

# Korelasi antara Aktivitas Fisik terhadap Keseimbangan dan Kemandirian Anak Sindrom Down Usia 5-12 Tahun = Correlation between Physical Activity and Balance and Independence in Down Syndrome Children Aged 5-12 Years

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## Abstrak

Latar Belakang: Keterlambatan perkembangan motorik dan keseimbangan menjadi masalah dalam kemandirian sehari-hari anak sindrom Down. Aktivitas fisik merupakan rekomendasi yang dapat meningkatkan keseimbangan, namun terdapat faktor – faktor yang mempengaruhi kondisi ini. Belum ada penelitian mengenai korelasi aktivitas fisik dengan keseimbangan dan kemandirian anak sindrom Down. Hal ini akan memberikan manfaat kedepannya dalam upaya pencegahan risiko jatuh dan kualitas hidup anak dindrom Down.

Objektif: Penelitian ini betujuan untuk mengetahui korelasi antara aktifitas fisik terhadap keseimbangan dan kemandirian anak sindrom Down serta faktor-faktor yang berhubungan.

Metode: Studi potong lintang pada 31 orang anak sindrom Down usia 5 – 12 tahun. Subjek yang telah memenuhi kriteria penerimaan kemudian dilakukan pemeriksaan keseimbangan dengan Pediatric Balance Scale (PBS). Dilakukan pengambilan data aktivitas fisik anak dengan Physical Activity Questionnaire for (PAQ-C) dan kemandirian dengan Modified WeeFIM. Uji korelasi dilakukan untuk melihat hubungan antara aktifitas fisik terhadap keseimbangan dan kemandirian.

Hasil: Hasil penelitian didapatkan adanya korelasi lemah ( $r=0.368$ ) antara aktivitas fisik dan keseimbangan anak sindrom Down ( $p<0.05$ ). Faktor usia, jenis kelamin, indeks massa tubuh, tes IQ, penyakit jantung bawaan tidak menunjukkan hubungan signifikan dengan keseimbangan. Anak dengan riwayat hipotiroid yang telah ditatalaksana memiliki korelasi sedang ( $r=0.575$ ) terhadap keseimbangan ( $p<0.05$ ). Tidak terdapat hubungan yang signifikan antara keseimbangan dan kemandirian anak. Terdapat korelasi sangat kuat ( $r=0.906$ ) antara perawatan diri dan mobilisasi ( $r=0.922$ ) dengan usia anak sindrom Down ( $p<0.001$ ).

Kesimpulan: Terdapat korelasi antara aktivitas fisik dan keseimbangan anak sindrom Down. Faktor lainnya yang berpengaruh pada hal ini adalah riwayat hipotiroid yang telah diobati. Kemandirian anak sindrom Down lebih karena hubungannya dengan kematangan usia mereka.

.....Background: Delays in motor development and balance are a problem in the daily independence of children with Down syndrome. Physical activity is a recommendation that can improve balance, but there are factors that influence this condition. There has been no research regarding the correlation between physical activity and balance and independence in children with Down syndrome. This will provide future benefits in efforts to prevent the risk of falls and the quality of life of children with Down's syndrome.

Objective: This research aims to determine the correlation between physical activity with balance in Down

syndrome's children and related factors in order to determine their functional independence.

**Methods:** Cross-sectional study of 31 Down syndrome children aged 5 – 12 years. Subjects who met the acceptance criteria were then checked for balance using the Pediatric Balance Scale (PBS). Data on children's physical activity was collected using the Physical Activity Questionnaire for (PAQ-C) and functional independence using Modified Wee-FIM. Correlation tests were carried out to see the relationship between physical activity and balance and independence.

**Results:** The research results showed that there was a weak correlation ( $r=0.368$ ) between physical activity and balance in children with Down syndrome ( $p<0.05$ ). The factors age, gender, body mass index, IQ test, congenital heart disease did not show a significant relationship with balance. Children with a history of hypothyroidism who have been treated have a moderate correlation ( $r=0.575$ ) to balance ( $p<0.05$ ). There is no significant relationship between balance and children's independence. There is a very strong correlation ( $r=0.906$ ) between self-care and mobilization ( $r=0.922$ ) and the age of children with Down syndrome ( $p<0.001$ ).

**Conclusion:** There is a correlation between physical activity and balance in children with Down syndrome. Another factor that influences this is a history of hypothyroidism that has been treated. The independence of Down syndrome children is more related to their age maturity.