

Patient preferences in Pulmonary Arterial Hypertension (PAH)

A latent class analysis to identify preference heterogeneity

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INTRODUCTION

- PAH is a rare form of pulmonary hypertension associated with significant morbidity/mortality¹
- Managing PAH requires a comprehensive treatment and multidisciplinary care strategy
- Understanding patient preferences can support patient-centered medicine development and personalized medical care

OBJECTIVE

- To measure patient preferences and identify preference heterogeneity for PAH-specific treatment regimens.

METHODS

- Adult PAH patients with self-reported slight to marked limitations
- Recruited through a German patient organization (March and July 2022)
- Patients completed an online survey with best-worst scaling case 3 choice tasks (**Figure 1**)
 - Choice of “best” and “worst” choice between three treatment profiles
 - Six attributes: survival rate at 3 years, unplanned PAH-related hospitalization within 3 years, physical activity limitations after 3 years, digestive symptoms in first 6 months, pain in first 6 months, headache in first 6 months
 - 12 tasks in random order (120 tasks, 10 blocks) plus a dominance task.
- Preference heterogeneity modelled through latent class analysis. Akaike and Bayesian information criterion to select best-fit model.

RESULTS

- 83 completed surveys (76% female, mean age: 59) (**Table 1**)
- Most important treatment attributes: Physical activity limitations and survival

References

1. Humbert M, et al. Eur Heart J 2022;43:3618–731

RESULTS continued

- Best-fit model: 4 classes of participants (**Figure 2**)
- Classes assigned greatest importance
 - Class 1 (19%) to all attributes
 - Class 2 (34%) to physical activity
 - Class 3 (30%) to survival and physical activity
 - Class 4 (17%) to survival

- No cross-class differences by sociodemographic characteristics
- Class 4 most likely to have marked physical activity limitations (79%); need daily help (100%); report “climbing several flights of stairs” as normal (**Table 1**)

CONCLUSIONS

- This first PAH patient preference study suggests that physical activity limitations and survival matter most in considering treatment regimens**
- Differences in treatment preferences may be associated with differences in normal daily physical activities and activity limitations**

Figure 1. BWS-3 example choice task

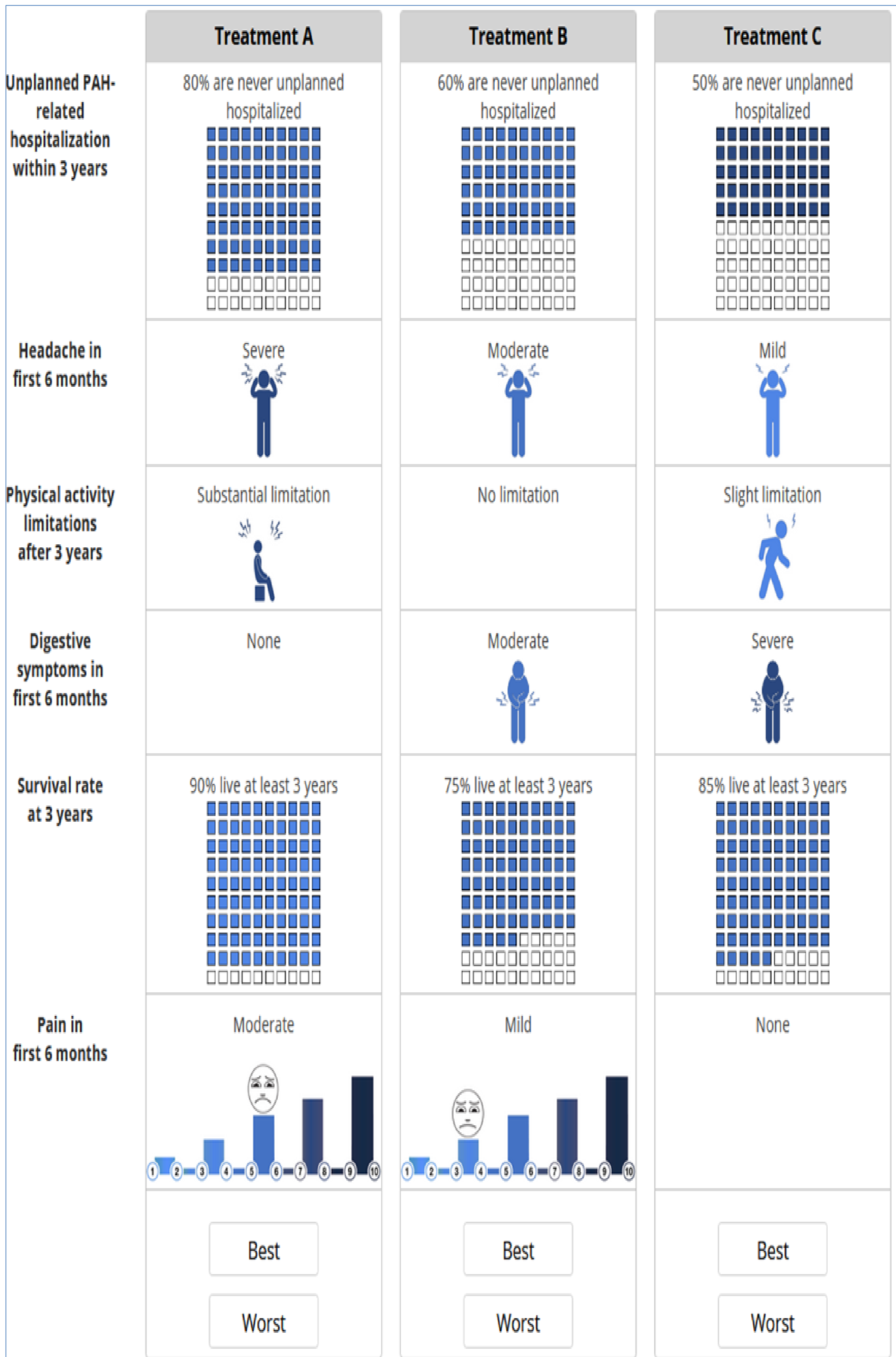
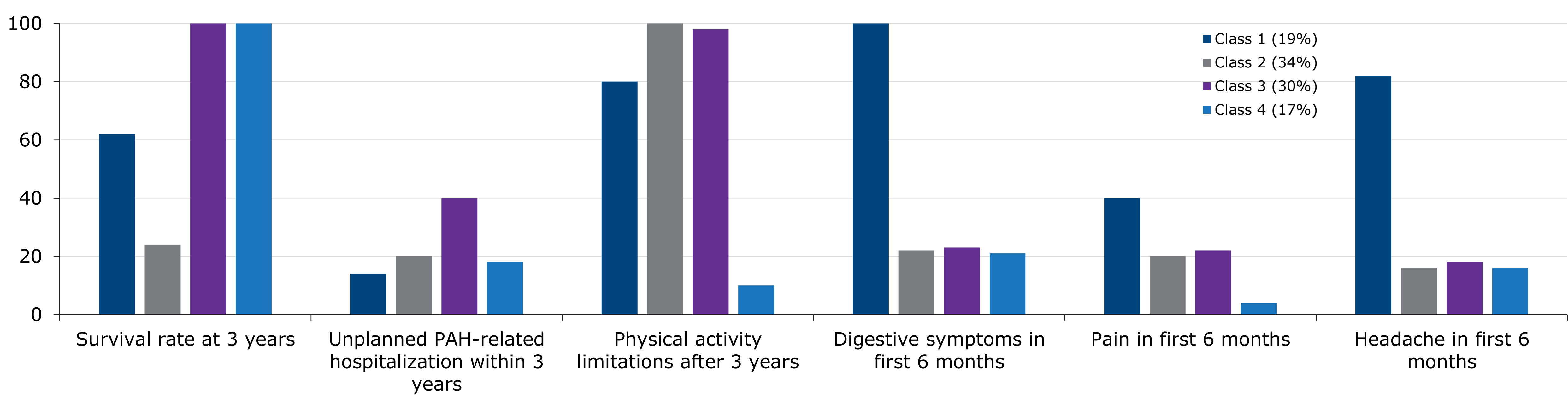


Figure 2. Conditional Relative Attribute Importance* by Latent Class



*The most important attribute in each class was rescaled to a size of 10. The relative importance of all other attributes was scaled relative to the most important one within a class.

Table 1. Survey participant characteristics

	Overall n=83	Class 1 n=16	Class 2 n=28	Class 3 n=25	Class 4 n=14
Patient characteristics	%	%	%	%	%
Age (mean)	59	61	58	59	58
Gender (Female)	76	69	79	72	86
Highest level of education					
High school or less	18	25	11	12	29
Some college but no degree	8	6	14	8	0
Technical school of associates degree	26	25	25	28	29
4-year college degree of higher	47	43	47	52	43
Normal physical activities ^a					
Climbing several flights of stairs*	30	6	29	36	50
Walking one block**	54	62	39	76	36
Current level of physical activity*					
Slight limitation	48	38	54	64	21
Marked limitation	52	63	46	36	79
Need help in daily life due to PAH**	61	56	61	44	100

Percentages were rounded to the nearest percent. Totals may not add to 100 due to rounding; ^aParticipants could select multiple response options. Only presenting responses with differences between latent classes; *Numerical differences in proportions between classes, chi-square test not statistically significant p<0.10; **Statistically significant differences between classes, chi-square test p<0.05.