

Geographical Variations in the Prevalence of High-Risk Human Papillomavirus:

FINDINGS FROM THE PUBLIC CERVICAL CANCER SCREENING DATABASE

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INTRODUCTION

- High-risk (oncogenic) HPV genotypes contributed towards >80% of cervical cancer development (1).
- The prevalence of high-risk HPV infection in Malaysia varies across studies, ranging from 4.4 – 14%.
- Determining the prevalence of high-risk HPV infection is critical for policy since it reflects the disease burden and may inspire strategic planning towards cervical cancer elimination.
- However, the prevalence is yet to be compared across different states in Malaysia.



OBJECTIVE

To outline the prevalence of high-risk HPV infection across four states in Malaysia, along with their sociodemographic characteristics.



METHODOLOGY

- Analysis of cross-sectional data from the Malaysian Public Cervical Cancer Screening Database by the Family Health Development Division, Ministry of Health, between 2019 - 2021 using the STATA software package (Version 14; Stata, College Station, TX).
- Four states with more than 2000 women screened with HPV-based tests were included: Wilayah Persekutuan Kuala Lumpur and Putrajaya (WPKL&P), Selangor, Kedah and Kelantan.
- The proportion of women who tested positive for high-risk HPV was calculated among women screened, reported with a corresponding 95% confidence interval.
- Differences in prevalence between states were analysed using the Chi-square test. A significant level was set at $p < 0.05$



DISCUSSION/CONCLUSION

The factors that influenced the similarities and differences across states may be due to various factors, including sexual practice, health literacy, biogenetic predispositions and cultural norms (2). Despite having a national strategic plan and guidelines towards cervical cancer elimination, customised, targeted strategies should be employed in each state based on the identified high-risk groups. The findings could be used to expand the screening program to increase awareness and reach high-risk women in the community.



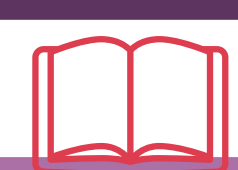
LIMITATION

Selection bias may be present since this screening was conducted at public primary healthcare facilities, missing those attending private and other women in the community. The variations in sample size across states may also affect the findings.



ACKNOWLEDGEMENT

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KEY FINDINGS

34,507

women from 4 states were screened with HPV DNA-based test between 2019 - 2021



5 in 100

women from Wilayah Persekutuan Kuala Lumpur & Putrajaya, Selangor, Kedah and Kelantan were infected with high-risk HPV

- WPKL & Putrajaya (WPKL&P) had the highest prevalence of high-risk HPV infection (6.1%), while the lowest was Kelantan (2.1%).
- The prevalence among urban and rural settlers in Selangor (3.2% and 2.3%, respectively) significantly differed from that in Kelantan (2% and 1.9%, respectively).
- The highest prevalence was observed among those with secondary education in WPKL&P while decreasing with increasing education levels in Selangor. In contrast, the prevalence increased with increasing education in Kelantan.

- The prevalence of HPV was higher among those from the middle-income group in WPKL&P, but relatively similar across different income levels in other states.
- The prevalence among Malays was lower compared to the other ethnicities in all states, except in Kelantan.
- In WPKL&P and Selangor, the highest prevalence occurred in the 40-49 age group, whereas in Kelantan and Kedah, it was in the 20-29 age group.

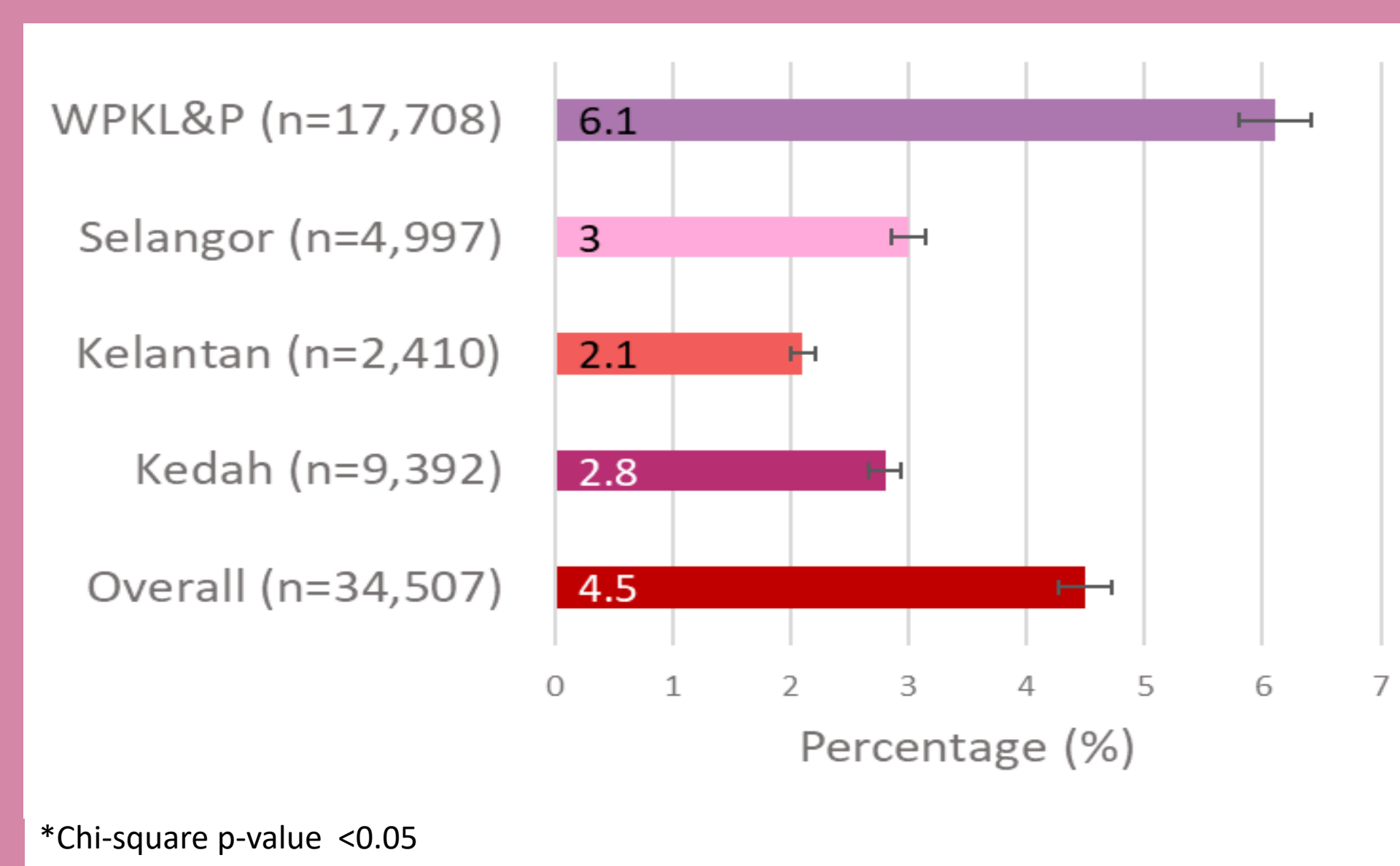


Fig 1. Overall prevalence by states

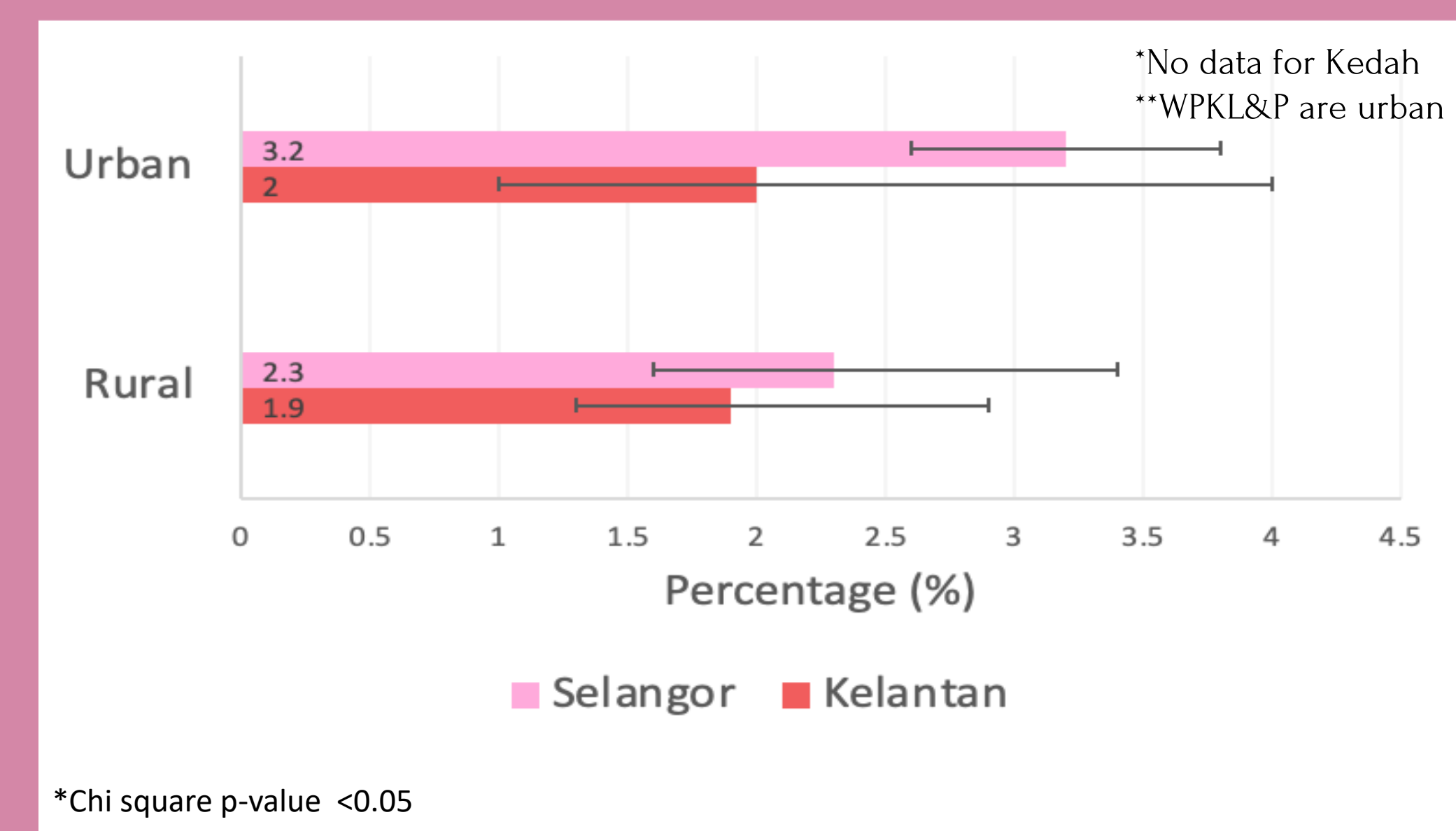


Fig 2. Prevalence by strata

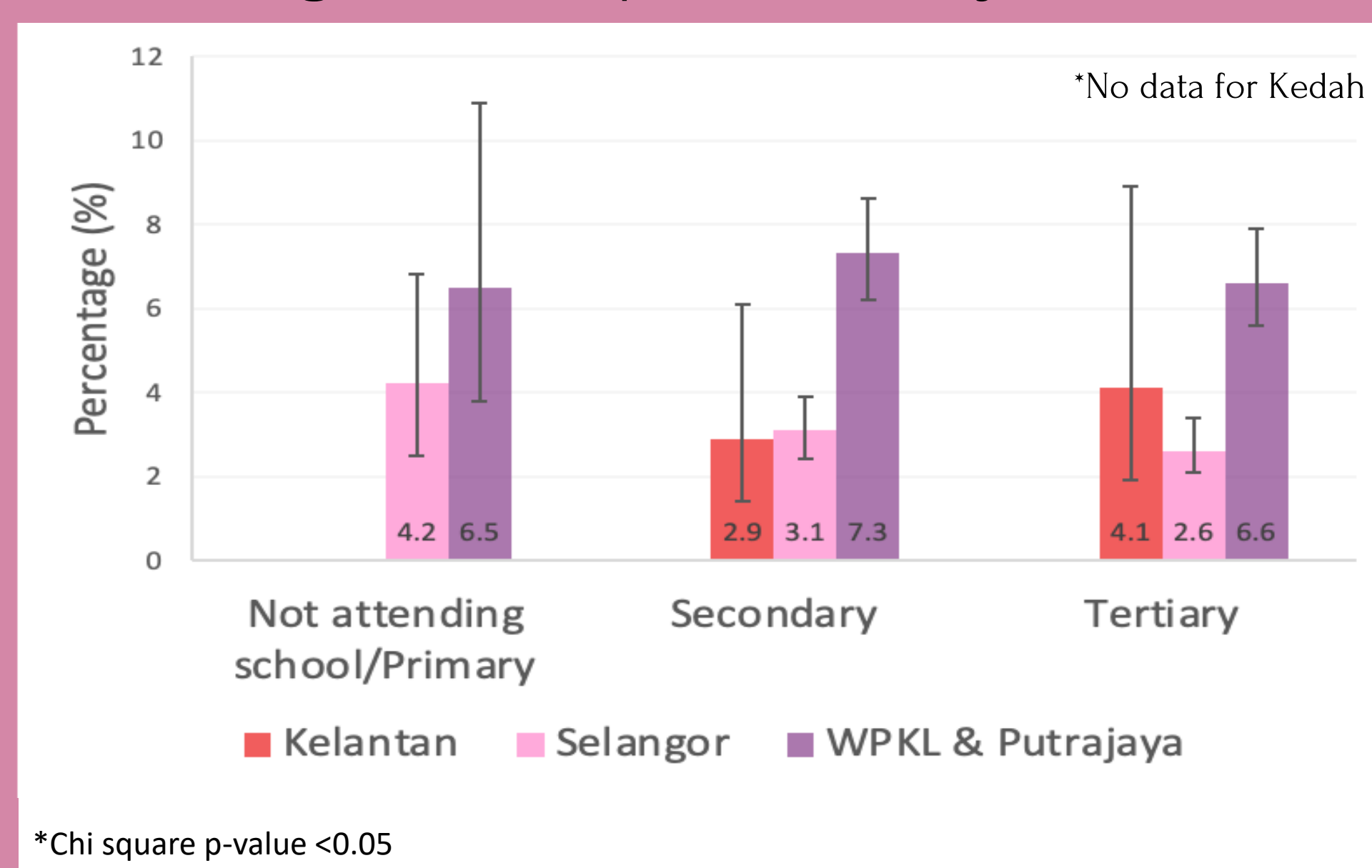


Fig 3. Prevalence by level of education

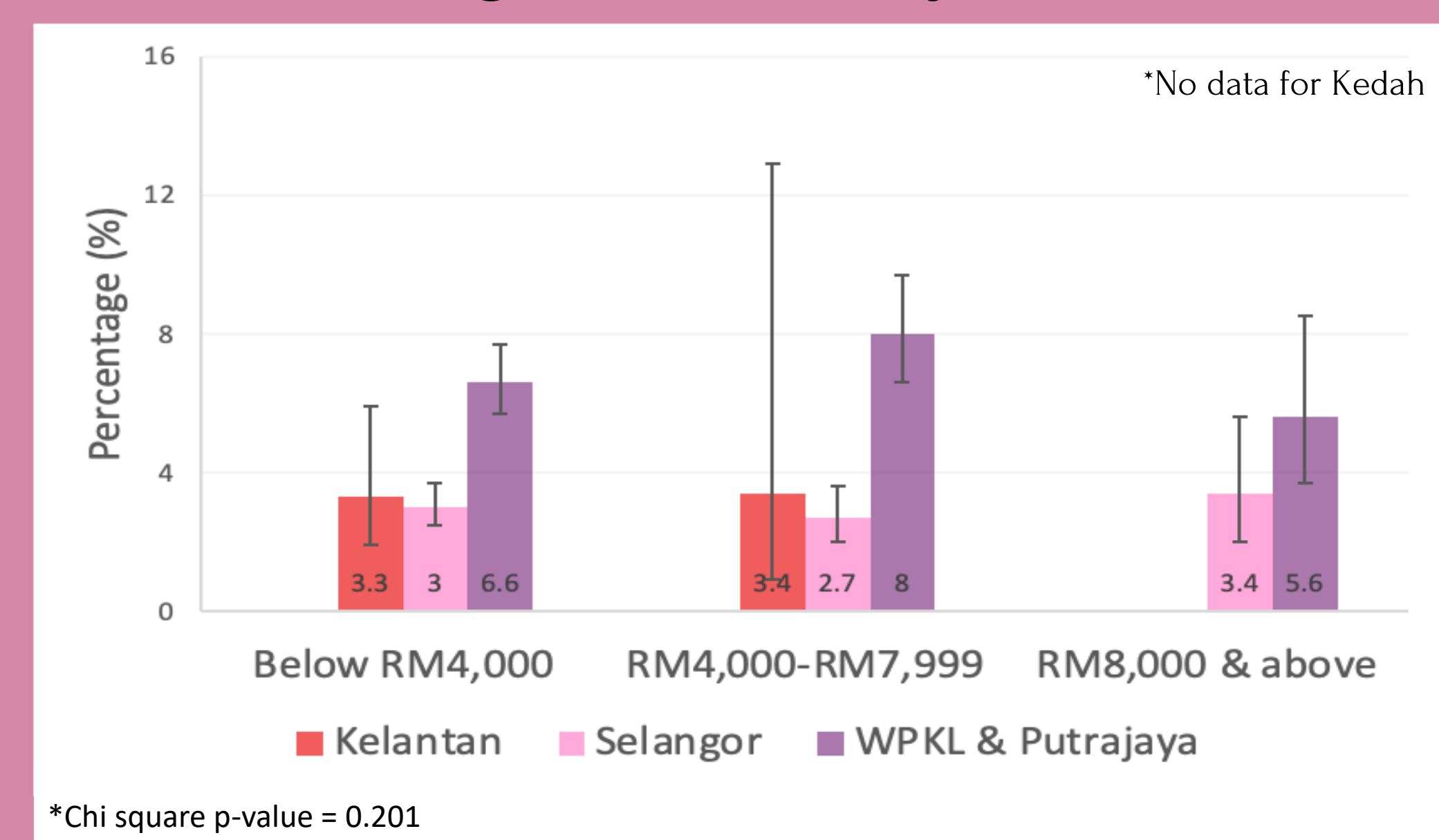


Fig 4. Prevalence by income level

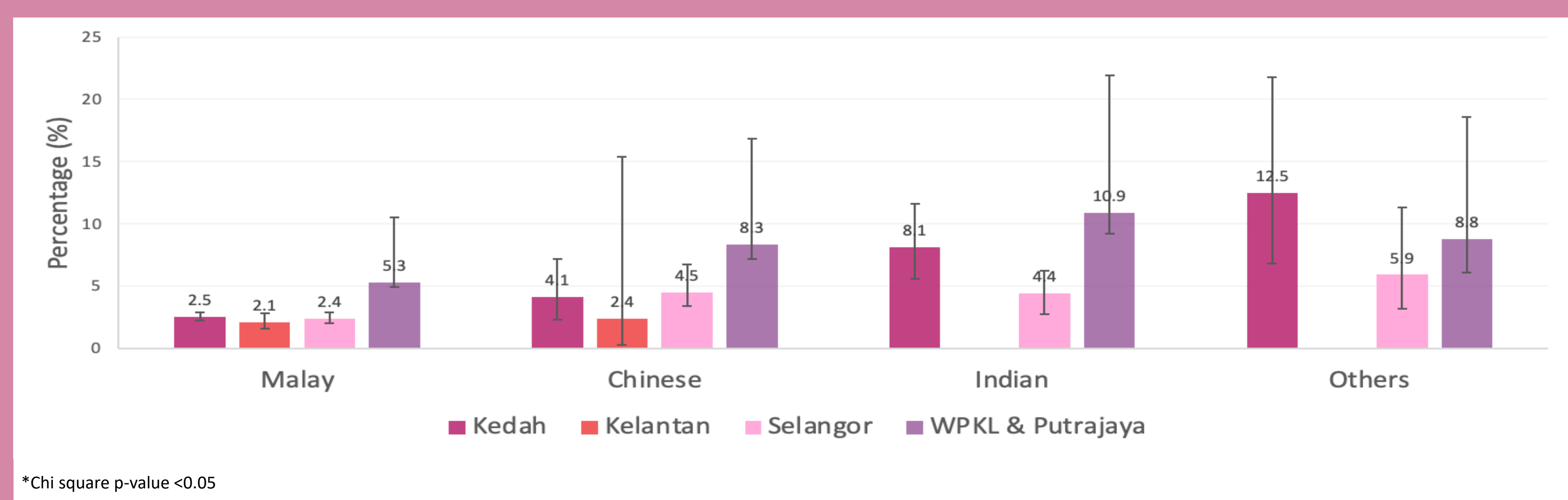


Fig 5. Prevalence by ethnicity

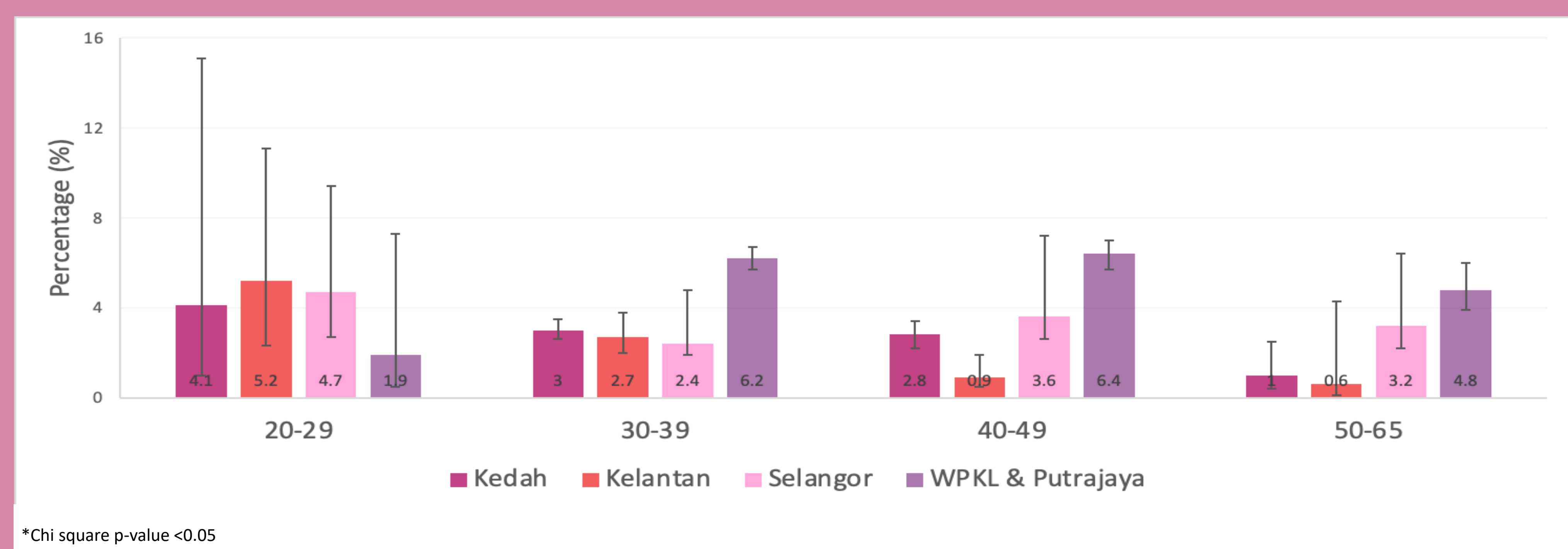


Fig 6. Prevalence by age group