

## Uji protokol telemedicine berbasis rekaman video untuk diagnosis gangguan spektrum autisme = Protocol test of telemedicine using video recording for diagnosing autism spectrum disorder

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### Abstrak

#### <b>ABSTRAK</b><br>

Keterlambatan diagnosis gangguan spektrum autisme (GSA) masih menjadi masalah kesehatan anak di seluruh dunia hingga saat ini. Tenaga kesehatan yang kompeten dalam diagnosis GSA masih terbatas di pusat kesehatan tersier yang seringkali sulit dijangkau. Penggunaan telemedicine sebagai alat diagnosis dengan berbagai metode mulai diteliti; namun keterbatasan aplikasi menyebabkan telemedicine belum digunakan secara luas. Penelitian ini bertujuan untuk mengetahui efektivitas aplikasi telemedicine menggunakan rekaman video yang direkam dengan protokol khusus dibandingkan dengan observasi langsung terhadap aktivitas pasien dalam menegakkan diagnosis GSA. Sebanyak 40 subyek berusia 18-30 bulan yang datang dengan keluhan keterlambatan bicara atau perilaku acuh dan mendapat skor M-CHAT-R lebih dari dua mengikuti penelitian ini. Hasil rekaman video menurut protokol khusus dinilai berdasarkan kriteria GSA menurut DSM-5, kemudian subyek dinilai menurut kriteria yang sama pada observasi langsung. Tingkat kesesuaian diagnosis pada kedua metode mencapai 82,5%. Sensitivitas rekaman video dalam diagnosis GSA mencapai 91,3% (IK 95% 79,7% sampai 100%) dan spesifisitas 70,6% (IK 95% 48,9% sampai 92,2%). Nilai duga positif mencapai 80,7% (IK 95% 65,6% sampai 95,9%), sedangkan nilai duga negatif 85,7% (IK95% 67,4% sampai 100%). Rasio kemungkinan positif adalah 3,1 (IK 95% 1,47 sampai 6,5), sedangkan rasio kemungkinan negatif adalah 0,16 (IK 95% 0,03 sampai 0,47). Berdasarkan hasil di atas, telemedicine berbasis rekaman video cukup baik dalam mendiagnosis GSA, meskipun spesifisitas tidak tinggi. Pada kasus yang meragukan, observasi langsung tetap perlu dilakukan.

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#### <b>ABSTRACT</b><br>

Delayed diagnosis of autism spectrum disorder (ASD) remains as a persisting child health problem throughout the world until now. Competent professionals in diagnosing ASD are limited in tertiary health care centers which are usually hard to access. The use of telemedicine as a diagnostic tool using various methods has been investigated; however, application limitations cause the telemedicine has not widely used. This study aimed to evaluate the effectiveness of telemedicine using video recording with special protocol compared to direct observation of patient s activities in diagnosing ASD. We included forty subjects aged 18-30 months old with chief complaints of delayed speech or ignoring behavior and M-CHAT-R score more than two. Video records guided by special protocol were assessed using DSM-5 criteria of ASD and the subjects were assessed using the same criteria during direct observation. Diagnostic agreement between the two methods was 82.5%. The sensitivity of video recording in diagnosing ASD was 91.3% (95% CI 79.7% to 100%), while the specificity was 70.6% (95% CI 48.9% to 92.2%). The positive predictive value was 80.7% (95% CI 65.6% to 95.9%), while the negative predictive value was 85.7% (95% CI 67.4% to 100%). The positive likelihood ratio was 3.1 (95% CI 1.47 to 6.55), while the negative likelihood ratio was 0.16 (95% CI 0.03to 0.47). Based on the results, telemedicine using video recording is effective for diagnosing

ASD, despite its low specificity. In uncertain cases, direct observation is still need to be done.