Depression and anxiety in patients with pulmonary hypertension: Looking beyond disease status

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OBJECTIVES

Pulmonary arterial hypertension (PAH) and chronic thromboembolic pulmonary hypertension (CTEPH) are two rare and highly disabling conditions associated with poor emotional wellbeing and quality of life (QoL). Thus far, research examining the determinants of the emotional wellbeing and QoL of patients with PAH/CTEPH has been scarce and mostly focused on the role of disease-related factors.

This study examined 1) whether patients' emotional wellbeing may be impacted by their broader life circumstances and outlook of the future, considering they both may modulate the repercussions of having PAH/CTEPH, and 2) the extent to which emotional problems constitute an added burden to the QoL of patients.

METHODS

Participants in this study were 64 members of the Spanish National Association of Pulmonary Hypertension (ANHP)..They provided demographic and clinical information, and completed measures of PH symptoms, functional disability, QoL (CAMPHOR), depression and anxiety symptoms (HADS), life satisfaction (SWLS), and optimism (LOT).

RESULTS

The patients in the sample represented most regions of Spain and received medical care in multiple centers. They had a mean age of 49.81 years and were mostly female (82.80%). A total of 14 (21.88%) and 23 (35.94%) of patients presented with clinically significant symptoms of depression and anxiety, respectively. (i.e. score ≥ 8 in the HADS).

The absence/presence of clinically significant symptoms of depression and anxiety were accurately predicted in 82.80% and 75.00% of cases, respectively, based on disease-related factors alone. However, the addition of life satisfaction and optimism improved the models' prediction to 85.90% and 76.60%, respectively (Table 1).

Table 1: Hierarchical logistic regression analyses examining PH symptoms, functional disability, life satisfaction, and optimism as predictors of clinically significant symptoms of depression and anxiety :

Prediction of absence/presence of clinically significant symptoms of depression

	β	S.E.	Wald's χ^2	OR	95% CI for OR Lower-Upper
Block 1					
PH symptoms	.33	.13	6.95**	1.39	1.09 – 1.78
Functional disability	-.01	.11	.02	.99	.80 – 1.22
Block 2					
PH symptoms	.39	.15	6.54*	1.47	1.10 – 1.98
Functional disability	-.05	.12	.15	.96	.76 – 1.20
Life satisfaction	-.18	.10	3.56	.84	.69 – 1.01
Optimism	-.03	.09	.11	.97	.82 – 1.15

Prediction of absence/presence of clinically significant symptoms of anxiety

	β	S.E.	Wald's χ^2	OR	95% CI for OR Lower-Upper
Block 1					
PH symptoms	.16	.09	3.07	1.18	.98 – 1.41
Functional disability	.05	.09	.34	1.06	.88 – 1.26
Block 2					
PH symptoms	.16	.11	2.39	1.18	.96 – 1.45
Functional disability	.08	.10	.64	1.09	.89 – 1.33
Life satisfaction	-.13	.07	3.06	.89	.76 – 1.02
Optimism	-.20	.08	6.24**	.82	.70 – .96

RESULTS (cont.)

Further, the presence of clinically significant symptoms of anxiety, but not depression, predicted lower levels of QoL, taking into consideration the levels of PH symptoms and functional disability.

Table: Hierarchical multiple regression analyses examining PH symptoms, functional disability, and clinically significant symptoms depression and anxiety as predictors of quality of life

	R^2	ΔR^2	b	S.E.	β	t
Block 1	.68***					
PH symptoms			.44	.12	.47	3.56**
Functional disability			.39	.13	.40	3.03**
Block 2	.73**	.05**				
PH symptoms			.30	.13	.32	2.38**
Functional disability			.37	.12	.37	3.05**
Depression			.16	.19	.10	..83
Anxiety			.28	.13	.21	.2.16*

DISCUSSION

These results revealed that patients with considerably different levels of disease severity developed clinically significant symptoms of depression and anxiety. This suggests that there is not a perfect correspondence between the actual level of disease severity and the probability of developing emotional problems. Rather, such probability seemed to depend on the appraised repercussion of having PAH/CTEPH; in turn, such appraised repercussions seemed to depend not only on the level of disease severity, but also on patients' life circumstances and outlook of the future. That is, in some cases patients' life circumstances may have offered a refuge against the illness' impact on their emotional wellbeing, while the opposite may have been true in the case of patients whose lives may have presented many challenges. In a similar way, optimism or pessimism may have attenuated or exacerbated, respectively, the level of emotional distress.

In sum, these results suggest that depressive and anxiety symptomatology constitute an extra burden to the QoL of patients with PAH and CTEPH. However, the presence of depressive and anxiety symptomatology may not be solely explained on the basis of disease severity. The findings from this study highlight the relevance of personal and situational factors in explaining individual differences in the emotional wellbeing patients with PAH and CTEPH.

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