A review of therapy techniques to feminize the voice of male-to-female transgender individuals

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Introduction

One of the greatest obstacles that male-to-female (MTF) transgender individuals face in being perceived as female is their voice. The voice is one of the few changes that transgender MTFs cannot change with surgery or hormones. The best option to achieve the perception of a more feminine voice is through receiving voice therapy.

Purpose

PICO Question

The purpose of this study was to determine whether raising fundamental frequency in combination with other speech strategies (I) results in the perception of a more feminine voice (O) in male-to-female transgender individuals (P) than when fundamental frequency is the only strategy utilized (C).

Clinical Scenario

- I am a speech language pathology graduate student at the University of Nevada, Reno and I anticipate that I will work with clients who are transgender in the future.
- I have learned from previous coursework that transgender voice clients are more likely to be male-to-female because estrogen supplements do not have an effect on the biologically male larynx.
- The most common type of voice therapy focuses on raising fundamental frequency, however many transgender male-to-female individuals have reported that their voice is still perceived as male post therapy.
- I would like to know what are the most effective voice therapy technique(s) for increasing the perception of a feminine voice.

References


Methods

- **Search Terms:** Transgender voice therapy, transgender speech, and transgender feminine.
- **Databases:** PubMed and ScienceDirect; thirty articles were found.
- **Validity:** Critical Appraisal of Treatment Evidence (CATE) form was used to appraise validity and clinical significance for ten articles.
- **Reliability:** Four articles were chosen to make an evidence based practice decision and each study had interrater reliability of at least 95%.

Results

<table>
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<tr>
<th>Authors &amp; Research Design</th>
<th>Validity &amp; Importance</th>
<th>Purpose</th>
<th>Participants</th>
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<td>Borsel, Janssens, &amp; De Bodt (2009)</td>
<td>Compelling</td>
<td>To investigate the effect that breathiness, as a quality of speech, has on the perception of a feminine voice in transgender male-to-females as compared to raising fundamental frequency alone.</td>
<td>N = 12 Age: 21-60 (mean 27.7) Biologically Female</td>
<td>• Experiment 1: The breathy samples always received higher femininity scores than their corresponding normal samples. Statistical analysis using Wilcoxon signed rank test showed that the difference was significant (p = 2.371, p = 0.018)</td>
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<td>Carew, Dacakis, &amp; Oبن (2007)</td>
<td>Suggestive</td>
<td>To determine if oral resonance therapy may be an effective treatment increasing femininity of voice in male-to-female transgender clients.</td>
<td>N = 10 Age: 25-64 (mean 40) Transgender male-to-female</td>
<td>• All participants saw gains in vowel formant frequency post-treatment (F1: p = 0.02; F2: p = 0.01; F3: p = 0.013)</td>
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| Gelfer, & Bennett (2012) | Multisal Experimental Study | Suggestive | To investigate the contribution of vowel formant frequencies to gender identification in connected speech, the distinctiveness of vowel formants in males versus females, and how ambiguous speaking fundamental frequencies (SFFs) and vowel formants might affect perception of gender. | N = 30 Age: 20-35 Biologically Male (N=15) Biologically Female (N=15) | • The correlation between the perception of gender and each vowel formant was statistically significant (p = 0.0038) • Correlation coefficients (r) varied between -0.569 and -0.586. • The higher the percentage of “perceived male” judgments, the lower the average formant frequency of /n/ and /a/.
| Hancock & Olszewski (2011) | Compelling | To determine how intonation relates to gender perception of transgender speakers in connected speech. | N = 44 Age: Not specified Biologically Male: (N=12) Biologically Female: (N=12) Transgender male-to-female: (N=14) Transgender female-to-male: (N=6) | • Kruskal-Wallis test revealed statistically significant differences in femininity ratings across the four gender groups, χ² (4, n = 44) = 34.208, p = 0.000. The female group had the highest median score (Md = 870), followed by MTF (Md = 446), FTm (Md = 225), and male groups (Md = 59). • Mann-Whitney U post hoc tests with Bonferroni adjustment (alpha = 0.008) show that the femininity rating was significantly higher for the females compared with the males (U = 0.000, Z = −4.157, p = 0.000), MTf (U = 0.000, Z = −3.372, p = 0.000), and MTFs (U = 5.5, Z = −4.038, p = 0.000). • The males were also significantly lower than the MTF (U = 5, Z = −4.063, p = 0.000) but not different from the FTMs (U = 15, Z = −1.967, p = 0.049). • The FT group was not statistically different from the MTF group (U = 15, Z = −1.897, p = 0.058). |

Discussion

- A multi-therapy approach to voice therapy for male-to-female transgender individuals may be more effective in achieving a more feminine voice than raising fundamental frequency alone.
- Although all tests showed increased perception of feminine voice the MTF voice was still distinguishable from the biologically female voice.
- More research is needed, and more therapy techniques need to be developed, as no one therapy approach or combination of approaches has been found to successfully achieve the perception of a female voice at this point in time.