

PENDEKATAN *LEAN HEALTHCARE* UNTUK MEMINIMASI WASTE DI RUANG OPERASI RUMAH SAKIT Dr. OEN KANDANG SAPI SOLO

INTISARI

Latar belakang: Ruang Operasi merupakan unit penyumbang pendapatan sekaligus sumber biaya terbesar, di mana inefisiensi masih banyak terjadi. *Lean healthcare* telah banyak diteliti dengan hasil yang positif dalam meningkatkan efisiensi dan memperbaiki *outcome* pasien Ruang Operasi.

Tujuan: Tujuan penelitian ini adalah untuk menilai dampak implementasi *lean healthcare* di Ruang Operasi RUMAH SAKIT Dr. OEN KANDANG SAPI SOLO (RSDO), dan mengetahui persepsi *lean* tenaga kesehatan terhadap implementasi *lean healthcare*.

Metode: Desain penelitian ini adalah *action research* dalam bentuk Lomba 5R dan *Kaizen* Ruang Operasi pada tanggal 12 Juni 2020 – 1 Agustus 2020, yang terdiri dari: 1) Tahap *diagnosis*, mengidentifikasi *customer value*, menyusun *value stream mapping* (VSM), dan mengidentifikasi *waste*, 2) Tahap *planning*, yaitu pembagian staf menjadi 6 kelompok lomba dan diskusi untuk menetapkan *waste* prioritas dan piranti *lean* yang hendak diimplementasikan, 3) Tahap *action*, yaitu implementasi ide perbaikan, dan 4) Tahap *observation* dan *reflection*, menyusun VSM setelah perbaikan, membandingkan beda rerata ketepatan waktu pembedahan pertama, *turnaround time* (TAT), *turnover time* (TOT), *throughput time* (TPT), persen operasi lembur, jumlah jam lembur, utilisasi Ruang Operasi, volume tindakan per minggu, jumlah pembatalan operasi, jumlah stok obat dan bahan medis, lama dirawat, dan angka mortalitas. Pada akhir penerapan *lean healthcare*, setiap staf Ruang Operasi diberi kuesioner untuk mengukur persepsi *lean* tenaga kesehatan.

Hasil: Tidak didapatkan perbedaan bermakna dalam ketepatan waktu pembedahan pertama ($p=0,912$), TAT ($p=0,087$), TOT ($p=0,202$), TPT ($p=0,097$), persen operasi lembur ($p=0,096$), pembatalan operasi ($p=0,251$), lama rawat inap ($p=0,154$), dan angka mortalitas ($p=0,682$), namun terdapat penurunan bermakna dalam jumlah jam lembur staf ($p=0,021$). Jumlah stok obat dan bahan medis menurun 10,44%. Terdapat peningkatan bermakna dalam utilisasi ($p=0,013$), dan volume tindakan per minggu meningkat 48,9%, namun hal ini kemungkinan terjadi karena efek perubahan kondisi pandemi COVID-19. Secara umum penerapan *lean healthcare* dipersepsikan baik.

Simpulan: Implementasi *lean healthcare* di Ruang Operasi dalam bentuk Lomba 5R dan *Kaizen* tidak menghasilkan perubahan bermakna dalam ketepatan waktu pembedahan pertama, TAT, TOT, TPT, persen operasi lembur, pembatalan operasi, lama rawat inap, dan angka mortalitas, namun dapat menimbulkan penurunan jumlah jam lembur staf dan jumlah stok obat dan bahan medis.

Kata kunci: *Lean healthcare*, Ruang Operasi, metrik efisiensi, *outcome*, persepsi *lean* tenaga kesehatan.

USE OF LEAN HEALTHCARE APPROACH TO MINIMIZE WASTE AT THE OPERATING ROOM OF Dr. OEN KANDANG SAPI SOLO HOSPITAL

ABSTRACT

Background: *With the limited cost of health services in Indonesia and the higher expectation for better quality of health services, lean healthcare interventions are needed. The Operating Room is one of the biggest revenue center as well as the biggest resource consumers at the hospital, where inefficiency is still occurring massively. Many researches have found that lean healthcare can improve efficiency and patient outcomes.*

Purpose: *The purpose of this study was to assess the impact of lean healthcare implementation at Operating Room at Dr. Oen Kandang Sapi Solo Hospital (RSDO), and to evaluate lean perceptions of healthcare workers.*

Methods: *The design of this study is an action research, in the form of a 5S and Kaizen Event held on June 12th 2020 - August 1st 2020, which consists of: 1) Diagnosis stage, identifying customer value, constructing Value Stream Mapping (VSM), and identifying wastes occurred, 2) Planning stage, dividing all OR staffs in six groups, and discussing prioritized wastes and lean tools to be implemented 3) Action stage, implementing improvement ideas, and 4) Evaluation stage, constructing VSM after intervention, and comparing the differences on-time first case start, turnaround time (TAT), turnover time (TOT), throughput time (TPT), percent of overtime surgery, number of overtime hours, operating room utilization, weekly procedure volume, surgery cancellations, drugs and materials stock, length of stay, and mortality rates. At the end of the implementation of health services, every operating room staff was given a questionnaire to measure the lean perceptions of healthcare workers.*

Results: *There were no significant changes in the on-time first case start ($p=0.912$), TAT ($p=0.087$), TOT ($p=0.202$), TPT ($p = 0.097$), percent of overtime surgery ($p=0.096$), surgery cancellation ($p=0.251$), length of stay ($p=0.154$), and mortality rate ($p = 0.682$), but there was a significant decrease in the number of staff overtime hours ($p=0.021$). Drugs and materials stock decreased by 10.44%. Operating room utilization increased significantly ($p=0.013$), and the weekly procedure increased by 48.9%, but these were likely due to the effects of change in COVID-19 pandemic condition. In general, the lean perception of healthcare workers is good.*

Conclusion: *Implementation of lean healthcare in the Operating Room in the form of 5S and Kaizen Event did not result in significant changes in on-time first case start, TAT, TOT, TPT, percent of overtime surgery, surgery cancellation, length of stay, and mortality rate, but there was significant decrease in the number of staff overtime hours and 10.44% decrease of drugs and materials stock.*

Keywords: *Lean healthcare, operating room, efficiency metrics, outcome, lean perceptions of healthcare workers.*