IARC HANDBOOKS

ABSENCE OF EXCESS BODY FATNESS

VOLUME 16

This publication represents the views and expert opinions of an IARC Working Group on the Evaluation of Cancer-Preventive Interventions, which met in Lyon, 5–12 April 2016

LYON, FRANCE - 2018

IARC HANDBOOKS OF CANCER PREVENTION

International Agency for Research on Cancer

World Health Organization

Table 2.2.15 Case–control studies of measures of body fatness and cancer of the testis

Reference Study location Period	Total number of cases Total number of controls Source of controls	Exposure categories	Exposed cases	Relative risk (95% CI)	Covariates Comments
Dieckmann & Pichlmeier (2002) Germany 1992–1996	353 259 Hospital	BMI ≥ 30 vs 20–24	7	1.49 (0.26–8.45)	Age
		Weight (kg) ≥ 100 vs 60–89	9	0.52 (0.12–2.33)	
Garner et al. (2003) USA 1994–1997	686 744 Population	BMI > 31 vs low	All: 61	1.29 (0.84–1.99)	BMI range for "low" not defined
			Non-seminoma: 11	3.66 (1.87–7.15)	
Richiardi et al. (2003) Sweden 1958–1996	371 1238 Nested case–control study	BMI ≥ 25 vs 20–24.9	23	0.71 (0.43–1.16)	Height, birth weight, gestational duration, maternal age, neonatal jaundice, neonatal medical conditions
Pan et al. (2004) Canada 1994–1997	685 5039 Population	BMI ≥ 30 vs < 25	685 total	1.16 (0.84–1.61)	5-yr age group, residence, education level, smoking, alcohol consumption, energy intake, vegetable intake, dietary fibre intake, physical activity
McGlynn et al. (2007) USA 2002–2005	767 928 Population	BMI ≥ 30 vs 18.5–24.9	46	1.06 (0.66–1.69)	Age, race, serum date, cryptorchidism, family history of testicular cancer Analyses by subtypes gave similar results
		Weight (kg) > 86.18 vs 72.59–79.38	209	1.13 (0.83–1.54)	
Dieckmann et al. (2009) Germany 1995–2005	8498 2070 Population	BMI > 30 vs 18.5– < 25	All ages: 928	*P* = 0.19	Age
		> 30 vs 18.5– < 25	Age 18–29 yr: 270	*P* < 0.00001	

Table 2.2.15 Case–control studies of measures of body fatness and cancer of the testis

Reference Study location Period	Total number of cases Total number of controls Source of controls	Exposure categories	Exposed cases	Relative risk (95% CI)	Covariates Comments
Lerro et al. (2010) Europe and North America Studies published 1989–2009	14 262 cases	BMI <25 25– < 30 > 30	NR	 1.00 0.92 (0.86–0.98) 0.93 (0.75–1.15)	Meta-analysis of 1 cohort study and 10 case–control studies
Giannandrea et al. (2012) Italy NR	321 465 Hospital	BMI ≥ 27.4 vs < 23.15 Weight (kg) > 87 vs 73–80	 26 26	 0.42 (0.24–0.75) 0.27 (0.13–0.52)	Age Analysis by subtype gave significant inverse association, similar to overall

BMI, body mass index (in kg/m^2); CI, confidence interval; NR, not reported; yr, year or years

References

Dieckmann K-P, Hartmann JT, Classen J, Diederichs M, Pichlmeier U (2009). Is increased body mass index associated with the incidence of testicular germ cell cancer? J Cancer Res Clin Oncol. 135(5):731–8. http://dx.doi.org/10.1007/s00432-008-0504-1 PMID:19002497

Dieckmann K-P, Pichlmeier U (2002). Is risk of testicular cancer related to body size? Eur Urol. 42(6):564–9. http://dx.doi.org/10.1016/S0302-2838(02)00467-0 PMID:12477651

Garner MJ, Birkett NJ, Johnson KC, Shatenstein B, Ghadirian P, Krewski D; Canadian Cancer Registries Epidemiology Research Group (2003). Dietary risk factors for testicular carcinoma. Int J Cancer. 106(6):934–41. http://dx.doi.org/10.1002/ijc.11327 PMID:12918073

Giannandrea F, Paoli D, Lombardo F, Lenzi A, Gandini L (2012). Case-control study of anthropometric measures and testicular cancer risk. Front Endocrinol (Lausanne). 3:144. http://dx.doi.org/10.3389/fendo.2012.00144 PMID:23189072

Lerro CC, McGlynn KA, Cook MB (2010). A systematic review and meta-analysis of the relationship between body size and testicular cancer. Br J Cancer. 103(9):1467–74. http://dx.doi.org/10.1038/sj.bjc.6605934 PMID:20978513

McGlynn KA, Sakoda LC, Rubertone MV, Sesterhenn IA, Lyu C, Graubard BI, et al. (2007). Body size, dairy consumption, puberty, and risk of testicular germ cell tumors. Am J Epidemiol. 165(4):355–63. http://dx.doi.org/10.1093/aje/kwk019 PMID:17110638

Pan SY, Johnson KC, Ugnat AM, Wen SW, Mao Y; Canadian Cancer Registries Epidemiology Research Group (2004). Association of obesity and cancer risk in Canada. Am J Epidemiol. 159(3):259–68. http://dx.doi.org/10.1093/aje/kwh041 PMID:14742286

Richiardi L, Askling J, Granath F, Akre O (2003). Body size at birth and adulthood and the risk for germ-cell testicular cancer. Cancer Epidemiol Biomarkers Prev. 12(7):669–73. PMID:12869410