**Original article**

**Assessment of the risk of prostate cancer in adult smokers in Nnewi, Nigeria using prostate specific antigen as a biomarker**

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**Abstract**

**Introduction:** Prostate cancer is one of the most prevalent types of cancer in men, when detected early, it is potentially curable by prostatectomy . Therefore early detection is important**.**

**Objective:** In this study the relationship between cigarette smoking and the risk of prostate carcinoma using the prostate specific antigen (PSA) as a marker was evaluated.

**Materials and Method:** One hundred adult male subjects participated in this study. Fifty of these subjects were smokers while the other fifty were non-smokers. Subjects were grouped into four categories of varying ages. About 5mls of blood were collected. Prostate Specific Antigen Levels were determined by the Enzyme-linked Immunosorbent Assay (ELISA).

**Result:** The mean total Prostatic Specific Antigen (PSA) value for smokers was 1.93**±**1.26ng/ml and for non-smokers, it was 2.77**±**1.40ng/ml, while the mean free PSA value for smokers was 1.06**±**0.79ng/ml and 1.45**±**0.80ng/ml for non-smokers. There was a significant decrease in the mean total PSA value of smokers compared with non- smokers (P<0.05). There was also a significant decrease in the mean value of free PSA of smokers compared with the control group (p<0.05). Furthermore, the total PSA levels and the ages of test subjects showed a significant positive correlation value of r = 0.91, while a positive correlation value of 0.75 was obtained between the Free PSA levels and the ages of the test group

**Conclusion:** Although the above findings suggest a reduction in prostate cancer risks in cigarette smokers, low levels of prostate specific antigen does not completely exclude the possibility of prostate cancer risk

**Keywords:** Prostate Cancer, Adult Smokers, PSA