

Vaginal laxity: a poorly understood quality of life problem; a survey of physician members of the International Urogynecological Association (IUGA)

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Abstract

Introduction and hypothesis Our goal was to assess how physician members of the International Urogynecological Association (IUGA) perceive and manage vaginal laxity.
Methods An Internet-based survey was circulated targeting physician members of IUGA that consisted of 27 questions and was designed to query attitudes and practices with respect to vaginal laxity.

Results Five hundred and sixty-three of the 2,235 surveys were completed (25% response rate). Most respondents (65% male and 35% female) listed urogynecology as their specialty. The geographical distribution was Europe (39%), North America (23%), Asia (15%), South America (14%), Australia (6%), and Africa (3%). **Eighty-three percent described laxity as underreported by their patients.** The majority considered laxity a bothersome condition to patients that impacts relationship happiness and sexual function. The introitus was listed most often as being responsible for these

symptoms. Whereas only 54% offered surgical treatment, surgery was cited as more effective than Kegel exercises or physical therapy. North Americans were more likely to prefer and perform surgical treatment for this problem.
Conclusion Vaginal laxity is common and may impact sexual function and quality of life. Expanding our knowledge regarding pathophysiology and treatment would be of benefit to these patients.

Keywords Vaginal laxity · Vaginal looseness · Sexual function · Urogynecology

Introduction

Vaginal laxity/vaginal looseness is a poorly recognized, ill-defined condition. Stretching of the vaginal introitus secondary to vaginal delivery or in conjunction with pelvic organ prolapse (POP) may be a natural process but could also result in loss of physical sensation and diminished sexual satisfaction during intercourse [1]. It is not known how many women experience bothersome symptoms from this phenomenon. A recent survey of obstetrician gynecologists noted that 84% of responders believe vaginal laxity is underreported by their patients. Despite this, it was also cited as the most dominant physical change that physicians felt patients experience following vaginal delivery [2]. Nevertheless, it remains unclear whether urogynecologists address these issues in their conversations with patients. Women with laxity may be representative of an early stage in POP development; however, this has not been previously evaluated. Indeed, a standardized definition and means to query patients regarding such symptoms does not exist.

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Data suggests that vaginal laxity may impact quality of life (QOL) and, in some cases, adversely affect women's sexual health and body image [3, 4]. Few reports of vaginoplasty repairs to treat introital laxity have documented improvement in sexual symptoms after repair [5–7]. However, there is potential for bias, as these studies share a retrospective design and lack of validated measures to assess sexual function. Reconstructive surgery for POP often results in changes in vaginal length and caliber. Nevertheless, there has not been a consistent relationship between these factors and subsequent sexual function [8, 9]. Indeed, an ideal vaginal girth following vaginal surgery remains elusive. Urogynecologists are in a unique position to evaluate these issues and plan for such factors after surgical repair [10].

The purpose of this study was to query physician members of the International Urogynecological Association (IUGA) with respect to their attitudes and practices toward sexual health and vaginal laxity/looseness in their patients in order to describe current opinion regarding etiologies and treatments. A secondary goal was to determine whether there were associations between responses on the survey and demographic variables such as physician age, gender, and geographic location. We hypothesized that the majority of physicians surveyed would believe symptoms of vaginal laxity to be common but surgical correction would be infrequent.

Materials and methods

This was an observational, descriptive study using an Internet-based survey to assess responses of physician members of the International Urogynecological Association (IUGA). Permission was granted by IUGA's Research and Development committee to access a membership list for the study purposes after the protocol and survey were reviewed. As this organization does not classify members based on profession, all members of the IUGA were sent the survey information. The study received approval from TriHealth's Good Samaritan Hospital Institutional Review Board, Cincinnati, OH, USA. A brief introductory e-mail was sent out to all IUGA members and contained a link to a SurveyMonkey® site. The survey instrument consisted of 27 questions and was designed by the authors to query survey participants regarding attitudes and practices with respect to patient's sexual health and vaginal laxity/looseness. Questions focused on demographic information, perceived pathophysiology of vaginal laxity, impact of vaginal laxity, and potential therapies for this condition ("Appendix A"). The first question of the survey was for screening purposes so that only attending physicians were allowed entry to the complete questionnaire. A single invitation was sent as per IUGA permission guidelines. Vaginal laxity/looseness was not defined in detail to allow respondents to freely give their

opinion regarding the basis for these symptoms. Statistical analysis was performed using IBM SPSS Statistics v.19 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were calculated for all categorical data and analyzed using chi-square or Fisher's exact test, as appropriate.

Results

Five hundred sixty-three responses to 2,235 surveys were obtained (25% response rate). Four hundred eighty-seven

Table 1 Demographics of 451 eligible respondents

| Primary Specialty | No. (%) |
|---|------------|
| Urogynecology and Reconstructive Pelvic Surgery | 262 (58.1) |
| Obstetrics & Gynecology | 118 (26.2) |
| Gynecology | 47 (10.4) |
| Urology | 15 (3.3) |
| Other | 9 (2.0) |
| Length of Time in Practice | |
| 11–20 years | 148 (32.8) |
| More than 20 years | 132 (29.3) |
| 5–10 years | 105 (23.3) |
| Less than 5 years | 66 (14.6) |
| Geographic Area | |
| Europe | 175 (38.9) |
| North America | 98 (21.8) |
| Asia | 69 (15.3) |
| South America | 64 (14.2) |
| Australia | 28 (6.2) |
| Africa | 15 (3.3) |
| Not specified | 2 (0.4) |
| Primary Practice Type | |
| University-based or academic | 198 (43.9) |
| Private practice or community-based | 160 (35.5) |
| Other | 46 (10.2) |
| Multispecialty group (e.g., Mayo, etc.) | 43 (9.5) |
| Managed care (e.g., Kaiser, etc.) | 4 (0.9) |
| Gender | |
| Male | 293 (65.0) |
| Female | 158 (35.0) |
| Age Category | |
| 41–50 | 181 (40.1) |
| 51–60 | 121 (26.8) |
| 31–40 | 110 (24.4) |
| >60 | 39 (8.6) |
| Completed Urogynecology Fellowship | |
| Yes | 248 (55.0) |
| No | 203 (45.0) |

responses were eligible, as attending physicians, and 451 of them answered most of the questions. However, only 416 physicians responded to all questions. The majority listed urogynecology as their specialty (58%); 65% were men and 35% were women. Geographical distribution of respondents was Europe 39%, North America 23%, Asia 15%, South America 14%, Australia 6%, and Africa 3% (Table 1).

The vast majority of respondents listed their patients' sexual health as important (97%) and felt comfortable talking about these issues with them (92%). However, 63% felt that time was a factor in a typical office visit/examination for such discussions. Eighty-three percent felt vaginal laxity/looseness is underreported by their patients. The majority (57%) considered laxity to be a bothersome QOL condition that impacts relationship happiness. Only 31% felt laxity to be a male-partner-driven condition and very few (4%) an industry-invented condition (Table 2). Whereas most felt that laxity impacts their patients' sexual functioning (95%), this was felt to occur only in some, rather than most, cases. Common sexual impacts cited included less confidence, perceived inability to please their partner, altered sensation, and decreased satisfaction.

The most frequently cited location responsible for laxity was the introitus, and the majority of respondents thought both muscle and tissue changes were responsible. Kegel exercises and physical therapy were both recommended frequently; however, physical therapy was noted to be more effective. Whereas only 54% of respondents offered surgical treatment for the problem, with posterior repair/perineoplasty most often recommended, surgery was felt to be a more effective therapy. Potential concern for dyspareunia was documented by 83% (Table 3).

Subanalysis revealed no differences in responses based on any category, including practice type, age, and gender.

Table 2 Sexual Health Questions and Vaginal Laxity Impact

| Sexual Health Questions (N=441) | No. (%) |
|---|------------|
| • My patients' sexual health is important to me | 429 (97.3) |
| • I feel comfortable talking with patients about their sexual health | 406 (92.1) |
| • There is not enough time during a typical exam to discuss sexual problems | 278 (63.3) |
| Vaginal Laxity is... (N=427) | |
| • Underreported by my patient | 358 (82.7) |
| • A bothersome quality of life condition impacting relationship happiness | 242 (56.7) |
| • A medical condition requiring treatment | 205 (48.0) |
| • A naturally occurring condition | 165 (38.6) |
| • A female-patient-driven condition | 153 (35.8) |
| • A male-partner-driven condition | 134 (31.4) |
| • A condition invented by industry | 19 (4.4) |

Percentages refer to positive responses. Total may be >100%, as more than one response could be selected

Table 3 Vaginal Laxity Physiology and Treatment

| Vaginal Laxity Symptoms (N=416) | No. (%) |
|---|------------|
| • Located primarily at introitus | 219 (52.6) |
| • Symptoms arise from muscle and tissue changes | 344 (82.7) |
| Vaginal Laxity Treatment (N=416) | |
| • Recommend Kegel exercises | 314 (75.5) |
| • Recommend physical therapy | 248 (59.6) |
| • Offer surgical treatment | 223 (53.6) |
| Treatment efficacy | |
| • Kegel exercises somewhat or very effective | 250 (60.1) |
| • Physical therapy somewhat or very effective | 302 (72.6) |
| • Surgery somewhat or very effective | 306 (73.6) |
| Concern about treatment outcomes after surgery | |
| • Risk for dyspareunia (N=415) | 344 (82.9) |
| • Risk for scar tissue formation (N=413) | 248 (72.2) |
| • Risk for loss of sensation (N=404) | 188 (46.5) |

Percentages refer to positive survey responses. Total may be >100%, as more than one response could be selected

However, there were geographical differences noted with respect to treatment recommendations and efficacy. Kegel exercises were deemed less effective in North America than in Europe [$\chi^2(1)=7.1$, $p=0.011$], Asia [$\chi^2(1)=5.8$, $p=0.02$], and Australia [$\chi^2(1)=4.3$, $p=0.046$] (Fig. 1). Urogynecologists in North America were more likely than those in South America to perform posterior repair for laxity (70.4% vs. 43.8%, $p<0.001$), Europe (70.4% vs. 40%, $p<0.001$), Asia (70.4% vs. 50.7%, $p=0.015$), and Australia (70.4% vs. 42.9%, $p=0.013$). Finally, surgical treatment for laxity was most likely to be billed to the patient's insurance in North America versus being billed to the patient, compared with South America (86% vs. 43.2%, $p<0.001$), Asia (86% vs. 10.6%, $p<0.001$), and Africa (86% vs. 50%, $p=0.033$).

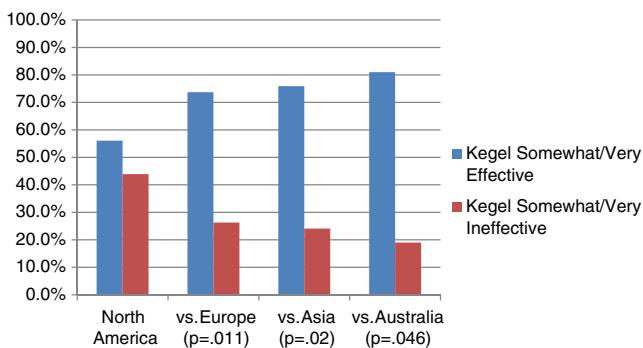


Fig. 1 Kegel effectiveness by geographic region

Discussion

Vaginal laxity remains poorly described and could be considered part of the natural progression occurring with aging, childbirth, and menopause. It has been suggested that in some women laxity can result in dissatisfaction with physical sensation, self-image, and sexual function [1–4, 6]. We report that many urogynecologists feel laxity is underreported and is a bothersome condition that may impact sexual function. However, treatment efficacies were noted to be modest.

Sexual health and QOL issues are often underdiagnosed and underrepresented in female health assessment. Recent research indicates that women delay seeking health care for such prevalent problems as urinary incontinence [11] and sexual disorders [12]. Vaginal laxity or vaginal looseness during sexual activity may be common, but an accurate assessment of its incidence and prevalence, as well as any negative impact, has not been performed. The few studies that describe loss of sensation or satisfaction in association with vaginal laxity are small [1], retrospective, or lack a validated measure of sexual function or sensation [5, 6]. Possibly, such anatomical alterations should be considered when examining sexual symptoms of orgasm and satisfaction. Nevertheless, even the most basic of definitions, descriptions, and dialogue in the medical profession with respect to this phenomenon is lacking. As we increase physician and patient awareness, more women may voice a desire to address these symptoms. This study represents an early step in such a process. Clearly, further work to characterize the pathophysiology and natural history of these symptoms remains.

Some interesting differences were seen here based on geography of respondent: North Americans appeared less likely to view Kegel exercises as effective and performed posterior repair/perineoplasty for laxity symptoms more often. Such cultural variation has not been previously reported and may be reflective of the more common use of insurance billing in North America.

Perhaps a greater ease of billing for this surgery renders North Americans more comfortable offering this option to their patients. Another possibility is that this could be reflective of a cultural or social bias toward a quick solution in the North-American continent, where in other parts of the world conservative management may be more readily accepted.

This study has some limitations: Online surveys suffer from an inherent responder bias, as survey responders may be different from nonresponders. Although a 25% response rate is reasonable for a survey of this nature [13], it may not be reflective of all members' opinions. In addition, despite an attempt to obtain a wide geographical sampling, the bulk of respondents were from Europe and North America, with the majority also being male. Although this may be reflective of the Society's membership, IUGA does not track member demographics, and we were thus unable to verify the representativeness of this sample. Finally, the nature of the survey questions rendered us unable to obtain a complete description of surgical corrections performed by physicians, which may be of interest to readers. Strengths of the study are the ability to evaluate a phenomenon previously not well understood and to obtain a large number of responses from many different countries.

Vaginal laxity and its potential association with negative impact on QOL have not been well characterized in the literature. Nevertheless, there is interest in this condition; a recent quarterly publication by the IUGA presented a debate regarding procedures to tighten the vagina [14]. Scant data exist to promote such therapies for women, yet based on this survey, surgeons do provide such a treatment. Overall, there is poor support for both conservative and surgical correction in managing individuals who may note negative impact on their QOL from these symptoms. This survey suggests a lack of consensus regarding pathophysiology and treatment, as well as concern about complications following surgical repair. Further research to characterize symptoms perceived in order to better define this process, as well as prospective studies evaluating outcomes after a variety of interventions, would be of benefit to our body of knowledge on this subject. Ideally, an instrument would be validated in women with and without laxity, and a panel convened to better define this concept and condition in order to help mitigate any potential negative impact on women's sexual function and QOL.

Conflicts of interest Dr. Rachel Pauls: American Medical Systems, Viveve Inc, BioSante Inc: Researcher; Dr. Angie Fellner: None; Dr. Willy Davila: American Medical Systems, Astellas, CL Medical Coloplast, Teva, IUGA, NAFC

Appendix A

3. Introduction to the survey

Dear colleague:

This survey is designed to gain information about your attitudes and perceptions regarding issues of sexual function and vaginal laxity in your patients.

We look forward to your feedback and appreciate your participation.

*1. What is your primary specialty?

- Urogynecology and Reconstructive Pelvic Surgery
- Urology
- Gynecology
- Obstetrics and Gynecology
- Other (please specify)

*2. How long have you been in practice?

- Less than five years
- Five to ten years
- Eleven to 20 years
- Greater than 20 years

*3. Where is your practice located?

City/Town:

State/Province:

ZIP/Postal Code:

Country:

*4. Is your primary practice:

- University based or Academic
- Private practice or Community based
- Multispecialty group (i.e. Mayo)
- Managed Care (i.e. Kaiser)
- Other (please specify)

*5. What is your gender?

- Male
- Female

***6. What is your age?**

- 31 to 40 years
- 41 to 50 years
- 51 to 60 years
- Greater than 60 years

***7. Have you completed a fellowship in urogynecology?**

- Yes
- No

4. Patients Sexual Health

The following questions refer to your patients' sexual health.

***1. Using the scale below, please indicate how strongly you agree or disagree with the following statements:**

| | Strongly Agree (5) | Agree (4) | Neither Agree nor Disagree (3) | Disagree (2) | Strongly Disagree (1) |
|--|-----------------------|-----------------------|-----------------------------------|-----------------------|--------------------------|
| My patients' sexual health is important to me as their healthcare provider | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My patients feel comfortable talking to me about their sex life | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I feel comfortable talking with my patients about their sex life | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| If my patients have a problem with their sexual function, they will bring it up with me | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There is not enough information on female sexual function available in medical literature or conferences | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| There is not enough time during a typical exam to discuss potential problems in a patient's sex life | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

5. Vaginal Laxity

This section is focused on vaginal laxity (looseness) and how you feel about the condition, diagnosis and treatment.

***1. What percent of your patients discuss vaginal laxity (looseness) during their visit?**

- Less than 10%
- 10-25%
- 26-50%
- 51-75%
- Over 75%

***2. How would you describe vaginal laxity (check all that apply)?**

- A naturally occurring condition
- A bothersome quality of life condition
- A male partner driven condition
- A female patient driven condition
- A medical condition that may require treatment
- A condition invented by industry
- A condition that impacts marital/relationship happiness

***3. Do you believe symptoms of vaginal laxity during vaginal intercourse are under-reported by your patients?**

- Yes
- No

***4. How do your patients most often present with vaginal laxity?**

- Verbally and proactively unprompted
- Verbally and reactively based upon your or your staff's questions or exam
- Responses to printed questionnaires
- I do not see patients with vaginal laxity

*** 5. Of the patients who discuss vaginal laxity, what percent discuss it as a consequence of vaginal childbirth?**

- Less than 10%
- 10-25%
- 26-50%
- 51-75%
- Over 75%
- I do not see patients with vaginal laxity

*** 6. Of those patients with vaginal laxity, approximately how many do you think also have pelvic organ prolapse?**

- Less than 10%
- 10-25%
- 26-50%
- 51-75%
- Over 75%
- I do not see patients with vaginal laxity

*** 7. Do you believe that vaginal laxity impacts your patients' sexual function?**

- Yes, in all cases
- Yes, in most cases
- Yes, in some cases
- Rarely
- Never

6. Impact of laxity on sexual function

*** 1. If you think vaginal laxity impacts your patients' sexual function, how does it do so (please check all that apply)?**

- Impacts their perceived ability to please their partner
- Impacts their level of sexual satisfaction
- Impacts their ability to have orgasm
- Impacts their partners' sexual satisfaction
- Impacts their physical sensation with intercourse
- Impacts their partners' ability to have orgasm
- Impacts their desire to have intercourse
- Impacts their confidence about their body during intercourse
- Other (please specify)

7. Physiology of vaginal laxity

*** 1. Which anatomic location do you believe vaginal laxity is most frequently related to?**

- The introitus
- Mid vagina
- Upper vagina
- All of the above

*** 2. Do you believe vaginal laxity is mostly:**

- Muscle related
- Tissue related
- Both muscle and tissue related

*** 3. For your patients who report vaginal laxity, what therapies do you provide (please check all that apply)?**

- Reassurance
- Screening for female sexual dysfunction
- Referral to sex therapy
- Kegel exercises/pelvic floor muscle strengthening
- Referral to pelvic floor physical therapist
- Posterior repair/Perineoplasty
- Anterior and Posterior Repair/Perineoplasty
- I don't treat vaginal laxity
- Other (please specify)

*** 4. How effective do you think Kegel exercises are for improving vaginal laxity?**

- Very ineffective
- Somewhat ineffective
- Neither effective nor ineffective
- Somewhat effective
- Very effective

*** 5. How effective do you think pelvic floor physical therapy is for improving vaginal laxity?**

- Very ineffective
- Somewhat ineffective
- Neither effective nor ineffective
- Somewhat effective
- Very effective

*** 6. If you stated that you would perform surgery for vaginal laxity, how do you determine the appropriate girth for the vaginal introitus postoperatively?**

- I have the patient measure her partner and use this to gauge the size
- I show the patient vaginal dilators/forms and have her decide which size is appropriate
- I estimate based on my experience and fingerbreadths size
- Not applicable
- Other (please specify)

*** 7. If you were to estimate the appropriate vaginal girth based on fingerbreadths, how many fingerbreadths is appropriate?**

- Two tight fingerbreadths
- Two loose fingerbreadths
- Three tight fingerbreadths
- Three loose fingerbreadths
- Other (please specify)

*** 8. If you perform surgery for vaginal laxity, how do you receive reimbursement for this?**

- I bill insurance for the procedure
- I charge the patient for the procedure
- Not applicable

*** 9. How effective do you think surgery is for improving symptoms of vaginal laxity?**

- Very ineffective
- Somewhat ineffective
- Neither effective nor ineffective
- Somewhat effective
- Very effective

*** 10. How concerned are you about the following complications after surgical treatment of vaginal laxity?**

| | Very unconcerned | Somewhat unconcerned | Neither concerned nor unconcerned | Somewhat concerned | Very concerned |
|--|-----------------------|-----------------------|-----------------------------------|-----------------------|-----------------------|
| Dyspareunia | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Scar tissue formation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Infection | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wound breakdown | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Loss of sensation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other post op complications (i.e. anesthesia risks, bleeding, etc) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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