# Abstract

**THESIS: Survival Analysis of Prostate Cancer Cases in the Kingdom of Saudi Arabia**

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Prostate cancer is the third leading cancer cases among males in Saudi Arabia. To the best of our knowledge, no survival analysis of prostate cancer cases among Saudi population is found in literature. In order to have a better understanding on prostate cancer with respect to some selected variables such as region, extent, morphology, grade and on survival times of the patients prompted to the study.

In this study we analyzed 2795 prostate cancer cases (with complete information for all subjects) obtained from Saudi Cancer Registry covering the period January 1994 to March 2016. Frequency tables, graphs and some descriptive statistics for the study variables are presented as a part of exploratory analysis. Bi-variate association of status of the patients and prostate cancer grade, extent, region and morphology respectively are performed using Chi-square test. As a part of survival analysis, we applied non-parametric log rank test and parametric Cox proportional hazards (PH) model. Stratified Cox PH model has been considered as the final model based on lowest AIC value.

Almost seventy-five percent of the prostate cancer cases are reported from Riyadh, Makkah and Eastern regions. Distant metastasis and localized consist of more

than eighty percent of the prostate cancer cases in Saudi Arabia. More than half of the patients are diagnosed as cancer patient while they stay at grade III. The portion of the patients diagnosed at early stage is very low. More than ninety-five percent of the patients had Adenocarcinoma. Approximately sixteen percent of the patients died of prostate cancer. Histology of primary cancel cell is the most widely used technique for diagnosis of the disease in Saudi Arabia. Age more than 60 years is the most vulnerable time for occurring prostate cancer in males. Grade, region, extent and morphology are significantly related with status (died or alive) of the patients. City Jazan is significantly different than other cities in Saudi Arabia with respect to hazard of survival. If patients are diagnosed at grades I and II, the probability of surviving can be increased significantly.