

# Re-emergence of Rabies in Sarawak, Malaysia: Laboratory Perspective

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## ABSTRACT

**Background:** In Malaysia, the last positive case of rabies in human was documented in 1998. After nearly 20 years rabies free, the recently outbreak in Sarawak Malaysia give a major impact on public health policy in regards to monitor and control of the rabies. So far five patients were detected positive for rabies and succumbed to death. **Methods:** Samples from suspected cases such as skin biopsy, skin at the dog bite site, saliva, cerebrospinal fluid, urine and serum were received by IMR. All samples were tested by Real Time Reverse Transcriptase Polymerase Chain Reaction (rRT-PCR), with specific primers and probes. Positive samples were sequenced then BLAST-searched in the GenBank. **Results:** Nucleic acid for rabies were detected in all patients. Sequence analysis revealed it had closely related to isolate KL-97-03 from Kalimantan with 99% homology. This was further proven with phylogenetic tree analysis. **Conclusions:** Re-emergence of rabies is still a major public health problem. A quick and competent laboratory diagnosis is crucial in assisting management of rabies.

## KEY WORDS:

*Rabies virus, rRT-PCR, N gene, DNA sequencing*

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# Risk factors of cumulative recurrent of musculoskeletal pain among secondary school teachers in Selangor, Malaysia: A 1-year follow-up study

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## ABSTRACT

**Introduction:** Recurrent symptoms of musculoskeletal pain (MSP) is usually regarded as a risk for chronicity. This study aimed to identify the risk factors for cumulative recurrent of low back pain (LBP) and neck and/or shoulder pain (NSP) among secondary school teachers. **Methods:** A 1-year study was carried out among 1061 teachers in secondary schools in Selangor. At baseline, a self-administered questionnaire was used to collect data on potential risk factors and self-reported LBP and NSP. At 6- and 12-month follow-up, data were collected on self-reported LBP and NSP. Those who reported LBP and/or NSP at baseline and reported at least one episode of LBP and/or NSP during follow-up were categorised as having recurrent symptoms. Associations were determined using multinomial logistic regression analysis. **Results:** A total of 701 (66.09%) teachers responded to both follow-up were included. The 1-year cumulative recurrent prevalence for LBP and NSP were 35.24% and 53.92% respectively. In the final model, working with hand above shoulder height  $\geq 1$  hour (Relative Risk (RR) 2.69, 95% Confidence Interval (CI): 1.33-5.42), high pain catastrophising (RR 2.26, 95%CI 1.24-4.13), severe symptoms of anxiety (RR 2.09, 95%CI 1.21-3.62) and high fear avoidance belief of physical activity (RR 2.36, 95%CI 1.52-3.65) were associated with increased the risk of recurrent symptoms of LBP. Meanwhile, high pain catastrophising (RR 2.43, 95%CI 1.30-4.53), high fear avoidance belief of physical activity (RR 2.75, 95%CI 1.70-4.44) and high fear of work activity (RR 2.02, 95%CI 1.25-3.26) were associated with recurrent symptoms of NSP. **Discussion:** Within 1-year study period, teachers reported a relatively high rate of recurrent symptoms of LBP and NSP. Results indicated that psychological risk factors play a significant role for the recurrent symptoms of LBP and NSP. Psychological intervention should be considered to reduce the recurrent symptoms of MSP.