Cervical Cancer Disparities Within the United States
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Abstract

BACKGROUND: An estimated 14,000 cases and 4,300 deaths were attributed to cervical cancer in 2020. Despite the increased rates of screenings, high rates of mortality persist in certain communities, due to racial and socioeconomic disparities.

OBJECTIVE: To examine the relationship/association between age, race, screening (HPV and Pap tests), and access to healthcare in the United States.

METHODS: The data used in this study was extracted from the NIH's Data Browser pool of 192,000 participants, and 437,436 cases from the CDC’s 2018 Behavioral Risk Factor Surveillance System (BRFSS). Descriptive and explanatory statistics using frequency and chi-square/fisher’s exact tests were performed for analysis using SAS-software. The data was stratified by age groups (18-44, 45-54, 55-64 and 65 and older), race (Blacks, Whites and other races), screening, and access to healthcare.

RESULTS: 600 participants from the NIH’s Data Browser survey responded to having a malignant tumor of the cervix. 227 participants from the CDC’s BRFSS reported having cervical cancer. The analysis showed that 89% of those who did not have access to healthcare were women, 21.6% between the ages 50-59, 33.1% of women 50-59 responding to having a malignant tumor of the cervix. Black women 55-64 years old were not significantly diagnosed with cervical cancer (46.2%). 100% of women 65 years and older didn’t know/ were not sure whether they had health insurance. There was a significant difference in access to health insurance stratified by the four age groups, with a p-value of < 0.0001. Women 65 years and older were more likely to receive their HPV test (29%). There was not a significant difference between women who had their Pap test and those who had not. Women 18-44 years old were significantly more likely to receive their HPV test (39%) with a p-value of <0.0001.

CONCLUSION: There were more cases of cervical cancer present in both sets of analysis in the Black women 50-64 years of age. Increasing awareness, access, and preventative methods is imperative in decreasing the rates of cervical cancer.

Introduction

It was projected that in 2020 there were almost 14,000 cases and 4,300 deaths as a result of invasive cervical cancer. Cervical cancer is frequently diagnosed between the ages 35 to 44, with the average age of diagnosis being 50. The rates of diagnosis are decreased in women younger than 65 who receive regular screening tests, which have been integral in decreasing its prevalence in the United States. Despite declines in the United States, disparities such as race and socioeconomic status account for a significant burden.

Results

The data used in this study was extracted from the National Institute of Health’s Data Browser and the CDC’s Behavioral Risk Factor Surveillance System (BRFSS). Two surveys were used from the Data Browser: the first was comprised of 192,000 participants, and the second was comprised of 98,940. The results of the 2018 Behavioral Risk Factor Surveillance System (BRFSS) of the CDC were obtained from a pool of 437,436 cases.

Descriptive and explanatory statistics using frequency distributions, chi-square, and Fisher’s exact tests were performed for analysis using SAS-software to examine association. The first set of data was stratified by age groups (18-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89, and 89 years and older). The second set of data was stratified by age groups (18-44, 45-54, 55-64, and 65 and older). All p-values were two-sided with a significance of p<0.05. Calculated statistics were presented using Microsoft Excel functions.

Discussion/Conclusion

• The healthcare data provided from the NIH’s Data Browser couldn’t be linked to those with cervical cancer due to the lack of information available.
• It is recommended that this preliminary study be completed again with access to the NIH’s WorkBench in order to increase the number of participants as well as demographic and socioeconomic information. In the future, the researcher hopes to obtain this access and further analyze the data as well as include data regarding HIV and its co-infection relationship with cervical cancer.
• It is recommended that women receive their HPV vaccine in order to virtually eliminate the possibility of developing cervical cancer.
• In conclusion, there were more cases of cervical cancer present from the analysis of both systems in Black women between the ages 50-64 years of age. This is consistent with the average age of diagnosis and strengthens the importance of increased prevention methods being used in those in younger age groups.

References


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