Comprehensive Cancer Center
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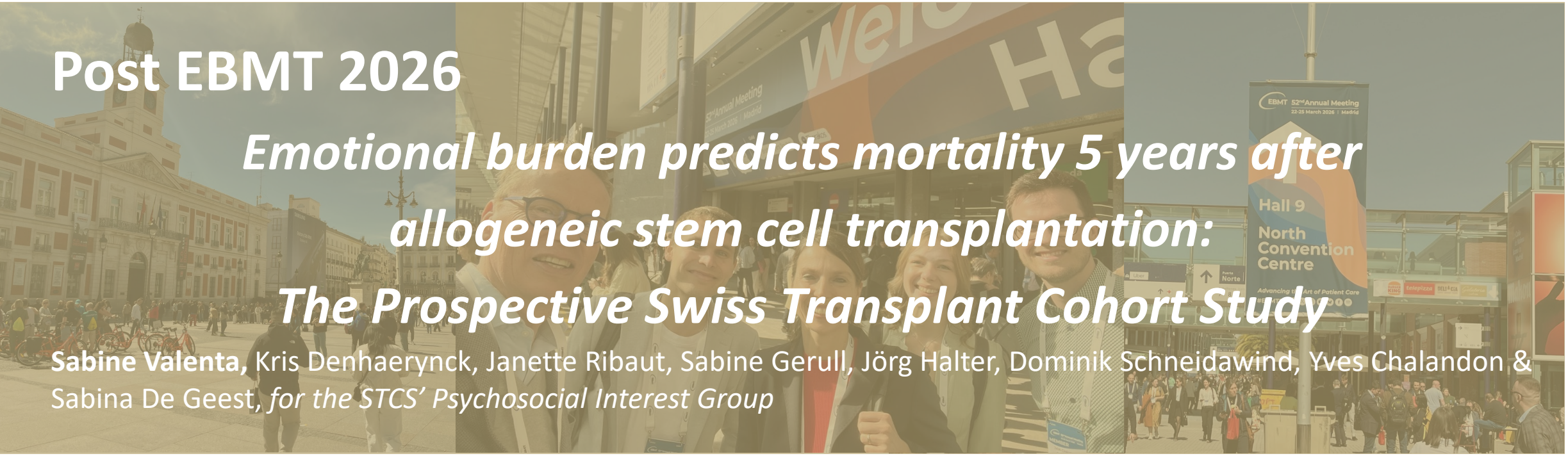

Post EBMT 2026

Emotional burden predicts mortality 5 years after allogeneic stem cell transplantation: The Prospective Swiss Transplant Cohort Study

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Emotional burden: frequent challenge for allogeneic stem cell transplantation (SCT)

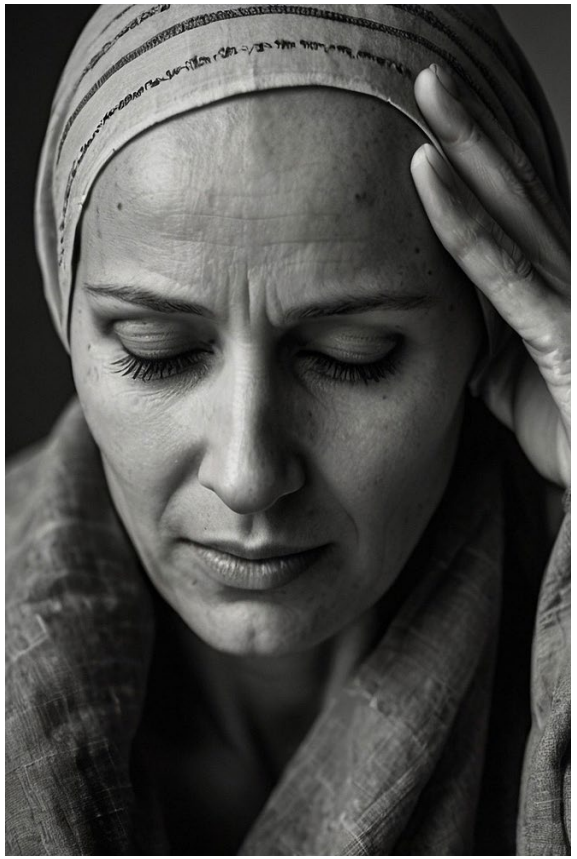


Image credit: https://pixabay.com/

Emotional Burden (EB)[1]

- Psychological distress: Depressive symptomatology, anxiety, and stress
- Measured using validated Patient-Reported Outcomes (PROs)

Prevalence of EB[2,3]

- Depressive symptomatology: 20–30%
- Anxiety: 25–35%
- Stress: up to 40%

Clinical trajectory[4,5]

1. Rothmund et al (2023). Psychooncology. 32(4):628-639. doi: 10.1002/pon.6109. Epub 2023 Feb 19. PMID: 36707461. 2. Mosher, et al (2009). Psychooncology 18, 113-127, doi:10.1002/pon.1399. 3. Baliousis et al. (2017). Oncol Nurs Forum 44, 96-107, doi:10.1188/17.Onf.96-107.; 4. Amonoo, (2019). Psychosomatics 60, 331-342, doi:10.1016/j.psym.2019.02.004. 5. Janicsák, et al. (2021). World J Transplant 11, 263-276, doi:10.5500/wjt.v11.i7.263.

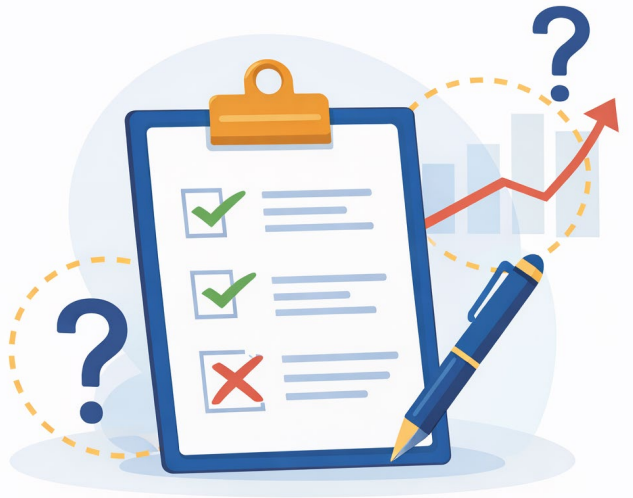
Impact on Survival: Evidence Inconclusive

EB may affect survival[1,2,3]

- Conflicting results

Limitations of prior studies[1,2,3]

- Only one EB dimension
- Small sample sizes
- Mainly single-center studies
- Longitudinal cohort studies ***BUT*** limited follow-up
- Incomplete adjustment for clinical confounders



1. El-Jawahri, A. et al. (2018). Biol Blood Marrow Transplant 24, 2285-2292, doi:10.1016/j.bbmt.2018.07.020. 2. Wang et al. (2020). Sci Rep 10, 15265, doi:10.1038/s41598-020-71208-2.; 3. Prieto et al. (2015); J Clin Oncol 23:6063-6071

Study aims

Evaluating the evolution of EMOTIONAL BURDEN (EB) and its impact on overall survival from pre-SCT to five years post-SCT

Specific aims

- **Aim 1**: To describe the trajectory of EB from pre-SCT to five years post-SCT
- **Aim 2**: To evaluate whether EB predicts overall survival from pre-SCT to five years post-SCT
- **Aim 3**: To evaluate whether – controlling for pre-SCT EB-baseline levels – post-SCT EB predict overall survival

1. De Geest, S. et al. (2013). *Progress in Transplantation 23,* 235-246; 2. Koller et al. (2013). *Eur J Epidemiol 28* 255.

Methods: Design, setting & sample

Design

- Multicenter, prospective, open national cohort study:

  Secondary data analysis of the Swiss Transplant Cohort Study (STCS)[1,2]

Setting and sample

- All three Swiss allogeneic SCT centers (Zurich, Geneva, Basel)
- Inclusion: Adult (≥18 years) allogeneic SCT patients from 2013-2018

Ethical approval

- Approved by the Ethics Committee of Northwest and Central Switzerland

1. De Geest, S. et al. (2013). *Progress in Transplantation 23,* 235-246; 2. Koller et al. (2013). *Eur J Epidemiol 28*, 347-355.

Methods: data sources

Data Source	Variable	Measurement & scoring
STCS[1] Psychosocial Questionnaire (PSQ)[2]	**Depressive symptomatology**	**HADS-D:** 7 items, sum score; categorized: ▪ <8 = non-clinical ▪ 8–10 = borderline ▪ ≥11 = clinically relevant
	Anxiety	**EQ-5D-5L:** single item, 5-point Likert scale ▪ 1 = no anxiety to 5 = extreme anxiety
	Stress	**Stress-scale:** single item, 5-point Likert scale ▪ 1 = no stress to 5 = extreme stress
	Socio-demographics	▪ Age ▪ Sex ▪ Education ▪ Occupation ▪ Income

1. Koller et al. (2013). *Eur J Epidemiol 28*, 347-355. 2. De Geest, S. et al. (2013). *Progress in Transplantation 23,* 235-246;
3. https://www.ebmt.org/registry/ebmt-registry

Methods: data sources

Data Source	Variable	Measurement & scoring
EBMT Registry[1]	**Primary outcome:** Overall survival	Days from transplant to death / last follow-up ▪ continuous variable in days
	Clinical variables	▪ Diagnosis ▪ Conditioning ▪ Graft source ▪ Donor type ▪ Remission status ▪ GvHD

1. https://www.ebmt.org/registry/ebmt-registry

Statistical Analyses

Aim 1 – Evolution of EB

- Descriptive statistics as appropriate: Visualized using alluvial diagrams
- Handling of missing data: available-case analysis

Aim 2: Impact of EB on overall survival from pre- to 5 years post-SCT

- Time-dependent Cox models: Adjusted for demographics & clinical factors
- Risk quantified using Hazard Ratios (HR)

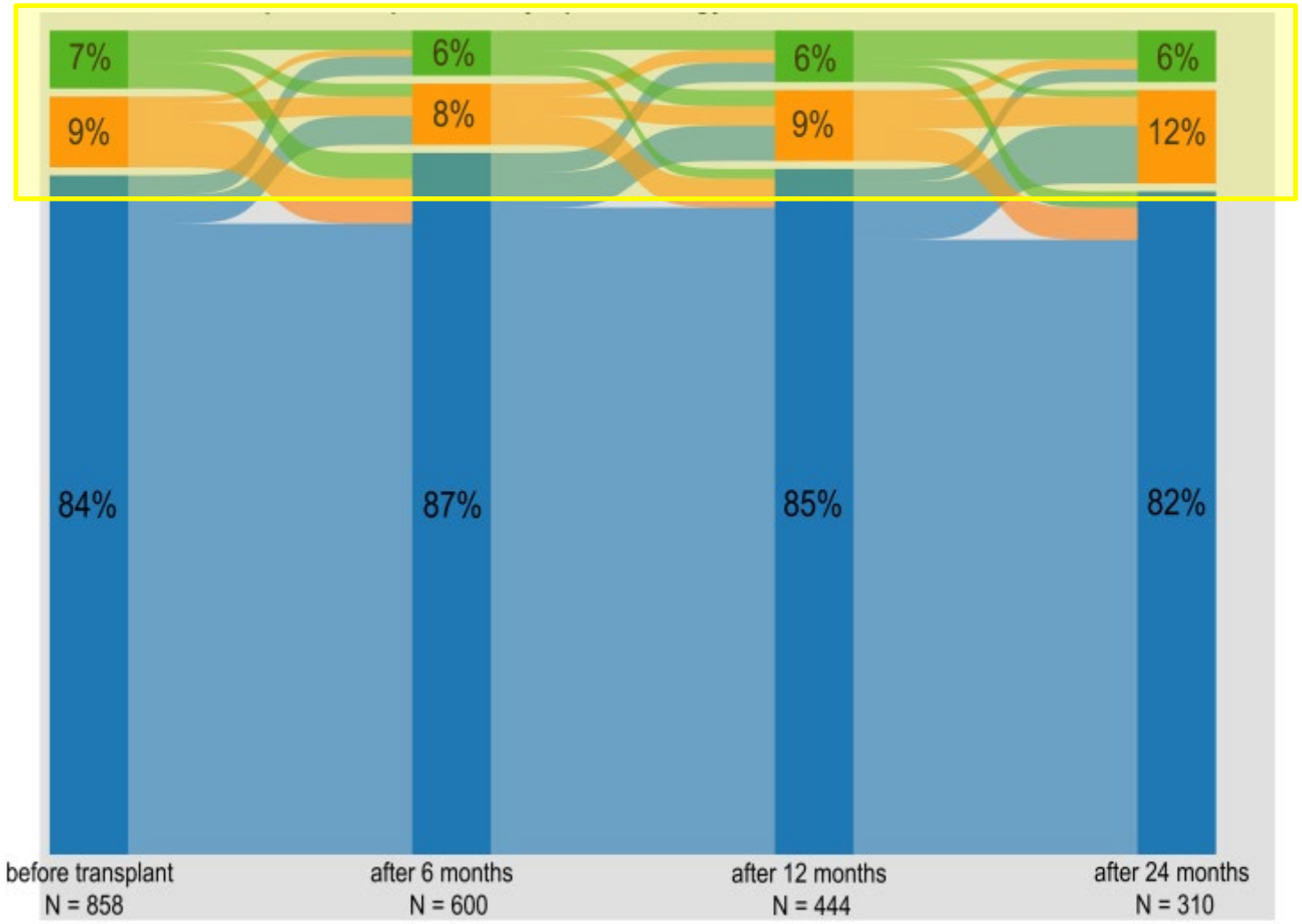
Aim 3: Impact of EB post-SCT on overall survival

- Models as in Aim 2 **+** controlled for EB baseline level (pre-Tx)

Result: Cohort at a Glance (N = 858)

Demographics	62% male
	Mean age: 51.7 (SD 13)
	29% living alone
Underlying Diagnosis	53% Acute leukemia
	23% MDS
	11% Lymphoma
Transplantation	Median time from diagnosis: 7 months
	59% in remission
	GvHD: 32% acute, 21% chronic

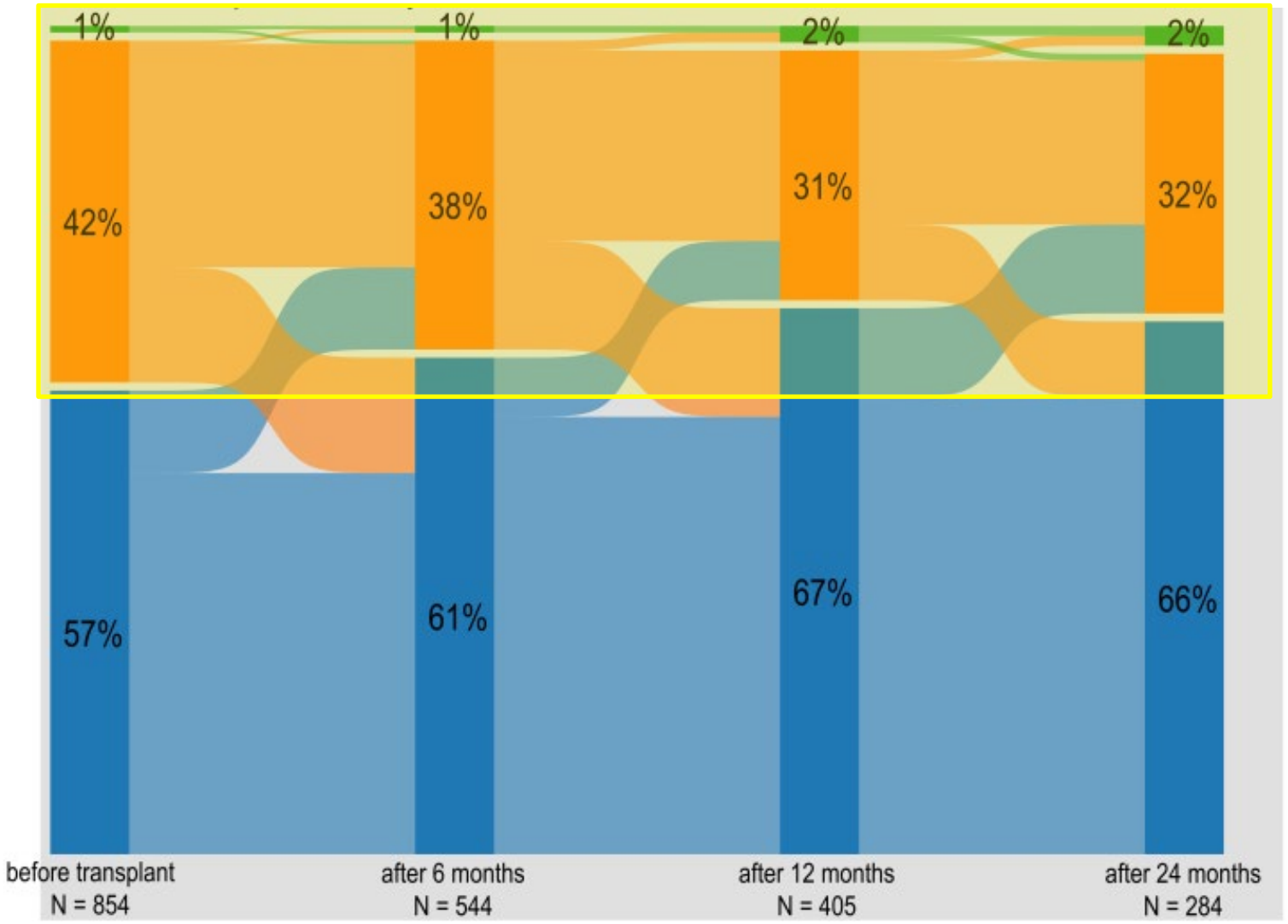
Aim 1: Persistent Depressive Symptomatology from Pre- to 24 months Post-SCT



Patients' reported depressive symptomatology using HADS-D three categories:

- *<8 = clinically insignificant*
- *8–10 = borderline*
- *11–21 = clinically significant*

Aim 1: Persistent Anxiety in One-Third of Patients from Pre- to 24 months Post-SCT



Anxiety levels were measured on a 5-point Likert scale.

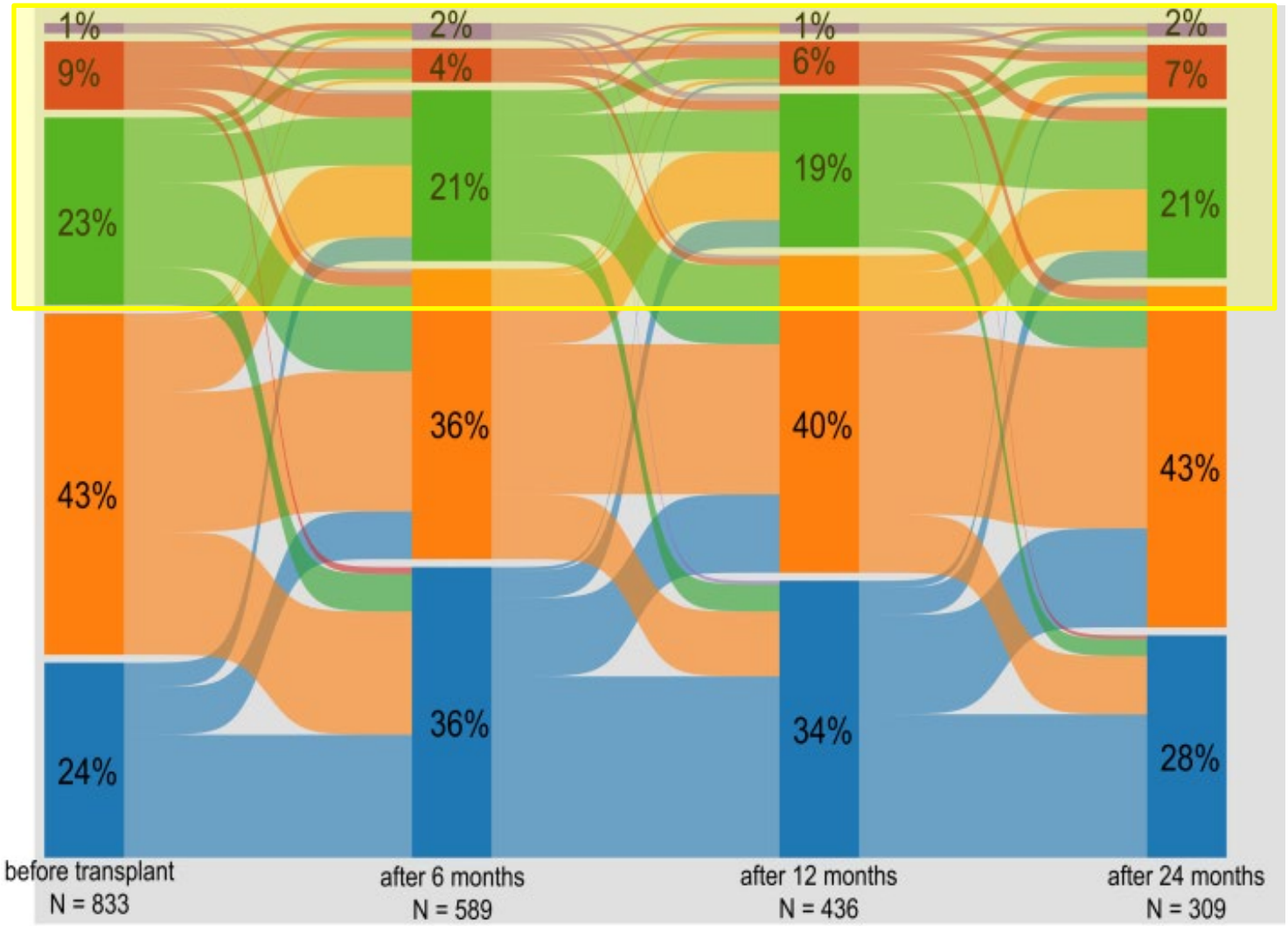
- None selected categories 4 (severe) or 5 (extreme)
- Only categories 1-3 are displayed:

1 = No anxiety

2 = Slight anxiety

3 = Moderate anxiety

Aim 1: Persistent High Stress Levels from Pre- to 24 months Post-SCT



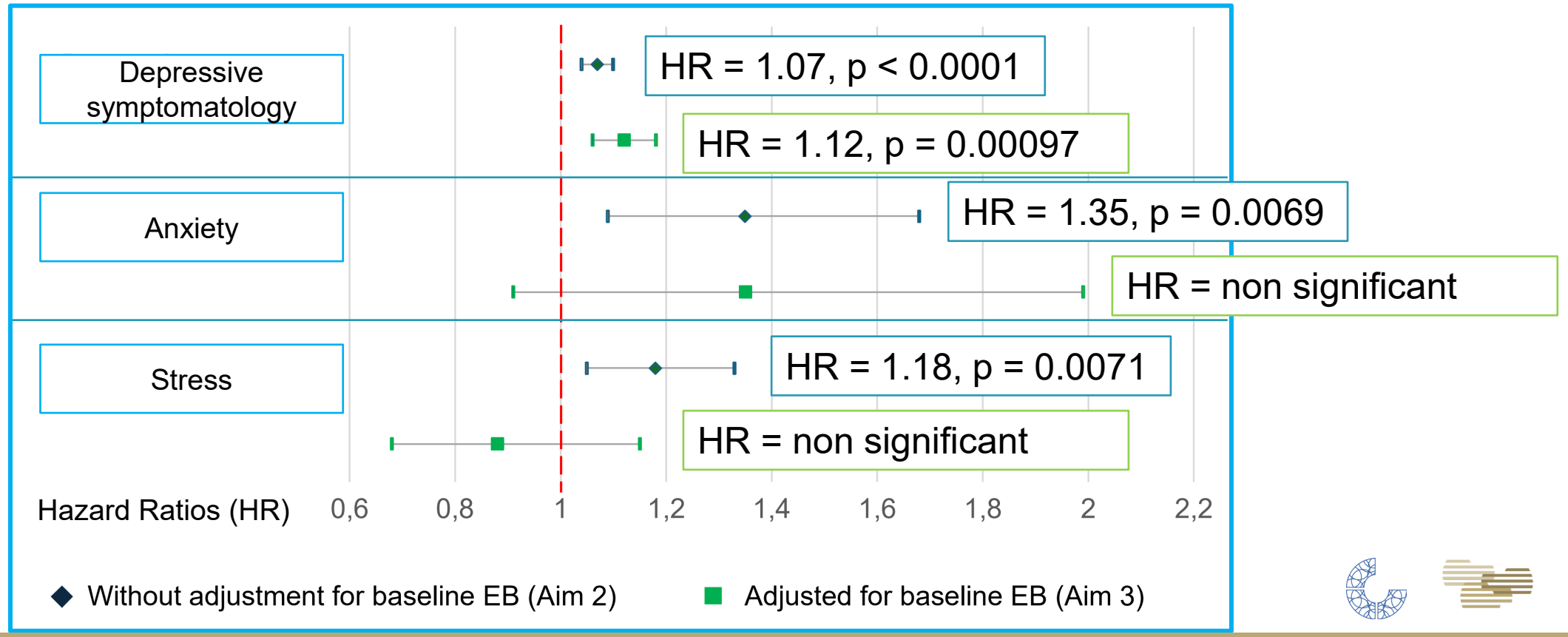
Perceived stress assessed using a single-item 5-point Likert scale:

- *1 = Not at all*
- *2 = Little*
- *3 = Moderate*
- *4 = Rather much*
- *5 = Very much*

Aim 2 & 3: EMOTIONAL BURDEN significantly predicts overall survival

EB: independently increases mortality risk

- **Combined EB** → ***29% Higher Risk*** vs. any single dimension



Key Message

- **EB matters** before & after SCT
- Post-SCT **overall survival associated** with all EB dimensions
- **Both pre-existing and post-SCT depressive symptomatology** are associated with overall survival

Clinical Impact

- Systematic risk assessment should be **integral pre- & post SCT**
- Psychosocial **support within survivor programs can be a** potential pathway to improve long-term outcomes

und am Ende….

Vielen Dank für Ihre Aufmerksamkeit

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