

UNIVERSITI TEKNOLOGI MARA

***ESCHERICHIA COLI AND STAPHYLOCOCCUS
AUREUS* CONTAMINATION ON MALAYSIAN
PAPER CURRENCY IN SELANGOR**

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Project submitted in fulfillment of the requirements for
the degree of

**Bachelor in Environmental Health and Safety
(Hons.)**

Faculty of Health Sciences

July 2018

DECLARATION BY STUDENT

Project entitled “*Escherichia coli* and *Staphylococcus aureus* Contamination on Malaysian Paper Currency in Selangor” 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, Dr. Shantakumari Rajan. It has been submitted to the Faculty of Health Sciences in partial fulfilment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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ACKNOWLEDGEMENT

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

Assalamualaikum and all praised to Allah S.W.T, the Almighty of the Universe, the Most Gracious and Merciful. A peace and blessing to our Prophet Muhammad S.A.W and all his family. Alhamdulillah and thank you God for the strength, health and determination to be granted for me in order to finish and complete this study.

I am deeply grateful and thousands of thanks to my parents, Mr. Yunos Bin Mahmood and Ms. Naimah Binti Musa for their prayer, hopes and support as well as being a backbone to encourage me to complete what I have started. Special appreciation of thanks I dedicate to my dearest supervisor, Dr Shantakumari Rajan for her time and efforts in order to motivate and guide me along the journey from the starts till the end of this study. Not to forget to all lecturers and staffs for Department of Environmental Health and Safety, Faculty of Health Science for their experience, knowledge and handful helps whenever I need an assistance.

I would love to express an appreciation to all the salesmen from poultry product seller, fish seller, vegetables seller, food vendors and all individuals that involved in this project who willingly to give me a full cooperation and permission for me to run the study within the timeline. Last but not least, a warmest gratitude to my dearest colleagues, for your full support, helps and cares among each other to survive and complete our journey till the end. Personally I appreciate and thank all those who involved and participate directly and indirectly in the success of this study. Thank You.

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ABSTRACT

Paper currency is one of the potential vector to transmit communicable diseases because it is continuously exchanged from hand-to-hand as a transaction medium: This increases the possibility of transferring *Escherichia coli* and *Staphylococcus aureus* which may also lead to cross contamination. The aim of this study was to determine the contamination of *Escherichia coli* and *Staphylococcus aureus* on the Malaysian paper currency in Selangor. The contamination was compared based on the different denomination and also different occupational groups. Forty-eight (48) samples of paper currency from four different denomination which are RM1, RM5, RM10 and RM20 were collected from four different occupational groups (poultry product sellers, fish sellers, vegetables sellers and food vendors). Samples were washed with peptone water and a series of serial dilution are made up to 10^9 . 0.1ml of serial solution was spread on the Mannitol Salt Agar (MSA) plate and Eosin Methylene Blue (EMB) plate, and incubated at 37°C for 24 hours. Paper currency of RM 1 showed the highest contamination of *Escherichia coli* and *Staphylococcus aureus*, followed by RM 5, RM 10 and RM 20. While the order of *Escherichia coli* and *Staphylococcus aureus* contamination from different occupational groups was found to be fish sellers > poultry product sellers > vegetables sellers > food vendors. Malaysian paper currency were shown to be contaminated with *Escherichia coli* and *Staphylococcus aureus*, which have the potential to spread communicable diseases to human. Consequently, public should be given awareness to practice good personal hygiene during the handling of money for the sake of their health.

Keywords: Contamination paper currency, *Escherichia coli*, *Staphylococcus aureus*