Racial and Ethnic Disparities in Breast Cancer Patients: A Literature Review of Time to Treatment (TTT)
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Background
Advancements in the diagnosis and treatment of breast cancer have resulted in earlier stages of diagnosis & increased survival over the past several decades. Racial & ethnic disparities influence breast cancer outcomes including time to treatment.

Delays in time from diagnosis to treatment has emerged as a factor that can explain disparities between racial & ethnic groups.

Purpose
To identify and summarize existing research on racial and ethnic disparities in time to breast cancer treatment to identify groups for targeted intervention.

Methods

**TTT Definition**
- Defined as time from diagnosis to first treatment in days
- More than 30 days is considered longer TTT or delay in treatment

**Commonly Used Racial/Ethnic Groups**
- White, Black, Hispanic, Asian & Other Pacific Islander (API), & American Indian & Alaskan Native (AIAN)
- White population is reference group

Phase 1
- MD Anderson Librarian conducted initial literature search using predefined keywords
- Search resulted in 120 articles (Figure 1)

Phase 2
- Titles and abstracts were read to identify literature up for final review
- First review resulted in 48 articles (Figure 1)

Phase 3
- Articles were read in full to confirm relevance
- Second review resulted in 37 articles (Figure 1)

Methods (continued)

Inclusion Criteria: focus on delays in breast cancer time to treatment & disparity by Race/Ethnicity. Peer-reviewed & published in last 15 years (2007-2021). Published in English & conducted in United States

Studies identified through database search of Medline, Cinahl, Pubmed, Web of Science, and Scopus (N = 103)

**Table 1. Data Extraction Sample**

<table>
<thead>
<tr>
<th>First Author Name (Last Name)</th>
<th>Publication Year</th>
<th>Study Design</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ziveri</td>
<td>2022</td>
<td>Retrospective Cohort</td>
<td>To explore whether receiving care at a comprehensive breast cancer center…</td>
</tr>
<tr>
<td>Babatunde</td>
<td>2022</td>
<td>Retrospective Cohort</td>
<td>To assess factors related to delays…</td>
</tr>
</tbody>
</table>

**Table 2. Representation of Race/ethnic groups among included studies (N=37)**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>N (%) of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>36 (97%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17 (46%)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>13 (35%)</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>2 (5%)</td>
</tr>
<tr>
<td>Other race/ethnicity</td>
<td>15 (40%)</td>
</tr>
</tbody>
</table>

**Table 3. Frequency of TTT Findings by Aggregated & Disaggregated Racial/Ethnic Groups (N=37)**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Longer TTT</th>
<th>Shorter TTT</th>
<th>No Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>34</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Hispanic*</td>
<td>12</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Asian/Pacific Islander*</td>
<td>6</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**API Disaggregated**
- Asian Indian or Pakistani & Chinese
- Pacific Islander
- Hispanic Disaggregated
- H-White & H-Black
- Mexican & South or Central American

**Table 4. Key Findings**

<table>
<thead>
<tr>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment interval was significantly shorter in White patients (33 days, IQR 24–44) compared with Black (47 days, IQR 34–70), Hispanic (45 days, IQR 32–63), Asian (42, IQR 29–59)…</td>
</tr>
<tr>
<td>White women, on average, received adjuvant hormone therapy, surgery, chemotherapy, and radiotherapy 25, 8, 7, and 5 days later…</td>
</tr>
</tbody>
</table>

Discussion
Most studies showed that Black patients were more likely to experience longer time from diagnosis to breast cancer treatment compared to other groups, which may contribute to poorer breast cancer outcomes & worse overall survival.

Future investigations should shift their focus from the commonly used broad racial & ethnic groups, disaggregating such categories into smaller & more specific groups.

More work is needed to ensure equitable & timely access to treatment among all racial and ethnic groups.

Responsible Conduct of Research

The literature review followed PRISMA protocol, and no IRB approval was required.

Due to small sample size of certain racial/ethnic groups, some authors added those groups into an “other” category or did not include them at all, which may limit interpretation of results.

Two independent researchers screened and reviewed all studies, resolving areas of disagreement by consensus.

Studies were assessed for quality including evaluation of limitations, data availability & small numbers.

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References