**Introduction**

- Vestibulodynia is the most common form of chronic vulvovaginal pain affecting nearly 1 in 10 women at some point in their lifetime.
- The diagnosis of vestibulodynia is diagnosis of “exclusion” in that it is rendered only after excluding other “known causes” of persistent pain upon genital contact (i.e. tampon use) and tenderness to pressure localized within the vulvar mucosa (vestibulodynia) and the etiology and natural history of vestibulodynia remains poorly understood.
- An emerging body of evidence supports the notion of vestibulodynia as a complex pain disorder of urogenital region.
- Women with vestibulodynia have higher pain sensitivity on mucosal contact in non-genital sites.
- Also, these women have a higher prevalence of psychological distress, such as somatization and anxiety.
- These observations suggest that women with vestibulodynia may have an alteration in processing pain pathways similar to that seen in other pain disorders.
- We hypothesize that vestibulodynia is a group of disorders characterized by dysfunctions in the vestibular mucosa (i.e., heightened inflammatory response) and central pain processing pathways.
- In previous work, we identified a potential role for vestibulodynia in psychological characteristics.
- Psychological characteristics, self-reported pain, and signs and symptoms of OFP.
- Co-morbid OFP was highly prevalent in our cohort of vestibulodynia patients.
- The objective of this study is to examine the stability of OFP symptoms two years after the initial examination while investigating the reliability of our baseline observations on the clinical correlates of comorbid OFP.

**Methods**

- This retrospective cohort study was conducted between July 20, 2006, and January 2, 2007, two years after the previous parent study.
- The analysis included 71 out of 137 women in the parent study who consented to participate in the follow-up study.
- Each participant completed all questionnaires that were administered in the parent study, which included assessments for psychological characteristics, self-reported pain, and signs and symptoms of OFP.
- Each subject was classified as having OFP, sub-clinical OFP, or no OFP.

**Table 1: Characteristics of Study Participants**

<table>
<thead>
<tr>
<th>Patient Characteristics</th>
<th>No OFP</th>
<th>Sub-clinical OFP</th>
<th>Clinical OFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>23.2 ± 7.2</td>
<td>27.6 ± 5.3</td>
<td>24.1 ± 3.5</td>
</tr>
<tr>
<td>VVS Classification</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Primary</td>
<td>3.5 (0.3)</td>
<td>3.5 (0.3)</td>
<td>3.5 (0.3)</td>
</tr>
<tr>
<td>Secondary</td>
<td>15 (62.5)</td>
<td>17 (72.7)</td>
<td>15 (62.5)</td>
</tr>
<tr>
<td>GSI</td>
<td>1.1 (1.7)</td>
<td>1.0 (1.0)</td>
<td>1.0 (1.0)</td>
</tr>
<tr>
<td>Work</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>College education</td>
<td>68 (28%)</td>
<td>39 (16.9%)</td>
<td>29 (12%)</td>
</tr>
<tr>
<td>Alcohol consumption</td>
<td>22</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>Naloxone</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Married</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Intercourse related pain</td>
<td>24</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>Pain at intercourse</td>
<td>26.8± 6.2</td>
<td>23.8± 6.7</td>
<td>23.5± 6.7</td>
</tr>
<tr>
<td>Average</td>
<td>36± 12.5</td>
<td>33± 12.0</td>
<td>33± 12.3</td>
</tr>
<tr>
<td>High</td>
<td>51± 23.7</td>
<td>60± 23.7</td>
<td>54± 23.7</td>
</tr>
</tbody>
</table>

**Results**

- Fisher’s exact test was used to determine if there were differences in categorical patient characteristics amongst the OFP classifications, and ANOVA was used for numeric patient characteristics.
- Differences in psychological characteristics amongst the OFP classifications were identified using ANOVA and subgroup differences were identified after making appropriate adjustments for multiple comparisons.
- 66% (n=47) of the participants had signs and symptoms suggestive of idiopathic pain conditions in the orofacial region.
- Of those, 49% (n=23) were classified as having sub-clinical OFP and 51% (n=24) were classified as having OFP.
- No significant differences in demographics were observed among the subgroups, which was consistent with our earlier results. In general, participants were highly educated, Caucasian women in their early to mid-thirties.
- As in our earlier report, we observed robust differences in psychological characteristics among the subgroups (Table 2).
- Compared to OFP-free patients with vestibulodynia, those with co-morbid OFP had significantly higher levels of anxiety (Spielberger State-Trait Anxiety Inventory) and somatization (Pernebacker Inventory of Limbic Languidness).
- Statistical test: Friedman test.
- Pain among women with vestibulodynia:
  - Seventy-three percent of OFP-free (11/15) patients at baseline remained free of symptoms, whereas only 41% (9/22) and 53% (18/34) of vestibulodynia patients with subclinical and clinical OFP stayed within their respective category.
  - Forty-three percent of vestibulodynia patients with OFP symptoms at baseline showed reduced OFP symptoms at two-year follow-up (11.5±8) (22/34).
  - However, 13% of vestibulodynia patients either developed new symptoms (n=4, 6%) or transitioned from subclinical to clinical OFP (n=5, 7%) classification by the time of the follow-up study.
  - Of the 10 women who agreed to undergo a physical exam, 2 were diagnosed as healthy controls, 5 were diagnosed with temporomandibular disorder (TMD), 1 was diagnosed with fibromyalgia, and 3 did not complete the examination after being scheduled due to scheduling conflicts.

**Conclusions**

- In our cohort, approximately 70% of women with vestibulodynia had contemporaneous symptoms of orofacial pain.
- The rates of co-morbidity with OFP in our cohort approximates that of reported literature on TMD, which has a 5-year remission or improvement rate of 49% and 23%, respectively.
- 43% of our cohort with OFP at baseline showed either improvement in symptoms (20%) or were OFP-free (33%). This trajectory of improvement at 5 years is consistent with previous literature.
- Our data suggests that processes leading to higher levels of psychological distress (consistently prevalent among those with co-morbid OFP) in vestibulodynia patients may be more complex, above and beyond mere psychosocial conceptualization of this disorder.
- Associations between certain psychological traits and signs/symptoms of OFP among women with vestibulodynia suggest that an inherent susceptibility may permit or even precede the development of vestibulodynia in certain women.
- While our results are interesting, it is important to highlight that our study population primarily consists of the severe end of the spectrum of patients with vestibulodynia seen in a tertiary referral setting and may not be generalizable.
- This follow-up study confirms our baseline observation in support of vestibulodynia as an idiopathic pain disorder which seems to be highly co-morbid with TMD.

**Bibliography**