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MAIN SEXUAL PROBLEMS IN PARKINSON DISEASE PATIENTS

Anila Dine[1], Redina Agolli[1], Majlinda Shyti[1], Alma Pula[2], Drini Dobi[1]
1. University Hospital Center "Mother Theresa"
2. Medical University of Tirana

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Corresponding author*
Anila Dine
University Hospital Center "Mother Theresa"

INTRODUCTION

The incidence of impaired sexual function in adults with Parkinson's disease (PD) is greater than in the general population. Sexual problems are commonly reported in PD .Gender differences of SD patterns have been demonstrated. In men the predominant SD were found to be erectile dysfunction (ED), difficulties in reaching orgasm, and premature ejaculation (PE), whereas the predominant symptoms for women with PD were low sexual desire and difficulties with arousal and with orgasm. Sexual disorders create problems among couple: the need to fill the role of a caregiver, the burden that becomes heavier as the disease progresses both physically and mentally, the reduced attractiveness of the PD partner due to abnormal movements, sloppy dressing, masked faces, excessive sweating, or salivation. Medications used to treat anxiety, agitation, insomnia, and psychosis are commonly associated with SD. Benzodiazepines may independently cause anorgasmia. There are some factors that contribute in sexual problems in PD just: motor dysfunction (rigidity, tremor, immobility in bed, or difficulty in fine finger movement) non-motor dysfunction (depression and anxiety may result in decreased desire and arousal; sleep disturbances may lead to bed separation, thus decreasing opportunities for intimate contact; fear of urinary incontinence may inhibit arousal and orgasm) drug-induced sexual disorders (antidepressants may negatively affect desire, arousal, and erectile function and result in delayed orgasm and ejaculation) spouse sexual problems (sexual disorders in PD patient affect a normal couple sex life) relationship problems (the burden of PD may increase marital tension, followed by decreased interest in sex; speech problems in PD limit couple's intimate communication). In both men and women, impaired sexual function can be caused by psychogenic factors, organic factors, and aging [1, 2]. Organic causes are categorized as vascular, neurogenic, hormonal, disease related, and drug induced. In men, psychogenic causes of ED include depression, performance anxiety, relationship problems, and psychosocial distress [3-4-5]. Alternatively, in women, issues related to self-esteem, body image, relationship with partner, and ability to

communicate sexual needs affect sexual function [2]. Impaired sexual function in PD is most likely multifactorial; depression, physical disability, and autonomic dysfunction may contribute to the increased incidence of ED in PD [6] .Sexual function in women should include complete sexual history, medical history, physical examination, pelvic examination, hormonal profile, and physiologic testing, as indicated [7] .It is well-known that dopaminergic pathways do have specific roles in sexual function. In the tubero-infundibular system, Dopamine (D) reduces the release of prolactin (that has an antilibidial effect) and may also influence gonadotropin-releasing hormone and gonadotropin secretion. In the incerto-hypothalamic system dopaminergic neurons from the zona incerta project to nuclei, including: (1) the medial preoptic area, which was shown in animals to be a critical structure for male sexual behavior; and (2) the paraventricular nucleus, where Dopamine activates oxytocinergic neurons that project to the hippocampus, medulla oblongata, and spinal cord, and play an important role in the consummatory phase, sexual motivation, and sexual reward. Dopaminergic cells in the dorsal and posterior hypothalamus, in the diencephalon-spinal system, extend into the periventricular gray of the caudal thalamus and project to several levels of the spinal cord, where they are involved in the regulation of erection, activity of the penile striated muscles, and ejaculation. Moreover the motor neurons of the ischiocavernosus muscle have a high density of Dopamine D2 receptors. Evidence suggesting involvement of Dopamine in desire and sexual motivation is driven by several cases of hyper sexuality (HS) arising from treatment with dopaminergic agents. Primary regulation of penile erection is provided by the central and peripheral nervous system [1]. Integration for central control of erection appears to occur in the medial preoptic area (MPA) of the hypothalamus, where sensory impulses from the amygdala that have input from the cortical association areas are received. Stimuli to the MPA include proerectile dopamine mediated signals and inhibitory norepinephrine mediated signals. The MPA provides neural input to the paraventricular nucleus (PVN) of the hypothalamus. Descending pathways from the PVN may have proerectile action through oxytocin-mediated pathways. Neural connections between the MPA and the brainstem are provided by periaqueductal gray matter, which may have proerectile activity. Neurons from the PVN project to the thoracic and lumbosacral nuclei concerned with erection. Reflex erections are mediated through T12-S3 cord levels, and the penis is innervated by the sympathetic nervous system at T11-L2. Sympathetic input is antierectile; parasympathetic and somatic nervous system innervations of the penis are mediated through the S2–S4 segments and are proerectile. Two physiologic changes occur during the female sexual response cycle: vasocongestion of the external and internal genitalia and breasts and myotonia throughout the body [2-8-9]. Hormones and neurogenic mediators regulate female sexual function. With aging and menopause, women experience decreased sexual desire, less frequency of sexual activity, and a reduction in sexual responsiveness.

OBJECTIVES:

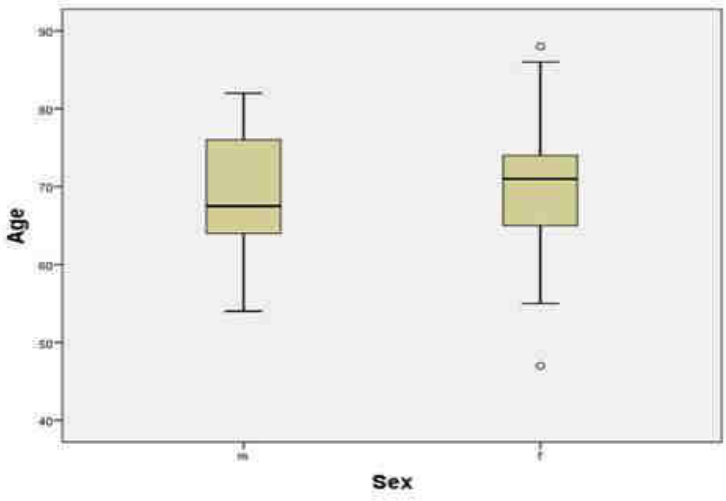
The primary objective of this study was to evaluate the sexual dysfunction in PD patients in stage II- III Hoehn & Yahr of the disease.

METHODS:

Our study have examined different aspects of sexual function among 53 adults with PD who were classified in the second or third stage of Hoehn and Yahr scale and their partners. Comparison groups have included healthy adults matched for age and gender, as well as age-matched controls with chronic disease that do not affect sexual activity. Validated, self-report questionnaires and interviews were used when evaluating different aspects of sexual function. The subjects were men and women with PD, couples with one

spouse affected by PD, (either men with PD, or women with PD) Patients who had other comorbidity which can influence in sexual activity were excluded from the study. Potential interactions between erectile function, age greater than or less 60 years, smoking status, BMI, and report of diabetes mellitus were considered in the analysis. Demographic information included age, years with PD, ethnicity, educational and employment status, onset and cessation of menstruation, hormone replacement therapy, and concomitant illness. Approximately 60% of both samples were sexually active. A physician investigator examined the adults with PD and reviewed their medical records. The physician completed the motor portion of the Unified Parkinson's Disease Rating Scale (UPDRS) and the Hoehn and Yahr score. Participants were interviewed about disease variables and sociodemographic data. In the presence of an investigator, participants completed a multiple-choice self report questionnaire that addressed various aspects of sexuality. All subjects reported they were currently involved in heterosexual relationships. Adults with PD reported greater disagreement with present attitudes about sexuality than did controls. Interview content discussed libido, sexual activity, orgasm, penile/vaginal sensibility, and changes in sexual activity owing to motor symptoms. Women were interviewed regarding vaginal dryness and pain, whereas ED was discussed with men. Both men and women were questioned about the influence of urinary incontinence on their sex lives and their partner's acceptance of their physical disability. This study have started from January to July 2019.Statistical analysis were done by using chi-square test.

RESULTS:

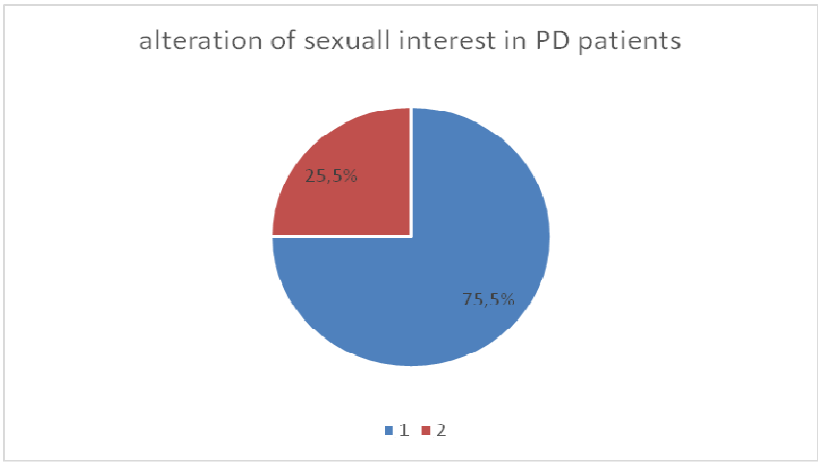


Mean age of participants that suffer from PD were 69.1±8.5 (♂ 68.87± 7.546 ♀ 69.46± 9.742).

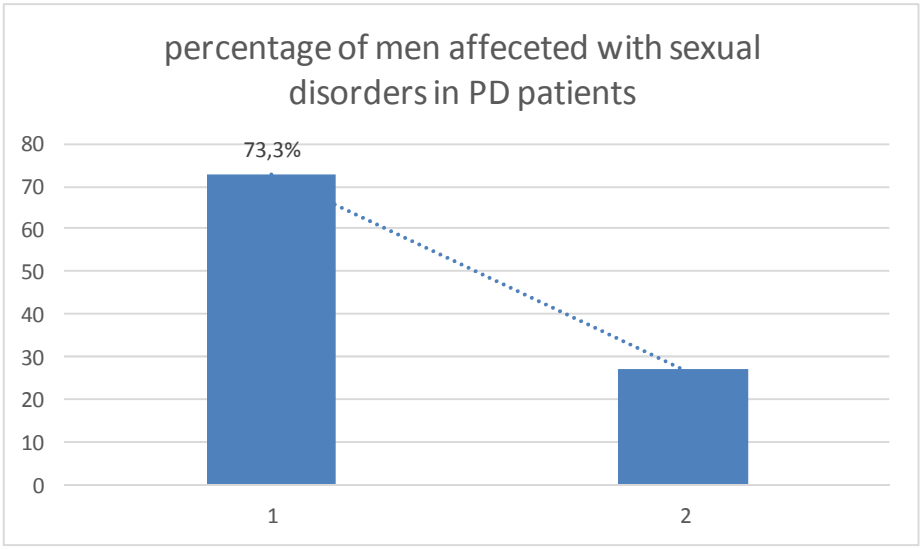
Mean age of male patients were 68.87± 7.546 and mean age of female patients were 69.46± 9.742.

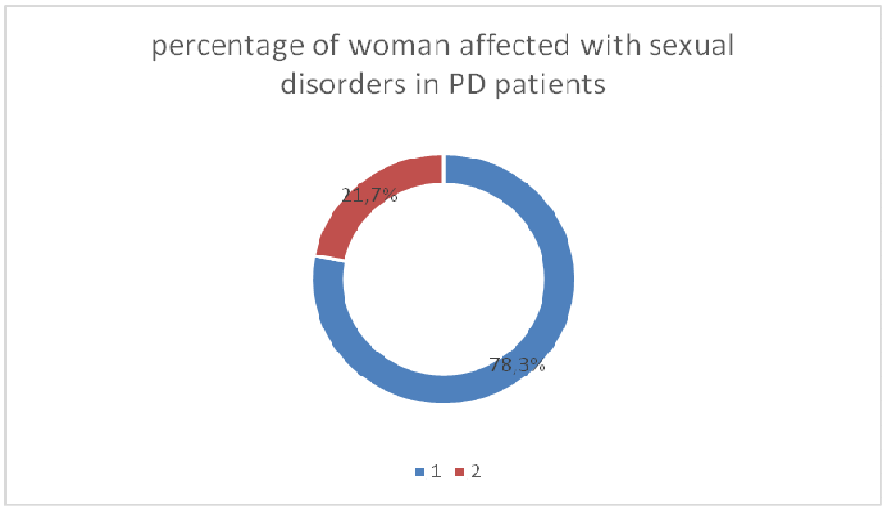
The control group was created with 68 healthy men and women with age 61.85 and 67.49 respectively.

From analizing our gathered data , we concluded from questionnare that 75.5 % of patients with PD expressed alteration of sexual interest compared to controls that manifest this alteration in about 17.5%.



The percentage of men and women that were affected from sexual disorder in PD was respectively 73.3% and 78.3%





Difficulties during sexual activity were found in 92.5% of men and women with PD, respectively 93.3 % of men and 91.3 % of women.

DISCCUSION

Depressed, unemployed adults with PD were more often unhappy with their current sexual relationship, felt lonely more often, and were less able to enjoy flirtation. The subjects with PD were less satisfied with their lives, felt older than their stated age, and perceived their health to be poorer than the controls .Psychological factors, hormonal abnormalities, autonomic nervous system disorders, vascular disease, and medication adverse effects should be considered when evaluating impaired sexual function in adults with PD. Depression, physical disability, and ANS dysfunction may contribute to the increased incidence of ED in men with PD. Further clinical and basic science research are needed to study therapeutic interventions for impaired sexual function in adults with PD. Sexual and relationship problems were common, but patients did not voluntarily discuss these concerns. No statistically significant differences between patients and control subjects were found for age, highest level of education completed, marital status, having a partner, or the presence of a chronic disease other than PD. Women with PD reported reduced sexual drive and lower satisfaction with orgasm compared with the control group. Men with PD reported easier orgasms than healthy controls. Regression analysis demonstrated increased age and female gender were predictive of reduced sexual drive and arousal. Among study participants with PD, sexual dysfunction was not associated with stage of disease or severity of anxiety and depression. Patients who had PD reported less satisfaction with their sexual relationship than the control group in women with PD, the Hoehn and Yahr stage of disease was mildly correlated with change in satisfaction and change in sexual activity. In both groups, age was associated with change in sexual satisfaction and sexual activity.SD and relationship problems are reported by PD patients and their partners, across both genders and all age groups .Couples complain of reduced frequency of sexual activity, decreased desire, difficulty in sexual communication, difficulty in reaching orgasm, and general sexual dissatisfaction .Bed separation in reaction to tremor and sleep disturbances probably contribute to the lower rate of sexual activity.

CONCLUSION:

The incidence of impaired sexual function in adults with PD is greater than the general population. There is no significant difference between man and women about sexual interest (p=0.782) or difficulty during sexual activity (p=0.782)

Significantly, more adults with PD were unemployed and depressed, and this group indicated greater dissatisfaction with their personal sexual lives than controls.

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