

Table F.1.c. People with intellectual disabilities, relationship between physical activity and health-related outcomes

Questions: What is the association between **physical activity** and health-related outcomes?

Population: People with intellectual disabilities

Exposure: Greater volume, duration, frequency, or intensity of physical activity

Comparison: No physical activity or lesser volume, duration, frequency, or intensity of physical activity

Outcome: Risk of co-morbid conditions (including disease progression and symptoms of disease), physical function, health-related QOL

Outcome	Systematic review evidence Review credibility	No. of studies/ Study design No. of participants	Quality Assessment					Summary of findings	Certainty	US PAGAC evidence (39)
			Risk of bias	Inconsistency	Indirectness †	Imprecision	Other			
Risk of co-morbid conditions	No systematic review identified									1 ESR Insufficient evidence is available to determine the relationship of physical activity with risk of comorbid conditions in individuals with intellectual disabilities. PAGAC Grade: Not assignable.

Outcome	Systematic review evidence Review credibility	No. of studies/ Study design No. of participants	Quality Assessment					Summary of findings	Certainty	US PAGAC evidence (39)
			Risk of bias	Inconsistency	Indirectness †	Imprecision	Other			
Physical function	Maiano 2018 (23) Low	9 RCTs 6 before-after N=403	Serious risk of bias	Serious inconsistency	Serious indirectness	Serious imprecision	Possible publication bias Effects higher for before-after studies than RCTs	<p>Mean age was 13 years with most participants recruited from schools. Half had mild intellectual disabilities (53%) and most were males (71%). Seven studies used balance and/or strength exercises and remaining used computerized balance exercises, creative dance activities, hippotherapy exercises, rope-skipping exercise, swiss ball exercises, tai chi exercise, and trampoline with interventions lasting 6 to 16 weeks.</p> <p>Pooled analysis showed large and statistically significant improvement in static balance (ES = 0.98 [95% CI, 0.65 to 1.32], $p < 0.001$, 11 studies) and dynamic balance (ES = 1.43 [95% CI, 0.71 to 1.97], $p < 0.001$, 7 studies) among those in exercise groups vs. control groups.</p>	VERY LOW ^a	3 ESRs Limited evidence suggests that physical activity improves physical function in children and adults with intellectual disabilities. PAGAC Grade: Limited.
	Maiano 2019 (22) Moderate	7 RCTs 4 NRSIs N=281	Serious risk of bias	Serious inconsistency	Serious indirectness	Serious imprecision	None	<p>8/11 studies focused on children (mean age 12 years) with Down syndrome and 3/11 focused on adolescents (mean age 15 years) with Down syndrome. Interventions focused on balance and included walking backwards, hopscotch, computerized balance training using visual feedback, strengthening, vibration platforms, or combined exercise with interventions lasting 6 to 24 weeks.</p> <p>Among children, all studies showed that the exercise intervention groups had significant higher posttest static, dynamic, and static-dynamic balance than the control groups. None of the trials among adolescents found differences in any measures of balance between groups.</p>	VERY LOW ^b	
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<p>Health-related QOL</p>	<p>No systematic review identified</p>	<p>1 ESR</p> <p>Insufficient evidence is available to determine the relationship of physical activity with health-related quality of life in individuals with intellectual disabilities. PAGAC Grade: Not assignable.</p>
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Abbreviations: CI = confidence interval; ERS = existing systematic review; ES = effect size (Hedge's *g*); NR = not reported; NRSI = non-randomized study of an intervention; PAGAC = Physical Activity Guidelines Advisory Committee; QOL = quality-of-life; RCT = randomized clinical trial

† Serious indirectness indicates measurement of intermediate/indirect outcomes or heterogeneity in exposures and comparisons assessed; certainty of evidence was not always downgraded for indirectness if it was not judged to impact the certainty in the findings for the outcome evaluated in the review

^a Certainty of evidence downgraded given serious risk of bias (12/15 studies were rated as having low quality), serious inconsistency (substantial statistical heterogeneity [$I^2 > 70\%$] in all pooled analyses), serious indirectness (measures of static, dynamic, and static-dynamic balance of unclear clinical relevance), serious imprecision (wide CIs), and possible publication bias

^b Certainty of evidence downgraded given serious risk of bias, inconsistency, serious indirectness (measures of static, dynamic, and static-dynamic balance of unclear clinical relevance), and serious imprecision (wide CIs)