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Background and Specific Aims

Results from previous studies have shown that American Indians (AI) with cancer have poor survival compared to other populations. However, few reports have characterized temporal changes in survival among AI populations. The purpose of this research was to analyze data from population-based New Mexico Tumor Registry (NMTR) to characterize trends in cancer survival in AI and Non-Hispanic Whites (NHW) in the southwestern U.S.

The specific aim of this study was to observe and compare cancer cause-specific survival rates between AI and NHW diagnosed in 1990-1994 and 2000-2004.

H1: Survival rates will show improvement over time for both AI and NHW.

H2: AI have poorer survivorship from cancer than NHW.

Methods

• We examined incident cases of female breast, prostate, colorectal, lung, and cervical cancer from the NMTR.
• Sample included all NHW and AI from New Mexico, and AI from Arizona.
• We compared survival from 1990-1994 and 2000-2004

Analysis

• Kaplan Meier Product-Limit Estimation
• Cox Proportional Hazards Model
• Controlled for stage at diagnosis, age, urban or rural residency, time period of diagnosis, sex

Demographic Characteristics

<table>
<thead>
<tr>
<th>Age ≤ 64 Year of Diagnosis</th>
<th>Female Breast AI (n=516) NHW (n=5626)</th>
<th>Prostate Gland AI (n=509) NHW (n=7650)</th>
<th>Lung and Bronchus AI (n=195) NHW (n=3992)</th>
<th>Colon and Rectum AI (n=418) NHW (n=3519)</th>
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<tbody>
<tr>
<td>1990-1994 Urban</td>
<td>36 45</td>
<td>45 50</td>
<td>34 47</td>
<td>36 46</td>
</tr>
<tr>
<td>2000-2004 Urban</td>
<td>64 55</td>
<td>55 50</td>
<td>66 53</td>
<td>64 54</td>
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<td>27 47</td>
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<td>34 35</td>
<td>26 39</td>
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<tr>
<td>Residency Stage at Diagnosis</td>
<td>Local stage AI (n=56) NHW (n=66)</td>
<td>Regional/Dis Unknown AI (n=34) NHW (n=34)</td>
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<td>21 21</td>
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Results

Figure 1

H1: Survival rates will show improvement over time for both AI and NHW

Prostate: significant change showing improvement over time (HR=0.49, 95% CI =0.3,0.8)
Breast, Lung, Colon, Cervix: Trend to better survival in later time period but not statistically significant.

Figure 2

H2: AI have poorer survivorship from cancer than NHW.

Prostate: AI are 73% more likely to die from their prostate cancer (HR = 1.73, 95% CI = 1.4,2.2)
Breast: AI are 31% more likely to die from their breast cancer (HR = 1.31, 95% CI = 1.1, 1.6)
Lung and Colon: No change in survival
Cervix: Trending to poorer survival but not statistically significant.

Discussion

• Prostate cancer data periods reflect the peak and subsequent decrease in diagnoses after PSA test introduction
• Need to look at differences in stage at diagnosis between AI and NHW
• Hoping to see more improvement in outcomes for AI in comparison to earlier analyses

Conclusion

• Screenable cancer outcomes have improved over time, although not always statistically significant
• Cancer survival disparities continue to persist in Southwestern AI

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