

ABSTRACT

Abstract of the thesis presented to the Senate of Universiti Malaysia Terengganu in fulfilment of the requirements for the degree of Master of Science

**DEVELOPMENT OF A SMARTPHONE APPLICATION (MYWARUNG©)
AND ITS EFFECTIVENESS ON CONSUMERS' KNOWLEDGE, ATTITUDE,
PRACTICE AND PERCEPTION OF FOOD POISONING PREVENTION
WHEN DINING OUT AT SELECTED RURAL AREAS IN TERENGGANU**

NUR AFIFAH MURSYIDA BINTI ZAUJAN

2021

Main Supervisor : Dr. Asma' binti Ali
Faculty : Faculty of Fisheries and Food Science,
Universiti Malaysia Terengganu (UMT)
Co-supervisor : Assoc. Prof. Dr. Malina binti Osman
Faculty : Faculty of Medicine and Health Sciences,
Universiti Putra Malaysia (UPM)

The lack of food safety awareness and preventive behaviour when dining out increases the risk of food poisoning. In recent years, there has been an increasing trend of food poisoning cases among rural communities. Developing a health-related mobile application has the potential to improve food poisoning prevention knowledge, preventive attitude, practice and perception (KAP2) among consumers. Therefore, the current study developed a novel smartphone apps, MyWarung©, and determined its efficacy in increasing knowledge, attitude, practice and perception of food poisoning

and its prevention when dining out, especially among rural consumers. A quasi-pre and post-study with a control and intervention group was performed on 100 consumers in Terengganu based on the inclusion and exclusion criteria using convenience non-probability sampling. The KAP2 questionnaire was utilised in this study, consisting of five sections: socio-demographic, knowledge (42 items), attitude (10 items), practices (10 items), and perception (5 items). The scoring method used the original Bloom's cut-off points: good = 80% - 100%; moderate = 60 - 79%; and poor = \leq 59%. The intervention's inter-group outcomes were analysed using the Mann-Whitney test, while the within-group effects were ascertained using the Wilcoxon sign rank test via SPSS version 22.0. The questionnaire on feasibility (6 components) and acceptance (7 components) of the MyWarung© apps was also included during the post-assessment; a score above 80.0% indicates acceptability, while anything lower reflects otherwise for both sections. The baseline assessment showed that most respondents had a moderate level of knowledge, good attitude, good practices, and moderate perception of food poisoning preventive behaviour during dining out. It was found that the control group had higher scores than the intervention group in the baseline knowledge (71.2% vs 58.6%), preventive attitude (89.6% vs 82.8%), and practice (85.7% vs 80.8%) towards food poisoning prevention. After the intervention programme, the intervention group showed significant improvement in the score of food poisoning knowledge (58.6% to 71.7%, $p = 0.000$), attitude (82.8% to 89.8%, $p = 0.001$), and practice (80.8% to 87.2%, $p = 0.000$). Additionally, the respondents agreed that the MyWarung© application was feasible (90.0%) and acceptable (86.0%). In conclusion, the findings indicated that the MyWarung© mobile apps is feasible and accepted among users, and the app usage enhanced the food poisoning knowledge, preventive attitude and practice among consumers when dining out.

ABSTRAK

Abstrak tesis yang dikemukakan kepada Senat Universiti Malaysia Terengganu sebagai memenuhi syarat untuk memperoleh Ijazah Sarjana Sains

**PEMBANGUNAN APLIKASI TELEFON PINTAR (MYWARUNG©) DAN
KEBERKESANANNYA TERHADAP PENGETAHUAN, SIKAP, AMALAN
DAN PERSEPSI PENGGUNA TENTANG PENCEGAHAN KERACUNAN
MAKANAN SEMASA MAKAN DI LUAR DI KAWASAN LUAR BANDAR
TERPILIH DI TERENGGANU**

NUR AFIFAH MURSYIDA BINTI ZAUJAN

2021

Penyelia Utama : Dr. Asma' binti Ali
Faculti : Fakulti Perikanan dan Sains Makanan,
Universiti Malaysia Terengganu (UMT)
Penyelia Bersama : Prof. Madya. Dr. Malina binti Osman
Faculti : Faculti Perubatan dan Sains Kesihatan,
Universiti Putra Malaysia (UPM)

Kurangnya kesedaran keselamatan makanan dan tingkah laku pencegahan ketika makan di luar meningkatkan risiko keracunan makanan. Belakangan ini, terdapat tren peningkatan kes keracunan makanan dalam kalangan masyarakat luar bandar. Sebagai langkah pencegahan, aplikasi mudah alih yang berkaitan dengan kesihatan berpotensi meningkatkan pengetahuan pencegahan keracunan makanan, sikap, amalan, and

persepsi (KAP2) dalam kalangan pengguna. Oleh itu, kajian ini mencipta aplikasi telefon pintar yang baharu, MyWarung©, dan menilai keberkesannya dalam meningkatkan kesedaran, sikap, amalan dan persepsi keracunan makanan dan pencegahannya ketika makan di luar, terutama dalam kalangan pengguna luar bandar. Satu kajian kuasi pra-dan pasca dengan kumpulan kawalan dan intervensi dilakukan kepada 100 pengguna di Terengganu berdasarkan kriteria serta dan singkir menggunakan persampelan bukan kebarangkalian mudah. Soal selidik KAP2 telah digunakan, yang terdiri daripada lima bahagian: sosio-demografi, pengetahuan (42 item), sikap (10 item), amalan (10 item), dan persepsi (5 item). Kaedah pemarkahan menggunakan titik pemotongan Bloom yang asal telah digunakan: baik = 80% - 100%; sederhana: 60 - 79%; dan lemah: $\leq 59\%$. Hasil intervensi antara kumpulan dianalisis menggunakan ujian *Mann-Whitney*, sementara kesan dalam kumpulan dipastikan menggunakan ujian *Wilcoxon sign rank* melalui SPSS versi 22.0. Soal selidik mengenai kebolehlaksanaan (6 komponen) dan penerimaan (7 komponen) aplikasi MyWarung © juga disertakan semasa penilaian pasca, di mana markah melebihi 80.0% menggambarkan penerimaan manakala markah kurang daripada 80.0% menunjukkan sebaliknya untuk kedua-dua bahagian. Penilaian awal menggambarkan kebanyakan responden mempunyai tahap pengetahuan yang sederhana, sikap yang positif, amalan yang baik, dan persepsi yang sederhana terhadap tingkah laku pencegahan keracunan makan semasa makan di luar. Hasil kajian mendapati bahawa kumpulan kawalan mempunyai markah yang lebih tinggi sebelum intervensi dalam aspek pengetahuan (71.2% vs 58.6%), sikap pencegahan (89.6% vs 82.8%), dan amalan (85.7% vs 80.8%) terhadap pencegahan keracunan makanan. Selepas program intervensi, kumpulan intervensi menunjukkan peningkatan yang ketara dalam skor pengetahuan keracunan makanan (58.6% kepada 71.7%, $p = 0.000$), sikap (82.8% kepada 89.8%, $p = 0.001$), dan amalan (80.8% kepada 87.2%, $p = 0.000$). Hasil kebolehlaksanaan dan penerimaan MyWarung© menandakan bahawa kebanyakan responden bersetuju aplikasi MyWarung© dapat dilaksanakan (90.0%) dan boleh diterima (86.0%). Kesimpulannya, penggunaan aplikasi mudah alih MyWarung© dapat dilaksanakan dan diterima oleh pengguna, dan berjaya meningkatkan pengetahuan, sikap, dan amalan terhadap keracunan makanan dan pencegahannya dalam kalangan pengguna ketika makan di luar.