ORIGINAL ARTICLE

Sexual Functioning and Quality of Life in Female Asthmatics

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ABSTRACT

Aim: To assess the quality of life and female sexual functioning in asthmatic females as compared to normal healthy volunteers

Methods: Seventy five women known to have BA were enrolled in the study. The patients were asked to complete the FSFI, the demographic data and general health questionnaire.Using the answers on the questionnaire a sub score was calculated. A total of seventy five healthy age matched women were included as well in the study as the control group. Both the groups answered the same questionnaire.

Results: Statistically significant differences were observed for most of the questionnaire scores (P <0.05). Diminished arousal (p=0.002) and decreased sexual satisfaction (p=0.002) were the most common female sexual dysfunction among the women with BA. In the correlation analysis, the total FSFI score had a statistically significant (p=0.031).and positive correlation with the age of first onset and total duration of time that the patients had bronchial asthma.

Conclusions: The results of our study have shown that BA, is a cause of female sexual dysfunction as well asa decreased quality of life.

Keywords: Quality of life, sexual functioning, female asthmatics

INTRODUCTION

Asthma is a common respiratory disorder that is chronically affects millions of people all over the world. Asthma is characterized by variable symptoms of wheeze, shortness of breath, chest tightness and/orcough, and by variable expiratory airflow limitation. The symptoms and its sequelae change in intensity as well as severity from time to time. Asthma is a disease that is triggered by a variety of factors including but not limited to allergen or irritant exposure, change in weather, exercise or infections. Symptoms do respond initially to medications and patients may have symptom free periods that may last for weeks to months. However, patients are also prone to experience exacerbations of asthma that in a few patients may be life-threatening.

Asthma is usually associated with airway hyperresponsiveness to direct or indirect stimuli, and with airway inflammation that is usually chronic. This inflammation and hyper responsiveness usually persists, even when symptoms are absent or lung function is normal, but usuallynormalize with treatment.

Asthma is a multi organ disease that affects every system in the body and has a significant socioeconomic burden on both the individual and the society. This has a significant impairing impact on both the quality of life and sexual functioning of females. Both of these issues are very frequently overlooked in the clinical practice.

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In our traditional culture it has long been a taboo to discuss the sexuality with anyone. Therefore such disorders go unnoticed and end up causing psychiatric illnesses and social behaviors that may be unacceptable to the society.

Therefore we designed the present study to look into the impact of bronchial asthma on sexual functioning of the women as well as general quality of life.

RESEARCH METHODOLOGY

The study population included 200 female patients aged between 18 and 40 presenting to Chaudhry Rehmet Ali Teaching Hospital. They were then assessed as per the decided inclusion and exclusion criteria. The inclusion criteria for patients to be included in the study were: Normal menstrual cycle, Normal uterine size, Being sexually active and having the diagnosis of bronchial asthma. The exclusion criteria included: those with any chronic illnesses i.e., Diabetes, IHD, a medical history of depression, use of drugs that may cause sexual dysfunction, and known to have a gynecological disorder.

Fifty patients were excluded as they were found not to fulfill the inclusion criteria. The group that comprised of asthmatic population consisted of 75 females. The control group also consisted of 75 patients that were following up in The Gynecology department for routine examination. The asthmatic patients were further subdivide into three groups as per GINA guidelines (by clinical history/examination and PFTs): subgroup 1-controlled 23(31%), subgroup 2-Partially controlled 42(56%), subgroup 3-uncontrolled 10(13%).

The Participants were given a questioner that comprised of three parts. The general part looked at the sociodemographic conditions (age, education, occupation, and work place, exposure to irritants, smoking, physical activity and stress. The second part consisted of Medical history and asthma questioner (daytime symptoms, Limitation of activity, nocturnal symptoms, awakenings, Need for reliever medications, FEV1, exacerbations). The third part consisted of Female sexual functioning index (FSFI) that helped in evaluating female sexual behavior and dysfunction. It also gave an insight into the general quality of life.

Female sexual functioning index: FSFI is a self evaluating and multidimensional tool that gives a holistic overview for all spheres of female sexual functions namely sexual desire, sexual arousal, orgasm and sexual satisfaction within the previous 4 weeks[1]. The validity, reliability, sensitivity, stability and test/retest reliability of FSFI have been clinically confirmed and documented for diagnosing of disorders in sexual desire[2], arousal, orgasm as well as pain-related sexual disorders[3,4].

FSFI is composed of 19 items divided into 6 collective domains (subscales): sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction and pain .First the elementary points within each of the six domains and a selected coefficient are summed up thus giving the subscales. The interpretation of partial results is a lineardependence: the higher the score, the better the sexual functioning within a given category .Clinically significant female sexual dysfunctions are diagnosed at values lower or equal to 26 points of FSFI scale.

For analysis SPSS was used. Differences between parameters were considered significant at a p value of 0.05. The statistical analysis also made use of a model of multiple regressions.

RESULTS

Both the groups were nearly age matched. Both the BMI and WHR were statistically similar in both the groups. The number of pregnancies, miscarriages and length of menstrual cycle were similar in both the asthmatic and the control groups (Table 1).

A lesser number (62.66%) of asthmatics were doing regular physical activity than the control group (82.66%) (Table 2).

There were very few smokers (13%) in the asthmatic group but their sunlight exposure was significantly lower than that of the control group. The normal group had a significantly lower incidence of perceived stress than the asthmatic women. The correlation analysis revealed that women who had education level more than bachelors and were doing a technical job had higher incidence of stress as compared to those having lower level of education (Table 2).

Table 1: General characteristics

Characteristics	Asthmatics	Control	U Mann Witney Test
Age(years)	28.34±10.23	29.02±9.70	NS
BMI (kg/m2)	23.65±2.85	24.57±2.56	NS
WHR	0.92±0.09	0.84±0.07	NS
Number of pregnancies	3.45±1.34	3.90±1.56	NS
Number of miscarriges	0.25±0.19	0.23±0.20	NS
Length of menstruation (days)	5.2±0.86	4.84±1.45	NS
Income/month	25.45±2.45	28.42±2.21	NS

Table 2: Sociodemographics

Characteristics	Asthmatics	Control
Regular Physical activity	47(62.66%)	62(82.66%)
Smokers	10(13.33%)	25(33.33%)
Sunlight exposure	39(52%)	49(65.33%)
High level of perceived stress	64(85.33%)	41(54.66%)
Dietary habits		
Fruits on daily basis	59(78.66%)	61(81.33%)
Proteins on daily basis	52(75%)	59(78.66%)
Milk	35(46.66%)	61(81.33%)
Rice	39(52%)	64(85.33%)
Education		
Till grade 10	21(28%)	22(29.33%)
Grade 10 to bachelors	35(46.66%)	41(54.66%)
More than bachelors	19(25.33%)	12(16%)
Occupation		
housewife	31(41.33%)	37(49.33%)
Skilled job	12(16%)	14(18.66%)
Technical job	32(44.44%)	24(32%)

The dietary habits of both the groups were similar other than milk and rice which were consumed significantly lower in the asthmatic group. Patients who were suffering from asthma used condoms much less than the normal controls (46.66% vs (69.33%). The correlation analysis revealed that the sun exposure was least in those who were doing a technical office job and this was the group that had the most sexual dysfunction proportion (72%).

Mean age of onset of asthma was 7.56 years and most of the women were having asthma for more than twenty years. A vast majority of women had a profound, significant daily exposure to carpets and PETS (53% and 43%) whereas the industrial or biomass exposure was found only in less than thirty percent of the study population suffering with bronchial asthma. Only a small percentage of women had a positive family history of bronchial asthma (table 4).Gina guidelines were used to further classify the asthmatics into subgroups. Daytime symptoms, Limitation of activity, nocturnal symptoms/ awakenings, FEV1 and exacerbation were noted. Most of the patients were found to be in subgroup consisting of partly controlled asthmatics (56%)

followed by those who were controlled (31%) and the ones who were uncontrolled (13%). The feeling of fatigue was reported by 74.66% of the asthmatics whereas only 54.66% of the normal individuals had low energy.

Table 3: Demographics of the Asthmatic group.

Characteristics		**Asthmatics**	
Mean Age of onset (years)		7.56	
Asthma duration (years)		20.45	
Family history in %		35	
Exposure to carpets%		53	
Exposure to PETS %		43	
Exposure to industrial pollution %		21	
Exposure to biomass fuel %		18	
	Controlled	**Partly controlled**	**Un-controlled**
Daytime symptoms	2/week	2/week	3 or 4 features of partly controlled in a week
Limitation of activity	None	any	
Nocturnal symptoms/awakening	None	Any	
FEV1	Normal	80%	
Need for reliever medications	2/week	2/week	
Results of classification %	31	56	13

Based on multiple regression models the asthmatics who smoked had a lower physical acidity (p=0.03) leading to a low health status that also increased the perceived stress (p=0.03).Based on the same models BMI and WHR was found to have a negative impact on physical activity (p=0.003). Statistical analysis revealed a significant correlation between the asthma duration, severity and sunlight exposure (p=0.001) and dietary habits (p=0.04).

Table 5: FSFI scores

FSFI Categories	**Asthmatic**	**Control**	**U Mann Whitney test**
Sexual desire	3.45±1.49	4.04±1.01	NS
Sexual arousal	3.53±1.68	4.80±0.87	P=0.002
Lubrication	4.22±1.49	5.13±0.95	P=0.003
orgasm	3.56±1.75	4.95±1.23	P=0.004
Sexual satisfaction	3.53±1.79	5.09±0.98	P=0.002
Pain	4.43±1.54	5.18±0,93	P=0.047
FSFI Total score	22.72±9.74	29.19±5.04	P=0.002

A detailed evaluation of FSFI scale and its domains (sexual desire, arousal, lubrication, orgasm, sexual satisfaction and pain) showed that asthmatics women did show sexual dysfunction as compared to the normal control group (Table 5).The total FSFI was lower in the asthmatics then the normal women. The FSFI six domains showed statistically significant differences between both the groups confirming the sexual dysfunction in women having bronchial asthma. The multiple regression models clearly showed that age of first onset and duration of Asthma correlated with the degree of sexual dysfunction (p=0.031). The correlation analysis revealed that the sun exposure was least in those who were doing a technical office job and this was the group that had the most sexual dysfunction proportion (72%).

DISCUSSION

Assessment of sexual dysfunction performed in this study revealed that asthmatic females had a lower quality of life as seen by physical activity limitation, fatigue, emotional well being and dietary habits when compared with normal individuals. They also had a sexual dysfunction when comparing sexual desire, arousal, lubrication, orgasm, satisfaction and pain domains that were negatively associated with the duration of bronchial asthma.

The literature review reveals many studies that have looked at the asthma impact on quality of life[5,6,7]. However there is scarcity of data when the impact of asthma on sexual functioning is correlated. In one of the studies conducted for the acknowledgment and investigation of the problem, more than half the people who were surveyed told that being asthmatic simply digress them from their concentration and ability to relish and enjoy making love[8].

350 adults, getting treated at the emergency department Of Harlem Hospital, NYC, responded to a questionnaire, designed to look at the impact of asthma on their daily routine. The Performa included different queries that interrogated about the effect of the disease on their ability to enjoy sex in the last 2 weeks. Of the 350 patients who were chosen for the survey, 19% reported of not having any sexual activity at all. 58% reported at least some limitation in their sexual functioning which they assumed to be related to their asthma. The point aroused leads to further question as to what does actually asthma has to do with the exertion of sexual acts.

Is it the difficulty in breathing that spoils the pleasure of sex or the respondents consider their asthma to get worsened up by the exertion of sexual play?[9].

Sexual activity can trigger off asthma in more than one way; may it be the exertion, excitement or emotional stress. This has been lately termed as Post Coital Asthma or exercise Induced Asthma[10].

Asthmatic attacks along with other hypersensitivity manifestations may occur in a female, allergic to seminal proteins, known as HSPA which is a very rare IgE mediated allergic response[11]. Coitus has been reported to lead to acute severe asthma requiring visits to the emergency, hospitalization and even ventilation[12].

Condom usage too, can cause an asthmatic attack in both the sex partners, owing to latex allergy[13]. So, a female asthmatic could find herself

irked with any of the three distinct forms of coitus linked asthma[14,15].

Our study also found that female asthmatics use condoms less than the normal women because of the fear of developing latex allergy or the uncomfortable feeling of pain postcoital with condoms (Table 2).
Most of the female asthmatics don't discuss this sexual aspect of their routine with their physician pertaining to its controversial nature and suffer oblivious effects of their asthma on their ability of sexual intimacy.

A sample of asthma patients at an ER was asked to identify their top most important limiting activities & the mentioned ones were sexual limitations, climbing stairs & doing heavy housework[16].

To assess the interlinking between sexual, hormonal, physical and psychological states of women with Bronchial Asthma, 38 women aged between 16 to 30 tears, were asked to complete the Female sexual function index, General Health questionnaire and medical outcomes study SF-36 health survey. The answers were used for calculation. The control group enrolled 20 healthy women. The most common sexual problems in female asthmatic, as calculated using scores of all the surveys, was diminished arousal (78.9% females)[17,18].

Asthmatic females in view of their dietary habits tend to have a lower BMI as compared to normal population[19]. This fact was further highlighted in our study where asthmatics had a lower BMI and the dietary habits were somewhat different than the control group.

Female patients with Bronchial Asthma do experience negative effects of their illness on their joy of sexual life. It may be diminished libido, reduced amount of arousal, manifestation of asthma symptoms linked to exertion of sexual activity and associated physical & psychological stress[20,21].

Our present results further compliment those findings of earlier studies.We discovered deterioration in women's general quality of life in view of: physicallimitation, emotional wellbeing and low energy levels. Due to common myths they avoid dairy products and rice for fear of producing sputum thus worsening their dietary status. They tend to spend more time indoors that further depletes the vit D levels thus worsening the severity of asthma as shown in regression model of our study. The present study confirmed the impairment of normal female sexual function among the asthmatic females. The negative impact of asthma on sexual functioning was more marked with sexual arousal, lubrication, orgasm during coitus, sexual satisfaction and the pain domain.

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