

Unmet Needs of Pediatricians in Transgender-Specific Care: Results of a Short-Term Training

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Keywords

Training · Pediatricians · Gender diversity · Genderism · Heteronormativity

Abstract

Introduction: The aim of this study was to evaluate (i) the knowledge about different dimensions of sexual identity in a group of family pediatricians and (ii) the efficacy of a training program to improve knowledge and reduce genderism and heteronormativity. **Methods:** A pre-post-follow-up study was conducted with 96 Italian pediatricians (48 men and 48 women) who participated in a 6-h training program and divided into 2 sections. The first section was theoretical and focused on the conceptual foundations of sexual identity, the depathologizing approach to gender diversity, and the role of pediatricians as the first contacts of children's or adolescents' family. The second part was experiential and included the presentation of a clinical case and the activation of a group reflection on the management of gender-diverse youth. Knowledge about sexual identity, genderism, and heteronormativity was measured. **Results:** Pre-training questionnaires revealed that the mean score of knowledge about sexual identity was 7.13 ± 3.21 . One-way within-

subject ANOVA revealed significant effects from pre- to post-training and from pre- to follow-up assessment but not from post-training to follow-up assessment, suggesting that significant changes in the knowledge about sexual identity ($F = 39.75, p < 0.001$), in personal biases related to genderism ($F = 7.46, p < 0.01$), and in heteronormative attitudes ($F = 44.99, p < 0.001$) and behaviors ($F = 79.29, p < 0.001$) were achieved through the training and maintained at follow-up. **Conclusion:** These findings indicate the importance of training pediatricians to work with gender-diverse youth and provide them with the best clinical interventions.

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Published by S. Karger AG, Basel

Introduction

Transgender and gender-diverse (TGD) is an umbrella term that encompasses all people whose gender identity, expressions, or behaviors differ from those socially ascribed to the sex they were assigned at birth [1]. However,

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since not all children who experience an incongruence between their sex assigned at birth and their gender identity will ultimately identify as transgender in adolescence or later [1–6], “gender-diverse” (GD) was considered a better term for children and adolescents according to the 8th version of the World Professional Association for Transgender Health (WPATH) Standards of Care (SOC) [1]. Gender diversity may emerge at any age and often persists [7]. In addition, some of these children, but not all, suffer from gender dysphoria, which is the distress resulting from the incongruence between their perceived gender identity and their sex assigned at birth [8, 9].

According to the SOC [1], the prevalence of GD children and adolescents ranges from 1.2% to 2.7% in health system-based studies and from 2.5% to 8.4% in survey-based studies [1]. These data clearly demonstrate the magnitude of the phenomenon and the increasing need to provide informed and specialized care to this population [10–12]. Indeed, all TGD youth have special health needs and should benefit from specialized care delivered by clinicians who are informed in matters of gender diversity [8, 9].

In particular, GD children and adolescents may be at risk of developing various mental health problems, such as depression, anxiety, eating disorders, self-harm, and suicidal thoughts or attempts, and they have special health needs [13–16]. It is important to keep in mind that a significant proportion of mental health problems encountered by GD youth are not due to internal psychopathology but due to prejudice experienced in their daily life contexts (e.g., family or school), which can be interpreted using the minority stress model [17–19]. Notably, one of the environments in which GD children and adolescents may experience stigmatizing processes is in healthcare contexts, where some healthcare providers may deny care or engage in micro- or macroaggressions due to personal biases or ignorance about gender diversity [20, 21].

Pediatric providers are often the first contacts of TGD youth in the healthcare system. The number of GD children and adolescents attending clinical settings is indeed progressively increasing, but pediatricians are still often not prepared in transgender-specific care, in particular during the prepubertal phase, because their training does not properly cover this area [22–24].

As a result, the health professionals’ level of knowledge on this topic is generally low, leading to delayed recognition and scarce support that may affect the psychological and emotional development of children and adolescents [25, 26]. In addition, pediatricians may also

experience difficulties when openly talking with children and adolescents about their sexual orientation or their gender identity and expression [27, 28]. Therefore, the need for the development of specialized training for family pediatricians is emerging [22–24].

Previous research has documented that physicians generally feel unprepared to provide transgender-specific care, even when such care falls within a specific area of practice (e.g., endocrinology or primary care) [29–31]. In addition, the extent of sexual- and gender-related stigma (i.e., genderism/transphobia and heteronormativity) influences the medical practice and may even result in denying or delaying appropriate treatment [32].

Identifying strategies for primary-care physicians is essential to avoid harm and promote the wellbeing of TGD youth. The aims of this study were to evaluate (i) the knowledge about different dimensions of sexual identity in a group of family pediatricians and (ii) the efficacy of a training program addressed to improve knowledge and reduce genderism and heteronormativity. Our primary goal was to provide health professionals with an intervention model to be trained on both clinical practice and personal biases to improve their skills in the management of children and adolescents who experience gender diversity.

Materials and Methods

Study Design

A total of 96 pediatricians participated in the training. The participants were pediatricians who are members of the Association of Family Pediatricians of Campania, a region in southern Italy. All members were offered to participate in a training program aimed at acquiring skills in dealing with GD children and youth, and 96 of them accepted. Thus, neither exclusion nor inclusion criteria were applied, and participants chose to attend the training based on their personal interest in the topic. The email was sent by the secretary of the association and signed by the principal investigator of the current study. Participants were given full details of the training. The training was held in a room of the medical order of the city of Naples. The study design consisted of evaluating the effectiveness of the intervention on family pediatricians’ knowledge about gender diversity. For this purpose, questionnaires were administered before and after a training session and again after a 3-month follow-up period.

Briefly, the study was organized in three different phases: during phases 1 and 2, the participants were invited to attend a meeting. In the first phase (pre-training), participants were asked to fill out the questionnaires anonymously. They were asked to enter a nickname so that individual participants’ responses could be associated with subsequent measurements while maintaining their anonymity. After the questionnaire, the training session was conducted. In the second phase (post-training), participants were asked to fill out the same questionnaire again with the same

pseudo-anonymization. Finally, the third phase (follow-up) took place online 3 months after the training through the administration of the same questionnaire in order to evaluate whether the efficacy was maintained.

The consent form for participation in the training was handed out separately from the envelope containing the questionnaires in accordance with the Code of Ethics of the World Medical Association. Therefore, each participant read and signed the informed consent form before participating in the training. The study was approved by the Ethics Committee of the University of Naples Federico II (approval number 15/2022) and designed in accordance with the Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects and the EU General Data Protection Regulation.

Questionnaires

The questionnaires included the following items. First, participants were asked about their age, gender (men, women, or other), previous participation in a lesbian, gay, bisexual, and transgender (LGBT) course (yes vs. no), and whether they had previously worked with GD children or adolescents (yes vs. no). Second, to assess their knowledge about sexual identity, participants answered a 2-column test: the first column included 3 dimensions of sexual identity (sex, gender identity, and sexual orientation), whereas the second column included some specifications of various dimensions of sexual identity (e.g., “gay,” “female,” “transgender,” “cisgender,” “male”) [33]. Participants had to correctly indicate each of the 3 dimensions of sexual identity (e.g., sex → male; gender → men; sexual orientation → lesbian). Final scores were calculated as the sum of correct responses ranging from 0 (no correct responses) to 12 (all correct responses).

Third, to assess genderist attitudes toward TGD individuals, the genderism subscale of the Italian version of the *Genderism and Transphobia Scale* was used [34, 35]. This 25-item questionnaire assesses emotional disgust toward TGD individuals and the ideology that reinforces negative evaluations of TGD individuals using a 7-point Likert scale ranging from 1 (“strongly agree”) to 7 (“strongly disagree”). Example items include “sex change operations are morally wrong” or “God made two sexes and two sexes only.” Items were reversed so that higher scores reflected greater genderism. In our sample, the values of Cronbach’s alpha were 0.87 at pre-intervention, 0.95 at post-intervention, and 0.89 at the 3-month follow-up assessment.

Finally, heteronormativity was measured using the Italian version of the *Heteronormative Attitudes and Beliefs Scale* [36, 37], a 16-item questionnaire that assesses heteronormative beliefs and attitudes on a 7-point Likert scale ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). The measure comprises two subscales: (1) “essential sex and gender” (i.e., heteronormative beliefs), which assesses the belief that there are only two sexes that correspond to the two biological sexes (e.g., “There are only two sexes: male and female”), and (2) “normative behavior” (i.e., heteronormative attitudes), which assesses the extent of heteronormative attitudes and essential gender roles (e.g., “The best way to raise a child is to have a mother and a father raise the child together”). Higher scores on each subscale indicate stronger heteronormativity. In our sample, Cronbach’s alpha values for each subscale at pre-intervention, post-intervention, and at the 3-month follow-up assessment were as follows: “essential sex and

gender” ($\alpha_{\text{pre}} = 0.79$; $\alpha_{\text{post}} = 0.74$; $\alpha_{\text{follow-up}} = 0.75$, respectively) and “normative behavior” ($\alpha_{\text{pre}} = 0.76$; $\alpha_{\text{post}} = 0.80$; $\alpha_{\text{follow-up}} = 0.75$, respectively).

Training

The training took place in a single day, lasted 6 h, and consisted of 2 sessions, one theoretical and one concerning clinical practice. The *theoretical session*, provided by experts in the field of gender diversity in childhood and youth, consisted of 3 sections.

The first section addressed the theoretical foundations of sexual identity, focusing in particular on the structuring of gender identity, both congruent and incongruent with the sex assigned at birth. Particular attention was paid to the developmental trajectories of gender identity during childhood and adolescence.

The second section was addressed to the depathologizing approach to gender diversity, both from a medical (i.e., endocrinological, pediatric, and neuropsychiatric) and psychological-clinical perspective, with an in-depth examination of the minority stress framework, the impact that sexual- and gender-based stigma can have on the person’s psycho-physical health, and the health disparities of this population (e.g., bullying, rejection in the family context, the peers’ protective role, etc.). The affirmative approach recommended by the American Psychological Association and WPATH [1] was discussed, as well as the current international literature and guidelines [1, 38] on the use of hypothalamic blockers in adolescents with a confirmed diagnosis of gender dysphoria.

The third section was dedicated to the role of family pediatricians as the first contacts of the families, essential for the early identification of children and adolescents who need specialized support. The most recent research on this topic was presented, with a special focus on the potentially negative role of implicit personal biases based on genderism and heteronormativity, showing how they can influence clinical decisions and negatively impact the family system. A model of a shared approach between a pediatric endocrinologist and a clinical psychologist was also presented as a good practice for the care of GD adolescents and their families proposed by the WPATH [1]. This model provides adolescents and their families with psychological support from the beginning of hormonal treatment up to the transitional phase in order to reduce the risk of detransition [4].

The *clinical practice session* consisted in presenting to the pediatricians a clinical scenario, allowing for the activation of a group reflection on the management of GD adolescents and their possible referral to specialized care. The case report described the history of Giulio, a 13-year-old teenager who has been under the care of the same pediatrician since his birth. Giulio has always been a strong-willed boy and, even during childhood, used to love wearing his mother’s clothes and makeup, had preferences for games stereotypical of the female gender, and preferred female peers. His mother was amused by her son’s dress-up games and sometimes allowed him to go out with lip gloss and colored nail polish. When the pubertal changes started, Giulio began to step away from his peers and self-isolate. He often made excuses not to go to school, until he told his parents that he “hated his body” and wanted to be addressed as a girl. His mother seemed to comply, whereas his father appeared to be upset. The parents started to argue often about it, sometimes quarreled, and Giulio felt to be causing the family discord. The COVID-19 pandemic allowed the parents to feel that Giulio’s suffering was progressively increasing. In a moment of despair, Giulio asked his parents to stop attending

Table 1. Effects test for training outcomes at pre-training, post-training, and at 3-month follow-up

Measures	Pre-M (SD)	Post-M (SD)	Follow-up M (SD)	F	p value	df	η^2
Knowledge	7.13 (3.21)	8.60 (2.91)	8.52 (2.81)	39.75	<0.001	1.18	0.46
Genderism	2.62 (0.72)	2.33 (0.58)	2.23 (0.64)	7.46	0.002	1.57	0.14
Heteronormative beliefs (ESG)	3.83 (0.37)	2.92 (0.88)	3.02 (0.81)	44.99	<0.001	1.49	0.49
Heteronormative attitudes (NB)	4.34 (0.26)	3.22 (0.85)	3.27 (0.84)	79.29	<0.001	1.09	0.63

ESG, essential sex and gender; NB, normative behavior; M, mean; SD, standard deviation; F, F test; df, degrees of freedom; η^2 , eta-square.

the distance-learning classes unless a solution could be found to stop displaying Giulio's name on the computer. The parents did not know what to do and asked the pediatrician for help. After sharing the clinical case with the group of participants, the latter were encouraged to discuss the case management, reflect on how to support Giulio in his health needs, and network with Giulio's reference contexts.

Statistical Analyses

Statistical analyses were performed using SPSS 27 setting the level of significance at 0.05. A one-way within-subject (repeated measures) analysis of variance (ANOVA) was conducted to compare the effect of training on the dependent variables, i.e., knowledge about sexual identity, genderism, and heteronormativity. Bonferroni adjustments for pairwise comparisons were applied. In case of violation of the sphericity assumption, Greenhouse-Geisser statistics were used. To index and interpret the proportion of variance explained by the variables, the effect size was also calculated using Cohen's eta-square (η^2), according to which 0.01 represents a small effect, 0.06 a medium effect, and 0.14 a large effect. Finally, some covariates were included in all ANOVAs (i.e., age, gender, previous participation in an LGBT course, and having previously worked with GD children or young people) to control their potentially confounding effects on the results.

Results

A total of 96 pediatricians (48 men and 48 women) participated in the training. Among them, 50% ($n = 48$) of participants were ≥ 61 years of age, 12.5% ($n = 12$) were 20–30 years old, 8.3% ($n = 8$) were 31–40 years old, 8.3% ($n = 8$) were 41–50 years old, and 20.8% ($n = 20$) were 51–60 years old. Among the participants, only 12.5% ($n = 12$) had previously participated in a LGBT course, while 62.5% ($n = 60$) had already had the opportunity to assist at least one GD child or young person. The results of the training outcomes (i.e., knowledge about sexual identity, genderism, and heteronormativity) obtained at pre-training, post-training, and at 3-month follow-up are shown in Table 1 and Figure 1.

Pre-training questionnaires revealed that the mean score of the knowledge about sexual identity was 7.13 ± 3.21 , indicating good knowledge among some but not all participants. Genderism (2.62 ± 0.72), heteronormative beliefs (3.83 ± 0.37), and heteronormative attitudes (4.34 ± 0.26) were in the lower range of the scale, indicating that pediatricians generally do not exhibit strong genderism or heteronormativity, but negative attitudes are nonetheless present.

Knowledge about sexual identity significantly improved from pre- to post-training (8.60 ± 2.91 ; mean difference (MD) = 1.48; $p < 0.001$; 95% CI = 0.91, 2.05) and from pre- to follow-up assessment (8.52 ± 2.81 ; MD = 1.39; $p < 0.001$, 95% CI = 0.86, 1.93) but not from post-training to follow-up assessment. Similarly, from pre- to post-training, genderism (2.33 ± 0.58 , MD = 0.29, 95% CI = 0.02, 0.58, $p = 0.035$), heteronormative beliefs (2.92 ± 0.88 , MD = 0.92, 95% CI = 0.61, 1.22, $p < 0.001$), and heteronormative attitudes (3.22 ± 0.85 , MD = 1.11; 95% CI = 0.81, 1.42, $p < 0.001$) significantly decreased, as well as from pre- to follow-up assessment (genderism: 2.23 ± 0.64 , MD = 0.39, 95% CI = 0.08, 0.71, $p = 0.008$; heteronormative beliefs: 3.02 ± 0.81 , MD = 0.82, 95% CI = 0.53, 1.10, $p < 0.001$; and heteronormative attitudes: 3.27 ± 0.84 , MD = 1.07, 95% CI = 0.77, 1.37, $p < 0.001$), but not from post-training to follow-up assessment. These results suggest that significant improvement in knowledge about sexual identity and significant decrease in genderism and heteronormative beliefs and attitudes were achieved after training and remained unchanged after 3 months. None of the covariates included in ANOVA analysis (i.e., age, gender, previous participation in an LGBT course, and having previously worked with GD children or young individuals) significantly affected the results.

Discussion

The results of the current study highlight that there are still several gaps in the pediatricians' knowledge about sexual identity, as well as unmet needs in providing

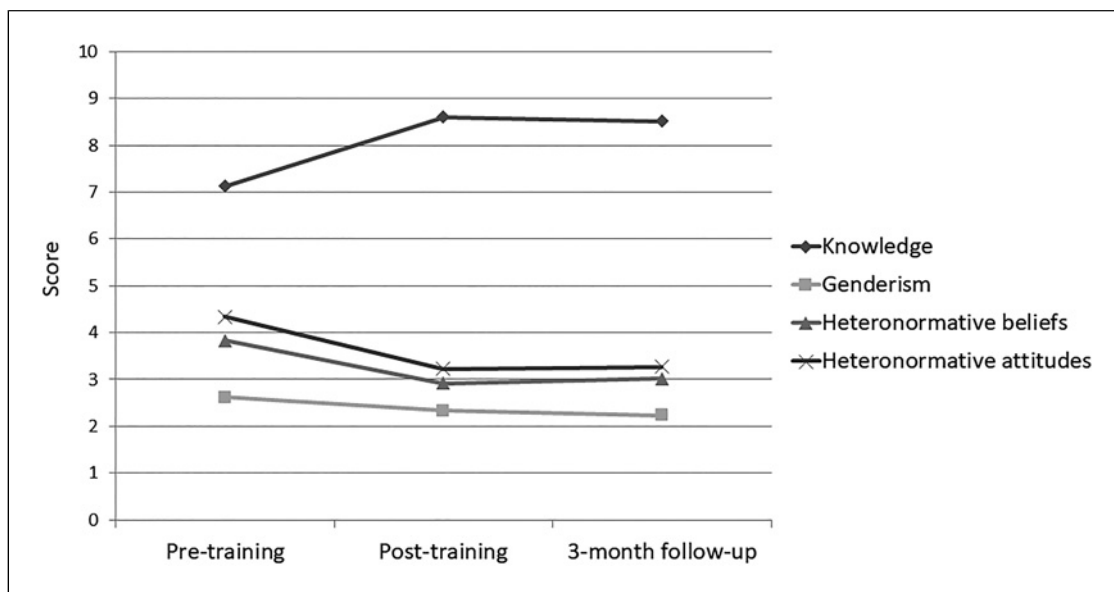


Fig. 1. Changes in the knowledge of sexual identity, genderism, and heteronormative beliefs and attitudes at pre-training, post-training, and at the 3-month follow-up assessment.

transgender-specific care. Moreover, this is the first study evaluating the efficacy of a short-term training program administered to pediatricians in order to improve their knowledge of gender diversity in childhood and adolescence. The training was indeed effective in increasing the pediatricians' knowledge about sexual identity and reducing personal biases such as genderism and heteronormativity, suggesting the need of specific training for the optimization of assessment and management of GD children and adolescents.

These findings point to the importance of pediatric clinicians becoming aware of the dimensions surrounding gender diversity and being able to ensure welcoming healthcare settings [39–42]. Moreover, they should be sensitively trained to understand the feelings and the stress that gender minorities experience due to the social stigma they often face in daily life, not only due to the influence of social environments [43] but also due to the scarce capacity of healthcare services to address their medical needs [24].

Health professionals providing care to children and adolescents who experience gender incongruence need to be adequately informed and able to meet their specific needs, thus allowing them to build resilience that can help cope with potentially adverse life contexts [40]. This can contribute to the depathologization of gender diversity, which can render the GD youth free to express their affirmed gender identity. Since pediatricians are the first contacts for GD youth and their families in the healthcare system, training programs helping them to correctly

address the special needs of GD youth are urgently needed. Indeed, pediatricians play a key role in supporting GD youth to feel validated in their gender identity and expression [22].

Although brief, the training program administered to pediatricians proved to be effective in reducing their individual biases and increasing their awareness about sexual identity, potentially reinforcing their skills in the care of GD youth. We are aware that the current study has some limitations. First, the sample is small in terms of representativeness of the general population of pediatricians; however, the experience-based nature of the intervention allows us to overcome, at least in part, this limitation. Second, a control group of pediatricians, who did not participate in the same training, is missing. Future research should thus include a control group to ensure that the change in knowledge, genderism, and heteronormativity is attributable to the specific training, thus excluding the influence of other possible variables. Third, the scales used in this study were subjective self-report assessment tools, which did not allow us to assess implicit biases. Future research should consider assessing genderist and heterosexist attitudes using measurement instruments that do not rely on self-report questionnaires but measure objective improvements rather than self-perceptions. Fourth, the lack of inclusion and exclusion criteria may introduce significant bias in the results. Indeed, it is very likely that pediatricians with high levels of genderism and heteronormativity decided not to

participate in the training because of their possible bias against gender diversity. Future research should therefore attempt to recruit a broader sample of pediatricians with varying degrees of genderist and heteronormative attitudes and evaluate the impact of the training based on these variables. Fifth, the group might be considered too large to discuss the case together. Future research could consider the possibility of presenting the case as a simulated patient to all participants individually before and after the training and having another professional assess the participants' communication and interaction with the patient and family using a prepared scale. This could better support the results of the study and show the differences between the theoretical and practical approaches. Finally, the follow-up period was very short. Future studies should consider assessing the changes achieved by this training over longer follow-up periods.

Conclusions

Our study showed the efficacy of a brief training program in improving the knowledge about the management of gender diversity in childhood and adolescence, which, in turn, could significantly improve the quality of the care delivered to these individuals. Although our results need to be confirmed in well-designed studies on larger populations, the current data suggest that training programs aimed at pediatricians addressing gender diversity are essential to improve clinical management. Pediatricians should always be aware of the GD youth's needs, thus helping these individuals to feel less discriminated against and better deal with the challenges that their minority status implies.

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Statement of Ethics

This study was approved by the Ethics Committee of the University of Naples Federico II (approval number 15/2022). Written informed consent was obtained from participants in accordance with the Code of Ethics of the World Medical Association.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Funding Sources

The authors declare that no funds, grants, or other support were received for this project.

Author Contributions

F.S., C.S., M.S., R.D.M., and D.C. designed the study, collected data, carried out the initial analyses, and drafted the initial manuscript. M.S., R.D.M., and D.C. coordinated and supervised data collection. V.B. and S.M. critically revised the manuscript for important intellectual content. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

Data Availability Statement

The data that support the findings of this study are not publicly available because they contain information that could compromise the privacy of research participants but are available from the corresponding author [D.C.] upon reasonable request.

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