

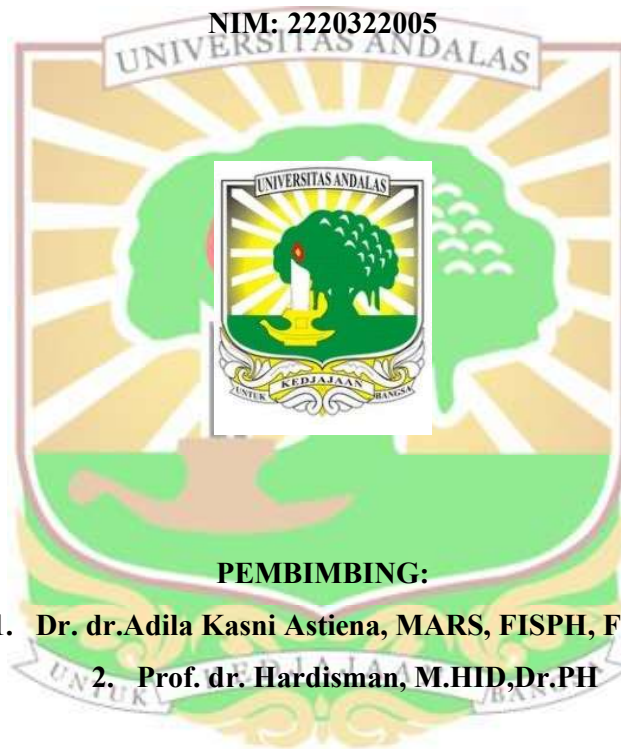
TESIS

**ANALISIS WAKTU TUNGGU TINDAKAN RADIOTERAPI
DI RUMAH SAKIT UNIVERSITAS ANDALAS
DENGAN MENGGUNAKAN METODE *LEAN HEALTHCARE***

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**PROGRAM STUDI S2 KESEHATAN MASYARAKAT
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**PROGRAM STUDI S2 KESEHATAN MASYARAKAT
FAKULTAS KEDOKTERAN UNIVERSITAS ANDALAS**

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**Analisis Waktu Tunggu Tindakan Radioterapi di Rumah Sakit Universitas
Andalas dengan Menggunakan Metode *Lean Healthcare***

XVII + 138 hal + 21 tabel + 10 lampiran

ABSTRAK

Waktu tunggu tindakan radioterapi di Rumah Sakit Universitas Andalas belum memenuhi standar ≤ 7 hari kerja, dengan rata-rata melebihi sepuluh hari. Kondisi ini berpotensi menurunkan mutu pelayanan, kepatuhan pasien, dan luaran klinis. Penelitian ini bertujuan menganalisis waktu tunggu tindakan radioterapi menggunakan pendekatan *lean healthcare* untuk mengidentifikasi pemborosan dan merumuskan perbaikan proses pelayanan.

Penelitian menggunakan metode mixed methods dengan strategi explanatory sequential. Tahap kuantitatif melibatkan 107 pasien yang dipilih secara consecutive sampling untuk mengukur waktu tunggu dan karakteristik responden. Tahap kualitatif dilakukan melalui wawancara semi terstruktur terhadap 8 informan kunci, *Focus Group Discussion* dengan 6 pasien, observasi, dan telaah dokumen. Analisis dilakukan menggunakan *Value Stream Mapping* (VSM), *value assessment*, triangulasi sumber, dan *fishbone diagram*.

Hasil penelitian menunjukkan 62,6% pasien mengalami waktu tunggu melebihi standar. Responden didominasi perempuan 71,0%, usia 46–55 tahun 41,1%, berpendidikan SLTA 53,3%, dan ibu rumah tangga 50,5%. VSM mengidentifikasi dua *bottleneck* utama, yaitu keterlambatan proses delineasi pada *Treatment Planning System* (TPS) akibat belum tersedianya dokter penanggung jawab pasien (DPJP) *full-time* serta keterbatasan sarana karena hanya tersedia satu unit LINAC. *Value assessment* menemukan empat aktivitas *non-value added* yang menyebabkan pemborosan waktu, sedangkan analisis akar masalah menunjukkan faktor penyebab berasal dari aspek sumber daya manusia, metode, sarana prasarana, sistem pendukung, dan lingkungan kerja.

Waktu tunggu tindakan radioterapi di Rumah Sakit Universitas Andalas belum memenuhi standar akibat berbagai faktor internal. Perbaikan perlu dilakukan melalui penetapan DPJP *full-time*, optimalisasi SOP, pengembangan sistem monitoring TPS, penambahan unit LINAC, dan peningkatan sistem informasi penjadwalan guna meningkatkan efisiensi pelayanan radioterapi.

Kata kunci: waktu tunggu, radioterapi, *lean healthcare*, *value stream mapping*

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***Analysis of Radiotherapy Waiting Time at Andalas University Hospital Using
the Lean Healthcare Method***

xvii + 138 pages + 21 tables + 10 appendices

ABSTRACT

The waiting time for radiotherapy treatment at Universitas Andalas Hospital has not met the national standard of ≤ 7 working days, with an average waiting time exceeding ten days. This condition may reduce service quality, patient adherence, and clinical outcomes. This study aimed to analyze the waiting time for radiotherapy treatment using the Lean Healthcare approach to identify waste and develop process improvement strategies.

This study employed a mixed-methods design with an explanatory sequential strategy. The quantitative phase included 107 patients selected through consecutive sampling to measure waiting time and patient characteristics. The qualitative phase involved semi-structured interviews with eight key informants, a focus group discussion with six patients, direct observations, and document reviews. Data were analyzed using Value Stream Mapping (VSM), value assessment, source triangulation, and fishbone diagram analysis.

The results showed that 62.6% of patients experienced waiting times exceeding the established standard. Most respondents were female 71.0%, aged 46–55 years 41.1%, had completed senior high school education 53.3%, and were housewives 50.5%. VSM identified two major bottlenecks: delays in the delineation process within the Treatment Planning System (TPS) due to the absence of a full-time attending radiation oncologist, and limited infrastructure resulting from the availability of only one LINAC unit. Value assessment identified four non-value-added (NVA) activities contributing to service delays, while root cause analysis revealed multifactorial problems related to human resources, work methods, infrastructure, supporting systems, and the working environment.

The waiting time for radiotherapy treatment at Universitas Andalas Hospital has not met the required standard due to several internal factors. Comprehensive improvements, including the assignment of full-time attending physicians, optimization of standard operating procedures, enhancement of the TPS monitoring system, procurement of additional LINAC units, and improvement of the scheduling information system, are required to improve the efficiency of radiotherapy services.

Keywords: *waiting time, radiotherapy, lean healthcare, Value Stream Mapping*