LITERATURE REVIEW

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PHYSIOTHERAPY IN THE PATIENT WITH DISORDER OF SEXUAL DEVELOPMENT: FUNCTIONALITY AND AESTHETICS

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ABSTRACT | Disorder of sexual development (DSD) is defined as a congenital condition in which the development of chromosomes, gonads and sexual anatomy are atypical. DSD patients have life-long repercussions that range from complaints involving components of pelvic floor functionality such as urinary incontinence, vaginal narrowing, sexual dysfunction, and dissatisfaction with genital appearance. There are different features that can be used to reduce these repercussions in which they are part of the arsenal of physiotherapeutic resources, such as vaginal dilators and the use of radiofrequency. However, physiotherapy is not yet part of the multidisciplinary team required by the DSD patient management guidelines due to the lack of studies that prove the evidence of physiotherapy in these patients, but based on the studies developed to treat the genital appearance and functionality of the floor Pelvis, it becomes possible the performance of this professional in this population.

Keywords: Disorder of sexual development, radiofrequency, pelvic floor.

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Sexual development for either the female or the male is the result of embryonic processes occurring chronologically. Disorder of sexual development (DSD) is defined as a congenital condition in which the development of chromosomes, gonads and sexual anatomy are atypical. Approximately one in every 2,000 children worldwide is born with a condition of disorder of sexual development[1,2].

The gonadal determination in which the transformation of the bipotential gonad into ovaries or testicles takes place and the sexual differentiation that occurs through the differentiated gonads leading the individual to the final phenotype are the two main phases of the sexual development that causes changes leading to DSD. The terminology for this condition has been modified over time, and in 2006 the Lawson Wilkins Pediatric Endocrine Society (LWPES) and the European Society for Pediatric Endocrinology (ESPE) established the term disorder of sexual development (DSD) aiming to minimize the discomforts generated by hermaphrodite, pseudo hermaphrodite or ambiguous genitalia terminologies that are pejorative and offensive to patients and their families[1].

There are some concepts that need to be understood for the management of patients with DSD, which are sexual orientation and gender identity. Sexual orientation refers to the sex in which the person feels sexual desire (same sex, opposite sex or both sexes), and the gender identity corresponds to the gender in which the person identifies[3-5].

The management of the patient with disorder of sexual development runs through a multidisciplinary team in which the main care guides: LWPES Consensus Group, ESPE Consensus Group and Clinical guidelines for the management of disorders of childhood development in childhood, list as necessary a team with: urologists pediatricians, psychologists, gynecologists, psychiatrists, endocrinologists, nurses and genetic counseling[1,6,7]. What would be the role of the physical therapist? Although he is not part of the multidisciplinary team, would he have space and performance?

Schober's 2012 review reports the long-term outcomes of individuals with DSD, in which it is highlighted that, of the few studies investigating urinary issues in this population, urge urinary incontinence and stress urinary incontinence respectively affect 18% and 31%. Other outcomes that affect these patients in adulthood are sexual dysfunctions and dissatisfaction with the internal and external appearance of the genitalia[8].

One study verified the sexual function and genital sensitivity of women with adrenal hyperplasia (AH) and found a lower clitoral sensitivity when compared to women without AH, which may influence the sexual dysfunctions of these women. In this same study, sexual function was evaluated and women with HA presented greater difficulty in vaginal penetration, a lower frequency of sexual intercourse, a greater refusal to sexual intercourse, and a decreased sexual satisfaction of overall score[9].

The sexual function of women with DSD is modified mainly by three factors: vaginal narrowing, difficulty in lubrication and dissatisfaction with genital appearance. Physiotherapy has features that may help in modifying these factors, but there is a literature gap to affirm the evidence of physical therapy in this group of patients.

For vaginal narrowing, progressive dilatation was discovered as a conservative option to aid this dysfunction since 1938 by Robert Frank[10]. Progressive dilation aims to increase the flexibility of the vaginal wall allowing it to increase in length and width. The first studies used the dilators 3 times a day for at least 30 minutes. In 1981, Williams developed a bicycle seat, which had a socket to couple the different sizes of the dilators according to the evolution of the patient, this bicycle allowed the women to sit on this bench and perform the dilation[11].

Currently, the vaginal dilators are made of silicone and have several sizes, they are being modified both in length and width which allows a more effective dilation. Current protocols stimulate the daily use of dilators, but the time of use varies in the literature from 30min to 2 hours, and it is advised that these patients have a follow-up to indicate the ideal size as well as the evolution of the dilator replacement[10,11,12].

Another discomfort present in these patients, other than vaginal narrowing, is the dissatisfaction with the genital appearance, thus physiotherapy has

been growing in the area of intimate aesthetics, a branch in which it aims to modify the appearance of the genital region, which may have come as an alternative to the patients with DSD. In a search conducted in the Pubmed, Medline, Scielo, Lilacs and Periodical CAPES, no studies with a physical therapy approach were found in this group of patients. The physiotherapeutic treatment aims mainly to improve the appearance of the large lip region (tissue flaccidity), bleaching of the perianal, genital and groin regions, reduction of localized fat, usually found in the supra pubic region and fibrosis of surgical scars.

Non-ablative radiofrequency appears as a physiotherapeutic possibility for modifying the genital appearance. RF is an electromagnetic wave and has its mechanism of action based on the generation of heat in the skin layers, with immediate retraction of existing collagen and neocolanogenesis over time[13]. This feature has been widely used in patients with facial, trunk and limb skin flaccidity, with significant improvement[14], and it is beginning to be used in the genital region[15,16,17].

A pilot study aimed to evaluate the safety of non-ablative radiofrequency in the region of large lips, in which no adverse effect was observed[17]. Studies that use non-ablative radiofrequency for genital laxity have different protocols, which vary according to the number of sessions and the time of application. A randomized clinical trial found satisfaction with treatment, modification of genital appearance, and sexual function with the use of non-ablative RF in women complaining of loosening of the labia majora. The protocol used was 5 sessions, 1 session per week with a temperature of 39-41C for 2 minutes, on each side. To evaluate the genital appearance, photographs were taken in which it was evaluated by three specialists: gynecologist, dermatologists and physiotherapist, all the professionals showed a positive change in the turgor and numbers of preaching of the big lips of the patients ($p < 0.05$). Satisfaction with treatment was reported in 76% of the group that used radiofrequency, while the control group had a satisfaction of 27% ($p = 0.001$). For the sexual function outcome, there was a positive modification in the domains of the Female Sexual Function Index (FSFI) questionnaire of arousal, sexual satisfaction and overall score[15].

Radiofrequency has been used not only for modifying the genital appearance but also for dyspareunia and difficulty reaching orgasm. Through the increase of temperature, radiofrequency stimulates the production of new collagens, causing the vaginal region to modify its characteristics improving sexual function, especially in the outcomes of pain during relation and difficulty reaching orgasm[18,19,20].

CONCLUSION

There is a shortage of studies that prove the evidence of physiotherapy in the patient with disorder of sexual development, but based on the studies developed for the treatment of genital appearance and functionality of the genital region, there is a possibility of performance of this professional in this population.

COMPETING INTERESTS

No financial, legal or political competing interests with third parties (government, commercial, private foundation, etc.) were disclosed for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.).

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