

## FOLLICULAR LYMPHOMA INCIDENCE AND MORTALITY IN RELATION TO OVERWEIGHT, OBESITY AND PHYSICAL ACTIVITY: A META-ANALYSIS

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In the last few years, there has been a growing interest in exploring the association between risk factors such as overweight, obesity and physical activity, and incidence of various cancers.

Meta-analysis was performed to investigate the risk ratio of follicular lymphoma incidence and mortality in overweight and obese individuals, and in individuals with a different physical activity levels using the random-effects model. A literature search through September 2016 was performed. Case-control studies accounted for over 2.100 cases and 12.700 controls, whereas cohort studies accounted for over 2.600 cases in cohort of about 3.000.000 individuals.

In overweight individuals (body mass index between 25 and 29.99 kg/m<sup>2</sup>) risk ratio for the development of follicular lymphoma was 1.03 (0.95-1.11; 95% CI; p = 0.51) and in obese (body mass index  $\geq$  30 kg/m<sup>2</sup>) it was 1.15 (1.01-1.31; 95% CI; p = 0.04) when compared to individuals with normal body mass index (< 25 kg/m<sup>2</sup>). The risk ratio of specific follicular lymphoma mortality in overweight was 0.59 (0.38-0.91; 95% CI; p = 0.02), while in obese patients it was 1.08 (0.68-1.71; 95% CI; p = 0.75). In patients with the highest physical activity levels, the risk ratio for follicular lymphoma occurrence was 0.95 (0.75-1.21; 95% CI; p = 0.68) when compared to patients that had the lowest physical activity levels.

In summary, our meta-analysis has shown statistically significant direct association between obesity and follicular lymphoma incidence.

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**Key words:** follicular lymphoma, meta-analysis, obesity, overweight, physical activity