

## ABSTRAK

**Latar Belakang:** Penyediaan darah dan komponen darah di Rumah Sakit Dr. Cipto Mangunkusumo dilaksanakan oleh Unit Pelayanan Transfusi Darah (UPTD) yang bertanggung jawab atas tersedianya darah yang aman, berkualitas, dan dalam jumlah cukup. Banyaknya permintaan darah rutin dan pada waktu bersamaan membuat waktu tunggu pelayanan memanjang. Penerapan metode *lean* diperlukan untuk mengidentifikasi *value added* dan aktivitas kerja yang tidak bernilai tambah agar memenuhi standar waktu tunggu pelayanan darah rutin.

**Metode Penelitian:** Penelitian ini adalah *action research* yang dilakukan di UPTD RSCM pada bulan Oktober s/d November 2019. Pengambilan sampel secara *consecutive sampling* pada saat jam kerja dan di luar jam kerja, hari kerja dan akhir pekan. Observasi menggunakan *value stream mapping* dengan mengukur *value-added time*, *non-value added*, *waiting time*, *cycle time*, dan *lead time*. *Waste* dicantumkan dalam matriks DOWNTIME. Setelah penerapan 5S dan manajemen visual berupa sistem monitoring order PRC berbasis teknologi informasi, dilakukan observasi pasca-intervensi.

**Hasil:** Penelitian ini mengambil 50 sampel permintaan darah rutin masing-masing pada pra- dan pasca-intervensi dengan kriteria permintaan darah PRC dan transfusi serial pertama. Sampel terbanyak pra- dan pasca-intervensi berasal dari Poliklinik Thalassemia, Rawat Inap Gedung A, dan Instalasi Gawat Darurat. *Waste* yang ditemukan meliputi *over production*, *waiting*, *non-utilized talent*, *transportation*, *motion in excess*, dan *extra processing*. *Value added* pelayanan darah rutin pasca-intervensi meningkat dari 1 jam 19 menit 13 detik menjadi 1 jam 21 menit 42 detik (3%). *Waiting time* pasca-intervensi menurun dari 48 menit 19 detik menjadi 31 menit 23 detik (35%). Secara keseluruhan *lead time* pelayanan darah rutin di UPTD RSCM pasca-intervensi menurun dari 2 jam 36 menit 4 detik menjadi 2 jam 7 menit 7 detik (19%). Terjadi peningkatan efisiensi proses permintaan darah rutin yang diukur dengan *value added ratio* dari 51% menjadi 64% (13%).

**Kesimpulan:** Penerapan manajemen *lean* yaitu 5S dan manajemen visual berupa sistem monitoring order PRC berbasis teknologi informasi dapat menurunkan waktu tunggu pelayanan darah rutin di UPTD RSCM. Proses pelayanan darah rutin di UPTD RSCM menjadi lebih efisien.

**Kata kunci:** Manajemen *lean*, pelayanan darah, waktu tunggu.

## ABSTRACT

**Background:** The supply of blood and blood components at Cipto Mangunkusumo Hospital (RSCM) is done by the Blood Transfusion Service Unit (UPTD) which is responsible for ensuring the availability of safe, high-quality, and adequate blood. High demands of routine blood occurring at the same time prolong the waiting time exceeding the standard time. The implementation of lean methods is needed to identify value added and non value added activities. Therefore, the standard in waiting time for routine blood services will be met.

**Methods:** This was an action research conducted at UPTD RSCM from October to November 2019. The sampling technique used was consecutive sampling during working hours and outside working hours, weekdays and weekends. The observation was done using value stream mapping which measured value-added time, non-value added, waiting time, cycle time, and lead time. Waste was documented in the DOWNTIME matrix. The post intervention observation was performed after the implementation of 5S and visual management such as information technology-based (IT-based) system for monitoring packed red cells (PRC) order.

**Results:** In this study, fifty samples of routine blood orders were included from each pre-intervention and post-intervention group with criteria of PRC and first serial transfusion. The largest number of samples in both pre- and post-intervention group came from the Thalassemia Polyclinic, Inpatient Building A, and Emergency Room. Wastes found were over production, waiting, non-utilized talent, transportation, motion in excess, and extra processing. Value added of post-intervention routine blood service increased from 1 hour 19 minutes 13 seconds to 1 hour 21 minutes 42 seconds (3%). The post-intervention waiting time decreased from 48 minutes 19 seconds to 31 minutes 23 seconds (35%). The overall routine blood service lead time at UPTD RSCM in the post-intervention group decreased from 2 hours 36 minutes 4 seconds to 2 hours 7 minutes 7 seconds (19%). There was an increase in efficiency in the process of routine blood order as can be measured by value added ratio increase from 51% to 64% (13%).

**Conclusion:** Implementation of lean management, namely 5S and visual management (IT-based system for monitoring PRC order) can reduce the waiting time for routine blood services in UPTD RSCM. The routine blood service process at UPTD RSCM has become more efficient.

**Keywords:** *lean management, blood service, waiting time.*