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Exploring Public Knowledge and Attitudes towards Antibiotic Use and Resistance

Adelyn Lee Ka Lau[1], Shirley Jing Wen Wong[1], Thariyah Yuan Chin[1], Shirlie Chai[1,2]

[1]Pharmacy Department, Miri Hospital, Sarawak
[2]Clinical Research Centre Miri

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INTRODUCTION

- Antibiotic resistance has emerged to threaten the treatment of infectious diseases[1].
- Public knowledge and attitudes towards the use of antibiotics play a vital role in the forming of antibiotic resistance and the success of the treatment process[2].
- In this study, we aimed:
  - ✓ To evaluate public knowledge and attitudes regarding antibiotic utilization and resistance
  - ✓ To determine the socioeconomic factor associated with the antibiotic knowledge and attitude

METHODS

- **Study Design:** Cross sectional study
- **Study Population:** Ambulatory adult clinic patients and patients discharging from wards in Miri Hospital from 1 December 2019 to 31 January 2020
- **Sample Size:** 323 subjects
- **Inclusion Criteria:**
  - ✓ Over 18 years of age
  - ✓ Who understood the Malay and/or English language.
  - ✓ Who had previously used antibiotic as outpatient
- **Exclusion Criteria:**
  - ✓ Patients with non-functional mental illness
- **Data Collection:** Validated, self-administered questionnaires[3]
- **Data Analysis:**
  - ✓ **Descriptive statistics** summarised the demographic characteristics, knowledge, and attitude scores.
  - ✓ **Multiple logistics regression** explored the associated factors of public knowledge and attitudes towards antibiotics use.
- The attitude scores ranged from 0-6. A score of 1 was given to positive attitude while a score of 0 was given to negative attitude towards every statement. A cut-off level of <4 was set for negative attitude and ≥4 for a positive attitude.
- The knowledge scores ranged from 0-12. A score of 1 was given to good knowledge while a score of 0 was given to poor knowledge towards every statement. and the cut-off level of <7 was set for poor knowledge. and ≥7 for good knowledge.

RESULTS

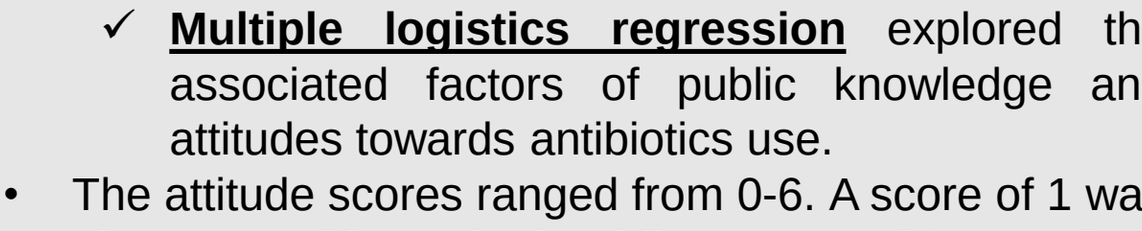

Figure1: Knowledge and Attitude of Respondents Towards Antibiotic Use and Resistance

Table 1: Socioeconomic factors associated with knowledge.

	mLogR	
	Adj. OR	**P-value**
Race		
Malay	reference	
Chinese	**4.651**	**<0.001**
Indian and Others	1.268	0.520
Employment Status		
Unemployed and Retired	reference	
Private	0.851	0.605
Government	**2.425**	**0.008**
Presence of comorbidities		
No	reference	
Yes	**2.096**	**0.005**

RESULTS (CONTINUE)

Table 2: Socioeconomic factors associated with attitude.

	mLogR	
	Adj. OR	**P-value**
Presence of comorbidities		
No	reference	
Yes	**0.599**	**0.042**
Gender		
Male	reference	
Female	**1.687**	**0.044**
Educational level		
No Formal Education and Primary School	reference	
Secondary School	1.065	0.906
College/ University	2.096	0.180
Monthly household income		
<RM500	reference	
RM500-1,000	0.686	0.466
RM1,000-2,000	1.316	0.457
RM2,000-4,000	1.879	0.092
>RM4,000	**5.153**	**<0.001**

DISCUSSION/ CONCLUSION

- The findings indicated that the majority of patients in Miri Hospital had poor knowledge and attitude concerning antibiotic use and resistance.
- This suggests the need for education to raise antibiotic resistance awareness and emphasize the proper attitudes on antibiotic utilisation.
- Our study showed 77.4% of the subjects thought that antibiotics can be used to treat viral infection which is lower than the study conducted by **Lim K.K. et al.[4]** (83%) but higher than the study done by **Oh A.L et al.[2]** (67.2%).
- Our respondents (79.3%) demonstrated proper attitude by completing the full course of antibiotic even when their symptoms disappear compared to the study conducted by **Hassali M.A et al.[5]** (60.5%) and **Lim K.K. et al.[4]** (54.4%).
- **Factors associated with knowledge:**
  - 👍 Chinese were 4.7 times;
  - 👍 Government servants were 2.4 times;
  - 👍 Patients with comorbidities were 2 times more likely to have good antibiotic knowledge.
- **Factors associated with attitude:**
  - 👍 Female were 1.7 times;
  - 👍 Monthly household income >RM4,000 were 5 times more likely to have good attitudes.
  - ‼️ Patients with comorbidities were 40% less likely to have proper attitude of antibiotic use.

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