Down syndrome

Bibliographic reference	**Bonamico et al. (2001)**
Study type	Cross-sectional survey
Study quality	The Joanna Briggs Institute Prevalence Critical Appraisal Tool (http://ijhpm.com/article_2870_607.html) 1. Was the sample representative of the target population? YES 2. Were study participants recruited in an appropriate way? Yes (consecutive sample recruited) 3. Was the sample size adequate? YES 4. Were the study subjects and the setting described in detail? YES 5. Was the data analysis conducted with sufficient coverage of the identified sample? YES 6. Were objective, standard criteria used for the measurement of the condition? YES 7. Was the condition measured reliably? YES

	8. Was there appropriate statistical analysis? YES 9. Are all important confounding factors/subgroups/differences identified and accounted for? YES 10. Were subpopulations identified using objective criteria? NA Overall risk of bias = LOW
Country	Italy
Number of patients	N=1202 with Down's Syndrome (N=1110 children, N=92 adults)
Study population	Inclusion: consecutively enrolled patients with Down's Syndrome enrolled by the Italian Society of Paediatric Gastroenterology and Hepatology and the Clinical Genetics Group of the Italian Society of Paediatrics, N=1110 children; aged 15mths to 18yrs, N=92 adults; 18 to 46yrs, N=609 males, N=593 females
Results	N=55 (N=48 children, N=7 adults)(4.6%) with CD N=55 with CD had higher percentages of those with growth failure ($p<0.001$), anorexia ($p<0.01$), constipation ($p<0.05$), and higher frequency of cases of low haemoglobin, low serum iron and low calcium ($p<0.01$) than in N=55 who were IgA AGA +ve and IgA EMA –ve, and then N=57 IgA AGA –ve and IgA EMA –ve N=38 (69%) classic CD, N=6 (11%) atypical symptoms, N=11 (20%) silent CD
Source of funding	Not stated
Conflicts of interest	
Comments	

Definitions of abbreviations are given at the end of this document.

Bibliographic reference	**Cerqueria et al. (2010)**
Study type	Cross-sectional survey
Study quality	The Joanna Briggs Institute Prevalence Critical Appraisal Tool (http://ijhpm.com/article_2870_607.html) 1. Was the sample representative of the target population? YES 2. Were study participants recruited in an appropriate way? NO – Unclear is consecutive sample recruited 3. Was the sample size adequate? YES 4. Were the study subjects and the setting described in detail? YES 5. Was the data analysis conducted with sufficient coverage of the identified sample? YES 6. Were objective, standard criteria used for the measurement of the condition? YES

	7. Was the condition measured reliably? YES 8. Was there appropriate statistical analysis? YES 9. Are all important confounding factors/subgroups/differences identified and accounted for? YES 10. Were subpopulations identified using objective criteria? NA Overall risk of bias = MODERATE
Country	Portugal
Number of patients	N=98 patients with Down syndrome
Study population	Inclusion: patients with Down syndrome living in the north of Portugal and screened for CD between January 2005 and December 2006 58 male, 40 female; 51 children and adolescents (aged 1-19); 47 adults (aged 20-45)
Control	None
Length of follow-up	n/a
Details of coeliac testing	IgA EMA (immunofluorescence assay with monkey oesophagus as substrate, Byosystems, Middletown, Conneticut, USA; serum was diluted to 1:5 and results were ositive when green network pattern under fluorescent microscope was observed) IgA tTG (Enzyme-linked immunosorbent assay with tissue translugtaminase as antigen, Quanta Life, Inova, Livermore, California, USA; results higher than 20 U/ml were considered positive) Total IgA serum level to exclude IgA deficiency Those serologically positive had biopsy. CD was diagnosed if positive serology and Marsh III on biopsy.
Results	19.4% (19/98) were positive for IgA EMA – 9 children and 10 adults 12.2% (12/98) were positive for IgA anti-tTG (all were also positive for IgA EMA) None had abnormal IgA values The parents of 2 patients did not consent to upper endoscopy. On biopsy, 7 had Marsh I, 1 had normal mucosa, Marsh III was confirmed in 9 (4 of these had severe villous atrophy – Marsh IIIB and IIIC, and 5 had partial villous atrophy – Marsh IIIA) **9.2% (9/98) prevalence rate of histologically confirmed CD** One child had a growth deficit (weight percentile < 5), no adult CD patient was underweight (BMI < 19.9), one adolescent and 4 adults patients were obese (BMI ≥ 30)

Source of funding	Paper reports 'none declared'
Conflicts of interest	Paper reports that the authors declared no conflicts of interest
Comments	

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Bibliographic reference	**Goldacre et al. (2004) [**
Study type	Case-control
Study quality	The Joanna Briggs Institute Prevalence Critical Appraisal Tool (http://ijhpm.com/article_2870_607.html) 1. Was the sample representative of the target population? YES 2. Were study participants recruited in an appropriate way? NO – Unclear is consecutive sample recruited 3. Was the sample size adequate? YES 4. Were the study subjects and the setting described in detail? YES 5. Was the data analysis conducted with sufficient coverage of the identified sample? YES 6. Were objective, standard criteria used for the measurement of the condition? YES 7. Was the condition measured reliably? YES 8. Was there appropriate statistical analysis? YES 9. Are all important confounding factors/subgroups/differences identified and accounted for? YES 10. Were subpopulations identified using objective criteria? NA Overall risk of bias = MODERATE
Country	UK
Number of patients	N=1453 N=460000 control
Study population	Inclusion: data from the Oxford Record Linkage Study, this includes brief statistical abstracts of records of all hospital admissions, including day cases in the NHS and all deaths wherever they occurred, in defined populations within the former Oxford NHS region from January 1963 to March 1999, the Down's syndrome cohort obtained from statistical records, the reference cohort from records of admission for other medical and surgical conditions, N=937 0 to 14yrs, N=516 15 to 59yrs
Control	
Results	Results for cancers and other immune conditions not reported here N=4 with coeliac disease observed in the Down's cohort, expected number N=0.9, Adjusted risk ratio 4.7 (CI: 1.3 to 12.2)
Source of funding	Oxford Health Authority, Research and Development Directorate at the Department of Health

Conflicts of interest	
Comments	

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Bibliographic reference	**Pavlović et al. (2012)**
Study type	Cross-sectional survey
Study quality	The Joanna Briggs Institute Prevalence Critical Appraisal Tool (http://ijhpm.com/article_2870_607.html) 1. Was the sample representative of the target population? YES 2. Were study participants recruited in an appropriate way? YES (consecutive sample recruited) 3. Was the sample size adequate? YES 4. Were the study subjects and the setting described in detail? YES 5. Was the data analysis conducted with sufficient coverage of the identified sample? YES 6. Were objective, standard criteria used for the measurement of the condition? YES 7. Was the condition measured reliably? YES 8. Was there appropriate statistical analysis? YES 9. Are all important confounding factors/subgroups/differences identified and accounted for? YES 10. Were subpopulations identified using objective criteria? NA Overall risk of bias = LOW
Country	Serbia
Number of patients	N=91 children with Down's Syndrome
Study population	Inclusion: children with Down's Syndrome evaluated at a paediatric department between October 2004 and January 2011. 50 boys, 41 years; Mean age 6.3 years (range 8 months to 16 years)
Control	none
Details of coeliac testing	Serum IgA IgA tTG and IgG tTG (ELISA, Orgentec Diagnostika; 10 U/ml or greater were positive) IgG EMA (indirect immunofluorescence with primate oesophagus substrate, IMMCO Diagnostics) Biopsy if positive serology
Results	Of 5 with serum IgA deficiency, IgG EMA was negative for all but IgG tTG was positive in 3.Biopsy was normal for all 3. Of 5 patients with positive IgA tTG, 4 had positive biopsy for CD giving a biopsy-confirmed CD rate of 4.4% (95% CI, 1.7-10.7%) (Marsh

	3a, 3b or 3c)
Source of funding	Not reported
Conflicts of interest	Not reported
Comments	

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Bibliographic reference	**Wouters et al. (2009)**
Study type	Cross-sectional survey
Study quality	The Joanna Briggs Institute Prevalence Critical Appraisal Tool (http://ijhpm.com/article_2870_607.html) 1. Was the sample representative of the target population? YES 2. Were study participants recruited in an appropriate way? YES (consecutive sample recruited) 3. Was the sample size adequate? YES 4. Were the study subjects and the setting described in detail? YES 5. Was the data analysis conducted with sufficient coverage of the identified sample? YES 6. Were objective, standard criteria used for the measurement of the condition? YES 7. Was the condition measured reliably? YES 8. Was there appropriate statistical analysis? YES 9. Are all important confounding factors/subgroups/differences identified and accounted for? YES 10. Were subpopulations identified using objective criteria? NA Overall risk of bias = LOW
Country	Netherlands
Number of patients	N=155 children with Down's Syndrome
Study population	Inclusion: children who visited a special Down's Syndrome outpatient clinic at a mixed secondary and tertiary referral centre from May 2005 to June 2007 Mean and SD: Age 7.4 ± 4.6 (from 2 months to 19 years); 97 male, 58 female
Control	None
Length of follow-up	n/a
Details of coeliac	HLA-DQ typing

testing	EMA and TGA antibodies tested in those with HLA-DQ2 or 8 IgA deficiency was tested for using ELISA method using *Escherichia coli* IgA In those <2 years, AGA IgA was also measured If EMA-TGA tests were positive a small intestinal biopsy was performed to confirm the diagnosis
Results	63/155 had HLA-DQ2 or HAL-DQ8 Of these 63, 8 had positive serology for EMA/TGA (overall prevalence: 5.1%) **Overall biopsy-confirmed CD prevalence: 4.5% (7/155)** (one patient did not have a biopsy)
Source of funding	Not reported
Conflicts of interest	Paper reports that the authors declared no conflicts of interest
Comments	

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