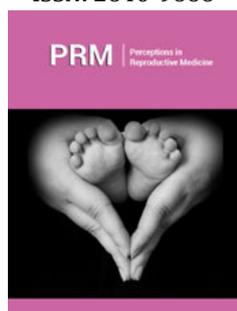


# Patient Perception of Penile Curvature and Peyronie's Disease

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## Abstract

**Introduction:** Peyronie's Disease (PyD) can present with both physical and psychological ramifications on patient well-being, which often prompts consultation for therapeutic intervention. The purpose of our study is to examine patient perception of their disease.

**Material and methods:** A cohort of eleven patients were provided questionnaires during their initial workup for PyD. The focused questionnaire examined patient-reported disease severity, erectile dysfunction, and the impact on the patient's life. Additional factors reviewed included physician-reported disease severity and curvature.

**Result:** The eleven patients questioned were sexually active men with a mean Sexual Health Inventory for Men (SHIM) score of 16 (range 5-25). Seven patients reported a curvature between 30-60 degrees associated with their PyD and four patients reported between 60-90 degrees of curvature. Five patients endorsed the presence of an hourglass defect and nine patients reported penile shortening. On a scale of 1-10, the mean negative impact of PyD on the patient's sex life was 7.9. Eight patients reported that PyD significantly decreased their interest in sex, frequency of sex, and sexual satisfaction. Seven patients reported that their PyD affected their self-esteem. Color Doppler Duplex Ultrasound (CDDU) identified concomitant arterial insufficiency or cavernous venous occlusive disease in 8 patients. Despite this observation, six of the patients reported getting erections hard enough for penetration "most times" or "almost always." Seven patients reported that vaginal intercourse was difficult secondary to PyD and nine patients reported having vaginal intercourse less often secondary to PyD. All patients reported trying some form of therapy for PyD.

**Conclusion:** Peyronie's disease can significantly affect a patient's sex life and self-perception. It is important to inquire about these experiences during the initial evaluation of PyD to better understand patient motivation toward treatment.

**Keywords:** Peyronie's disease; Erectile dysfunction; Quality of life

## Introduction

Peyronie's Disease (PyD) has been defined as an acquired penile abnormality characterized by fibrosis of the tunica albuginea with or without pain, deformity, Erectile Dysfunction (ED) or distress [1,2]. Distress is an important aspect of PyD as has been defined by the American Urologic Association (AUA). While pain tends to resolve, penile deformity or curvature, specifically, can have a compromising effect on quality of life [2-4]. PyD presents with both physical ramifications and emotional distress, depression, anxiety, or relationship complications [5,6]. As many as 81% of patients report emotional distress with a diagnosis of PyD [7]. There have been studies that examine the emotional distress that PyD causes in patients. There is a lack of literature on specific degrees of curvature that the patient experiences. There is also a lack of specific data that is ranked on a scale to determine the objective implication on quality of life and the impact on sexual distress for the patient. Previous studies certainly address the effect of PyD on quality of life, but more precise objective data is needed to determine the exact effect that PyD has on the patient. The purpose of our study is to examine patient perception of their disease as it pertains to their quality of

life and its psychosocial implications. A focused questionnaire was utilized to review the impact of PyD on quality of life. Specifically, objective data was collected to evaluate erectile health, quality of life, sexual health, and curvature. The data we obtained is important in counseling patients and helping them decide what therapies or interventions to pursue.

## Material and Methods

After Institutional Review Board (IRB) approval, a men's health database was generated. This database was generated to collect information on all men who were seen for PyD and ED in our men's health clinic. Questionnaire data was included in our database along with datapoints of demographic information including but not limited to date of birth, ethnicity, height, and weight. Specifically, we studied patients with PyD in our men's health practice. A cohort of eleven PyD patients were provided questionnaires during their initial workup for PyD. The focused questionnaire examined patient-reported disease severity, erectile dysfunction, and the impact on the patient's life. Additional factors reviewed included physician-reported disease severity and curvature as well as doppler ultrasound data.

Outcomes included data obtained from our men's health database such as the datapoints discussed in the first paragraph of research and findings. Additionally, questionnaire data was logged and reported as part of the study. Our primary outcomes included sexual health scores, degrees of curvature, impact of PyD on quality of life and sexual health, and ultrasound findings. Secondly,

therapeutic interventions chosen and the helpfulness of resources were studied and reported. This study was primarily created to list objective descriptive datapoints on the physical and psychosocial impact of PyD. Descriptive statistics were obtained and reported. Descriptive statistics were relayed using mean and range along with categorical data. The project primarily utilized objective statistics to give an overview of patient characteristics in regard to PyD.

## Result

Our cohort included 11 patients with PyD. The eleven patients questioned were sexually active men with a mean Sexual Health Inventory for Men (SHIM) score of 16 (range 5-25). Thus, to be included in the study patients had to have PyD and be sexually active. Penile characteristics were obtained via patient-reported data and questionnaires; physician report was also recorded (Table 1). Seven patients reported a curvature between 30-60 degrees associated with their PyD, and four patients reported between 60-90 degrees of curvature. The physician-recorded curvature did fall within the range provided by each patient. Five patients endorsed the presence of an hourglass defect and nine patients reported penile shortening. The impact of PyD on the patient's overall sexual health and self-image was reported via questionnaire. On a scale of 1-10, the mean negative impact of PyD on the patient's sex life was 7.9. Eight patients reported that PyD significantly decreased their interest in sex, frequency of sex, and sexual satisfaction. Seven patients reported that their PyD affected their self-esteem. Sexual health and self-image data are reported in Table 2.

**Table 1:** Patient penile characteristics.

| Patient-Reported Curvature (30-60 Degrees) | Physician-Reported Curvature (30-60 Degrees) | Patient-Reported Curvature (>60-90 Degrees) | Physician-Reported Curvature (>60-90 Degrees) | Hourglass Deformity (Number) | Penile Shortening (Number) |
|--|--|---|---|------------------------------|----------------------------|
| 7 of 11                                    | 7 of 11                                      | 4 of 11                                     | 4 of 11                                       | 5 of 11                      | 9 of 11                    |

**Table 2:** Sexual health & self-image.

| Negative Impact on Sexual Health (Mean, Scale 1-10) | Decreased Interest in Sex | Decreased Frequency of Sexual Intercourse | Decreased Sexual Satisfaction | Decreased Self-Esteem |
|---|---------------------------|---|-------------------------------|-----------------------|
| 7.9   | 8 of 11                   | 8 of 11                                   | 8 of 11                       | 7 of 11               |

Color Doppler Duplex Ultrasound (CDDU) was utilized to evaluate each patient's erection and determine the characteristics of the patient's PyD (Table 3). The incidence of concomitant ED was also determined along with the causes of ED. CDDU identified concomitant Arterial Insufficiency (AI) or cavernous venous occlusive disease (CVOD) in 8 patients. Despite this observation, six of the eight patients reported getting erections hard enough

for penetration "most times" or "almost always." Two patients responded, "almost never" to getting an erection hard enough for penetration, while two patients reported "a few times" and one patient "sometimes." Seven patients reported that vaginal intercourse was difficult secondary to PyD and nine patients reported having vaginal intercourse less often secondary to PyD.

**Table 3:** Ultrasound characteristics & erectile health.

| AI-Associated Erectile Dysfunction | CVOD-Associated Erectile Dysfunction | Patients with ED but Erections Hard Enough for Penetration | Difficulty with Vaginal Intercourse | Decreased Amount of Vaginal Intercourse |
|------------------------------------|--------------------------------------|--|-------------------------------------|---|
| 4 of 11                            | 4 of 11                              | 6 of 8   | 7 of 11                             | 9 of 11                                 |

Patient therapy was tracked via physician-obtained history and questionnaire data. All patients reported trying some form of therapy (medications, topical creams, stretching devices, or vacuum erection devices.) Only one patient reported that the vacuum erection device improved their curvature. Overall, most patients (9) reported that the most helpful resources in understanding their PyD were doctor appointments. Six patients reported utility in using online resources such as internet forums and medical websites to learn more about PyD.

## Discussion

Our study found a significant effect of PyD on the quality of a patient's life. Penile characteristics exhibited major degrees of curvature that led to a significant impact on the patient's sex life and self-perception. An overall negative effect on sexual satisfaction and ability to successfully have sexual intercourse was noted. Additionally, a significant number of patients with PyD exhibited erectile dysfunction as shown by ultrasound exam. As noted earlier, a large number of patients with PyD are emotionally and psychologically effected by their PyD [6]. As high as 48% of patients have been shown to have depressive symptoms that can linger over time [8]. More than half of patients with PyD report relationship difficulty, which was also reflected in our study [9]. Well over half our cohort exhibited relationship difficulties and decreased interest and ability to have sexual relations with their partner. Additionally, patients with PyD tend to have increased anxiety and decreased satisfaction overall with their sexual health and ability [9,10]. Our study reinforced this finding of decreased satisfaction (seen in 8/11 patients in our cohort).

This study shows many patients with PyD have concomitant ED (8/11) and difficulty with vaginal intercourse (7/11). This is an important finding as patients should be counseled that PyD combined with ED often necessitates the placement of a penile prosthesis. A thorough sexual and medical history must be obtained along with a physical exam and ideally an evaluation of the patient's erection. The history and physical are critical to patient counseling and treatment options as is evidenced by our study. Our study is not a population-based study and only offers single-institution data which could limit the study to a smaller demographic population. The limitations of our study are that it is limited to a single institution and is retrospective in design. Further studies from other institutions around the world would enhance

the data we have obtained in this study. Our study is important in that it offers guidance on clinical counseling for patients and allows the physician to individualize patient treatment to obtain the best outcomes in the Peyronie's disease population. Additionally, our study offers objective information and data obtained to speak on the impact of Peyronie's disease on quality of life.

## Conclusion

Peyronie's disease can significantly affect a patient's sex life and self-perception. It is important to inquire about these experiences during the initial evaluation of PyD to better understand patient motivation toward treatment. Additionally, a physician's understanding of the most bothersome parts of the patient's PyD can assist in formulating a treatment plan for each individual patient and assist in helping the patient understand treatment outcomes and expectations.

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