics is usually determined in CE studies like the ones presented here. In fact, they are the basis to assess innovation in health systems. To ensure that cost-effectiveness research is a relevant tool at supporting decision making in healthcare, its insights must emerge from sound methodologies and from reliable and consistent data. This is the case of the two present articles. The data sources are properly identified: a sample from a clinical trial and a simulation of cases that can be replicated. As for the methodology, both provide sensible choices for the objectives of the paper: testing a hypothesis in the clinical trial and exploring the impacts and cost-effectiveness of screening approaches. Clearly, future studies in risk stratification criteria or the planning of clinical strategies will benefit from these results.

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