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The Association between Physical Activity and Ovarian Cancer - A Systematic Review of the Literature

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Introduction: Ovarian cancer (OC) is the most fatal gynaecological cancer. It has vague symptoms which can be similar to symptoms of many other diseases thus, it is usually diagnosed at an advanced stage. It is essential to identify the risk and protective factors for OC in order to decrease its rates. There is a debate about the effect of Physical Activity (PA) on cancers. Therefore, it is worth investigating its relationship to the risk for OC.

Objective: to investigate the association between physical activity and ovarian cancer.

Methodology: a systematic review of the available literature was performed using combinations of keywords in searching several electronic databases. In addition, searching for 'grey' literature and manual search of the references of the identified articles was conducted. Relevant articles were assessed using SIGN checklists.

Results: Eleven cohort studies and eleven case-control studies were included in the review with a total sample of 947,843 women of which 10,836 were OC cases. All case-control studies have indicated to some extent an *inverse* association between PA and OC risk. Results of cohort studies varied. Four of them reported increase in OC risk, three reported OC risk reduction in relation to PA and four reported no association between PA and OC risk.

Conclusions: This review found that results from cohort studies are equivocal. However, the results from the case-control studies universally showed that PA resulted in reduction in a risk of OC. Overall, on the bases of the research done to date; it is possible to argue that PA has a protective effect on OC risk. There are great difficulties in conducting such cohort studies. Case-control studies also encounter problems in recall. More robust research using more precise techniques in measuring PA is required to establish the exact relationship between PA and OC.