Trans broken arm syndrome: A mixed-methods exploration of gender-related medical misattribution and invasive questioning

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Abstract

Rationale: Gender-related medical misattribution and invasive questioning (GRMMIQ), colloquially known as "trans broken arm syndrome," is a form of medical discrimination faced by transgender and gender diverse (TGD) patients wherein a provider incorrectly assumes that a medical condition results from a patient's gender identity or medical transition. This phenomenon may take one of two forms: (1) the incorrect and explicit misattribution of gender identity or medical transition as being the cause of an acute complaint, or (2) invasive and unnecessary questions regarding a patient's gender identity or gender transition status.

Objective: Using mixed-methods procedures, this study aims to explore the incidence, some common correlates, and manifestations of GRMMIQ.

Method: American TGD participants (*N*=147), recruited through an online recruitment platform, completed questions assessing their experiences in the healthcare system including lifetime incidence of GRMMIQ, outness to healthcare providers, and additional experiences of gender-related discrimination in a medical setting. Participants who indicated experiences of GRMMIQ were asked open-ended questions about one such experience.

Results: Nearly one-third of participants reported experiencing GRMMIQ. Experiences were associated with outness to acute care providers and other types of gender-related discrimination in healthcare settings. Analysis of qualitative data revealed four primary themes: (1) assumptions of disordered thinking and being, (2) hyperfocus on aspects of medical transition, (3) cultural ignorance and incompetence, and (4) dismissiveness of the patient.

Conclusion: Together, these results enhance the understanding of an underexplored aspect of medical discrimination faced by TGD individuals while highlighting commonalities across different experiences.

Keywords: Transgender; LGBT; stigma; healthcare quality; mixed methods

Introduction

Transgender and gender diverse (TGD) individuals, defined as those who have a gender identity that differs from the sex they were designated at birth, face well-documented social and health disparities, including limited access to healthcare, that can yield negative health-related outcomes (Delozier et al., 2020; Heng et al., 2018; Howard et al., 2019; Jaffee et al., 2016; James et al., 2016; Mason et al., 2022). Health disparities are compounded by high rates of poverty, unemployment, and underemployment (Crissman et al., 2016; James et al., 2016; Leppel, 2021), discrimination in employment and housing based solely on their gender identities (James et al., 2016; Kattari et al., 2016; Matthews et al., 2019), as well as high rates of harassment, assault, sexual abuse, and other traumatic events (Brown & Jones, 2016; James et al., 2016; Langenderfer-Magruder et al., 2016; Lefevor et al., 2019).

Disparities are particularly pronounced for members of multiple marginalized identity groups, such as transgender people of color (POC; Reisner et al., 2014; Staples & Fuller, 2021). Facing distal stressors, including employment concerns and trauma, and proximal stressors related to discrimination has been shown through the minority stress model to be linked to negative mental health outcomes (Chodzen et al., 2019; Hendricks & Testa, 2012; Lefevor et al., 2019). These stressors likely contribute to the higher levels of anxiety, depression, and suicidality faced by TGD populations (Chodzen et al., 2019; James et al., 2016; Thoma et al., 2019). As psychological distress has been shown to impact cardiovascular health as well as health more generally (Ohrnberger et al., 2017; Penninx, 2017; Wu et al., 2018), these disparities highlight the importance of TGD healthcare access.

Unfortunately, TGD individuals face significant barriers to healthcare access. Understanding these barriers, whether they originate in individual interactions (e.g., denial of

care by providers) or systemic inequality (e.g., a lack of insurance coverage), is vital in moving towards equitable healthcare access and outcomes. Previous research has shown that three of the most notable barriers to equitable TGD healthcare access are a lack of knowledgeable healthcare providers, a fear of mistreatment and experiences of discrimination in the healthcare system, and broader systemic barriers including healthcare affordability (Safer et al., 2016; Sanchez et al., 2009). Barriers often delay care (Gridley et al., 2016; Jaffee et al., 2016; Seelman et al., 2017), resulting in worse long-term health outcomes that perpetuate a vicious cycle of inequality (Seelman et al., 2017; Weissman et al., 1991).

When seeking healthcare, TGD individuals must navigate a cisgender-focused medical system (i.e., a medical system that focuses on and prioritizes those whose gender identity aligns with the sex they were designated at birth) that includes numerous gatekeeping practices that can stand between a patient and access to adequate care while also medicalizing their general experiences (Budge, 2015; Davis et al., 2016; Dubov & Fraenkel, 2018). When patients can access care, providers often lack knowledge or cultural competency about TGD individuals' healthcare needs (Ashley, 2019; Korpaisarn & Safer, 2018; Rowan et al., 2019; Sanchez et al., 2009). Healthcare providers report a lack of knowledge about TGD health leading to a reluctance to provide treatment for TGD patients (Dy et al., 2016; Rowan et al., 2019; Snelgrove et al., 2012), which results in patients having to teach their provider about TGD health to receive adequate care (James et al., 2016). While educational interventions may increase provider willingness to treat TGD patients (Nolan et al., 2020; Thomas & Safer, 2015), gaps in provider education remain an ongoing concern (Dubin et al., 2018; Korpaisarn & Safer, 2018).

Beyond a lack of provider knowledge, TGD patients may face experiences of discrimination ranging from misgendering to verbal abuse and physical assault in healthcare

settings (James et al., 2016). Similar to social and health disparities, being a member of multiple minoritized and stigmatized identity groups compounds the risks of discriminatory experiences (Howard et al., 2019; James et al., 2016; Kattari et al., 2015, 2020). TGD patients who are socially recognized as being TGD also face an increased likelihood of discriminatory experiences in healthcare settings (Rodriguez et al., 2018). The bias that yields discrimination is not necessarily implicit – while most healthcare providers overall express positive perspectives about TGD individuals (Kanamori & Cornelius-White, 2016), other healthcare providers explicitly express anti-TGD bias (Dorsen, 2012; Rowan et al., 2019). Some work suggests that anti-TGD bias is an attempt to shore up medical authority in the face of uncertainty (Poteat et al., 2013). Other work has suggested that anti-TGD bias has a stronger association with TGD-related health knowledge than formal education, suggesting that bias may influence the amount of information acquired or retained during formal training (Stroumsa et al., 2019). Regardless, discrimination in healthcare is a reality for TGD individuals.

TGD individuals have noted a particular experience in healthcare settings where their providers have conceptualized them and their medical concerns primarily in terms of their gender identity or medical transition (Brice, 2020; Dietz & Halem, 2016; Payton, 2015; Pearce, 2018). While this form of discrimination has been previously referred to by the colloquial term "trans broken arm syndrome," we refer to it as gender-related medical misattribution and invasive questioning (GRMMIQ). GRMMIQ has been previously noted to take the form of either: (a) the patient's gender identity or medical transition being incorrectly presumed to be the cause of a medical complaint (causal misattribution aspect), or (b) questions about a patient's gender identity or medical transition that are invasive or unnecessary in diagnosing the acute complaint (invasive questioning aspect). These two aspects may appear to differ, as medical

misattribution is diagnosis-focused and invasive questioning may reflect diagnostic processes or simple curiosity. However, both reflect provider perceptions of transgender individuals through a medically gendered lens, which yields either distraction from or dismissal of the concerns of TGD patients in acute care settings (Johnson, 2015; Paine, 2018; Pearce, 2018). Patients who have had such experiences, ranging from requests to see genital configurations to suggestions that the use of testosterone might be interfering with asthma medication, may avoid necessary medical care in order to prevent future negative experiences (Brice, 2020; Paine, 2018; Sumerau & Mathers, 2019).

While this form of discrimination has been documented in the context of discussions about healthcare, both generally and in the context of rural health (Guimaoutdinov & Tram, 2021; Knutson et al., 2016) and has been used as a framework for the exploration of weight bias in broader LGBTQ samples (Paine, 2021), there has not, to date, been an in-depth exploration of GRMMIQ in particular. As such, this study aims to explore the prevalence and manifestation of GRMMIQ among a sample of TGD participants. Moreover, this study aims to examine relationships between demographic and experiential factors and GRMMIQ in order to identify potential factors that may contribute to experiences of GRMMIQ. Considering the impact that GRMMIQ may have on equitable healthcare, and its position as a form of medical discrimination at the intersection of anti-TGD bias and provider lack of knowledge, understanding GRMMIQ in healthcare may provide insight into medical discrimination TGD patients face more generally.

Methods

Procedure

Participants (N=160) were recruited between February 4 - March 3, 2021, using Prolific (https://www.prolific.co). Prolific is an online participant recruitment platform that has more

diverse samples and higher-quality data when compared to other recruitment platforms (Palan & Schitter, 2018; Peer et al., 2017). Participants had to be (a) 18 years of age or older, and (b) currently living in the U.S. Moreover, participants had to self-identify through Prolific as transgender, defined as having a gender differing from the one they were assigned at birth. Only participants who fulfilled eligibility criteria were able to self-select into the study before being transferred to an external Qualtrics study. All participants provided informed consent prior to beginning study procedures. Following completion of the survey, participants were given $2.00 as compensation for their time and effort. Participants, on average, took eight minutes and forty-eight seconds to complete the survey. Of the 160 participants who attempted this survey, 147 were retained for analysis. Respondents were excluded for ending the study prior to completing study procedures (n = 10; 6.25%) and for failing an attention check (n = 3; 1.88%). Study methods and materials were approved by the relevant Institutional Review Board. All materials are available at https://osf.io/qyfdj/?view_only=91552f2c2125480197f016af6da10e84.

Measures

Demographics

Participants were asked to provide their age, gender, race/ethnicity, self-reported disability/neurodivergence status, transgender identity status, and sex assigned at birth. Additionally, participants were asked to report their state of residence, their highest degree of education completed, their employment status, and their household income.

Gender and age were assessed using free-response. Gender responses were recoded into three variables: male/man/trans male, female/woman/trans woman, and gender diverse. Those who did not explicitly self-identify within binary categories were coded as gender diverse. As the sample size was not large enough to make meaningful comparisons across multiple subgroups,

dummy-coded variables were created to dichotomize participants based on race/ethnicity status (0 = non-Latine white, 1 = Latine/POC), yearly household income (0 = ≥$30,000/year, 1 = <$30,000), educational achievement (0 = Has completed a post-secondary education program, 1 = Has not completed a post-secondary education program), employment status (0 = Employed full or part-time, 1 = Not employed), and self-identified disability/neurodivergence status (0 = Not disabled/neurodivergent, 1 = Disabled/neurodivergent). These variables were coded in such a way that non-minoritized populations served as the reference groups for this model. Geographic region was coded using US Census regions (U. S. Census Bureau, 2021).

Experiences of GRMMIQ

To explore the prevalence of GRMMIQ, participants indicated whether they had experienced invasive questioning or causal misattribution when visiting a medical provider for an acute medical complaint. Both aspects of GRMMIQ were assessed using yes/no responses. Invasive questioning was defined as having experiences where a medical provider spent significant amounts of time "asking invasive or unnecessary questions about [the participant's] gender identity and/or transition." Causal misattribution was defined as an experience where a provider had incorrectly suggested that the complaint was related to "hormone replacement therapy… or a result of something to do with [the participant] being transgender." Participants who indicated an experience with either type of GRMMIQ were asked to describe one such experience.

Other gender-related discrimination in healthcare

Seven questions adapted from the 2015 US Transgender Survey were used to assess experiences of bias and discrimination based on gender identity in healthcare settings other than GRMMIQ (James et al., 2016). These experiences ranged from healthcare providers refusing to

provide care (e.g., “A doctor or healthcare provider refused to give me trans/gender non-conforming-related care”) to verbal abuse (e.g., “A doctor or other healthcare provider used hard or abusive language when treating me”). Individual items were coded as the presence of a particular type of discrimination over the participant’s lifetime, regardless of frequency or recency, and were totaled to create a lifetime gender-related discrimination in healthcare score.

Outness to providers

Two items adapted from the outness subscale of the Transgender Identity Survey (Bockting et al., 2020) were used to assess outness to both acute (e.g., emergency room) and regular (e.g., primary care) healthcare providers. Participants were asked to indicate how out they were about their gender identity on a 0-100 scale (0=Not out at all, 100=Completely out).

Data Quality Assurances and Statistical Analyses

Surveys were examined for inconsistencies and invalid responses. As less than 1% of the data were missing, no data imputation was conducted. All values fell within acceptable ranges for skewness and kurtosis (i.e., skewness = 0 ± 1, kurtosis = 0 ± 2). Associations between both aspects of GRMMIQ and outness to providers, as well as other gender-related experiences of discrimination, were assessed using Pearson correlations. As previous work has suggested that healthcare denial and discrimination must be considered through a “whole-person lens,” particularly in light of multiple stigmatizing or minoritizing factors (Kattari et al., 2020), as well as how intersectional forces of discrimination (e.g., racism, classism, ableism) may influence a provider's perspective of the participant in addition to gender identity, multiple linear regression was used to explore how demographic factors of race/ethnicity, income, employment, education, and disability/neurodivergence related to both the questioning and misattribution aspects of GRMMIQ. While both individual tests and logistic regression were considered, the use of

multiple linear regression allows for a more effective assessment of the overall model (Gomila, 2020) while preventing the inflation of type I error rate (Perrett et al., 2006). All variables demonstrated minimal multicollinearity (IVF values ≤ 2) and were entered into each multiple regression model using a single block (i.e., "enter method"), with variables coded as 0 being used as a reference, to control for each of the demographic variables that were theorized to be related to medical misattribution and invasive questioning regardless of their significance. Using these statistical analyses may allow for an understanding of how GRMMIQ relates to both experiential and demographic factors, allowing for the identification of some of the factors that may increase the risk of experiencing GRMMIQ. All quantitative analyses were conducted using JASP (Version 0.11.1).

Analysis of qualitative data and positional statement

Analysis of Qualitative Data

The qualitative data were analyzed using thematic content analysis methods (Green & Thorogood, 2006). Thematic analysis is well-suited for research wherein diverse groups of participants provide the guiding information for theme creation, especially within a specific social context (Green & Thorogood, 2006; Nowell et al., 2017; Terry et al., 2017). Considering the importance of social context in understanding the experiences of minoritized populations, as well as the importance of allowing minoritized populations to direct our understanding of issues they face, a thematic approach was deemed particularly useful for this research.

Upon completion of data collection, cleaning, and deidentification, two authors (CSW & AJP) independently reviewed qualitative data from the two questions assessing the experiences of GRMMIQ. Following an independent review, the coders engaged in a collaborative inductive coding process to create a thematic coding book, which was then used by trained research

assistants to deductively code the data. This hybrid approach to qualitative data analysis provides the benefits of inductive coding, allowing themes to emerge from the data while using deductive coding to confirm that no new themes emerged from further analysis (i.e., thematic saturation; Fereday & Muir-Cochrane, 2006; Lowe et al., 2018). As deductive coding intended to confirm thematic saturation, the deductive coders examined the data and coded each item as either one or more of the inductively identified codes, or as a theme not listed in these codes. Deductive coding was conducted using Microsoft Excel (version 2205), with disagreements being resolved by a third coder.

Researcher Positionality

When considering qualitative research, it is important to place the initial thematic coders within the context of the study (Merriam & Tisdell, 2015). One of the coders is a queer, White, transgender woman who is involved with and directly interacts with other members of the transgender and queer communities. The other coder is a queer, White, cisgender woman with experience and familiarity with qualitative research. While some similarities exist between the two with regards to experience and background, the differing experiences of gender as they relate to TGD identity status partially mitigated the impact of preconceptions about the research topic by encouraging the initial thematic coders to consider experiences outside of their own during coding (Berends & Johnston, 2005; Fischer, 2009).

Results

Participant Demographics

Of the 147 participants retained for analysis, the mean age was 25.5 (SD = 7.2, range 18-47). Most participants were White and non-Latine (71.4%) and were not employed at the time of data collection (60.5%). Fewer than half of the participants had completed a post-secondary

education program (n = 60; 40.8%). Of those who had not achieved an Associate's degree or higher, less than one-third were current students (n = 27, 31.0%). Complete demographics can be found in Table 1.

Prevalence of GRMMIQ facets and their associations

Overall, nearly one-third (32.6%; n = 48) of participants reported experiences of GRMMIQ. More than one-quarter of participants (26.5%; n = 39) reported at least one experience of the invasive questioning aspect of GRMMIQ and 12.9% (n=19) reported experiences of the causal misattribution aspect of GRMMIQ. Outness to acute healthcare providers was associated with both the invasive questioning, $r = .32$, $p < .001$, and the causal misattribution aspects, $r = .228$, $p = .006$. Other gender-related discrimination in healthcare was associated with both the invasive questioning aspect, $r = .571$, $p < .001$, as well as the causal misattribution aspect, $r = .339$, $p < .001$. Neither GRMMIQ aspect was significantly related to outness to regular healthcare providers. Both aspects of GRMMIQ were significantly related to one another ($r = .228$, $p = .006$). All associations are noted in table 2.

Two multiple linear regressions were conducted to assess the associations of the dummy-coded variables with both aspects of GRMMIQ. While the overall model for the casual misattribution aspect of GRMMIQ was non-significant, $F(5, 127) = 2.04$, $p = .08$, there was a significant positive association between disability/neurodivergence and medical misattribution, $\beta = 0.25$, $p = .006$, 95% CI [0.05, 0.301] (table 3). Neither the overall model, $F(5, 127) = 1.04$, $p = .40$, nor any variables were significant for the invasive questioning aspect (table 4).

Qualitative themes

Overview

All participants who indicated experiencing invasive questioning (n = 39) or medical misattribution (n=19) in an acute medical setting were asked to provide examples of these experiences. Accounting for those who indicated experiences of both invasive questioning and medical misattribution aspects of GRMMIQ, forty-eight participants were asked to provide specific examples of one or both aspects of GRMMIQ. Only one participant chose to not provide a specific example.

Inductive thematic analysis yielded four primary themes across both aspects of GRMMIQ: (1) assumptions of disordered thinking and being, (2) hyperfocus on aspects of medical transition, (3) cultural ignorance and incompetence, and (4) dismissiveness of the patient. Of the fifty-seven examples that participants provided across both facets of GRMMIQ, the vast majority (n=55; 94.8%) were deductively coded within the four themes suggesting that thematic saturation was achieved. The two examples that were not coded within the four themes failed to provide an example of a particular experience with GRMMIQ.

Assumptions of disordered thinking and being

A common thread was one of disordered thinking or being. In some cases, participants reported that healthcare providers incorrectly assumed psychological distress and the symptoms of mental illness resulted from the person's gender identity or medical transition. One participant stated that, during a visit with a healthcare provider, the *"psychiatrist blamed [their] mood episodes on HRT [hormone replacement therapy] instead of a recent brain injury."*

Similarly, some healthcare providers focused on a participant's gender identity or medical transition. One participant reported a time when they were experiencing severe mental distress, and the healthcare professionals failed to focus on the issues they were facing:

> *"I was dealing with undiagnosed schizoaffective disorder and heavily depressed/suicidal and the topic of me being trans became the focal point of conversation rather than the fact I wanted to kill myself, was having delusions of people wanting to hurt me, and was hallucinating."*

Additionally, participants reported experiences where they informed a healthcare provider that they were transgender and hoped to medically transition. However, the healthcare provider assumed that the participant was mentally unwell rather than transgender. One participant provided information about one such experience:

> *"I was at the hospital and told them what my problems were and that I wanted to transition. They instead thought I might be schizophrenic and began to treat for it. I almost lost my life because of the meds they put me on."*

While this particular example appears to be an inversion of GRMMIQ experiences in that a trans patient is assumed to have disordered thinking rather than being transgender, the view of this participant appears to be still framed within gender identity or medical transition – the healthcare provider's perception of the patient was founded in the belief that they were not transgender.

Hyperfocus on aspects of medical transition

Participants also discussed experiences where providers focused on biological and physical aspects of transition rather than the medical complaint in question. In some cases, this theme manifested as questions distracting from the purpose of the visit. One participant, for example, reported that they could "recall being asked about [their] body changing" and if they had "had the surgery," while another participant reported that providers "were more interested if and when I'd be getting bottom surgery than in my actual health concerns." A third participant provided a specific experience of this line of questioning:

> *"During that visit, the medical assistant who was taking my vitals said her sister was a lesbian and wanted to transition, so she started asking me about what kinds of changes happen to the body. It seemed like she was trying to understand so I answered her questions, but it still felt invasive when she could have just googled all of this or asked the doctor she works for instead of a patient coming there for something completely unrelated."*

This focus on biological and physical aspects of medical transition also extends to the diagnosis process. Some cases that demonstrated this theme had no logical, biological basis. One participant, for example, discussed visiting a healthcare provider for care related to a sinus infection, and the provider asked if they were "transgendering" and suggested that HRT "could lead to infections." In other cases, the foundation for this focus is a logical one that is maintained beyond a logical endpoint. Such experiences can be seen in a case where the provider maintained an HRT-related diagnostic hypothesis beyond disconfirmation:

> *"I was being treated at the time for chest pain and an irregularity with my heartbeat. The doctor became fixated on my having a blood clot because of my estrogen treatments, which was only disproven via ultrasound. Even afterwards he insisted I was better off not taking it."*

Cultural ignorance and incompetence

The theme of cultural ignorance and incompetence involved social interactions and ranged from providers being invasively curious about the patient's social interactions outside of the medical setting to the providers being unwilling to accept or understand the patient's gender identity. In one of the milder cases, one participant reported an optometrist, after finding out that

the participant was transgender, “proceeded to wonder I didn't accept my ‘Hispanic ness’ or if my family was accepting of my decision to be transgender.”

Providers were also reported as unwilling to adjust their mindsets and practices to accommodate those who needed care and happened to be transgender. One participant spoke of their regular experiences whenever they were referred for care that is often perceived to be gendered:

> *“OB/GYNs and their staff have always been performatively obtuse about what I could possibly need from them if they read me as male, or they would act confused as to why I would be so uncomfortable with the examination if they read me as female. Having to clearly outline every single thing about me and my life and my genitals every time they need to examine me is exhausting, invalidating, and makes me fearful of what might happen if these people who claim to not know anything about what I'm saying decide they don't like some part of it.”*

In some cases, participants noted that they are regularly in a position where they must repeatedly assert their gender. One participant, referring to their experiences more generally, wrote “arguing over preferred names and pronouns often takes up way more time than needed when I end up hospitalized or needing care otherwise.” Even when patients do assert their gender identity, they may run into similar issues:

> *“I went in for stomach issues, an impaction in my intestines or whatever they called it. A lot of time was spent questioning my gender and such and in the end they still kept referring to me as ‘he’.”*

Disclosure of one’s gender identity, even when initially avoided, also appears to be linked with perceptions of being treated differently. One participant who initially chose to not be

out to their provider to avoid discrimination reported being asked about their gender identity "in ways that made [them] uncomfortable and treated in a noticeably different way afterwards." Ultimately, this ties into more serious issues regarding beliefs and perceptions about gender identity. One participant summed it up handily, saying that "[the provider] asked about why I identify as I do and proceed to assume something is wrong with me (*sic*)."

Dismissiveness of the patient

An overarching theme is that of doubt and dismissiveness. Participants spoke of providers who called into question their gender identity and the existence of transgender people in general, with doctors arguing "that being transgender is a modern phenomenon." Beyond their very existence being called into question, participants reported providers who "brushed aside" the symptoms that they had expressed. One participant, comparing their experiences before and after medical transition, wrote:

> *"Most of my medical issues get brushed aside due to me being trans and the doctor making HRT an easy scapegoat for basically any of my issues. My quality of care has gone down dramatically since starting HRT."*

In a related set of circumstances, some participants reported experiences where, in addition to their medical complaints being ignored, physicians disbelieved their stated medical history. One participant's story highlights the potential downstream consequences of healthcare providers ignoring or disbelieving a person's medical history:

> *"Had a UTI. Pretty cut and dry. Went to urgent care clinic. I explain that I'm pretty sure I have a UTI, I was assigned female at birth, and have not had any genital reconstructive surgeries. Doctor subjected me to overly invasive genital examination and made inappropriate comments about my clitoris. Accused me of*

> *lying about not having srs, because apparently I was actually a trans woman. Asked overly invasive questions about my sex life. Would not prescribe me anything for the UTI. Billed my insurance for 'sexual counseling' which they did not cover and I had to dispute. I did not seek medical attention again until I was pissing blood."*

Overlap among themes

No one theme can completely encapsulate all individual experiences that might be associated with that theme. The nature of the first two themes rendered them incompatible with one another, as the theme of assumptions of disordered thinking and being was primarily focused on the psychological, and hyperfocus on medical transition was primarily focused on bodily experience. However, participant experiences that might be noted under the themes of dismissiveness of the patient, and cultural ignorance and incompetence were much more likely to be noted as overlapping with other themes.

Discussion

The present work focused on experiences of GRMMIQ among TGD individuals to better understand the incidence and manifestations of a sparingly documented form of discrimination. First, nearly a third of TGD individuals in our sample reported experiencing some form of GRMMIQ. More than a quarter of participants revealed experiencing invasive questioning about their gender identity or transition, while about 13 percent reported the misattribution of an acute condition to gender identity or gender transition. The noted prevalence of invasive questioning and medical misattribution in our sample demonstrates the pervasiveness of experiences of GRMMIQ. Importantly, findings show that being "out" to providers in acute care settings may be related to experiences with GRMMIQ. TGD individuals are already reluctant to come out to

providers for fear of discrimination and biased care (James et al., 2016); these findings may confirm such fears. While previous work has demonstrated that TGD patients experience misattribution of medical complaints to their gender identity or medical transition (Guimaoutdinov & Tram, 2021), the present work expands on this work by demonstrating the prevalence of GRMMIQ experiences while noting how outness is related to such experience.

Multiple linear regressions assessed how individual-level factors may be related to experiences of GRMMIQ. These models assessed participants' status as a member of historically underserved and oppressed groups, including racial and ethnic minority status, low-income status, education level, employment status, and disability/neurodivergence status. Interestingly, neither of the models yielded significant associations with either type of GRMMIQ. The positive relationship between disability/neurodivergence and medical misattribution suggested that ableism might compound with either explicit or implicit anti-transgender bias to yield medical misattribution. However, this will require further exploration, both to confirm that it is a true effect rather than the result of multiple comparisons and to disentangle neurodivergence from other disabilities. While the overall results are contrary to previous research suggesting that individuals with multiple marginalized identities are more likely to face healthcare-related discrimination and disparities (Reisner et al., 2014; Staples & Fuller, 2021), such results must be interpreted with caution as the sample is smaller, relatively young, and overwhelmingly white. Such sample characteristics may have obscured findings related to multiple marginalization.

Understanding a phenomenon like GRMMIQ requires going beyond numeric indicators of prevalence and demographic variables, extending into a deeper exploration of the nature of GRMMIQ experiences. Importantly, the present study extends previous research to document the multifaceted nature of GRMMIQ. Thematic analysis of the participants' reported experiences

identified four facets of GRMMIQ: assumptions of disordered thinking and being, hyperfocus on aspects of medical transition, cultural ignorance and incompetence, and dismissiveness of the patient. These results align with previous research regarding the discrimination faced by TGD individuals in healthcare settings (Howard et al., 2019; James et al., 2016; Kattari et al., 2015, 2017; Seelman et al., 2017).

Findings related to assumptions of disordered thinking/being make sense given the persistence of the medical model of the transgender experience which frames being TGD as a psychological condition requiring diagnosis and medical treatment (Johnson, 2015). The theme of hyperfocus on medical transition provides more nuance to findings showing that TGD patients are subjected to irrelevant questioning about their gender identity and transition (James et al., 2016) by showing the various ways this may manifest in clinical interactions. This theme also supports previous work suggesting that healthcare providers conceptualize patients through their transgender identity first, and chief complaint second (Pearce, 2018). Understanding the ongoing medicalization of TGD experiences and hyperfocus on gender identity and transition status points to a need to de-medicalize the existence of TGD individuals and reconsider how TGD individuals are cared for in medical settings.

Similarly, experiences of being dismissed are in line with work showing that TGD patients report having their concerns brushed aside across healthcare settings (Johnson, 2015; Paine, 2018; Pearce, 2018; Shipherd et al., 2012). Participants' experiences suggest that the medicalization of TGD experiences may, in part, lead to this dismissiveness. Finally, aspects of cultural ignorance and tolerance echo findings from Howard et al. (2019), wherein healthcare providers demonstrated limited cultural competence regarding TGD identities, particularly for TGD people of color. Cultural ignorance related to transgender healthcare has been recorded

among healthcare providers in multiple settings (e.g., Guerin, 2021; Kirubarajan et al., 2021; Safer et al., 2016). Our themes show how discrimination, previously documented among providers, arises as GRMMIQ.

It is important to underscore the importance of these empirical findings. This work is among the first to highlight, conceptualize, and concretize GRMMIQ. Individual aspects of GRMMIQ, ranging from reports of unnecessary and invasive questioning (James et al., 2016) to healthcare providers blaming medical issues on a patient's gender identity or medical transition (Guimaoutdinov & Tram, 2021), have been noted not only in the scientific literature but in community writing (Brice, 2020; Payton, 2015). The current work provides an opportunity to examine these experiences, and these previous results, through the lens of GRMMIQ while also providing an opportunity to depict the nuanced experiences of GRMMIQ. Beyond this, these findings demonstrate that experiences of GRMMIQ are associated with being out as TGD to healthcare providers in acute care settings. It follows that if a provider is aware that an individual is TGD, there is more opportunity to demonstrate anti-TGD bias.

Limitations

There are some limitations to note in the present work. First, participants reported experiences of GRMMIQ online through free response questions. While online, open-ended questions are useful, as they provide additional anonymity and the ability to edit responses, there may be nuances missed by not conducting face-to-face conversations. For example, during interviews, researchers could facilitate rapport with participants and encourage participants to describe their experiences in greater detail. Interviews also place less burden on the individual to type out a response, which may allow them to share additional details not shared due to time constraints. Additionally, qualitative responses were not examined in light of additional

categories of marginalization. This constraint, in turn, further limits the generalizability of the qualitative themes notes, as differences based on multiple marginalization are likely to exist.

Moreover, quantitative findings regarding GRMMIQ may not be representative more generally and, as such, should be taken with caution. Many factors might limit the generalizability of our findings. First, people of marginalized and disenfranchised identities, particularly those with multiple marginalized identities, may not report experiences wherein they feel discriminated against (Casey et al., 2019). As a result, it is possible that significantly more or less individuals experience GRMMIQ. Similarly, there is a possible selection bias leading to underreporting of experiences of GRMMIQ. That is, TGD individuals who take online surveys about TGD health and discrimination may be more willing or open to talking about their experiences. There are likely other TGD individuals who are less willing to share their experiences through online surveys; their experiences may contain additional aspects of GRMMIQ not captured by our data. Moreover, considering the known relationship between visible markers of gender non-conformity and negative healthcare outcomes(Miller & Grollman, 2015), it is likely being recognizably transgender will impact the prevalence and manifestations of GRMMIQ. As the measures of outness did not encapsulate whether a participant was able to conceal their transgender identity status, these results must be interpreted with caution.

Finally, participant characteristics limit the generalizability of these findings. The sample was predominantly White and non-Latine. Previous research shows that LGBTQ individuals from historically disenfranchised racial and ethnic groups are more likely to report multiple forms of discrimination (Casey et al., 2019). As this sample was mainly White, there may be racialized or otherwise intersectional facets of GRMMIQ not encapsulated here. Further, our sample was skewed young; thus, the experiences of older TGD individuals are not captured here.

These sample characteristics are particularly relevant in the examination of potential factors that might contribute to these experiences; as such, these results must be taken with caution. As gender-related and age-related discrimination do not occur in a vacuum and are influenced by individuals' other identities, additional investigation into varying forms of GRMMIQ based on TGD individuals' other identities is warranted.

Implications

There are numerous directions that these findings might lead to in future research. First, a subsequent study should examine the prevalence and manifestation of experiences of GRMMIQ in other populations. This is particularly important given the potential for GRMMIQ to manifest differently for individuals based on intersecting identities, such as race, ethnicity, or age. Additionally, developing a more nuanced understanding of GRMMIQ involves connecting GRMMIQ to healthcare providers' clinical decision-making. A better understanding of how this specific form of discrimination may impact providers' clinical decision-making is vital in efforts to reduce GRMMIQ and improve outcomes. Experimental studies manipulating patients' gender identities in clinical vignettes may be useful in identifying discrepancies in clinical decisions due to GRMMIQ; observations of patient-provider interactions may also prove valuable. A better comprehension of how GRMMIQ might impact providers' interactions with patients and clinical decisions is a necessary step to promoting equitable treatment for TGD individuals.

Similarly, experiences of GRMMIQ should be connected to real-world health outcomes. Previous research is clear that discrimination leads to detrimental outcomes for TGD individuals, and it is likely that the same holds true for GRMMIQ. Future research might examine how experiences of GRMMIQ lead to specific health outcomes or other healthcare measures, such as length of time to diagnosis. Some work might examine patient charts or use self-reported surveys

or interviews to gauge the impact of GRMMIQ on TGD health. Recent research has shown that transphobia predicted disparities in treatment among hypothetical transgender patients (Powell & Cochran, 2020), suggesting that TGD-related bias, including GRMMIQ, should be explored in real-world clinical decision-making.

Future research could also explore GRMMIQ based on provider degrees and specialties. It could be that providers who are likely to see more TGD patients and provide gender-affirming healthcare (e.g., HRT, gender-affirming surgeries) have more knowledge about TGD individuals and their healthcare needs yielding a lower likelihood of engaging in GRMMIQ. Relatedly, connections between provider degrees (e.g., MD, PA-C, NP, RN) and GRMMIQ should be examined. Given the differences between programs of the same degree, and the different roles of different healthcare providers in the healthcare system, there may be disparities in TGD knowledge and bias. A better understanding of how specialty and degree are related to GRMMIQ endorsement may provide insight into targeted training related to TGD individuals and their healthcare needs.

Clinical Practice and Training

The present study has numerous implications for clinical practice and clinical training among all healthcare providers. First, our findings should be incorporated into healthcare professionals' curricula during student training and in continuing education courses for practicing providers. Teaching providers to recognize GRMMIQ and correcting misinformation about the impact of gender identity and medical transition on unrelated medical concerns may yield lower rates of GRMMIQ. If a link exists between GRMMIQ and clinical decision-making, such training may lead providers to more equitable clinical choices. Simply increasing knowledge among healthcare providers may not be adequate to reduce the biased provision of

care. Previous research suggests that, regardless of healthcare providers' education, anti-TGD bias strongly predicts TGD-related health knowledge (Stroumsa et al., 2019). Thus, programs to reduce bias among healthcare providers are needed to reduce discrimination and GRMMIQ. Some intervention has been done among various types of healthcare students to reduce transgender and gender-identity-related biases (Braun et al., 2017; Eriksson & Safer, 2016; Thomas & Safer, 2015). Various interventions have been successful at reducing bias; for example, one lecture for medical students on transgender medical care improved attitudes toward transgender medicine and toward transgender patients (Eriksson & Safer, 2016; Thomas & Safer, 2015), while other work showed that a ten-session elective course for medical students reduced transphobia and increased knowledge about transgender-related healthcare (Braun et al., 2017). Given the importance of early training for the development of values and habits, burgeoning healthcare providers are one population of interest for intervention and additional training.

It is also important to target practicing healthcare providers. Some evidence shows the efficacy of bias reduction interventions on practicing clinicians. One intervention specifically targeted transgender-affirming HIV healthcare, improved knowledge of equitable gender-affirming care, and reduced TGD-related biases (Lacombe-Duncan et al., 2021). Another found that a brief intervention improved the willingness to provide gender-affirming care (White Hughto et al., 2017). While education may improve knowledge and reduce bias, there is still limited research on the reduction of TGD-related biases in healthcare, suggesting an urgent need for interventions to reduce TGD bias.

Conclusions

This study highlights GRMMIQ, a form of medical discrimination faced by a significant proportion of TGD patients. Participants in this study provided numerous examples of both

causal misattribution and invasive questioning aspects of GRMMIQ that spanned several themes. Experiences with providers included presumptions that physical and psychological medical complaints resulted from a person's gender identity or medical transition, failures to understand or adapt to the perceived novelty of a patient's gendered experience, and explicitly disbelieving a patient's experiences. The underlying themes found may prove vital in understanding GRMMIQ, which is a first step in eliminating this form of gender-based discrimination. Additional research must be conducted to understand and eliminate precursors of GRMMIQ.

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Table 1.

Demographic Characteristics (*N* = 147)		
Age		
	Range	18-47
	M (*SD*)	25.50 (6.37)
Gender, n (%)		
	Female/Woman/Trans Woman	66 (44.90)
	Male/Man/Trans Man	56 (38.09)
	Gender Diverse	25 (17.01)
	Nonbinary	8 (32.00)
	Nonbinary man/trans man/transmasculine	5 (20.00)
	Nonbinary woman/trans woman/transfemme	4 (16.00)
Assigned sex at birth, n (%)		
	Female	73 (49.33)
	Male	68 (46.26)
	Prefer not to say	6 (4.08)
Race/Ethnicity, n (%)		
	White (Non-Latine)	105 (71.42)
	Biracial or Multiracial	13 (8.84)
	White (Latine)	10 (6.80)
	Asian	7 (4.76)
	Black	3 (2.04)
	Native American	2 (1.36)
	Another identity not listed	6 (4.08)
Disablity/Neurodivergent status, n (%)		
	Disabled/Neurodivergent	70 (47.62)
	Able-bodied/Neurotypical	58 (39.46)
	No response	19 (12.92)
Education, n (%)		
	Middle School	5 (3.40)
	High School	72 (48.98)
	GED	10 (6.80)
	Associate's Degree	16 (10.89)
	Vocational Degree	3 (2.04)
	Bachelor's Degree	41 (27.89)
Income, n (%)		
	Less than $30,000	61 (41.50)
	$30,000 - $39,999	15 (10.20)
	$40,000 - $49,999	14 (9.52)
	$50,000 - $59,999	14 (9.52)
	$60,000 - $69,999	6 (4.08)

	$70,000 - $79,999	12 (8.16)
	$80,000 - $89,999	3 (2.04)
	$90,000 - $99,999	5 (3.40)
	Over $100,000	17 (11.56)
Employment status, n (%)		
	Employed full or part time	58 (39.5)
	Not employed, but looking for work	47 (32.0)
	Not employed, not looking for work	15 (10.2)
	Student	38 (25.9)
	On disability	3 (2.0)
Geographic region, n (%)		
	Midwest	27 (18.4)
	Northeast	20 (13.6)
	South	62 (42.2)
	West	36 (24.5)
	Missing	2 (1.3)

Table 2.

Pearson's Correlations

	Medical Misattribution	**Invasive Questioning**	**Outness to regular providers**	**Outness to acute providers**	**Gender related discrimination**
Medical Misattribution	—				
Invasive Questioning	0.228**	—			
Outness to regular providers	0.130	0.093	—		
Outness to acute providers	0.240**	0.315***	0.617***	—	
Gender related discrimination	0.339***	0.571***	0.160	0.273***	—

** $p < .01$, *** $p < .001$

Table 3. Multiple regression coefficients for demographic associations with medical misattribution in an online transgender sample

	β	**SE**	***p***	**95% CI**
(Intercept)		0.07	0.72	(-0.12 - 0.17)
Race/Ethnicity[a]	-0.04	0.07	0.65	(-0.17 - 0.11)
Household income[b]	-0.10	0.06	0.28	(-0.20 - 0.06)
Work status[c]	0.07	0.07	0.40	(-0.08 - 0.19)
Educational achievement[d]	-0.05	0.07	0.56	(-0.17 - 0.09)
Disability or neurodivergent status[e]	0.25	0.06	0.01	(0.05 - 0.30)

Note: SE = Standard error; CI = Confidence intervals. All demographic variables have been dichotomized.

[a] 0: non-Latine white, 1: Latine/POC

[b] 0: ≥$30,000/year, 1: <$30,000/year

[c] 0: Has not completed a post-secondary education program, 1: Has completed a post-secondary education program

[d] 0: Not employed, 1: Employed full or part time

[e] 0: Not disabled/neurodivergent, 1: Disabled/neurodivergent

Table 4. Multiple regression coefficients for demographic associations with invasive questioning in an online transgender sample

	β	**SE**	***p***	**95% CI**
(Intercept)		0.08	0.04	(0.01-0.38)
Race/Ethnicity[a]	0.17	0.09	0.05	(-0.003 - 0.34)
Household income[b]	-0.02	0.08	0.80	(-0.18 - 0.14)
Work status[c]	-0.09	0.09	0.33	(-0.25 - 0.08)
Educational achievement[d]	0.07	0.08	0.48	(-0.11 - 0.22)
Disability or neurodivergent status[e]	0.00	0.08	0.98	(-0.16 - 0.16)

Note: SE = Standard error; CI = Confidence intervals. All demographic variables have been dichotomized.

[a] 0: non-Latine white, 1: Latine/POC

[b] 0: ≥$30,000/year, 1: <$30,000/year

[c] 0: Has not completed a post-secondary education program, 1: Has completed a post-secondary education program

[d] 0: Not employed, 1: Employed full or part time

[e] 0: Not disabled/neurodivergent, 1: Disabled/neurodivergent