Vol. **95** (2001) 975–979 respiratoryMEDICINE

Sexuality in chronic respiratory failure: coincidences and divergences between patient and primary caregiver

M. Ibáñez*, J. J. Aguilar*, M. A. Maderal†, E. Prats†, E. Fårrero†, A. Font* and J. Escarrabill†

*Department of Psychology of Education, Universitat Autònoma de Barcelona, †UFISS-Respiratòria, Servei de Pneumologia, Ciutat Sanitària i Universitària de Bellvitge, Barcelona, Spain

Abstract Sexual functioning can be affected by chronic illness in a variety of ways. These problems affect the patient's relationship and the degree of satisfaction with his partner. We conducted a study in order to evaluate the perception of sexual difficulties and changes in communication with patients and their wives. Male chronic obstructive pulmonary disease patients with (COPD) and chronic respiratory failure on long-term oxygen therapy were studied. The evaluation method used has consisted of the individualized administration of a semi-structured interview created for this purpose. This interview was conducted with the patients and their wives. One part of the interview was dedicated to evaluating possible sexual problems and how these problems affect the relationship between the couples. In addition, patients as well as their partners were asked the degree of satisfaction with their partners and the degree of satisfaction with their lives. Forty-nine patients and their spouses have been included in the study. Thirty-three patients (67·3%) showed some type of sexual problem (lack of desire and/or impotence). Sixteen wives (33%) answered affirmatively to the question about whether changes at a communicative level as a consequence of the patient's illness had occurred. In relation to the appearance of sexual changes, 46 (94%) of the wives answered affirmatively. The wives were significantly less satisfied with the relationship than the patients, which was related to communication problems. The group of patients were more satisfied with their partners than with their life, whereas no difference has been observed in the wives with both variables. An important percentage of patients with chronic insufficiency who have sexual difficulties exits. A factor which influences the perception of such problems in a very important way is the degree of affection in the relationship between the couples.

doi:10.1053/rmed.2001.1192, available online at http://www.idealibrary.com on IDEAL®

Keywords chronic respiratory failure; sexual difficulties.

INTRODUCTION

Chronic obstructive pulmonary disease (COPD), besides the specific clinical manifestations, can cause the appearance of social, emotional, cognitive and sexual problems. These latter problems generally appear in advanced states of the disease, especially when dyspnoea exists in repose. Thus, for example, it has been observed that the deterioration of pulmonary function is related to an organic erectile dysfunction (1). Currently, the diminution of sexual activity tends to be considered a result of diverse causes which interact amongst themselves. On the one hand, it has been demonstrated that patients with hypoxaemic COPD have lower levels of testosterone, and that changes in this hormone are correlated with the degree of hypoxaemia (2). Some authors suggest that hypoxaemia suppresses the hypothalamic–pituitary–testicular axis (3). Additionally, the dyspnoea of minimum efforts can also contribute to avoiding sexual contact (4). Furthermore, persons of an advanced age usually have accompanying illnesses and usually take certain drugs, which can affect sexual functioning (5). It should also be taken into account that an elevated incidence of depression in COPD patients appears to exist, and that depression by itself can diminish levels of adrenal hormones (6).

Received 6 March 2001, accepted in revised form 6 August 2001 and published online 22 October 2001.
Correspondence should be addressed to: Dr J. Escarrabill, UFISS-Respiratòria, Servei de Pneumologia, Ciutat Sanitària i Universitària de Bellvitge, C/Feixa Llarga, s/n, 08907 L'Hospitalet, Barcelona, Spain. Fax: (93) 260-7576; E-mail: jescarra@csub.scs.es

Besides evaluating sexual functioning, it is important to know how patients and their spouses face up to sexual problems and how these problems affect the patient's relationship and the degree of satisfaction with his spouse.

The objective of this study is to evaluate the perception of sexual difficulties and changes in communication with one's partner in male patients with chronic respiratory insufficiency, and in their wives.

METHODS

The subjects who participated in this study are patients with COPD and chronic respiratory failure undergoing long-term oxygen therapy (LTOT), and their wives.

The evaluation method used consisted of the individualized administration of a semi- structured interview created for this purpose. Interviews with the patients and their spouses were carried out the same day in which they came for a routine visit of their pulmonary disease. The patients had previously been contacted by telephone to briefly explain to them the aim of the investigation and to invite them to participate in it. All of them signed an informed consent, accepting to participate in the study. Once in the hospital, the pneumologist carried out the visit with the patient, including spirometry and an arterial gasometry breathing room air. Afterwards, the patient and his wife were then interviewed simultaneously, but with each one in a different room, by two psychologists. The patients as well as their wives were interviewed by persons of the same sex, with the goal of achieving maximum sincerity on their part. By means of the semi-structured interview the patient was questioned about different areas of his life which may be affected by the disease and the oxygen therapy. One part of the interview was dedicated to evaluating possible sexual problems. The questions directed to the patients made reference to two aspects: lack of desire and impotence or erectile dysfunction. The wives were asked two open-ended question regarding how the patient's disease and/or oxygen therapy had affected the relationship with their partners. It was attempted to verify whether they had noted changes at both a sexual and a communicative level. In addition, the patients as well as their spouses were asked, by means of items with four categories of answers, the degree of satisfaction with their partners and the degree of satisfaction with their lives. The answers were 'not', 'slightly', 'quite' and 'very' satisfied. The greater the degree of satisfaction, the greater the score. Strategies which facilitated the task of responding for the subjects with the greatest ease were used at all times possible, since the average age of the subjects was advanced, but in some cases difficulties with comprehension still existed. The interviews lasted approximately 30 min.

Data analysis

Statistical analysis of the data was performed by means of the SPSS computer program. It consisted of descriptive analyses of the variables expressed as means (SD), calculation of Pearson's correlation coefficient and bivariant analyses by means of the Student's t-test, for analysing the direction and magnitude of the possible differences between the groups compared.

RESULTS

Forty-nine patients and their spouses have been included in the study. The mean age of the patients was 68 ± 7 years, and their partners were 65 ± 6 years. The principal characteristics of the pulmonary functioning of the patients are described in Table 1. The medical treatment which all of the patients followed at the time of study mainly included the following: inhaled β_2-agonists (100%), inhaled corticosteroids (100%), inhaled anti-cholinergics (82%) and diuretics (65%); likewise, half of the cases were receiving oral corticosteroids. A low educational level in the majority of those interviewed stands out among the socio-demographic data collected, as well as the absence of labour activity.

Results upon sexual aspects in patients

Thirty-three patients (67·3%) showed some type of sexual problem: six of them manifested only a lack of desire, 14 only impotence and in 13 of them both problems occurred simultaneously.

After applying the Student's t-test of average comparison between the group of patients with impotence and the group of patients without impotence, no significant differences were observed in terms of age and the measurements of forced expiratory volume in 1 sec (FEV_1), forced vital capacity (FVC), PaO_2 and $PaCO_2$). No significant differences were observed either between the group of patients with a lack of desire and the group

Table 1. Results of the pulmonary functioning and arterial blood gases

	Mean	SD	Range	
FEV_1 (ml)	681·33	316·66	260	2250
FVC (ml)	1274·15	626·36	400	3850
FEV_1/FVC	53·59	11·41	22	76
PaO_2 (mm Hg)	54·10	7·94	37	71
$PaCO_2$ (mm Hg)	52·92	7·83	34	72

FEV_1: Forced expiratory volume in the first second; FVC: forced vital capacity; PaO_2: partial arterial pressure of oxygen; $PaCO_2$: partial pressure of carbon dioxide.

of patients without a lack of desire, in the same variables (age and pulmonary functioning).

Results upon communicative and sexual aspects in the wives

Sixteen wives (33%) answered affirmatively to the question about whether changes at a communicative level, as a consequence of the patient's illness and/or oxygen therapy, had taken place. In relation to the appearance of sexual changes, 46 (94%) of the wives answered affirmatively.

Other data provided by the wives' own initiative indicate that a frequent problem is the lack of their own desire. This problem was seen in at least 27 cases (55%). On the other hand, some wives mention the frequency of sexual relations which they had with their husbands. In 30 cases (61%) they stated that they had not had any type of sexual relation for a long time (in many cases, years); 12 cases (25%) had sexual relations (the majority of them of a sporadic nature: for example, once per month or every 2 months); and in the seven remaining cases we do not know whether they are sexually active or not. Finally, another important data to take into account is that in 18 cases (37%), the wives spontaneously mentioned that their main preoccupation, related with sexual activity, was the dyspnoea of the husband.

Degree of satisfaction with one's partner (patients and wives)

A significant difference has been observed in the degree of satisfaction between the patients and his partners, in that the wives are significantly less satisfied with the relationship than the patients ($P < 0{\cdot}05$). In order to understand the factors that can affect this relationship we compared the degree of satisfaction between the wives whose husbands present some problems (impotence, lack of desire or communicative problems) and those whose did not have these problems. We did not find any differences between the two groups of wives related with the presence or not of sexual problems. However, wives who perceived communicative changes were significantly less satisfied with their partner (Table 2).

Degree of satisfaction with life (patients and wives)

Contrary to the evaluation those interviewed gave in relation to the degree of satisfaction with their partners, no significant differences were found between the two groups in terms of the degree of satisfaction with life ($P > 0{\cdot}05$).

Table 2. Comparison of the degree of satisfaction with one's partner between the wives whose husbands presented some problem (impotence, lack of desire, communicative changes) and those whose husbands did not have the problem

	Cases	Average	SD	*P*
Impotence	27=yes	2·89	0·75	0·562 (NS)
	22=no	3·00	0·53	
Lack of desire	19=yes	3·00	0·82	0·610 (NS)
	30=no	2·90	0·55	
Communicative problems	16=yes	2·63	0·72	0·019*
	33=no	3·09	0·58	

Using the student's *t*-test, NS=not significant, *$P < 0{\cdot}05$ (significant).

Satisfaction with one's partner *vs.* satisfaction with life

Lastly, a comparison between the degree of satisfaction with one's partner and with the degree of satisfaction with life has been carried out, yielding significant results. In the group of patients a significant difference has been observed ($P < 0{\cdot}0001$) between the degree of satisfaction with one's partner and with the degree of satisfaction with life; patients were more satisfied with their partners than with their lives, in general, whereas no significant difference was observed in the wives between both variables (Table 3). Furthermore, a significant correlation was observed in the group of wives between satisfaction with the partner and satisfaction with life ($r = 0{\cdot}41$; $P < 0{\cdot}005$). These two aspects are not related to the group of patients ($r = 0{\cdot}22$; $P = 0{\cdot}124$, NS).

DISCUSSION

An important percentage of patients with chronic respiratory failure have sexual difficulties. From the data obtained in our study, three groups could be differentiated: (1) patients without sexual difficulties; (2) patients with sexual difficulties, but neither the patient nor his wife had any problem due to this; (3) patients with sexual difficulties, with this being a problem for either them or their wives. A factor, which influences the perception of such problems in a very important way, is the degree of affection in the relationship between the couples.

The percentage of sexual difficulties we observed in the patients with COPD on LTOT is somewhat less than that found by Agle and Baum (7), who observed that of 23 patients with COPD, 19 (82%) manifested having diminution of desire or inability to maintain an erection. Nevertheless, if we address the responses of the wives,

Table 3. Comparison between satisfaction with one's partner and satisfaction with life in both groups (patients and wives)

	Average	SD	*P*
Patients			
Satisfaction with one's partner	3·34	0·815	
			0·0001 **
Satisfaction with life	2·78	0·750	
Wives			
Satisfaction with one's partner	2·94	0·659	
			0·254 (NS)
Satisfaction with life	2·80	0·889	

NS=not significant, ** $P < 0·01$ (significant).

the percentages are more similar, showing that in 94% of the cases some type of change at sexual level has occurred as a consequence of the patient's disease.

An important point to consider is that our study has focused exclusively upon the subjective perception that the patients and their spouses have concerning their sexual activity, and no objective instruments have been used to evaluate possible sexual dysfunctions. This has led us to find, in some cases, a discrepancy between the answers of some patients and those of their partners. Another aspect would be the fact that perhaps it is not so difficult for women as it is for men to admit the presence of sexual problems.

One surprising result in our study is that no relationship between sexual problems and pulmonary functioning was observed. Probably the fact that the population studied in our work is very homogenous and with a very advanced state of their pulmonary disease makes it impossible to discern changes in relation to pulmonary functioning. And other point is that we found similar results about the level of sexual disharmony compare with other reported groups of elderly person without COPD (8). Two studies have analysed the prevalence and risk of experiencing sexual dysfunction across various social groups; one was a population-based assessment (9,10). The results of both studies showed that 31–35% of men aged 40–70 years has sexual dysfunction and that this disorder was strongly related to age, health status and emotional function. The prevalence of sexual dysfunction in our group of patients was 67%, higher than the percentage of the studies in general population. However, the results should take into account that these patients were old (mean age 68 years) and with poor health status, two factors related to elevated risk of sexual dysfunction.

Our study only included male patients. Some authors have suggested that women with COPD have fewer sexual problems than men (11). Walbroehl (5) believes that this can be due to diverse factors: erectile dysfunction is more noticeable and less treatable than inadequate vaginal lubrication; the man can feel that he loses prestige and power in relation to his partner upon having to abandon his labour activity as a consequence of the disease, and traditionally the man has always adopted a more active role in the sexual relationship, and the woman has adopted a more passive role. Thus, a woman with COPD will be capable of continuing to maintain sexual relations even with greater pulmonary deterioration than male patients. In any case, it would be interesting if future studies were to dedicate more attention to the possible sexual problems of hypoxaemic COPD women and the worries and needs of their husbands.

The way to face up to sexual difficulties varies according to the patients. Some deny the problem and do not give it great importance since, according to them, it is 'a common problem among men of their age'. In other cases, the patients accept the diminution of their sexual functioning as part of their disease and accept the problem without thinking about possible alternatives. Only some seem to be motivated in looking for solutions and/or alternatives. Two patients, specifically, asked about the possibility of a prosthesis implantation to solve their erectile dysfunction.

As far as the wives of the patients are concerned, we see, as in other studies (11), that not maintaining sexual relations does not appear to be something negative for them (a high percentage in our study manifested a lack of desire). We have also observed different forms of reaction in them: some used the husband's disease as an excuse to stop having sexual relations; in other cases, the wives attributed the appearance of sexual problems in their partner to age and, in general, the majority of them seemed to have adapted themselves to the problem. Additionally, certain commentaries made by some women make us think, as in the study by Sexton (12), that perhaps they show scarce or no interest in sexual relations because they fear that they can cause an exacerbation of the husband's symptoms.

Among the psychosocial factors which seem to modulate sexual conduct in older women are negative attitudes of society towards sexuality in women, education and religious beliefs (4). In our study it has been observed that the wives of patients are, in general, quite religious. Perhaps this factor somehow influences attitudes which they present towards sex.

Patients frequently have doubts about sexual aspects, but they do often speak about that with physicians. The same occurs with their wives. In some cases they stated to us that they had not spoken of the problem with the pneumologist due to 'fear of hurting the sensitivity of the husband', 'shame' or 'fear that they would consider her a dissolute person'.

Our results indicate that the wives were less satisfied with their partners than the patients. In spite of not knowing what the degree of satisfaction was before the beginning of the disease or of the worsening of the patient, our data indicate that satisfaction with the partner appears to be more related with the communicative aspect (irritability on the part of the patient and continuous arguments) than with the sexual aspect. It appears that the affectionate tone of the couple is what truly determines the perception of the couples concerning their relations (13). In patients with chronic respiratory failure and in their spouses a psychological intervention which helped them to adapt themselves to the disease and to reduce conflicts of the couple would surely be more effective than an intervention directed solely and exclusively to treating sexual problems. Furthermore, we should take into account that in the wives an important relationship seems to exist between the degree of satisfaction with the spouse and satisfaction with life.

In some studies it has been observed that the wives of COPD patients seem to be significantly less satisfied with life (14) and with their partners (15) than women whose spouses do not have a chronic disease. However, upon comparing the degree of satisfaction with life between COPD patients and healthy men, no significant differences have been observed (15). We have only been able to verify in our study that no differences exist, as far as the degree of satisfaction with life is concerned, between the patients and their wives.

We do not know of the existence of studies in which the effect of oxygen therapy in sexual dysfunction is evaluated. We believe that it would be interesting to analyse this effect. Moreover, it would be interesting to examine what repercussions the sexual problems of COPD patients have at a psychological level, since they can cause a diminution of self-esteem and the appearance of a depressive manifestation.

With the important socio-cultural changes in recent years it is logical to think that in the future sexual difficulties will be treated with less stigma. In any case, we believe that for the couples in which one of the members suffers from COPD, it would be advisable to carry out a simple intervention in the fashion of 'counselling', which would permit them to manifest their doubts and worries with respect to sexual problems, and on the other hand, would give them appropriate guidelines of conduct (use of bronchodilators, passive positions, increase of oxygen flow, alternative sexual conducts, etc) (5,16,17). In this sense, support groups have already been organized for COPD patients and their partners (18). The physician should encourage them to speak about these aspects, showing empathy and without using evasive conduct (19), giving out correct information and proposing certain guidelines of sexual conduct to them.

REFERENCES

1. Fletcher EC, Martin RJ. Sexual dysfunction and erectile impotence in chronic obstructive pulmonary disease. *Chest* 1982; **81:** 413–421.
2. Semple PD'A, Beastall GH, Watson WS, Hume R. Serum testosterone depression associated with hypoxia in respiratory failure. *Clin Sci* 1980; **58:** 105–106.
3. Semple PD'A, Beastall GH, Brown TM, Stirling KW, Mills RJ, Watson WS. Sex hormone supression and sexual impotence in hypoxic pulmonary fibrosis. *Thorax* 1984; **39:** 46–51.
4. Mooradian AD, Greiff V. Sexuality in older women. *Arch Intern Med* 1990; **150:** 1033–1038.
5. Walbroehl GS. Sexual concerns of the patient with pulmonary disease. *Postgrad Med* 1992; **91:** 455–460.
6. Gift AG, McCrone SH. Depression in patients with COPD. *Heart Lung* 1993; **22:** 289–297.
7. Agle DP, Baum GL. Psychological aspects of chronic obstructive pulmonary disease. *Med Clin North Am* 1977; **61:** 749–758.
8. Ribera D, Reig A. Comportamiento sexual en ancianos. *Rev Esp Geriatr Y Gerontol* 1991; **26:** 234–242.
9. Laumann EO, Paik A, Rosen RC. Sexual dysfunction in the United Sates: prevalance and predictors. *JAMA* 1999; **281:** 537–544.
10. Feldman HA, Goldstein I, Hatzichristou DG, Krane RJ, McKinlay JB. Impotence and its medical and psychosocial correlates: results of the Massachusetts Male Aging Study. *J Urol* 1994; **151:** 54–61.
11. Pietropinto A, Arora A. Chronic pulmonary disease and sexual functioning. *Med Aspect Human Sex* 1989; **23:** 78–82.
12. Sexton, DL. Wives of COPD patients. Cast in the role of caretaker. *Conn Med* 1984; **48:** 37–40.
13. Frank E, Anderson C, Rubinstein D. Frequency of sexual dysfunction in 'normal' couples. *N Engl J Med* 1978; **299:** 111–115.
14. Sexton DL, Munro BH. Impact of a husband's cronic illness (COPD) on the spouse's life. *Res Nurs Health* 1985; **8:** 83–90.
15. Isoaho R, Keistinen T, Laippala P, Kivelä S. Chronic obstructive pulmonary disease and symptoms related to depression in elderly persons. *Psych Rep* 1995; **76:** 287–297.
16. Curgian LM, Gronkiewicz CA. Enhancing sexual performance in COPD. *Nurse Practitioner* 1988; **13:** 34–35, 38.
17. Sipski ML. Sexuality and individuals with respiratory impairment. In Bachs JR ed. *Pulmonary Rehabilitation. The Obstructive and Paralytic Condition*. Philadelphia: Hanley&Belfus, Inc, 1996; 203–211.
18. Hahn K. Sexuality and COPD. *Rehab Nursing* 1989; **14:** 191–195.
19. Conine TA, Evans JH. Sexual adjustment in chronic obstructive pulmonary disease. *Respir Care* 1981; 26: 871–874.