

Title: Cervical Cancer: Are there ways to reduce the risks?

Student: Madelyn Dorn

Mentor: Susan Mathews Hardy

History has shown us that when caught early, cervical cancer is curable. Past research has found that the sexually transmitted diseases (STDs), herpes and human papillomavirus (HPV), have been associated with cervical cancer. In contrast, my dataset on 859 women has many more STDs and lifestyle choices compiled on 36 variables. The diagnoses in the dataset are many: cervical condylomatosis, vaginal condylomatosis, vulvo-perineral condylomatosis, syphilis, pelvic inflammatory disease, genital herpes, molluscum contagiosum, acquired immune deficiency syndrome (AIDS), human immunodeficiency virus (HIV), hepatitis B, HPV, and cervical cancer. In addition to the demographic variable on age, there are many lifestyle choice variables: number of sex partners, age of first sexual intercourse, number of pregnancies, smoker/nonsmoker, number of years smoking, packs/year smoked, hormonal contraception use, years of hormonal contraceptive use, intrauterine device (IUD) use, years of IUD use, and number of STDs.

I will be investigating the following questions. Do sexual diseases predict cervical cancer? Does the number of years of IUD use, or the use of an IUD, predict cervical cancer? Does the number of years of smoking, or number packs smoked per year, predict cervical cancer? Does the length of time using hormonal contraceptives predict cervical cancer? Does having greater than 3 pregnancies predict cervical cancer? Are older or younger women more prone to cervical cancer? These questions are analyzed with parametric and nonparametric hypothesis tests, with post hoc comparisons as needed. Graphical displays including scatter plots, correlation plots, and stratified boxplots will be used to convey the findings. Verifying previous findings, as well as finding my own, improves understanding of cervical cancer that may result in expediting diagnoses and increasing survival rates.

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