

UNIVERSITI TEKNOLOGI MARA

**COMPARATIVE STUDY OF COMMON
HOSPITAL DISINFECTANTS WITH
Lawsonia inermis EXTRACTS AS
SURFACE DISINFECTANT**

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Thesis submitted in fulfillment of the requirements for the
degree of
**Bachelor in Medical Laboratory Technology
(Hons.)**

Faculty of Health Sciences

July 2019

DECLARATION

Project entitled “Comparative study of common hospital disinfectants with *Lawsonia inermis* extracts as surface disinfectant” is a presentation of my original research work. Whenever contributions of others are involved, every effort is made to indicate this clearly, with due reference to literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Project Supervisor, Mrs. Azlin Sham binti Rambely. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Medical Laboratory Technology (Hons).

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ACKNOWLEDGEMENT

In the name of Allah, The Most Gracious, The Most Merciful.

Assalamualaikum and Alhamdulillah, all praise to Allah S.W.T The Supreme Lord of the Universe. Peace and blessing to Nabi Muhammad S.A.W., all prophets and their families. I praise Allah S.W.T. for the strength and His blessings in completing my study.

Thousands of thanks and love to my parents Mr. Mohd Johar Bin Sahim and Mrs. Norazizah Binti Jamilus for their support and encouragement through thick and thin of my study. My deepest gratitude and appreciation to my dearest supervisor, Mrs. Azlin Sham Binti Rambely who spent her time and efforts in guiding and advising from the beginning till the end of my research journey. It is great honor to work under her supervision. Not to forget, I would like to thank all the lecturers in Department of Medical Laboratory Technology, Faculty of Health Sciences who always share their thoughts, knowledge and advice throughout my study in UiTM Puncak Alam. Only Allah can reward all of you with goodness.

My sincere thanks and appreciation goes to all the staff from the department and laboratory who gave their full cooperation and assisted me in many ways throughout my study. A special thanks to my friends from HS241 who always give me support and motivation while completing my study. May our friendship lasts forever. Lastly, I would like to thank everyone who involved directly and indirectly in this study. My recognition also goes to Centre of Medical Laboratory Technology, Faculty of Health Science, UiTM Puncak Alam Campus for providing the necessary facilities for me to conduct this project. Thank you.

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ABSTRACT

Lawsonia inermis is frequently known as ‘henna’ in English and ‘inai’ in Malay which is acknowledged in traditional medication scheme. It has been customarily detailed in utilize of migraine, bruises, antibacterial and numerous more. Be that as it may, with all these potential benefits, this plant is not broadly utilized. Using of disinfectant are already being applied long before as antimicrobial agent to inhibit the microorganism. Dettol and Chlorox are the common hospital disinfectants used but the ingredient contains in the disinfectants can be harmful to humans. In order to address these issues, it has become a necessary for the researcher to explore other types of antimicrobial agents from natural product as alternative way in disinfecting. Thus, this study is carried out to assess the efficacy of *L. inermis* extracts, towards the advantage of mankind as surface disinfectant and compare with Dettol and Chlorox against tested organisms. The *L. inermis* leaves was extracted with ethanol. The antimicrobial efficacy of *L. inermis* extracts, Dettol and chlorox were determined using the disc diffusion technique at four distinctive concentrations against four organisms. In this study, *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Pseudomonas aeruginosa*, and *Escherichia coli* were used as the tested organisms. The result obtained indicated that *L. inermis* has antimicrobial activity against all the tested organism but significantly difference when compared to Dettol as the p-value < 0.05 but not significantly difference when compared to Chlorox as the p-value > 0.05. Thus, this finding appeared that *L. inermis* leaves extract had a potential to be replace as natural surface disinfectant within the future.

Keywords: *Lawsonia inermis*, Dettol, Chlorox, discs diffusion, disinfectant