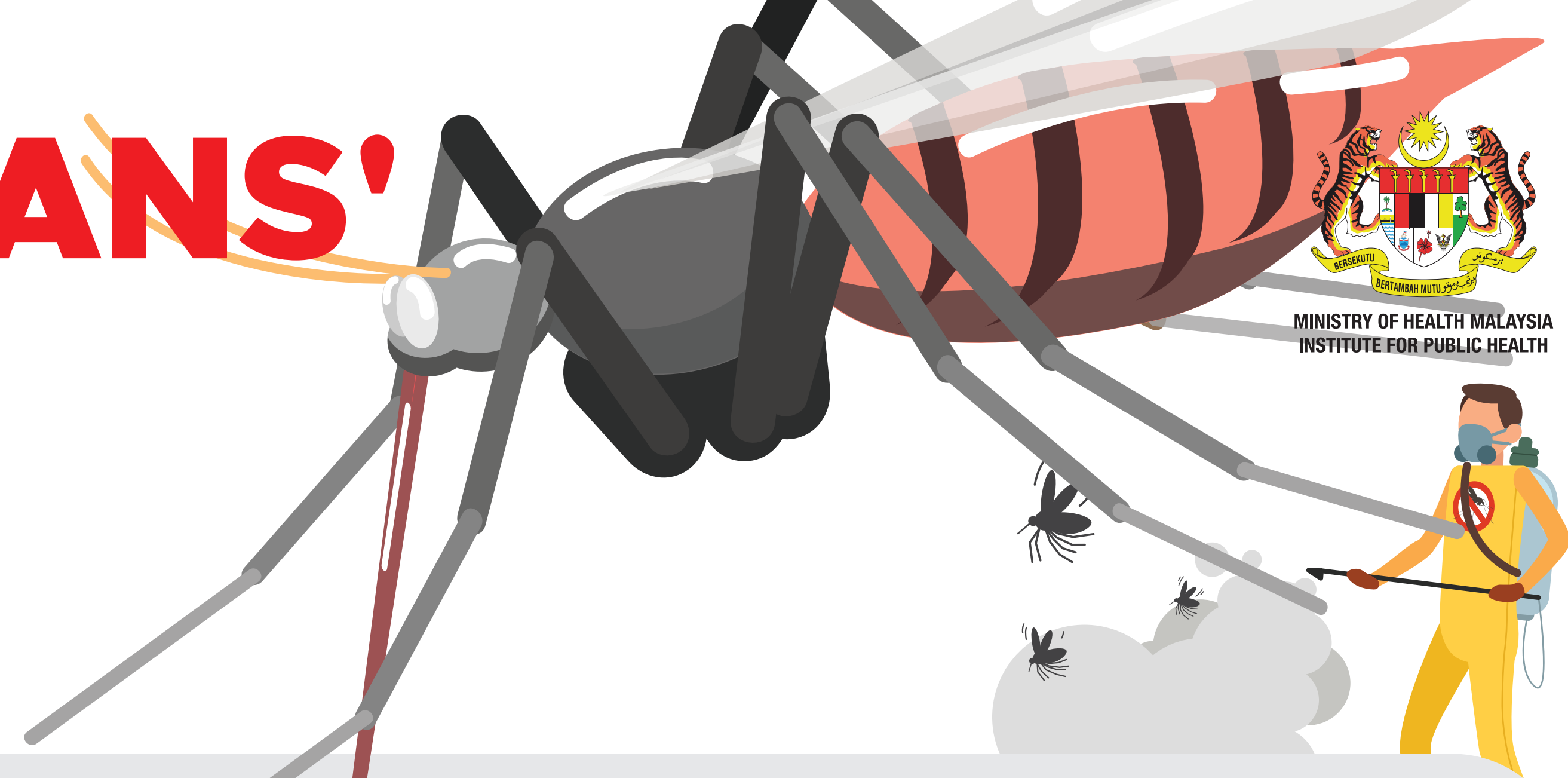


UNRAVELING MALAYSIANS' UNDERSTANDING OF MALARIA SYMPTOMS

A KEY ELEMENT FOR MALARIA ELIMINATION CERTIFICATION

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INTRODUCTION

- Possessing a robust understanding of malaria symptoms not only stimulates the effective execution of preventive strategies but also cultivates a proactive approach to seeking healthcare. This heightened awareness not only empowers individuals to promptly access suitable medical attention but also adds a cornerstone of informed community engagement, forging a united front against malaria's impact.
- Moreover, this depth of knowledge significantly contributes to fortifying the long-term viability of meticulously crafted malaria elimination programs, ensuring their resilience and continuous effectiveness in the unrelenting pursuit of a malaria-free world.

OBJECTIVE

- Hence, the objective of this survey was to assess the prevalence of accurate knowledge of malaria symptoms within the Malaysian populace, while concurrently identifying the contributing elements to such knowledge.

METHODOLOGY

- Secondary data were used from the National Health and Morbidity Survey (NHMS), conducted between September and October 2020, involving respondents aged 15 and above.
- A cross-sectional survey with five structured questionnaires was administered using computer-assisted telephone interviews (CATI).
- The socio-demographic characteristics of respondents were recorded. Data were analysed using STATA SE Version 16, utilizing chi-square and logistic regression to test associations between variables ($p < 0.05$).

CONCLUSION

- The outcomes underscore an alarmingly low prevalence of accurate knowledge of malaria symptoms within the Malaysian demographic. Notably, educational level, age, and occupational diversity have emerged as significant factors associated with an accurate understanding of malaria symptoms.
- The recognition of malaria symptoms bears paramount importance, as it enables early detection, prompt medical intervention, and averment of serious repercussions. This knowledge equips individuals, healthcare professionals, and communities alike, furnishing them with the tools to effectively counteract malaria's effects and curtail its influence on public health with precision.

ACKNOWLEDGEMENTS

The authors thank the Director-General of Health, Malaysia for his permission to publish this poster. Our sincere gratitude also goes to all personnel in Institute for Public Health and Institute for Health Behavioural Research for their support in carrying out this survey.

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RESULTS

- A total of 3,085 respondents aged 15 and older were included in the survey. The basic socio-demographic characteristics of the respondents were presented as frequencies and percentages (Table 1).
- The overall prevalence of ever heard of malaria in Malaysia was 76.1% (95% CI: 70.5, 80.9). However, only 24.1% (95% CI: 21.18, 27.23) of those who had heard of malaria possessed an accurate knowledge of its symptoms. Rural residents had a higher prevalence (26.5%, 95% CI: 23.30, 29.91) compared to urban residents (23.3%, 95% CI: 19.73, 27.320) (Table 2).
- Multivariate analysis revealed that older individuals and those with higher education had increased odds of possessing accurate knowledge of malaria symptoms (Figure 1).

Table 1: Sociodemographic characteristics of the respondents (n=3085)

Variable	Population			P-value
	Urban n=1718 (%)	Rural n=1367 (%)	Total n=3085 (%)	
Age (39.68±16.03)				0.325
15-19	187 (10.9)	154 (11.3)	341 (11.1)	
20-29	365 (21.3)	282 (20.6)	647 (21.0)	
30-39	404 (23.5)	250 (18.3)	654 (21.2)	
40-49	286 (16.7)	259 (18.9)	545 (17.7)	
50-59	245 (14.3)	229 (16.8)	474 (15.4)	
60-69	172 (10.0)	144 (10.5)	316 (10.2)	
70 & above	59 (3.4)	49 (3.6)	108 (3.5)	
Sex				0.630
Male	790 (46.0)	629 (46.0)	1419 (46.0)	
Female	928 (54.0)	738 (54.0)	1666 (54.0)	
Ethnicity				0.001*
Malay	1030 (60.0)	942 (68.9)	1972 (63.9)	
Chinese	233 (13.6)	34 (2.5)	267 (8.7)	
Indian	106 (6.2)	33 (2.4)	139 (4.5)	
Other Bumiputras	266 (15.5)	273 (20.0)	539 (17.5)	
Others	83 (4.8)	85 (6.2)	168 (5.5)	
Citizenship				0.490
Malaysian citizen	1617 (94.1)	1268 (92.8)	2885 (93.5)	
Non-Malaysia citizen	101 (5.9)	99 (7.2)	200 (6.5)	
Marital Status				0.703
Single	512 (29.8)	375 (27.4)	887 (28.8)	
Married/Living with a partner	1085 (63.2)	906 (66.3)	1991 (64.5)	
Widowed (er)/divorcee	121 (7.0)	86 (6.3)	207 (6.7)	
Education Level				0.008*
No formal education	50 (2.9)	64 (4.7)	114 (3.7)	
Primary education	245 (14.3)	318 (23.3)	563 (18.3)	
Secondary education	806 (46.9)	731 (53.5)	1537 (49.8)	
Tertiary education	617 (35.9)	254 (18.6)	871 (28.2)	
Occupation				0.059
Government employee	187 (10.9)	111 (8.1)	298 (9.7)	
Private employee	530 (30.9)	348 (25.5)	878 (28.5)	
Self-employed	227 (13.2)	283 (20.7)	510 (16.5)	
Unpaid worker/Homemaker/caregiver	301 (17.5)	301 (22.0)	602 (19.5)	
Student	195 (11.4)	136 (10.0)	331 (10.7)	
Not working (unemployed, health problem, old age, retiree)	272 (15.8)	184 (13.5)	456 (14.8)	
Others	6 (0.4)	4 (0.3)	10 (0.3)	

Table 2: Prevalence of correct knowledge of malaria transmission, symptoms, risk activities, and prevention measures among those who had ever heard of malaria

Item	Malaysia			Urban			Rural		
	n	N	Prevalence (95% CI)	n	N	Prevalence (95% CI)	n	N	Prevalence (95% CI)
Ever heard of Malaria	2491		76.1 (70.5-80.9)	1379	14,255,550	74.6 (67.7-80.4)	1112	4,548,280	81.3 (75.8-85.8)
Correct Transmission	1361	10,144,441	53.9 (50.2-57.7)	771	7,865,398	55.2 (50.5-59.7)	590	2,279,043	50.1 (44.3-55.9)
Correct Symptoms	658	4,527,257	24.1 (21.2-27.2)	350	3,323,253	23.3 (19.7-27.3)	308	1,204,104	26.5 (23.3-29.9)
Correct Risk activities	757	6,392,053	34.0 (29.3-39.1)	463	5,160,038	36.2 (30.3-42.6)	294	1,232,015	27.1 (22.2-32.6)
Correct prevention measures	1522	11,217,161	59.7 (55.5-63.7)	814	8,344,802	58.5 (53.3-63.6)	708	2,872,360	63.2 (58.2-67.9)

Figure 1: Significance factors of correct answer associated with malaria symptoms Adjusted odds ratio (aOR)

