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Effectiveness of a Multidisciplinary Approach to Dyspareunia in Women with Vulvodynia

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Abstract

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Background: Vulvodynia is a multifactorial pain disorder characterized by vulvar pain, irritation, and dyspareunia resulting in physical, sexual, and psychological distress. The symptoms that women experience have a significant impact not only on their sexual functioning but also on their psychological well-being and overall quality of life. Currently there is no consensus among health care providers on the approach or treatment strategies for vulvodynia. This systematic review examines whether the use of a multidisciplinary approach can be a more effective treatment of dyspareunia in women with provoked vestibulodynia (PVD).

Methods: An exhaustive search of available medical literature was performed using MEDLINE-PubMed, Web of Science, Google Scholar, and CINAHL. Keywords searched included: vulvodynia, vestibulodynia, dyspareunia, and multidisciplinary. Articles were assessed using GRADE criteria.

Results: After completing a search 3 articles were selected that met all inclusion criteria. All 3 articles were observational studies, 2 of which were retrospective and 1 prospective. All studies showed a reduction in dyspareunia and coital pain in women with vulvodynia who had completed a multidisciplinary treatment program. These studies demonstrated a range of reduction of vulvodynia in 53.8%-81% of affected women. Length of treatment and length of follow-up varied among all studies. Future RCTs are needed to establish the efficacy of multidisciplinary vulvodynia programs (MVPs) on women with vulvodynia in comparison to one-dimensional treatments.

Conclusion: The use of a multidisciplinary treatment approach can lead to substantial improvements in vulvar pain and dyspareunia in women with vulvodynia or PVD. Evidence showed strong support for the immediate and long-term benefits of MVP. Future research using randomized control trials, long-term follow-up, and standardized outcome measurements should be conducted to further examine the benefits of MVP.

Keywords: Vulvodynia, vestibulodynia, dyspareunia, and multidisciplinary

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Biography

Cloe Dedman is a native of Montana and graduated from Pacific University in 2012 with a degree in Biology. After completion of her undergraduate degree, she worked as a phlebotomist for an OB/GYN group in Portland. She is interested in family medicine and rural medicine.

Philease Martin is from Peoria,IL and received her Bachelor's of Science degree from Pacific University in 2016. Her background is in medical laboratory science as she worked as a medical laboratory assistant and phlebotomist in a hospital in Peoria,IL. She is interested in surgical oncology and cardiothoracic surgery.

Abstract

Background: Vulvodynia is a multifactorial pain disorder characterized by vulvar pain, irritation, and dyspareunia resulting in physical, sexual, and psychological distress. The symptoms that women experience have a significant impact not only on their sexual functioning but also on their psychological well-being and overall quality of life. Currently there is no consensus among health care providers on the approach or treatment strategies for vulvodynia. This systematic review examines whether the use of a multidisciplinary approach can be a more effective treatment of dyspareunia in women with provoked vestibulodynia (PVD).

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Conclusion: The use of a multidisciplinary treatment approach can lead to substantial improvements in vulvar pain and dyspareunia in women with vulvodynia or PVD. Evidence showed strong support for the immediate and long-term benefits of MVP. Future research using randomized control trials, long-term follow-up, and standardized outcome measurements should be conducted to further examine the benefits of MVP.

Keywords: Vulvodynia, vestibulodynia, dyspareunia, and multidisciplinary

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To our families: Thank you for all of your love and support over the years. We would not be here today without you all.

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Table 1: Quality Assessment of Reviewed Studies

List of Abbreviations

PVD	Provoked vestibulodynia
MVP	Multidisciplinary vulvodynia program
VAS	Visual analog scale
FSFI	Female Sexual Function Index
FSDS	Female Sexual Distress Scale

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BACKGROUND

Vulvodynia is a multifactorial pain disorder characterized by vulvar pain, irritation, and dyspareunia resulting in physical, sexual, and psychological distress.¹ Vulvodynia is the blanket term for generalized vulvar pain syndromes and includes other specific subtypes most prominently provoked vestibulodynia (PVD). With PVD the symptoms are provoked by physical contact that is sexual, nonsexual, or both. Vulvodynia and more specifically PVD is the most common cause of dyspareunia in women under the age of 30 and is thought to affect 12% of women in the general population.² The symptoms that women experience have a significant impact not only on their sexual functioning but also on their psychological well-being and overall quality of life. The exact etiology of PVD is unknown but it is thought to include neurological, genetic, hormonal, psychological, interpersonal, and muscular components.³ As with other chronic pain disorders PVD has proved difficult for providers to effectively manage and treat. Currently there is no consensus among health care providers on the approach or treatment strategies for vulvodynia. With no straightforward or standardized guidelines there are a wide variety of medical/surgical and behavioral treatments being utilized in isolation resulting in women cycling through several different

treatment modalities over many years before experiencing any significant improvement. As with other chronic pain syndromes and multifactorial disorders there is evidence that the use of a multidisciplinary treatment approach would be most effective. However little research has focused on the utilization of multidisciplinary treatment modalities for vulvodynia and instead has primarily focused on one-dimensional treatment modalities. This systematic review examines whether the use of a multidisciplinary approach can be a more effective treatment of dyspareunia in women with PVD.

METHODS

An exhaustive search of available medical literature was performed using MEDLINE-PubMed, Web of Science, Google Scholar, and CINAHL. Keywords searched included: vulvodynia, vestibulodynia, dyspareunia, and multidisciplinary. Bibliographies of studies and other relevant articles were searched for further sources. Inclusion criteria consisted of a population of women diagnosed with vulvodynia or PVD, utilization of a multidisciplinary treatment approach or program that included some form of cognitive behavioral therapy/psychosexual therapy and physical therapy, and a primary outcome focus on dyspareunia or coital pain. Other inclusion criteria required human only studies, and studies published in the English language. Articles were assessed for quality using the Grading of Recommendations,

Assessment, Development, and Evaluation (GRADE).⁶

RESULTS

The initial search yielded 55 articles for review. After eliminating duplicates and screening these results for relevant articles using eligibility criteria, there were a total of 3 articles. Of the articles two were retrospective observational studies^{2,4} and one was a prospective observational study.⁵ Another retrospective observational study was considered, but fell under exclusion criteria, as it's primary outcome was not on dyspareunia and instead was on women's overall experience to the multidisciplinary vulvodynia program (MVP).⁷ See Table 1.

Backman et al

This retrospective observational study⁴ sought to evaluate a multidisciplinary treatment model comprised of combined physical and psychosexual therapy for women with PVD. The primary outcome measures were coital pain and intercourse frequency. Other secondary outcomes assessed included sexual functioning, stressors in life, and general treatment outcome. This study looked at 27 women who were treated with the combination of pelvic floor physical therapy and psychosexual therapy during 1999-2004. Of the 27 women selected 24 completed the program. The loss of 3 participants was due to lack of

motivation. The women selected met the inclusion criteria, which included symptoms for at least 12 months, severe dyspareunia with nearly all intercourse attempts, and provoked pain confined to the area surrounding the vaginal opening. Women were excluded if they had genital infections, unprovoked pain, were being treated for psychiatric or other major illnesses, or were undergoing treatment for PVD.⁴

All patients were assessed by a single gynecologist to confirm the diagnosis of PVD and to detect the possibility of exclusion criteria. Evaluation of the treatment program was done using a comprehensive multiple-choice questionnaire constructed by the researchers and was completed prior to treatment and 6 months post-treatment. Patient's rated their level of coital pain using the following multiple choice list: a) never painful, (b) occasional or mild pain, not preventing intercourse, (c) moderate pain sometimes preventing intercourse, and (d) moderate to severe pain, most times preventing intercourse. ⁴

Coital pain was dichotomized into pain not preventing intercourse and pain that sometimes or most of the times prevented intercourse prior to performing the Fisher's exact test. A reduction in the number of women with frequent coital pain was reported at the follow-up as compared with prior to treatment. At the follow-up 16 women (67%) reported occasion or mild pain not interfering with intercourse, 3 women (12%) reported moderate coital pain, sometimes preventing intercourse, and 5 women (21%) still

experienced moderate to severe pain, preventing intercourse most of the time. For women experiencing coital pain during the follow-up period 14 women (58%) sometimes regarded it as problematic compared to 10 women (33%) who often or always considered it problematic. Overall all 24 patients considered the treatment program as effective. ⁴

Brotto et al

This prospective observational study⁵ sought to evaluate the impact of a 10-week hospital-based multidisciplinary vulvodynia program (MVP) that utilized pelvic floor physiotherapy, psychological skills training, and medical management. The primary outcomes included dyspareunia and sexual functioning. Participants meeting inclusion criteria were recruited via physician referral. Inclusion criteria included a diagnosis of PVD, women of reproductive age, dyspareunia for at least 6 months, and the ability to participate in treatment sessions. All women had an initial assessment of medical history and gynecological examination performed by a gynecologist. ⁵

Physicians referred 314 women for the MVP and of those 132 women fully participated in the MVP and provided baseline data, and 116 provided completed data post-MVP. A total of 84 women completed data through the short-term 2-3 month follow up period. A subset of 24 women were used for comparison

and provided baseline data but did not participate in the MVP. The primary focus was on the 116 women who had completed both the pre and post-MVP data. ⁵

A questionnaire was utilized to assess duration, location, and quality of pain and aggravating factors. Pain was assessed at baseline using an 11-point visual analog scale (VAS) where 0 correlates to no pain and 10 correlates to the worst pain a woman could stand. Sexual functioning was assessed using the Female Sexual Function Index (FSFI), which is a 19-point validated measure addressing pain, sexual desire, arousal, satisfaction, orgasm, and a total sexual function score. With the FSFI higher scores in each subset indicate better levels of sexual functioning. ⁵

At baseline 87% of the participants reported that sexual penetration was at least occasionally not possible due to pain. Immediate post-treatment evaluation revealed that 53.8% of participants indicated that their pain had decreased since initiating the MVP while 41.2% reported no change in their pain level. The remaining women reported an increase in symptoms. A total of 52.1% of women engaged in intercourse following the MVP and of this group there was significant reduction in dyspareunia using the FSFI pain scale $P=0.001$ and a Cohen's $d= -0.85$ showing a large magnitude of effect. Women rated their pain using the VAS and a significant reduction in pain was reported ($P<0.001$) with a large effect size

(Cohen's $d=1.18$). Women were reevaluated 2-3 months after MVP. Pain was assessed using the VAS and results showed no significant change in pain from post-MVP to the follow-up period. ⁵

Spoelstra et al

This retrospective observational study² aimed to evaluate the long-term outcome of a multidisciplinary and multifaceted approach to vulvar pain, sexual functioning, and distress in women with PVD. Participants included women diagnosed with PVD who had received individualized, multifaceted, multidisciplinary treatment from University Medical Center in Groningen between 2002-2006. Inclusion criteria were: provoked superficial vulvar pain, tenderness of vestibular area even upon light touch, presence of symptoms for at least 6 consecutive months, and exclusion of all other causes of acquired superficial dyspareunia. In 2009, a total of 70 women meeting inclusion criteria were contacted by phone by an independent researcher and of those 64 women agreed to participate and provided informed consent. Selected women were sent a packet of questionnaires including the VAS, FSFI, and Female Sexual Distress Scales (FSDS). Once questionnaires were sent back they were transmitted into an anonymous password-protected database. Study-specific unique patient codes were used to protect the identity of participants and only one data manager knew the true identities. ²

Pretreatment coital/vulvar pain was assessed retrospectively using the VAS, and post-treatment outcomes were reported on a separate VAS. Total FSFI scores ranged from 2-36, with lower values indicating poorer sexual functioning. For comparison normal values from 108 Dutch women without sexual problems were obtained to test for significant differences between vulvar pain along with overall vulvar pain reduction paired T-tests were used. Significant differences in FSFI were calculated using 95% confidence intervals. ²

Results showed a significant reduction in vulvar pain after treatment ($P < 0.0001$). Vulvar pain reduction following treatment was reported by 81% of the women. A large percentage (80%) of the women said that they would recommend a similar treatment program to other women with PVD. ²

DISCUSSION

Though evidence is limited on multidisciplinary approaches for vulvodynia with primary focuses on sexual outcomes, all studies^{2,4,5} reviewed showed support for use of a MVP for the treatment of genital pain and dyspareunia. Backman et al⁴ found that a multidisciplinary treatment model including pelvic floor physical therapy, psychosexual counseling, and vestibular mucosal desensitization resulted in reduction in pain and increase in intercourse frequency 6 months after treatment and 79% of women considered

themselves to be cured or greatly improved. Brotto et al⁵ found that their 10-week MVP utilizing psychological, pelvic floor physiotherapy, and medical management had strong significant effects in the reduction in dyspareunia and overall sexual functioning and these improvements were retained at the 2-3 month follow-up period. Spoelstra et al² found significant reductions in VAS scores along with overall reduction in vulvar pain 3-7 years after treatment. Spoelstra et al² also showed that after the completion of the MVP, 80% of the women were able to resume intercourse. As these 3 studies^{2,4,5} show, the utilization of set MVP can have a major impact on reduction in pain and overall sexual functioning in women with vulvodynia, and clinicians should consider using an MVP approach in management of patients.

There was variability among the 3 studies^{2,4,5} reviewed particularly in regards to the length of treatment and length of follow-up. Brotto et al⁵ utilized a 10-week MVP program, which was the shortest treatment program of all 3 studies and assessed follow-up immediately post-treatment, 2-3 months after treatment, and for a small subset 6 months after treatment. In the study by Backman et al⁴ the average treatment time was 53 weeks (19-92 weeks) and the mean follow-up time after treatment was 19 months. In Spoelstra et al,² the mean duration of treatment was 148 weeks with mean follow-up of 5 years post-treatment. Given the variability in MVP length and follow-up, future research should focus on

determining whether there is a benefit in a particular length of treatment and whether length of treatment impacts the benefits over time.

There was also variability in the methods used to assess dyspareunia and coital pain. In general, the measurement of pain is largely subjective which can make it difficult to standardize across different studies. The researchers of the Brotto et al study⁵ created a standard questionnaire to assess location, duration, and quality of pain. Baseline pain was measured using the VAS and in addition the FSFI. Similarly to Brotto et al, Spoelstra et al² also used the VAS for reporting of pain as well as the FSFI. However Backman et al⁴ did not utilize the VAS for pain reporting and instead researchers developed their own multiple-choice questionnaire. In future studies it will be necessary to use a standardized assessment for pain to reduce the subjectivity and to improve the validity and generalizability of results.

All 3 studies^{2,4,5} reviewed had relatively small sample sizes and thus there is a risk of bias. Using small sample sizes poses a potential risk in the ability to fully represent the population of women with vulvodynia and PVD accurately and thus their response to treatment. In particular, Backman et al⁴ utilized the data of only 24 women. This small sample size could lead to imprecision of results or lack of

generalizability to the medical community.

Another major limitation to the studies reviewed is that they were observational studies thus lowering the overall quality of evidence (see Table 1). Backman et al⁴ and Spoelstra et al² were both retrospective observational studies that utilized self-reported questionnaires. This poses the threat of recall bias and validity of outcomes measured. Spoelstra et al² lacked pre-treatment measures in the questionnaires and relied on patient recall of pre-treatment vulvar pain. As observational studies and not randomized controlled trials (RCTs), the studies lacked control groups and did not allow for comparison to other treatment modalities. The extent to which the utilization of MVP treatment methods confers unique benefits over one-dimensional treatments was not tested in the articles reviewed. Future research and in particular RCTs should be carried out to determine the overall benefit of a MVP over traditional one-dimensional treatment methodologies.

It is important to also take into account the overall accessibility and affordability of a MVP as compared to one-dimensional treatments. As the utilization of multidisciplinary medicine is still in the midst of developing and promoting its place and role in treatment plans there are still limited programs in

many communities. Cost for many different specialty-type visits and programs can still be quite expensive, so in order to make these programs more widely available and affordable more research is needed to compare the actual cost and benefit on quality of life of a MVP as compared to multiple one-dimensional treatments over a certain period of time.

Overall these studies demonstrate that utilizing multidisciplinary treatment methods provides improvement in sexual outcomes and in particular dyspareunia in women suffering with vulvodynia. As there is no current standardized guideline for the treatment approach for women with PVD it is vital that future research focus on long-term randomized and multifaceted studies that focus on a multitude of sexual outcomes.

CONCLUSION

The evidence supports that a multidisciplinary treatment approach is an efficacious, safe, and feasible treatment plan for reducing dyspareunia in women with vulvodynia. Moreover, the studies in this review demonstrate that the utilization of MVP has both immediate and long-term benefits; however, length of long-term benefits as well as length of treatment programs need further evaluation.

Implementation of a multidisciplinary treatment guideline in the medical community would allow for a

standardized and comprehensive treatment plan for women with vulvodynia and provide structure where there is currently no consensus. Future research using randomized control trials, long-term follow-up, and standardized outcome measurements should be conducted to further examine the benefits of MVP.

References

1. Iglesia C. Clinical manifestations and diagnosis of localized vulvar pain syndrome (formerly vulvodynia, vestibulodynia, vulvar vestibulitis, or focal vulvitis). Available at: <https://www.uptodate.com>. Accessed 06/01, 2016.
2. Spoelstra SK, Dijkstra JR, van Driel MF, Schultz WCMW. Long-Term Results of an Individualized, Multifaceted, and Multidisciplinary Therapeutic Approach to Provoked Vestibulodynia. *Journal of Sexual Medicine*. 2011;8:489-496.
3. Pukall CF, Goldstein AT, Bergeron S, et al. Vulvodynia: Definition, Prevalence, Impact, and Pathophysiological Factors. *Journal of Sexual Medicine*. 2016;13:291-304.
4. Backman H, Widenbrant M, Bohm-Starke N, Dahlof LG. Combined physical and psychosexual therapy for provoked vestibulodynia-an evaluation of a multidisciplinary treatment model. *J Sex Res*. 2008;45:378-385.

5. Brotto LA, Yong P, Smith KB, Sadownik LA. Impact of a Multidisciplinary Vulvodynia Program on Sexual Functioning and Dyspareunia. *Journal of Sexual Medicine*. 2015;12:238-247.
6. GRADE Working Group. Grading of recommendations assessment, development and evaluation. <http://www.gradeworkinggroup.org/>. Updated 2014. Accessed May 23, 2015.
7. Sadownik LA, Seal BN, Brotto LA. Provoked vestibulodynia-women's experience of participating in a multidisciplinary vulvodynia program. *J Sex Med*. 2012;9:1086-1093. .

Table I: Quality Assessment of Reviewed Articles

Study	Design	Downgrade Criteria					Upgrade Criteria	Quality
		Limitations	Indirectness	Inconsistency	Imprecision	Publication bias		
Backman et al ⁴	Cohort	Serious ^a	Not Serious	Not serious	Serious ^b	Unlikely	None	Very low
Brotto et al ⁵	Cohort	Not serious	Not Serious	Not Serious	Not Serious	Unlikely	None ^c	Low
Spoelstra et al ²	Cohort	Serious ^d	Not serious	Not serious	Not serious	Unlikely	None ^e	Very Low

^a Use of self-reported outcome measures not using a standardized VAS score or equivalent system

^b Small sample size

^c Brotto et al strong significant effects for reduction of dyspareunia (P=0.001) and Cohen's d > 0.80

^d Lacked pre-treatment measures in the questionnaires and relied on patient recall of pre-treatment vulvar pain

^e Spoelstra et al 81% of the women reported reduction of vulvar pain (P<0.001)

