

The year in review Voice and Communication

Maria Södersten, SLP, PhD, Adjunct professor

Division of Speech and Language Pathology, Dept of Clinical Science, Intervention
and Technology, Karolinska Institutet

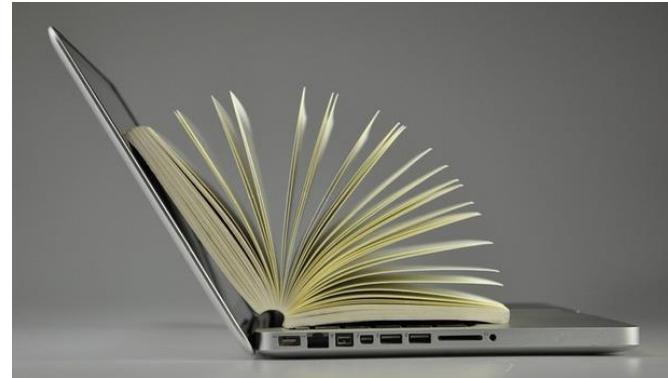
and

Functional Area Speech and Language Pathology, Karolinska University Hospital,
Stockholm, Sweden

The 3rd EPATH conference, April 11-13 in Rome

Content

- Database search
 - Exclusion and inclusion criteria
 - Types of studies
 - Countries
- Some results
- Conclusion
- Future needs



Databases

- Pubmed
- Web of Science
- CINAHL

Two combined blocks of terms and MeSH terms were used.

- i. words related to “**transgender**” and
- ii. the words “**voice**, “**speech**” and “**communication**”.

The search was limited to the period 2017 - March 2019.

First broad search **177** articles found

↓
Excluded 105

(not relevant or not in English or duplicates)

↓
72

32 publications, not research studies

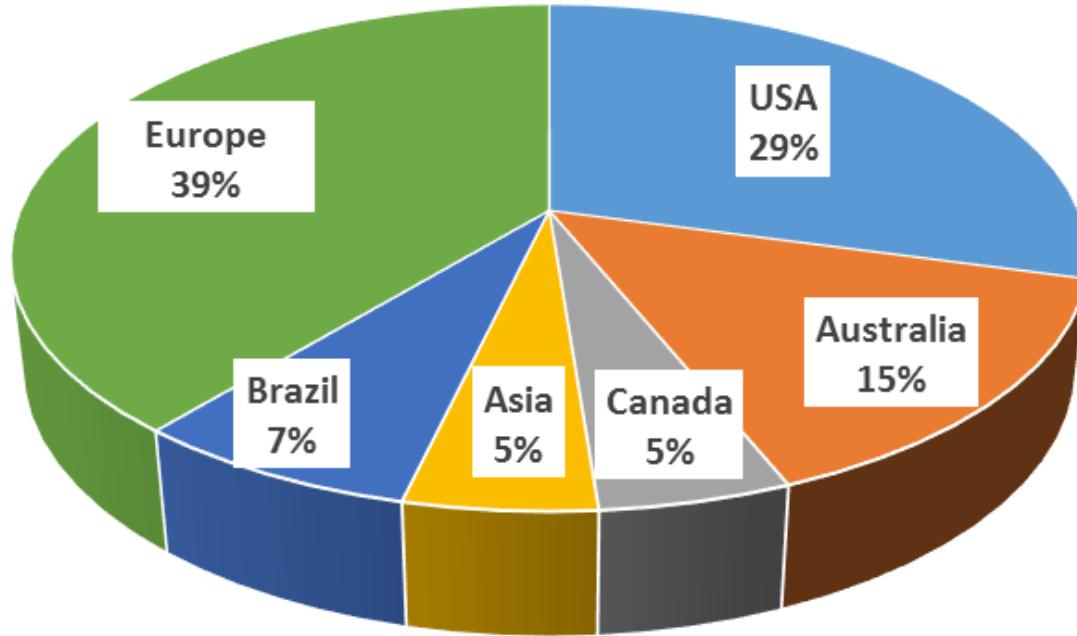
but important and relevant e.g.,

- Developments and innovations in clinical practice or in university programs
- Standards of care and treatment guidelines for transgender and gender diverse adults, children and adolescents.
- Voice technique methods – pedagogical programs

40 studies

- 26 Assigned Male at Birth (AMAB)
Feminizing voice therapy
Pitch raising surgery
- 7 Assigned Female at Birth (AFAB)
- 7 Other (Basic research, linguistics)

Distribution of the 40 studies



Focus in the review

- Effectiveness of **feminizing voice therapy and pitch raising surgery** in persons AMAB
- **Voice function** in persons AFAB
- Transsexual voice questionnaire TVQ^{MtF}

Types of studies - Assigned Male at Birth (AMAB)

2 Systematic reviews: Effectiveness of voice therapy

- 1 Case study: Efficacy of intensive voice therapy
- 2 Evaluation of methods/techniques for feminizing the voice
- 3 Methodology: Listening and acoustic evaluations
- 1 ICF-perspective
- 6 Outcomes of pitch raising surgery (retrospective studies).

3 Review: Efficacy of pitch raising surgery

- 2 Pitch raising surgery with or without post operative voice therapy?
- 1 Chondroplasty

5 Methodology: Development of Questionnaires (TVQ^{MtF})

Review

Oates J. (2018) **Voice and communication review.** Oral Presentation at 25th WPATH Symposium, 5 November 2018, Argentina.

Review based on the Joanna Briggs Institute Levels of Evidence

Of 29 articles on voice training in trans women published between 1977 - 2017, **7** provided evidence from systematic design. No RCTs.

Nolan et al (2019). **The role of Voice therapy and phonosurgery in transgender vocal feminization.**

A systematic review was performed using PubMed, Cinahl Plus, Ovid SP, Web of Science, Science Direct, and Google Scholar. *J Craniofac Surg.*

212 studies - 20 met inclusion criteria.

How effective is voice training for trans women?

- Overall, **moderately strong evidence** for effectiveness of behavioural voice training
- Limitations e.g,
 - Small sample sizes,
 - Lack of control groups,
 - Varied amounts and schedules of training,
 - Inconsistent use of voice outcome measures,
 - Lack of long-term follow-up
 - Effect sizes and confidence intervals not reported
- Unclear which voice intervention methods are most effective
- Prognostic indicators of successful intervention are lacking

(Oates 2018)

Effectiveness of pitch-raising feminisation surgery

3 systematic reviews 2017:

- No RCTs. Mainly retrospective studies or pre-post designs
- 5-20 studies reviewed with ~ 500 patients
- Limitations related to research design, heterogeneity of participants, different surgical methods and voice assessment methods, different times for follow-up
- Results – not clear which one is the best surgical technique.

Schwarz et al. **Laryngeal surgical treatment in transgender women: A systematic review and meta-analysis.** *Laryngoscope*, 2017 127(11):2596-2603

Song, Jiang. **Transgender Phonosurgery: A systematic review and meta-analysis.** *Otolaryngol Head Neck Surg*, 2017; 156(5):803-808

Van Damme, Cosyns, Deman, Van den Eede, Van Borsel. **The effectiveness of pitch-raising surgery in male-to-female transsexuals: A systematic review.** *J Voice* 2017 31(2):244.e1-244.e5

2 studies comparing results after CTA and GP

Mora, Cobeta, Becerra, Lucio. **Comparison of cricothyroid approximation and glottoplasty for surgical voice feminization in male-to-female transsexuals.** *Laryngoscope* 2018, 128 (9)2101-2109.

Retrospective: n=28 CTA + 23 GP, long term follow up (1-4 years)

Kelly, Hertegård, Eriksson, Nygren, Södersten. **Effects of gender-confirming pitch-raising surgery in transgender women a long-term Follow-up study of acoustic and patient-reported data.** *J Voice*, 2018

Retrospective: n=11 CTA + 13 GP, long term follow up (1 year)

Both studies used the same assessments when evaluating the results after CTA and GP (acoustic analyses, listening tests, patients subjective evaluations). Possible to compare the results.

Conclusions

- Both surgical methods (CTA and GP) have advantages and disadvantages.
- Both CTA and GP are useful to raise f_0 (=speaking pitch) also in a long term. This was also found by Schwarz et al 2017; Van Damme 2017; Song Yang, 2017.
- Dysphonia (roughness) is more likely to appear as a postoperative complication after GP (Moro et al 2018) also found in the three reviews.
- The very restricted speaking and physiological frequency ranges, which do not favor an optimal female voice were mainly found after the irreversible CTA (Kelly et al 2018).
- Therefore, when deciding on pitch-raising surgical techniques it is important to assess the **individual's** expectations and needs and provide thorough **preoperative information** and counseling based on the advantages and disadvantages of both procedures.
(Moro et al 2018, Kelly et al 2018)

Is voice therapy needed after pitch raising surgery?

The Role of Voice Therapy and Phonosurgery in Transgender Vocal Feminization

Ian T. Nolan, BM,* Shane D. Morrison, MD, MS,[†] Omotayo Arowojolu, MD, PhD,* Christopher S. Crowe, MD,[†] Jonathan P. Massie, MD,[‡] Richard K. Adler, PhD, CCC-SLP,[§] Scott R. Chaiet, MD, MBA,^{||} and David O. Francis, MD, MS^{||}

An Examination of Vocal Tract Acoustics following Wendler's Glottoplasty

Ceki Paltura^a Kürşat Yelken^b

^aOtolaryngology Department, Gaziosmanpaşa Taksim Education and Research Hospital, Istanbul, Turkey;

^bAudiology Department, Faculty of Health Sciences, Uskudar University, Istanbul, Turkey

Voice feminization in male-to-female transgendered clients after Wendler's glottoplasty with vs. without voice therapy support

Juan C. Casado¹ · María J. Rodríguez-Parra² · José A. Adrián³

Postoperative voice therapy may additionally increase F0, stabilize the voice, and create a more female timbre

Voice therapy is recommended as a possible approach to assist patients to achieve a satisfactory feminine voice.

The most favorable success of this type of treatment seems to be associated with the use of voice therapy training after surgery. To our knowledge, these are first published empirical data that clearly support the influence of voice therapy after feminization surgery

5 studies Transsexual voice questionnaire^{MtF*}

- Dacakis, Oates, Douglas. Further Evidence of the **Construct Validity** of the Transsexual Voice Questionnaire TVQ(MtF) Using Principal Components Analysis. *J Voice* 2017;31(2):142-148.
- Dacakis, Oates, Douglas. **Associations** between the Transsexual Voice Questionnaire (TVQ(MtF)) and self-report of voice femininity and acoustic voice measures. *Int J Lang Commun Disord* 2017;52(6):831-838.
- Salm, Hower, Neumann, Ansmann: **Validation** of the German version of Transsexual voice questionnaire for male-to-female transsexuals. *J Voice* 2018
- Mora, Carrillo, Giribet, Becerra, Lucio, Cobeta. Translation, Cultural Adaptation, and Preliminary Evaluation of the **Spanish Version** of the Transgender Voice Questionnaire for Male-to-Female Transsexuals (TVQ (MtF)). *J Voice*, 2017, 32(4):
- Morsomme, Revis, Thomas. Translation, Adaptation, and Preliminary Validation of Dacakis and Davies' "Transsexual Voice Questionnaire (Male to Female)" **in French**. *J Voice* 2018.

*The name of the questionnaire TVQ^{MtF} is problematic according to EPATHs language policy

Types of studies - Assigned Female At Birth (AFAB)

- 1 Meta analysis: Effectiveness of testosterone therapy
- 3 Prospective studies: Effects of testosterone on the voice and self-perceptions
- 2 Well-designed observational studies
- 1 Review: Transmasculine voice function



Effectiveness of testosterone therapy for masculinizing voice in transgender patients: A meta-analytic review

Aaron Ziegler ^a, Travis Henke^a, Jack Wiedrick^b, and Leah B. Helou^c

^aDepartment of Otolaryngology-Head & Neck Surgery, School of Medicine, Oregon Health & Science University, Portland, Oregon, USA;
^bBiostatistics & Design Program, School of Public Health, Oregon Health & Science University, Portland, Oregon, USA; ^cDepartment of Communication Science and Disorders, University of Pittsburgh, Pittsburgh, Pennsylvania, USA

Method: Multiple electronic databases were queried. 19 articles met the inclusion criteria according to PRISMA

Results: A meta-analysis on

- fundamental frequency data showed after 1 year of testosterone therapy: 21% of participants did not achieve cisgender male normative frequencies.
- Incomplete voice-gender congruence and voice problems indicated: 21% and 46% respectively.
- Incomplete satisfaction with voice: 16%

Conclusions: A voice evaluation should occur prior to initiating testosterone therapy and involve counseling on expectations for voice. Transgender patients who pursue voice masculinization may need management from laryngology and speech and language therapy to improve voice-gender congruence, mitigate voice problems, and increase satisfaction with voice.

Do Transmasculine Speakers Present With Gender-Related Voice Problems? Insights From a Participant-Centered Mixed-Methods Study.

Azul D¹, Arnold A², Neuschaefer-Rube C³.

Purpose: to investigate indications of gender-related voice problems in transmasculine speakers

Method: 14 German-speaking transmasculine people, 14 cisfemale and 7 cismale control persons participated. Qualitative content analyses of semistructured interviews, acoustical voice analyses, and an examination of gender attributions to voice.

Results: 11 of 14 participants (79%) presented with indications of gender-related voice problems. Problems included dissatisfaction with gender-related voice features, difficulties with control of vocal gender presentation, and mismatch between desired gender attribution and gender attributions received from others. Discrepancies between participant self-evaluations and researcher-led examinations were observed in a number of cases.

Conclusion: Research and clinical practice with transmasculine people need to be adapted to better match the diversity of the population and the complexity of the processes that shape the production of speaker vocal gender in interaction.

Transmasculine People's Voice Function: A Review of the Currently Available Evidence.

Azul D¹, Nygren U², Södersten M², Neuschaefer-Rube C³.

Purpose: Investigate aspects of transmasculine people's vocal situations that are not primarily gender-related.

Methods: Review from 6 electronic databases and bibliographies of relevant articles, 22 publications met inclusion criteria.

Results. Limited data available. Some evidence that transmasculine people experience restrictions in voice function, including vocal power, vocal control/stability, glottal function, pitch range/variability, vocal endurance, and voice quality.

Conclusions. More research into the different factors affecting transmasculine people's voice function and considers participants' self-evaluations is needed to establish how functional voice production can be best supported in this population.

ORIGINAL PAPER

Masculine Voices Predict Well-Being in Female-to-Male Transgender Individuals

Social Perception and Cognition Laboratory, Department of Psychology, University of Toronto

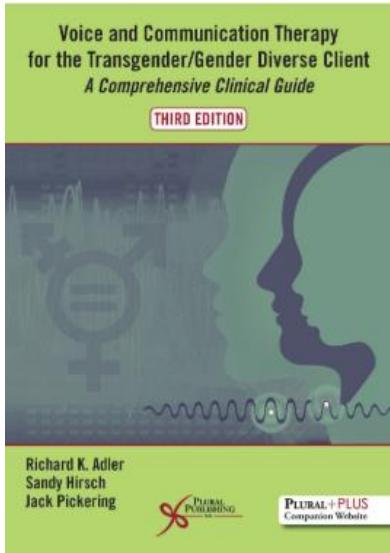
Seth O. Watt¹ · Konstantin O. Tskhay¹ · Nicholas O. Rule¹

Objective: to determine how vocal gender congruence relates to psychological well-being in transmasculine persons (“an FTM sample”).

Results: Transmasculine individuals whose vocal gender better matches their experienced gender enjoy greater well-being along a broad array of measures that go beyond simple satisfaction with their voices

The voice seems to constitute a key component of gender identity and expression for FTMs with far reaching influence in their daily lives and psychological health. Better understanding of the importance of gender congruence, and the role of the voice specifically, in the lives of trans people may therefore help to improve the health and well-being of this population.

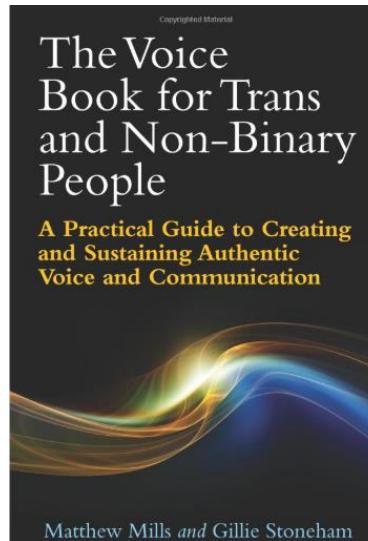
Two new text books



Adler R, Hirsch S, Pickering J.

Voice and Communication Therapy for the transgender /Gender Diverse Client: A Comprehensive Clinical Guide

3rd Ed. Plural Publishing Inc © 2019



Mills M, Stoneham G

The voice book for trans and non-binary people: A practical guide to creating and sustaining authentic voice and communication

Jessica Kingsley publishers © 2017

Conclusions

- Increase in amount of research
- Overall improved use of language according to EPATH's language policy - however, not perfect yet!
- E.g., the name of the questionnaire TVQ^{MtF} is problematic.
- TVQ^{MtF} has been translated to 13 languages: Croatian, Hong Kong Chinese, Danish, Dutch, Finnish, **French**, German, Hebrew, Italian, Portuguese, **Spanish**, Swedish, **Turkish**



Problems with the name TVQ^{MtF}

“The developers of the TVQ^{MtF}, Georgia Dacakis and Shelagh Davies, and their research colleagues acknowledge that the language of the title of the questionnaire needs to change because it is not in line with the terms preferred by many members of the transgender community around the world. They plan to consider a new title for the questionnaire and will seek input from clients, colleagues and the people who have translated the questionnaire into other languages. They look forward to having a new and more appropriate title for the questionnaire in the coming few months.”

<http://www.shelaghdavies.com/questionnaire/questionnaire.html>

Future needs

- Intervention studies (voice feminizing therapy and surgery).
- Persons AFAB - a diverse group - may have voice problems related to voice function as well as to gender identity. More studies needed.
- Larger multi-centre studies with stronger research designs and longer follow-up time
- Reach consensus for minimum standard sets regarding voice assessments for transfeminine, transmasculine, and non-binary people.
- Studies of, not only voice and articulation but, broader aspects of communication related to overall psychological health – more collaboration.
- To include patients when planning studies – patient centered.

Acknowledgement

Henrik Schmidt at the University Library at Karolinska Institutet for help with the bibliometric search.

Maria.sodersten@ki.se