



## Study of Obesity and Overweight and its Association with Outcome of Gynecological Cancer in Patients Admitted in Shahid Sadoughi Hospital in Yazd in 1386 to1392

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### Abstract

Obesity is now considered to be a global epidemic. The problem of obesity has significant implications for the diagnosis and treatment of gynecological cancer. Obese women are reported to be at higher risk from gynecological cancers than non obese women. The ovary, endometrium and cervix are the fourth, fifth and sixth most common cancer after breast lung and bowel in England. Previous studies have indicated an association between obesity and poor survival in several tumour types, including gynecological cancer. We sought to test the hypothesis that obesity reduces survival rate and also its association with stage of gynecological cancers.

**Keywords:** Body mass index; Gynecological cancer; Survival stage

### Material and Methods

The study, performed between June - December 2011, covered 110 patients (16 person with breast cancer, 34 with endometr,35 ovary and 25 cervix) diagnosed with gynecological cancer from 1388 to 1392 at the Gynecologic Oncology Department of yazd University Medical School. Data were collected through a face to face questionnaire form including basic socio-cultural and medical characteristics Data entry and analysis were performed with the SPSS v14 package program for t-test. Chi-square, analysis of variance and comparisons were conducted according to socio-demographic and disease-related characteristics of participants. This descriptive correlational design was performed in the form of census survey. Patients were assigned to one of two categories: not obese (BMI 0-29.9) or obese (BMI  $\geq$  30).

### Results

Women who have endometroid cancer with BMI  $>30$  kg/m<sup>2</sup> shows a significantly higher stage. ( $\chi^2 = 6.16$ ,  $df = 1$ ,  $p = 0.013$ ). Those with breast cancer and BMI  $>30$  didn't have a significant association with stage. ( $\chi^2 = 0.153$ ,  $df = 1$ ,  $p = 0.696$ ). Those with ovarian cancer and BMI  $>30$  didn't have a significant association with stage. ( $\chi^2 = 0.092$ ,  $df = 1$ ,  $p = 0.762$ ). There was no association between BMI and cervix cancer stage. ( $\chi^2 = 0.276$ ,  $df = 1$ ,  $p = 0.599$ ). Parameters such as age, HTN, hyperTG, showed no significant correlation with cancer stage. The survival rate 91.8% in BMI  $>30$ . Smoking acts as a cofactor in cervical carcinogenesis and increases the risk of ovarian cancer. This study shows that there is a significant positive correlation of endometr cancer stage and BMI. The mean time of metastasis was 0.27month (SD =1.51). The most organs which showed metastasis were respectively lung, omen tom, bladder, colon, bowel, liver, stomach, skin.

### Conclusions

All in all among these 4 gynecological cancers only Obese patients (BMI  $>30$ ) with endometroid cancer have a higher stage and survival. The cancer most frequently associated with obesity is that of the endometrium. With regard to ovarian cancer the evidence is inconsistent. With regard to breast and cervix cancer the evidence was not significant. Data on vulvae cancer and obesity are scant. The results revealed that BMI  $<30$  kg/m<sup>2</sup> was associated with lower survival rate of gynecological cancer. Though the role of BMI on survival and stage was proved here, but continuous investigation is warranted.

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