Original Article

Physiotherapy Approaches for Sexual Dysfunction Management in Adults with Spinal Cord Injury: An Observationalcross Sectional Analysis

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Abstract

Background: Spinal cord injury (SCI) is a life-altering event that is usually associated with loss of motor and sensory function, as well as sexual impairment.

Materials and Methodology: The study was conducted in Multi-disciplinary hospitals and tertiary care centers in and around Pune. The authors administered questionnaires via Google Forms to 113 practicing physiotherapists in and around Pune. Physiotherapists were asked 23 questions about awareness of sexual dysfunction in males as well as females with SCI. It included 13 questions for male SD (Sexual Dysfunction) and 10 for Female SD. Descriptive statistics and MS Excel were used for data analysis and the results were obtained.

Results: 61% of physiotherapists are aware that they have a role in treating SD. 58.66% are aware of electroejaculation (EEJ) and its role in the management of SD. Awareness about management approaches to induce erections is limited to 50.33%. Awareness about pelvic floor physiotherapy and its approaches is 31.25%.

Conclusion: This study concluded that there is very little awareness about physiotherapy, hormonal therapy, electroejaculation, pelvic floor management approaches and erectile dysfunction management among practicing Physiotherapists.

Keywords: Erectile dysfunction, Female orgasmic dysfunction, Physiotherapy, Rehabilitation, Sexual Misconceptions.

Introduction

Spinal cord injury is a traumatic, life-altering event that is usually associated with loss of motor and sensory function, as well as sexual impairment. In the immediate post-injury period, both men and women lose the ability to have reflexive sexual responses. The ability to experience sexual pleasure is one of the topmost priorities for rehabilitation in SCI.[1]

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Many men consider treating the erectile dysfunction post-SCI aids in improving their QoL (Quality of Life). Oral medications and mechanical devices that are less invasive are in use for the same (ex. Sildenafil (Viagra), Tadalafil (Cialis), and Vardenafil (Levitra).[2]

Understanding female sexual health after SCI is utterly important for all the medical practitioners. Treatment options are not as much for men. Many SCI patients have received misinformation about the effects of their injury on their sexual function and benefit from education about it.[3]

Long-term counselling on sex after discharge is important, yet sexuality is one of the most often neglected areas in long-term SCI rehabilitation, particularly for women.[4]

Sexuality encompasses much more than just the physical ability to have sexual intercourse. Education so that patients can understand the impact of SCI on sexual function is an important part of rehabilitation.[5]

Materials and Methodology

The aim and objectives were to study the awareness of possible management approaches for sexual dysfunction of adults with SCI in practicing physiotherapists using a validated questionnaire. The authorsconducted an Observational Cross-sectional study among practicing physiotherapists in and around Pune. 113 Participants were recruited using Convenience sampling from Tertiary care hospitals, physiotherapy setups and private rehab clinics and centers.Sample Size was calculated using this formula: $n = Z^2 \times P \times \frac{(1-P)}{(d\text{^}2)}$ Where Z value associated with confidence1.96, P guess of population 0.51, d Absolute Precision value less than P 0.1, n minimum sample size 96 $\pm$ 10. After obtaining ethical clearance from the committee, the physiotherapists willing to participate were taken for the study.They were explained about the purpose of the study and requested to participate in the study.Along with the informed consent, their demographic data in the form of name, age, sex, highest level of education completed was collected.A google form was circulated to them and they were requested to fill it. The google form was divided into 3 sections. Section 1 included demographic data, Section 2 included 13 questions for Male SD and Section 3 included 10 questions for Female SD. Data was obtained and Analysis was doneusing Descriptive Statistics and MS Excel through which the level of awareness was studied.

Results

- The study had a set number of questions to determine the awareness of possible management approaches for sexual dysfunction of adults with spinal cord injury in practicing physiotherapists.In this study, a total of 113 participants were recruited with the mean age of 27.22 years.
- Out of 113 physiotherapists who were recruited in the study, 40 were males (35%) and 73 were females (65%).Out of 113 participants, 62 had completed theirBachelors in Physiotherapy-BPTh (55%), 44 had completed their Masters in Physiotherapy-MPTh (39%) and 7 of them had completed their diploma course in Physiotherapy (6%).
- As shown in Table 1, when asked if physiotherapists had a role in treating sexual dysfunction post spinal cord injury, out of 113 participants, 61% responded Yes, 10% responded No while 29% responded maybe.

Table 1. Role of PT in treating SD post SCI

Role of PT in treating SD post SCI		
Yes	69	61%
No	11	10%
Maybe	33	29%

- As shown in Table 2, when asked if physiotherapists knew about electroejaculation, 33% responded Yes while 67% responded No.

Table 2. Knowledge about electroejaculation in Physiotherapists.

Do you know about electroejaculation?		
Yes	37	33%
No	76	67%

- As depicted in Fig. 1,75% physiotherapists were aware that Alternating currents are used in electroejaculation, 11% thought that magnetic currents are used while 14% thought that High frequency currents are used. 68% thought electroejaculation requires intact reflexes while 32% were aware that it in fact does not require intact reflexes.16% reported it is used to induce penile erection, 16% reported it is used to induce ejaculation and 69% were aware that it is actually used to induce both erection and ejaculation.

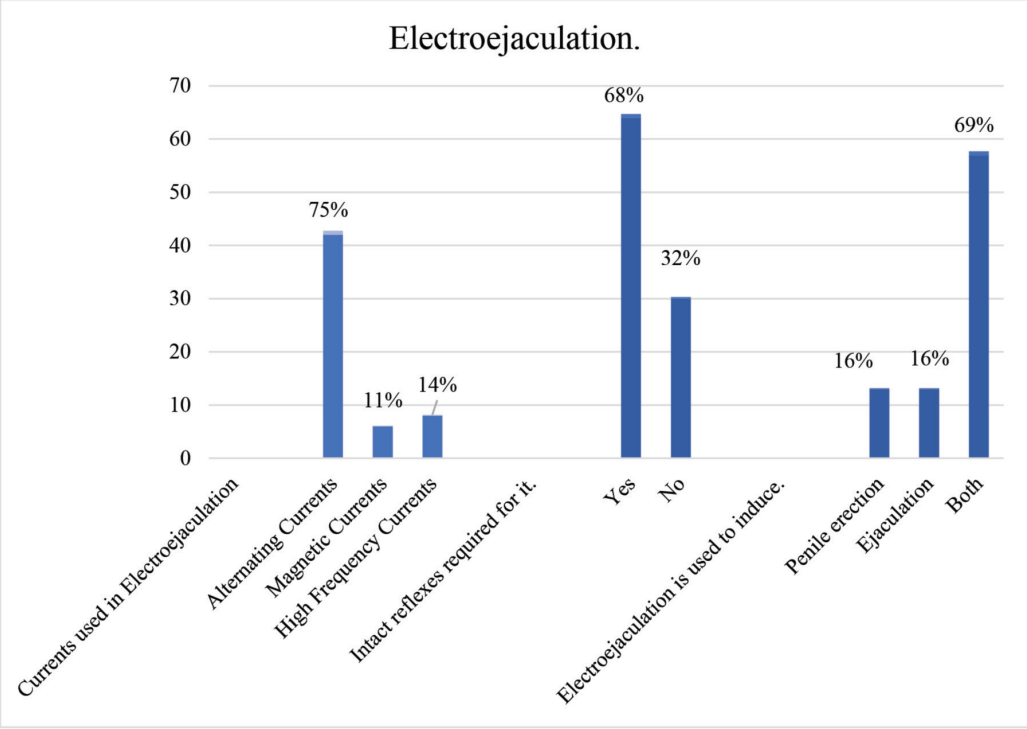

Figure 1: Electroejaculation

- Table 3 shows that when asked about options to induce erections at home, 53% physiotherapists were aware only about vibratory stimulation, only 18% were aware about applying constrictive band to the root of the penis and 14% were aware about application of hot towels to the penile shaft. Only 15% were about catheter manipulation. Additionally, when asked about the options to cause ejaculation, 23% physiotherapists were aware about hand stimulation, 26% were aware about vibro stimulation, 26% about masturbation and 25% were aware about sexual intercourse.

Table 3. Home options to induce erections.

What can be done to induce erections at home?		
Catheter manipulation	24	15%
Application of hot towels to penile shaft	23	14%
Applying constrictive band to the root of the penis	29	18%
Vibratory stimulation	84	53%

- As shown in Table 4, when asked about penile implants, only 6% were aware that it lasts for 20 years on average, 11% were aware that patients

can maintain an erection even after orgasm, 10% thought that it is not a surgical procedure, 5% reported that they are always rigid, whereas only 10% were aware that it can be inserted in scrotum or penis and only 11% were aware that they are virtually invisible. Only14% were aware that it can keep external condom catheter in place and 28% were aware that it provides penal stability.

Table 4. Penile Implants.

Penile Implants		
Provide penal stability	79	28%
Keep external condom catheter in place	40	14%
Virtually invisible	31	11%
They are always rigid	15	5%
It can be inserted in scrotum or penis	28	10%
It is not a surgical procedure	27	10%
Patients can maintain erection even after an orgasm	30	11%
On average, it lasts for 20 years	18	6%
It cannot cause infection or mechanical failure	15	5%

- Fig. 2 depicts the Hormonal Therapy management approaches for SD. When asked about options to give estrogen therapy, 7% reported that it can be given only as vaginal ring, 8% reported in form of cream, 25% reported it can be given as a tablet and 60% were aware that it can be given as any of the above options. When asked if testosterone therapy could be given in post-menopausal women to improve their sexual desire, 49% were aware that it in fact is true whereas 51% reported that it is false. When questioned about the benefits of estrogen therapy, only 28% were aware that it increases elasticity, 48% were aware that it increases vaginal lubrication while only 20% were aware that it reduces vaginal tone.

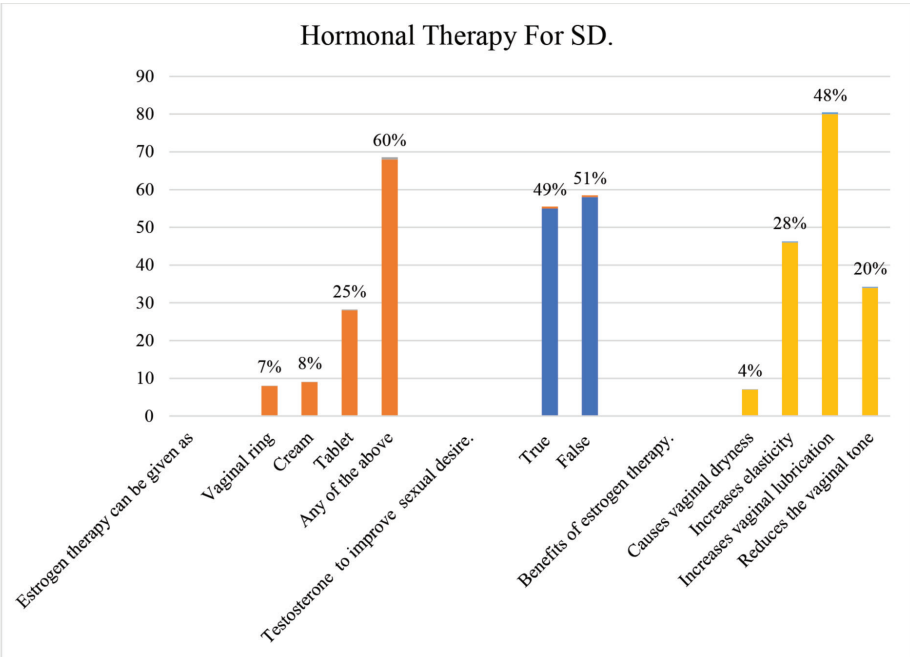

Figure 2: Hormonal Management Approaches for SD

- Fig. 3 shows the awareness related to Pelvic floor PT approaches. When asked about pelvic physiotherapy approaches for increases tone or spasm, it was observed thatonly 17% were aware about diaphragmatic breathing, only 11% were aware about MET, 13% were aware about Trigger point therapy and 14% were aware about urogenital mobilization.

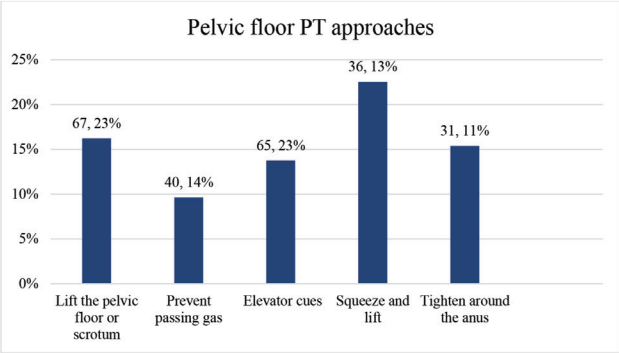

Figure 3: Pelvic Floor PT Approaches for increased tone or spasm.

Discussion

In this study, the authors tried to find awareness about all the possible management approaches for sexual dysfunction after SCI in practicing physiotherapists. For this, the authors used a self-made, validated by the field experts' questionnaire for male and female sexual dysfunction management approaches. A total of 23 questions were asked, 13 for males and 10 for females SD.

According to a study conducted by John Zizzo et al. (2022), to date, multiple safe and effective treatments are available to address many of the sexual and reproductive obstacles posed by SCI. Applying multiple pharmacological treatment modalities for sexual dysfunction strengthens relationships.[6] In the current study, it was found that 63% of physiotherapists are not aware about the purpose of vasoactive medications and that it is used to restore erections. This can be attributed to less focus on the curriculum of pharmacology in the syllabus or the physiotherapy practitioners not focusing on the holistic approach, which would require them to catch up on current trends for better rehabilitation hand in hand with pharmacology.

Recent trends suggest that in cases where pharmacological treatment is not responsive or when medications are contraindicated, mechanical therapies such as vacuum devices, prosthesis surgery, and shockwaves may be considered based on patient preferences.

A survey in 2006 administered to professionals to determine current treatment methods for infertility in couples with SCI male partners found that one-fourth of the infertility clinics did not offer either PVS (Penile Vibratory Stimulation) or EEJ (Electroejaculation), stating they were untrained or unfamiliar with the sperm retrieval methods and equipment, and about one-third did not offer IUI (Intrauterine Insemination).[7] The current study also shows that regarding Electroejaculation, maximum physiotherapists were unaware about electroejaculation; few were not even aware about the type of currents used in it, and 68% were unaware that it does not require intact reflexes. Electrotherapy being used so worldwide in physiotherapy for minor to major injuries but still getting neglected in sexual rehabilitation, this needs to be brought to the attention that as physiotherapists, it should be a shame to not be aware of such treatment methods that would bring so much relief to the patients. Furthermore, if the fertility clinics themselves do not have the treatment equipments and could not offer the required care for patients, physiotherapists alone would not be able to provide holistic care for the patients.

Some of the most common methods of management for erectile dysfunction post SCI include penile implants, oral phosphodiesterase (PDE) inhibitors, vacuum devices, intraurethral prostaglandins, and intracavernous injections.[8] Awareness about these options to induce penile erection was found to be very low in this study.This can be attributed to physiotherapists not keeping up with recent trends as discussed before, and the curriculum giving more importance to sensory and motor impairments. Penile implants being a surgical procedure might not be preferred by many patients, but still, as a

physiotherapist, it is an important duty to lay down all the options for the patients so that they could make an informed decision. Besides, the patient spends most of the time with them, and therefore it is of utmost importance to talk to them about such a crucial issue. And to do so, physiotherapists should be aware of the same.

Sexual desire is associated with the fixed partner, masturbation, and last event of the sexual intercourse of the patient. Fixed partner, ejaculation, and masturbation are protective factors for sexual dysfunction. Erectile dysfunction, orgasmic dysfunction, and infrequent sex dysfunction are predictors of sexual dysfunction.[9] In this study, questions also included about such protective and predictive factors, and it was found that only 25.3% were aware of protective factors and 33% about predictive factors. This can be attributed to a lack of communication with the patients about these issues and social stigma. The patients are usually not so aware of what they should and should not do in order to get their sexual health back, so they might resort to taking unhealthy measures to somehow regain their sexuality. In order to prevent this, the physiotherapists should make them aware of the protective and predictive factors for SD.

Home options to induce erections at home include catheter manipulation, application of hot towels to the penile shaft, applying a constrictive band to the root of the penis, or vibratory stimulation. [11] In this study, awareness about vibratory stimulation was better than the other options, which might be due to the easy availability of sex toys and vibrators used regularly by common people as well. Not being aware of other home options can be attributed to not applying basic age-old practices to induce erection and educating the patients about the same.

According to Prevalence and trends in physical therapy interventions for erectile dysfunction (ED): A Scopus-based bibliometric analysis (1989–2022), Recent trends also include extracorporeal shock wave therapy, a non-invasive treatment that improves penile blood flow by stimulating new blood vessel growth in the penile shaft. Other modalities in PT, particularly physical activities and pelvic floor exercises, have been the latest topic trending from 2016 to 2022. Men with ED should be informed about the use of a VED (Vacuum Erection Device) as a treatment option.

According to a study conducted by Simon JA et al. in 2011, estrogen therapy could be given as a vaginal ring, cream, or tablet. Local vaginal therapy with estrogen creams, rings, or tablets may be more appropriate for women without other indications for systemic estrogen therapy. Estrogen therapy causes vaginal lubrication, reduces the vaginal tone, and increases elasticity.[10] When physiotherapists were asked questions related to hormonal therapy, awareness was found to be really low. Estrogen and Testosterone therapy although very commonly used, is not being advised to participants with SCI. This can be attributed to the very low incidence of female SCI. Since female SCI is not so common, physiotherapists tend to not read much about it, hence the lack of awareness.

There are lots of treatments to manage the pelvic floor weakness among which Kegel exercises are the most popular therapies because people can implement them as a daily routine. According to the study of McLennan et al., 46.1% of patients didn't receive the information about Kegel exercises.[11] In the current study, 15% of physiotherapists were not aware that Kegel's exercises help in achieving better orgasm. Kegel's exercises being such a common treatment method for all the females in general for pelvic floor health and still not being used by physiotherapists for SD is really a shock. Such basic exercises should be known to every physiotherapist.

A retrospective review from 2010 demonstrated that 25 of 26 patients experienced statistically significant improvement when physiotherapy was combined with vaginal and/or rectal suppositories fororgasmic dysfunction.The medical treatment of orgasmic problems is challenging, although there have been reports of success with mindfulness, yoga, the use of sex toys, and sex therapy.[12] Despite these available treatment options stated above, physiotherapists are unaware of the same, which can be attributed to a lack of updates, fewer options for female sexual dysfunction, fewer articles on the same, or social taboo to openly discuss these issues.

There is emerging evidence that pelvic floor muscle training (PFMT) may be useful for treating some urogenital conditions in people with spinal cord injury (SCI). Pelvic floor physical therapy should be employed for at least 8–12 weeks; patients with a longer symptom history may require more sessions to experience improvement.[10]

A recent research study carried out by Ben Ami and Dar [2018] looked at the best cues for pelvic floor activation in 57 physiotherapy students without symptoms of pelvic health dysfunction. They investigated different cues, including "Squeeze around the anus" and "Stop the flow of urine." They found that 90% in the posterior group ["Squeeze around the anus"] achieved a correct pelvic floor activation, compared with 65% in the anterior group ["Stop the flow of urine"]. This is an interesting finding as the cue "Squeeze around the anus" is easy to do; most women would be able to perform that contraction without any visual imagery required.[13] Pelvic floor retraining in females with sexual dysfunction has always been an available option with so many modifications. The results of the current study clearly implies that either due to lack of knowledge or not applying women's health treatment approaches in SCI, awareness about these treatment methods is not so great among physiotherapists for such basic and simple cues.

A recent practice survey by Raveendran A. V. et al. in 2020 found that the majority of doctors are reluctant to ask about their patients sexual issues. Lack of proper training to address sexual health issues is a major obstacle in managing sexual problems, which can be addressed by improving training in sexual medicine for both medical students and medical practitioners.

This study also found that when participants were asked to participate in the study, many of the physiotherapists frowned upon the topic and hesitated at first, but after filling out the questionnaire, they were shocked to know that they have a lot of recent trends to catch up to so that they can give the best possible care to their patients. This also implies that once the social taboo has been overcome by the patients as well as the medical practitioners, the spinal cord injury patients will get the most benefit and the best possible care.

Conclusion

This study concluded that there is very little awareness about possible management approaches for Sexual dysfunction of adults with spinal cord injury in practicing Physiotherapists. The awareness for pharmacological as well as electrotherapeutic methods of management for Sexual dysfunction is very less among physiotherapists.The finding that more than 80% of participants stated that their SCI had altered their sexual sense of self and that improving sexual function would improve their QoL demonstrates how critically important this topic is and that this area of research needs to be greatly expanded. Additionally, this study creates scope of changes in the Physiotherapy curriculum that would focus on Sexual health and Rehabilitation along with sensory and motor impairments in the cases of Spinal Cord Injuries. This study paves way to many more studies that should be done in the areas of sexual dysfunction and look for the social taboo that is preventing the medical practitioners from addressing this issues.

Ethical Clearance: Ethical clearance was taken from IEC of college Sancheti Institute for Orthopedics and Rehabilitation College of Physiotherapy, Ref no IEC –SIOR/Agenda 076 , dated : 20/11/23.

Support - Nil

Conflicts of interest - Nil

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