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EDITORIAL

Low Value Surgical Care: Are We Choosing Wisely?

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In the era of evidence-based medicine (EBM), surgical care which no longer shows benefit or provides harm or provides marginal benefits at a disproportionately high cost is termed as Low Value Care (LVC). The term can be applied to diagnosis (including unwarranted secondary tests for incidental findings), treatment (adverse events, poor patient outcomes, and over-treatment), and system-level delivery of healthcare (inefficient use of resources threatening the sustainability of systems); 25–30% of total health care spending in USA is estimated to fall under this category [1]. Increasing awareness of health care economics and the need for value-based care has led to realization of this wastage, prompting initiatives such as the international *'Choosing Wisely'* movement (starting from USA in 2012) and the UK NICE *'do not do'* guidelines which work at achieving clinician consensus on what constitutes LVC and how its use can be reduced from everyday practice [2, 3]. The systemic process of identifying and reducing the use of LVC is labeled as de-implementation; *aka* de-adoption, de-escalation, de-commission, and scale-down etc.

What About Low Value Surgical Care?

Last decade has seen an increasing interest in this new science of de-implementation of LVC with many recommendations; however, publications on low value surgical care (LVSC) are scarce. Most of these have focused on de-implementation of radiological imaging and preoperative workups, with less than 5% of recommendations targeting low-value surgical procedures thereby missing out on a great opportunity [4]. Some of these recommendations include avoiding axillary lymph node dissection in clinically node negative axilla in Stage I and II Carcinoma breast without sentinel lymph node assessment, avoiding routine Cholecystectomy in asymptomatic cholelithiasis and possibility of active surveillance for low grade localized carcinoma prostate [4, 5]. It is clear that so much more can be done.

Importance of Reducing Low Value Surgical Care in Improving Health Equity

Value-based care delivery is relevant for all health systems, but it is of paramount importance in low and middle-income countries (LMICs) given their resource constraints [6]. There is little research on de-implementation in LMICs but clearly a tremendous opportunity exists to weed out LVSC, avoid wasteful practices, and use the resultant significant savings to close the equity gaps in the delivery of high-quality surgical care [7, 8]. Evidence-based affordable solutions can easily replace those with disproportionately high cost and play an important role in this endeavor [9–12]. However, it must be ensured that idealistically pursued de-implementation efforts do not exacerbate existing inequities [13].

How to Go About De-Implementation?

An expert task force of multidisciplinary stakeholders including input from patient support groups, led by a clinical champion, systematically working with a framework-driven Delphi consensus process and based on EBM, examines a list of existing practices or guidelines, refines and reduces the long list to a short list, and selects and endorses a final list [14, 15]. Next stage is all about implementation science, i.e., identification of local context and priorities,

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identification of barriers to implementing and potential interventions to overcome these, rigorous evaluations of implementation programmes, spread of effective implementation programmes, and sustain the process [16–18]. Review of these at regular time intervals will ensure newer emerging evidence is given due weightage.

The process of de-implementation can be directed at the level of patients, surgeons, other health care workers, hospitals, insurance companies, and policy makers in an attempt to bring about the necessary changes [18]. Strategies include making regulations so that the right thing must be done; simplification by making the right choice the easiest; incentivization; substitution, where an older practice is replaced by an easier or simpler one; new evidence demonstrating a current practice is ineffective, or unsafe or has unjustifiable costs and market withdrawal of a product [18].

Current Status of De-Implementation of LVC and LVSC

Despite early enthusiasm for *Choosing Wisely* campaigns, desired changes on the ground are few and far in between; moreover, its complexities lead to lack of assessment tools for its impact, hard data, and well-defined targets [16, 19–21]. A close look at de-implementation challenges shows that these are not dissimilar to those studied in the implementation science.

Barriers and Facilitators for De-Implementation

In addition to unfamiliarity with this nascent science and complexities of the whole process, most frequently reported barriers are patient-related (lack of awareness, belief that more is better, demands, and preferences), provider-related (lack of awareness/conviction re: LVC, belief that their experience is better, lack of time for shared decision making, the number of tests recommended by specialists, malpractice concerns), health system-related (lack of leadership support, financial incentives to do more—irrespective of value, and resistance/restriction by insurance regulators), evidence-related (heterogeneous studies with imprecise measures and high risk of bias, low quality systematic reviews, lack of credible strong evidence to support de-implementation), or society-related (cultural norms or health policy) [6, 22–28]. However, it must be conceded that it is an evolving science with heterogeneous metrics and such scientific exercises take time [23, 28].

De-implementation works better when recommendations are easy to follow using multicomponent clinician-based interventions in academic research facilities and facilities with a high volume of patients [20, 22, 29]. It helps when de-implementation efforts are led by a clinical champion and tailored to the specific barriers, when the healthcare professionals are willing to change and collaborate, when the available evidence is strong and convincing, when auditing and feedback are included in the process, when grass-root level collaborators are involved in framing/disseminating of the guidelines and developing a decision support tool, and when a leveraging quality collaborative such as the National Surgical Quality Improvement Program (NSQIP) is available [13, 23, 25, 27, 30]. Rather than simply discontinuing a practice, replacing it with a better option may help to overcome behavioral inertia and motivate change [31].

The Way Forwards

Awareness of the new science of de-implementation is the first step to *choose wisely* as its knowledge can allow Surgeons to make comparisons across studies and identify LVSCs. Such evidence-based assessment may find three categories of surgical care: those with clear low value (need de-implementation), those with clear high value (need continuation), and those falling within the gray area between the two (need re-assessment and value-based decision-making at individual level). Importance of such optimization of resources cannot be overemphasized in LMICs given their resource constrains. In the Indian context *choose wisely* has already been implemented in Oncology by the National Cancer Grid and annual meetings are held on this [7]. This example can be followed, and a multifaceted road-map for India and other LMICs can be made where de-escalating of costs without affecting safety is the need of the hour. This can only begin when surgeons start combining the science of evidence-based surgical care with health care economics (cost-minimization, cost–benefit, and cost-effectiveness analysis). An effective beginning can be made by teaching this to undergraduate and postgraduate students so they are LVC savvy when they start working. A strong ethical foundation will allow them to resist the pressures of corporate health care to maximize revenues. Similarly, evidence base of innovative affordable surgical solutions should be sufficient to answer questions in the courts of law, should that unfortunate situation arises. It is a clarion call to all academic surgical societies to expand their leadership role into this nascent discipline of de-implementation and use it to *choose wisely* to further their commitment to value-based quality surgical care.

Declarations

Conflict of interest The authors declare no competing interests.

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