Cardiovascular Comorbidity in Women with Bipolar Disorder

Mehak Pahwa,1,2 Mehmet U. Kucuker,1 Man Choi Ho,1 Ajeng Puspitasari,1 Katherine M. Moore,1 Hannah K. Betcher,1 Mark A. Frye,1 Balwinder Singh,1 Aysegul Ozerdem,1 Marin Veldic1 Departments of Psychiatry & Psychology, Mayo Clinic, Rochester, MN USA; Department of Psychiatry, University of Louisville2, KY (Currently working)

Learning Objectives

1. To study the cardiovascular diseases (CVD)/CVD risk factors in women with BD and women in general population.
2. To compare the CVD/CVD risk factors in women with BD to men with BD and women in general population.

Methods

A comprehensive search of electronic databases including PubMed, PsycINFO, Embase, and SCOPUS was conducted. The eligibility criteria included Case-control, Cohort Cross-sectional/Retrospective/Prospective Observational studies in English with gender data among BD patients. A total of 32 studies were identified in the literature that investigated the sex differences and the relationship between CVD/CVD risk factors and BD studies were included in this review.

Results

- Five large sample population studies have reported higher risk for CVD and mortality due to CVD in the BD group as compared to the general population.
- Women with BD were reported to be at higher risk of developing MI at early age, other CVD like hypertension, and higher mortality due to CVD events as compared to the women in the general population.
- The risk of CV events and mortality was comparable among men with BD in majority of the studies.
- A small retrospective study underscored twice the prevalence of CVD risk factors in BD females in comparison to general population.
- A higher risk of MI at an earlier age for women with BD has been reported in comparison to women in general population.
- Also, a correlation among obesity, metabolic syndrome, and CVD has been undergone in women with BD.

Background

Bipolar Disorder (BD) is a chronic psychiatric disorder with almost equal sex distribution for BD-I and female predominance for BD-II. Patients with BD have a high medical comorbidity burden (50-60%). CVD have been reported as the most common medical comorbidity in BD with rates reaching 30%.1,2 Despite well-documented sex differences in CVD in general population, data on sex differences in BD patients with comorbid CVD is scarce. In this systematic review, we aimed to study the CVD comorbidity in women versus men and in comparison, to women in general population.

Characteristics of studies on Cardiovascular Diseases in Women with BD

<table>
<thead>
<tr>
<th>Reference</th>
<th>Study Description</th>
<th>Female Bipolar N (Total BD)</th>
<th>Finding/result</th>
</tr>
</thead>
<tbody>
<tr>
<td>varied</td>
<td>design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>sample size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>follow up duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>major outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>follow up duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>major outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>follow up duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>major outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>follow up duration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>varying</td>
<td>major outcome</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

- In the BD population, the risk of CVD in women is comparable to men.
- The risk of CVD is much higher in BD women in comparison to women in general population.
- There is also a younger age of onset of CVD/MI in premenopausal women with BD in comparison to general population.
- The findings can be pointed at attenuated estrogen protective mechanism in women-with-BD, thus predisposing them to an early onset of CVD.

References