

## Ketepatan hasil pengukuran suhu membran timpani dan aksila dibandingkan dengan rektal pada anak demam berusia 6 bulan 5 tahun = Accuracy of tympanic and axillary temperature compared to rectal in febrile children aged 6 months 5 years old

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### Abstrak

Latar belakang: Pengukuran suhu tubuh sebenarnya (core body temperature) tidak lazim dilakukan pada anak karena invasif dan sulit, sehingga pengukuran suhu aksila dan membran timpani lebih disukai. Namun sampai saat ini ketepatan hasil pengukuran suhu membran timpani dan aksila masih diperdebatkan.

Tujuan: Membandingkan ketepatan hasil pengukuran suhu membran timpani dan aksila dengan rektal, mengetahui metode terbaik pengukuran suhu tubuh, dan cut off demam pada anak berdasarkan masing-masing metode pengukuran suhu.

Metode: Penelitian diagnostik potong lintang pada anak demam berusia 6 bulan ? 5 tahun yang dipilih secara konsekutif di Poliklinik Anak, IGD Anak, dan Ruang Perawatan Anak Gedung A RSCM antara bulan Desember 2014 ? Januari 2015.

Hasil: Dengan cut off demam suhu aksila 37,4oC dan membran timpani 37,6oC didapatkan sensitivitas 96% (IK 95% 0,88-0,98) dan 93% (IK 95% 0,84-0,97), spesifisitas 50% (IK 95% 0,47-0,84) dan 50% (IK 95% 0,31-0,69), NDP 90% (IK 95% 0,81-0,95) dan 85% (IK 95% 0,75-0,91), NDN 83% (IK 95% 0,61-0,94) dan 69% (IK 95% 0,44-0,86). Cut off optimal demam suhu membran timpani dan aksila pada penelitian ini adalah 37,8oC (AUC 0,903 dan 0,903).

Simpulan: Hasil pengukuran suhu aksila sama baik dengan membran timpani dalam mendeteksi demam dan dapat digunakan dalam praktik klinis sehari-hari maupun di rumah. Dengan cut off demam 37,8oC didapatkan sensitivitas 81% dan 88%, spesifisitas 86% dan 73%, NDP 95% dan 91%.

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Background: Core body temperature measurement is not common in pediatric population because it is invasive and difficult. Therefore tympanic and axillary temperature measurement are preferable but their accuracy still debated.

Objective: To compare the accuracy of axillary and tympanic temperature to rectal temperature in children with fever and measure the cut off point for fever based on each temperature measurement method.

Methods: A cross-sectional diagnostic study was conducted among children age 6 months ? 5 years which was selected consecutively at Pediatric Out-patient clinic, Pediatric emergency unit, and the in-patient wards in building A RSCM from December 2014 to January 2015.

Results: With the cut off for fever on axilla 37,4oC and tympanic membrane 37,6oC the sensitivity was 96% (95% CI 0,88-0,98) and 93% (95% CI 0,84-0,97), specificity 50% (95% CI 0,47-0,84) and 50% (95% CI 0,31-0,69), NDP 90% (95% CI 0,81-0,95) and 85% (95% CI 0,75-0,91), NDN 83% (95% CI 0,61-0,94) and 69% (95% CI 0,44-0,86). Optimal cut off of tympanic membrane and axilla temperature was 37,8oC (AUC 0,903 dan 0,903).

Conclusions: Axillary temperature measurement is as good as the tympanic membrane temperature measurement and can be used at the daily clinical practice or at home. By increasing the optimum fever cut

off point for axilla temperature and tympanic membrane to 37,8oC, we found sensitivity 81% and 88%, specificity 86% and 73%, NDP 95% and 91%.