Objective: Male fertility is affected by a variety of occupational and environmental factors, as well as life style habits that include tobacco consumption. A large population of Indian men is addicted to tobacco chewing. The objective of our study was to assess the relationship between plain tobacco chewing and semen characteristics of the male partners of infertile couples.

Design: Retrospective study.

Materials and Methods: Data was collected from 640 male patients undergoing infertility evaluation from November 1998 to December 2003. All subjects included in our study were in the age range of 18 - 40 years, had a history of tobacco chewing for 4 - 10 years, and no history of other relevant social habits. Patients were grouped according to the frequency of their habit of tobacco chewing as: mild (< 3 times/day, n = 180), moderate (> 6 times/day, n = 263), and severe (> 18 times/ day, n = 197). Semen parameters were assessed according to WHO (1999) criteria.

Results: Sperm count, percentage motility, morphology and percentage vitality were significantly higher in mild group compared to moderate, and in the moderate compared to the severely addicted group ($P < 0.0001$ in all comparisons). The percentage of azoospermia observed in the 3 groups was, 1%, 3%, and 14% respectively indicating a highly significant increase in prevalence in the severely addicted group ($P < 0.001$). Similarly, the incidence of oligoasthenoteratozoospermia (OAT) showed an increasing trend from mild (2%) to moderate (8%) to severe addiction (25%). The incidence of OAT was highly significant in the severely addicted group as compared to mild and moderate users ($P < 0.001$). No significant changes in semen parameters were observed in men with mild habit compared to normal standard values of WHO. Median, and interquartile range (25th, 75th percentiles) of sperm count, percentage motility, morphology and percentage vitality in all 3 groups are illustrated in Table 1.

Conclusion: The decrease in semen quality (sperm count, motility, morphology and vitality) in infertile male patients is strongly associated with tobacco chewing habit. Oligoasthenozoospermia or azoospermia was more prevalent in men severely addicted to tobacco chewing. Infertile men should be counseled about the adverse effects of tobacco.
chewing on their semen quality. The decrease in semen quality may be due to effects of tobacco on spermatogenesis, however, further studies are needed to substantiate its exact mode of action.

Support: None

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mild group (n = 180)</th>
<th>Moderate group (n = 263)</th>
<th>Severe group (n = 263)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sperm count (10^6/mL)</td>
<td>66.78 (39.78, 101.61)</td>
<td>43.83 (27.54, 66.54)</td>
<td>26.5 (7.65, 37.5)</td>
</tr>
<tr>
<td>Motility (%)</td>
<td>60 (56, 65.5)</td>
<td>58 (54.63)</td>
<td>56 (40, 61)</td>
</tr>
<tr>
<td>Morphology (%)</td>
<td>33 (25, 43)</td>
<td>26 (20, 32)</td>
<td>20 (10, 25)</td>
</tr>
<tr>
<td>Vitality (%)</td>
<td>64 (59.5, 68)</td>
<td>60 (55.75, 66)</td>
<td>58 (42, 63)</td>
</tr>
</tbody>
</table>

Values expressed as median and interquartile range (25th, 75th percentiles)

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  I Agree: True

Status: Complete