

TRANSGENDER HEALTH

A Proposed Inventory to Assess Changes in Orgasm Function of Transgender Patients Following Gender Affirming Treatments: Pilot Study



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ABSTRACT

Introduction: While providers generally counsel patients about possible effects of gender affirming treatments, such as gender affirming hormone therapy (GAHT) and gender affirming surgery (GAS), on sexual function – the effects of these treatments on orgasm function and quality are not well understood.

Aim: To develop a gender transition orgasm quality inventory based on orgasm function domains transgender patients communicated were important to them.

Methods: We conducted a series of interviews in which we asked transgender patients to describe which factors related to orgasm (ie, orgasm quality and orgasm-related sexual function) were most important to them. This work generated a list of 6 domains which we incorporated into a survey instrument. The 6 domains that our work generated are: (1) Lead-time to reach orgasm, (2) Duration of orgasm, (3) Body location of orgasm sensation; (4) Description of orgasm as either a single or multiple-peak event, (5) Duration of postorgasm refractory period, and (6) Overall satisfaction with orgasm quality. Using this new questionnaire, we queried potential changes in orgasm function before and after commencing GAHT (minimum 1 year) among 130 consecutive transgender women (TW) and 33 transgender men (TM) as a pilot study.

Results: Within groups by gender, TW and TM cohorts reported similar responses to our inventory before starting GAHT. After commencing GAHT, TW reported notable changes in orgasm function: increase in lead-time necessary to reach orgasm, orgasm duration, and overall orgasm satisfaction; and decrease in post-orgasm refractory period. Similarly, TM reported an increase in duration of orgasm and increased overall satisfaction with orgasm quality; and a decrease in post-orgasm refractory period. Over half of the TW reported experiencing orgasms in new/additional body locations. Additionally, prior to commencing GAHT, the majority of TM and TW patients reported their orgasms as a short, single-peak event but following GAHT these same patients reported longer and protracted multiple-peak orgasms.

Conclusion: We have developed a novel questionnaire with the purpose of assessing patient self-reported changes in orgasm function following gender affirming treatments. Findings from our pilot study shows that GAHT has the potential to positively improve sexual function and orgasm quality for transgender patients undergoing gender transition. We encourage future studies to utilize our novel questionnaire to assess potential changes in orgasm function related to various gender affirming procedures. **Zaliznyak M, Lauzon M, Stelmar J, et al. A Proposed Inventory to Assess Changes in Orgasm Function of Transgender Patients Following Gender Affirming Treatments: Pilot Study. Sex Med 2022;10:100510.**

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Key Words: Gender Affirming Hormone Therapy (GAHT); Transgender; Orgasm; Sexual Function

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INTRODUCTION

As societies become more accepting of transgender people worldwide, the number of transgender individuals seeking gender affirming healthcare will continue to grow.¹ The three well-established treatment domains for transgender patients undergoing gender transition are counseling and therapy to help the individual with social transition (full-time life in the gender role they identify with), gender affirming hormone therapy (GAHT), and genital gender affirming surgery (gGAS), which have been shown to significantly improve quality of life.^{2–5} The World Professional Association for Transgender Health Standards of Care Version 7 guidelines state that, as a criterion for undergoing gGAS, transgender patients should complete at least 1 year of continuous GAHT (unless medically contraindicated or not recommended by their mental health provider).² As such, GAHT is a significant early step for many transgender patients undergoing gender transition.

Transgender patients who present for medical and surgical care are treated with hormone medications and genital surgeries that affect, and often significantly change, sexual function.⁶ GAHT and gGAS has been shown to affect patient's desire for sexual activity and increase frequency of masturbation.^{7,8} Additionally, for those transgender patients who suffer from gender dysphoria (GD), GAHT and gGAS have been shown to improve mental health.⁹ However, one area that remains inadequately described is changes in patients' experience with orgasm function.⁶ A recent study reported that one of the most frequent sexual dysfunctions experienced by TM and TW prior to gender transition was "difficulty" with achieving an orgasm.¹⁰ This highlights the importance of better understanding how orgasm function may change following gender affirming treatments.

Although patients rely on providers to counsel them about what effects they might expect to occur with treatment, the effects of gender affirming therapies/procedures on orgasm quality are still not well described. Additionally, there is not currently an available inventory for providers to assess changes in orgasm function domains that are most important to transgender patients. We sought to develop our own orgasm quality inventory, based on what orgasm function domains our patients communicated were most important to them. As a pilot study we administered our questionnaire to patients at our clinic to assess whether GAHT effected these domains. This study will help us to improve the quality of the care we provide to patients by helping us to better prepare patients for changes in sexual function that occur as a result of our medical and surgical treatments.

METHODS

Devising Our Orgasm Quality Inventory

Our 6-item inventory was developed by querying transgender women (TW) and transgender men (TM) who presented to our clinic seeking to undergo genital gender affirming surgery. All patients had commenced GAHT at least 1 year prior to their visit

and at least occasionally practiced self-stimulation masturbation before and after starting GAHT.

We developed our inventory in 2 steps:

First, a total of 25 consecutive TW and TM who met the aforementioned criteria were asked 2 questions:

1. "Since you started GAHT, have you noticed any changes (positive, negative, or neutral) in your *ability to achieve* orgasm?"
2. "Since you started GAHT, have you noticed any changes (positive, negative or neutral) related to the *orgasm sensation* that you experience when you reach orgasm with masturbation?"

We made a list of all changes reported by TW and TM, grouping responses by theme. We then reviewed these groupings, and created neutral questions that queried the factor underlying each of the changes that patients reported. For example, because many TW reported that it took longer to achieve orgasm after GAHT, we framed this as a neutral question, to ask whether subjects noticed a difference in time required to reach orgasm. We completed a working draft of a list of questions to ask patients. We added one item to query which patients did not voluntarily comment about: overall satisfaction with orgasm quality.

In the second phase of development of the orgasm quality inventory, we showed a written list of the working draft of the questions to additional consecutive patients, and asked them if the questions were clear to them. To do this we asked each to explain what they thought that the question was asking. We also asked each whether the question felt inappropriate to them and/or made them feel uncomfortable. Questions that required rewording for clarity were modified as needed, until 15 consecutive TW and TM patients indicated that they understood all of the questions and none found any of the questions offensive.

The 6 domains that our work generated are:

1. The length of time, from commencement of self-stimulation, necessary to reach orgasm.
2. How long orgasm sensation lasts (ie, "duration").
3. Body location of the orgasm/pleasure sensation (eg, genital only vs other parts of the body).
4. Temporal nature of the orgasm (eg, was it experienced as a "single peak" vs "multiple waves/peaks").
5. Duration of the postorgasm refractory period (ie, minimum time interval required for orgasm to be repeated).
6. Overall satisfaction with orgasm quality.

Pilot Study

The Cedars-Sinai Medical Center Institutional Review Board reviewed and approved this study (IRB #00000073). We administered our orgasm inventory to consecutive TW and TM who presented to our institution for consultation between October 2018 and February 2020.

Participants were asked to respond to our inventory and report their current (post commencement of GAHT) sexual function/orgasm quality and past (prior to commencement of GAHT) experience with orgasm function. Participants were also asked to report the number of months that had passed since starting GAHT before the queried sexual changes plateaued to their present state. To eliminate confounding by partner-related variables, we asked patients to comment on these domains with manual-masturbation only. None of the subjects who were involved in the development of the questionnaire were included in the pilot study.

Statistical Analysis

Categorical variables were reported as number (percentage) and compared with the chi-square test. Continuous variables were reported as means – standard deviations (SD) and compared with 2-tailed t-tests. Differences were considered significant where P -values were $<.05$.

RESULTS

A total of 130 TW (mean age [SD], 38.4 [15.0] years) and 33 TM (35.5 [12.5] years) were included. Of the 130 TW, 81 (62%) had no prior history of gGAS, 15 (12%) had previously undergone bilateral orchiectomy, and 34 (26%) had previously undergone vaginoplasty ($N = 34$). None of the 33 TM had prior history of gGAS.

TRANSGENDER WOMEN

Measures of Orgasm Function after GAHT

After commencing GAHT, TW reported experiencing a significantly longer lead-time necessary to reach orgasm (7.7 [5.6] min, vs 14.2 [12.6] min, $P < .0001$) and significantly longer orgasm duration (8.5 [8.1] seconds, vs 34.0 [57.4] seconds, $P < .0001$).

Seventy-two percent of TW reported that after commencing GAHT they now experience orgasm in new/additional body locations, as compared to prior to GAHT. Additionally, prior to GAHT, 83% TW patients described their orgasms as a short, single-peak event, and only 17% described their orgasms as a protracted multi-peak sensation. After GAHT, however, 74% of TW patients now reported longer and multiple-peak orgasms. Finally, 74% of TW patients reported that the quality of their orgasms was better after commencing GAHT. No significant differences were observed in any of the 6 domains between patients with different hormone routes of administration (PO vs IM injections). No significant differences were observed in responses to our inventory between patients that had previously had genital surgery and those that had not.

When patients were asked to report how many months had passed since starting GAHT before the queried sexual changes plateaued to their present state, TW reported that an overall change in orgasm quality was the earliest to plateau (7.6 [6.0] months) and changes in orgasm location was the latest to occur (11.2 [10.0] months).

TRANSGENDER MEN

Measures of Orgasm Function and Orgasm Quality after GAHT

After commencing GAHT, TM patients experienced a significantly longer orgasm duration (15.2 [15.5] seconds, vs 25.9 [26.6] seconds, $P = .0285$). No significant differences were observed in lead-time necessary to reach orgasm or postorgasm refractory period.

No significant difference was detected in in the number of TM patients who reported experiencing orgasm in new/additional body locations, or who reported their orgasms as a short, single-peak event and those that reported longer and protracted multiple-peak orgasms. When asked to compare the overall quality of their orgasms before vs after commencing GAHT, 67% of TM patients reported that the quality of their orgasms was better after starting GAHT.

When patients were asked to report how many months passed since starting GAHT before the queried sexual changes plateaued to their present state, TM reported that changes in orgasm location was the earliest to occur (3.9 [3.2] months) and changes in duration of orgasm sensation was the latest to occur (5.4 [3.9] months).

DISCUSSION

Our new questionnaire aims to measure baseline (ie, pretreatment) orgasm function characteristics of patients and to evaluate changes that occur as a result of the gender affirming treatments. Patients who undergo gender transition undergo a series of treatments – each of which has its own pre-treatment “baseline,” and each of which can affect orgasm function. Our work found that patients may begin experiencing changes in orgasm function and achieve a new baseline prior to undergoing gGAS. These findings suggest that providers should discuss orgasm quality before gGAS, as patients may mistakenly attribute from prior treatments to their gGAS. Similarly, it is encouraging and gender affirming, to counsel patients about positive changes that they may or may not experience. Regardless of the nature of the change in orgasm function, management of patient expectations is a core element of patient centered care. Before starting treatment, providers should counsel patients about what changes in sexual function may occur after patients commence with gender affirming care.

The results of our pilot study suggest that both TW and TM may experience changes in orgasm sensation and quality following commencement of GAHT. There were several gender similarities and differences within our tested domains which warrant further consideration. One notable finding was that both TW and TM reported a significant increase in the duration of orgasm sensation following commencement of GAHT. Additionally, both TW and TM reported an overall improvement in orgasm quality. Only TW, and not TM, reported noticing a significant

increase in lead time necessary to reach orgasm. Additionally, compared with TM, a higher percentage of TW reported experiencing orgasm sensation as a full-body sensation and TW also reported experiencing protracted multiple-wave orgasms following GAHT.

One possible explanation for why TW report overall greater positive effects of GAHT on orgasm function is that the decrease in functioning of the penis may help to alleviate GD associated with their genitals, which may improve satisfaction with the process of gender transition, which is itself permissive to allow greater satisfaction with, and more positive experience of, orgasm. This suggests that it may be the combined effects of GAHT on genital tissues and the CNS that accounts for the observed changes. Future studies, such as with neuroimaging, which could better assess potential changes occurring in the CNS, could contribute to our understanding of why orgasm function may change with GAHT.

A limitation of this pilot study is the retrospective recall of orgasm characteristics before GAHT. Because we are a surgical clinic specialized in offering gGAS, we only meet these patients when they present to discuss gGAS, which is typically after they have already initiated gender transition and commenced GAHT (by guidelines, both should have commenced at least 1 year prior to gGAS). Because of the staged nature of gender transition healthcare, we were unable to perform a longitudinal study and query patients on their orgasm function at a time before beginning GAHT. Future studies with access to patients who have not yet undergone GAHT are encouraged to expand upon our findings and collect data on patient baselines in orgasm function both before and after commencing GAHT. Additionally, our questionnaire development did not undergo the formal Patient-Reported Outcome Measurement Information System (PROMIS) development process which describes the recommended stages of instrument development for use in clinical research and practice.

CONCLUSION

Our findings suggest that TW and TM may experience considerable changes in several orgasm function domains after undergoing gender affirming treatments, such as GAHT. Providers of gender affirming care should establish a sense for baseline orgasm function before initiating treatment, so that any changes in sexual function from one treatment (GAHT and gGAS) are not misattributed to the current treatment. Providers may utilize our orgasm quality inventory, or a similar inventory, to query orgasm function before and after treatment.

AUTHOR CONTRIBUTIONS

Michael Zaliznyak: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing -

original draft, Writing - review & editing, Project administration, Marie Lauzon: Conceptualization, Methodology, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration, Jenna Stelmar: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration, Nance Yuan: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration, Shannon M. Smith: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration, Maurice M. Garcia: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration.

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SUPPLEMENTARY MATERIALS

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