10 YEARS | GLOBAL WELLNESS SUMMIT // TYROL 2016

Do short and more frequent spa vacations show health effects?

Univ. Prof. Dr. Wolfgang Schobersberger

Medical Facts in Health Tourism

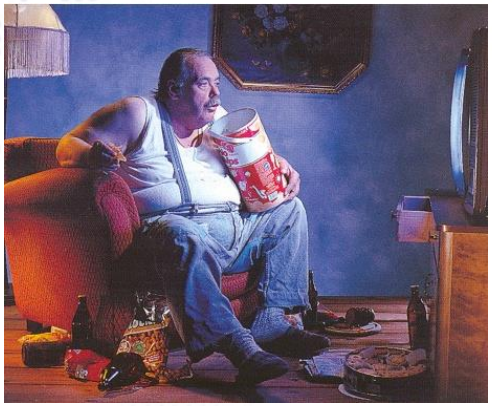
Fact 1: *Not every product that is sold as „healthy“ really is „healthy“*

Fact 2: *The health-oriented customer/tourist will look for health-related products that are evidence-based and sustainable*

NEED: Development and expansion of evidence-based health tourism

1998 – 2006 Austrian Moderate Altitude Study I (AMAS)

Are hiking holidays for vacationer with Metabolic Syndrome really healthy?
How safe are hiking holidays in the Alps?



AMAS I: Time course and procedures

- Pilot Study: *Lech, Arlberg* (1700 m), n=22
- Main Study: *Obertauern* (MA; 1700 m), n = 36 vs. *Bad Tatzmannsdorf* (LA; 200 m), n=35

Procedures

- 3-weeks vacation in 4**** Spa/Wellness Hotels
- No dietery restrictions!
- 5 – 6 coached hiking tours per week (1 – 4 hrs each) individually adapted by pulse control
- In addition active and passive regenerations in the hotels (sauna, steam bath, mental coaching, yoga etc.)

AMAS I: Changes in Metabolic Parameters

- **Reduction of total cholesterol:** ***– 13 mg/dl (MA), -14 mg/dl (LA)***
- **Reduction of low density lipids (LDL):** ***– 11 mg/dl (MA), - 13 mg/dl (LA)***
- **Reduction in total fat mass:**

  – 3,33 kg (MA), - 5,3 kg (LA)

Greie et al., J Endocrin Invest 2006

AMAS I: Reduction of blood pressure after 3-weeks hiking holidays

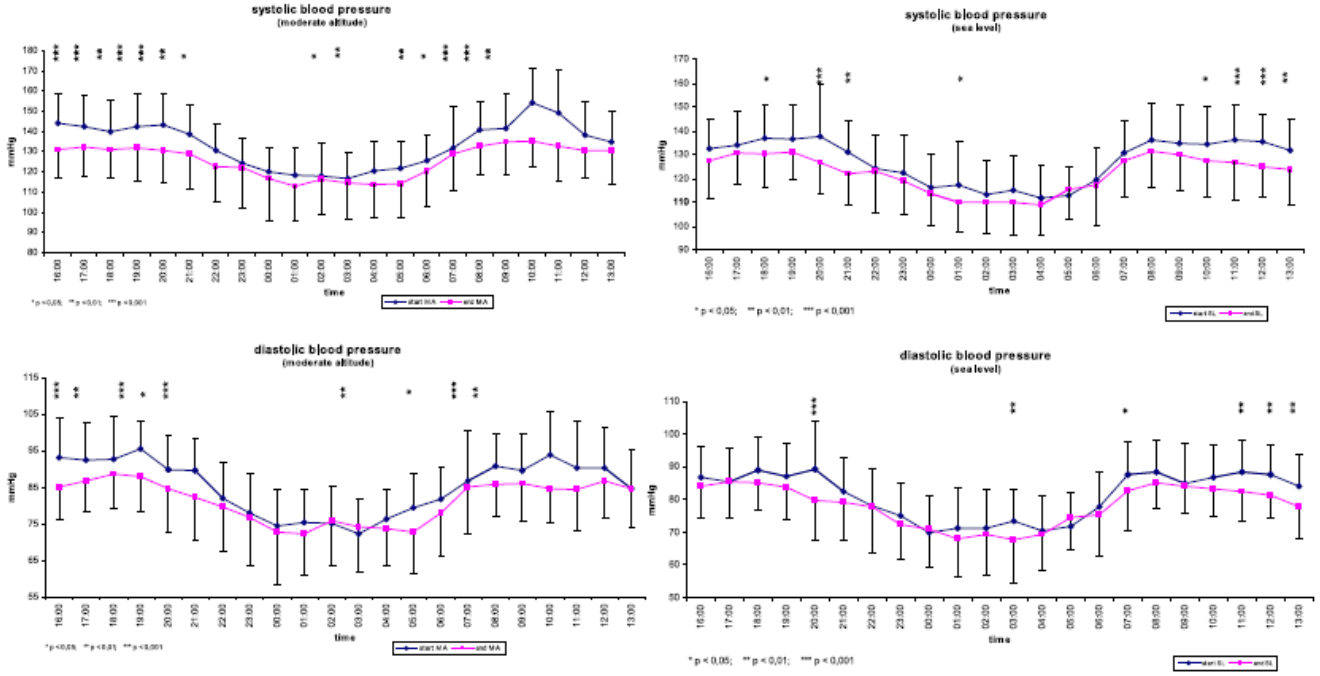


Figure 1. Results of ambulatory blood pressure monitoring for mean systolic blood pressure (SBP) and diastolic blood pressure (DBP) at the start and at the end of the 3-week vacation in the moderate altitude (MA) group (left row [blue lines = start MA; pink lines = end MA]) and the sea level (SL) group (right row [blue lines = start SL; pink lines = end SL]).

Neumayr et al.,
Wild Med J 2015

AMAS I: Psychological results

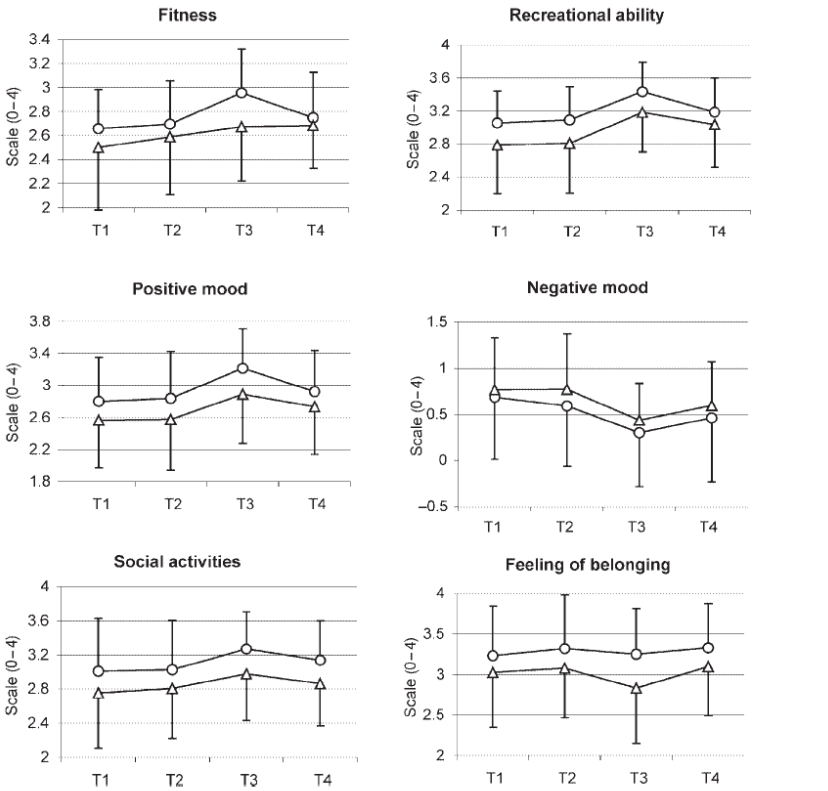


Figure 1 Means and standard deviations of perceived health associated with vacationing at low (circles) and moderate (triangles) altitude at 2 weeks before (T1), the second day after (T2), the 18th day after (T3) and 7 weeks after vacation (T4).

Strauss-Blasche et al., J Travel Med 2004

AMAS II (2005-2008) Alpine Vacations for „Stressed“ Tourists

Research Question:
Is a one week lasting alpine vacation adequate to improve bio-psychological parameters in stressed vacationeers?

Design:
6-night active spa/wellness vacation of physically fit, but mentally stressed persons working as managers (Lech, Arlberg, 1.700 m)

Schobersberger et al., S&B 2009

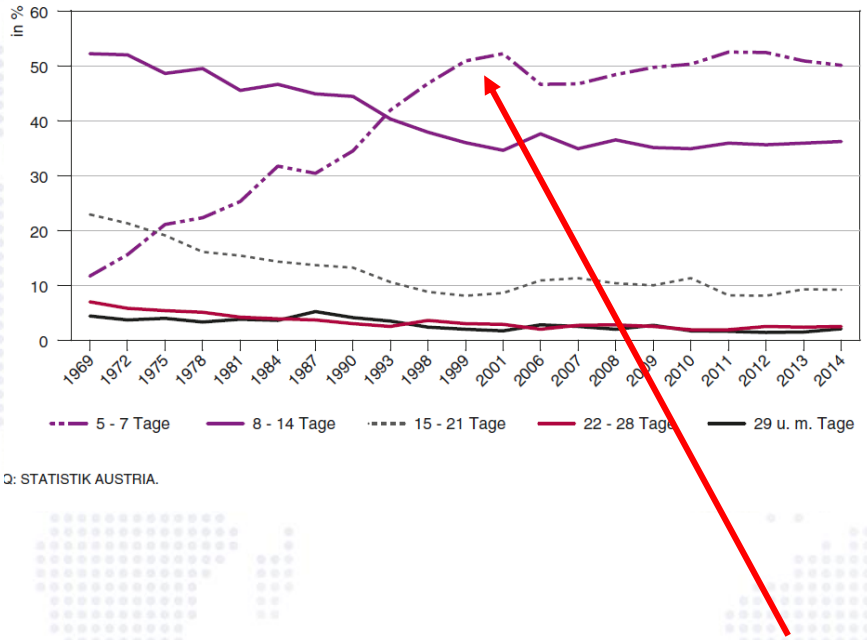
Table 2 AMAS II Results of EBF-24 (Erholungs-Belastungs-Fragebogen)

	Alt 1	Alt 6
Stress phenomena		
General stress/depressiveness	1.0±0.6	0.4±0.4
Emotional stress	1.4±0.8	0.5±0.5
Social stress	1.4±0.7	0.4±0.4
Conflicts/pressure	2.3±1.2	1.2±0.9
Fatigue/time pressure	2.3±1.2	0.6±0.6
Lack of energy	1.5±0.8	0.7±0.3
Somatic complaints	1.8±0.4	1.0±0.5
Relaxation phenomena		
Success	3.1±1.3	1.7±0.9
Social relaxation	2.3±0.7	3.5±1.5
Somatic relaxation	2.7±0.8	4.3±0.9
General well-being	3.3±1.1	4.3±1.0
Sleep quality	3.7±0.7	4.6±1.0

Mean values ± SD. By comparison of day 6 (Alt 6) versus day 1 at altitude (Alt 1), there were significant improvements in all categories of the EBF-24 (Wilcoxon test for matched pairs; level of significance $p<0.05$). Stress phenomena were reduced by about 50%; relaxation phenomena increased at least by 25%

Trend: Short-term vacation

- Limited time ressources
- Higher workload
- More intensive period of recovery
  (Cetron & Davies, 2010)
- All-year round tourism product



Q: STATISTIK AUSTRIA.

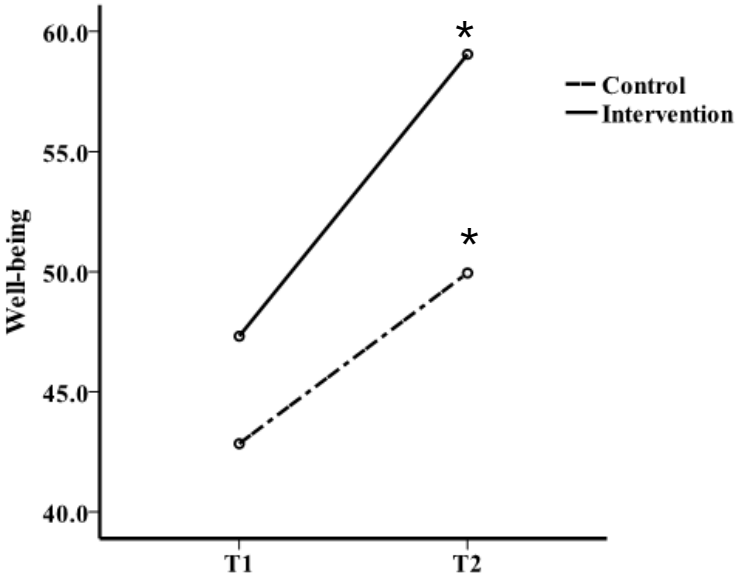
AMAS III

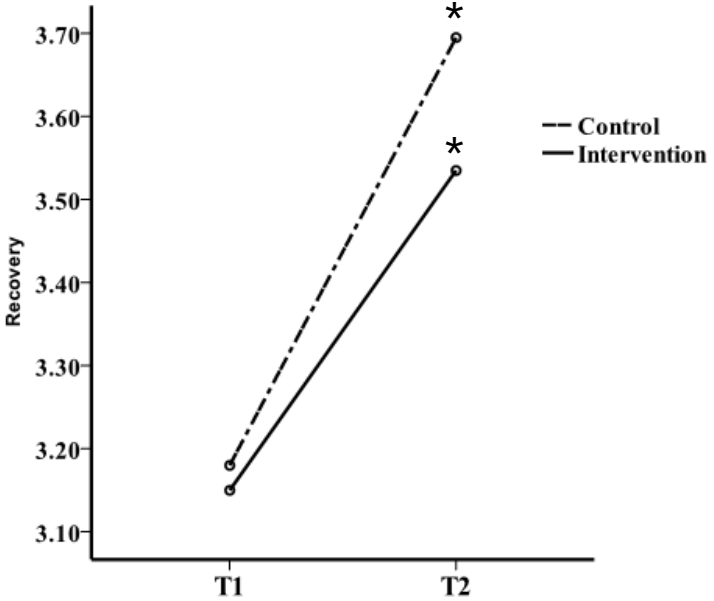
- Short-term vacation (4 nights)
- Participants: Middle-management, high stress level (n=63)
- 3-armed study: One short vacation vs. three consecutive short vacations vs. 4 nights off work at home
- Effects on:
  - Subjective well-being (EBF, PSQ)
  - Objective physiological responses (Heart rate variability; HRV) → indicator for sleep quality

Subjective Parameters:

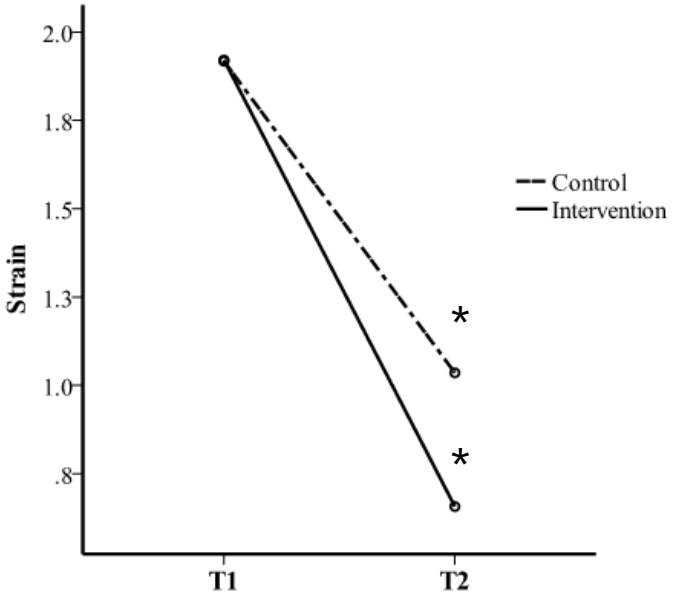
1 Short-term Vacation vs. Staying at Home

Immediate Effects





T1: Beginning of vacation
T2: End of vacation
*: Compared to T1

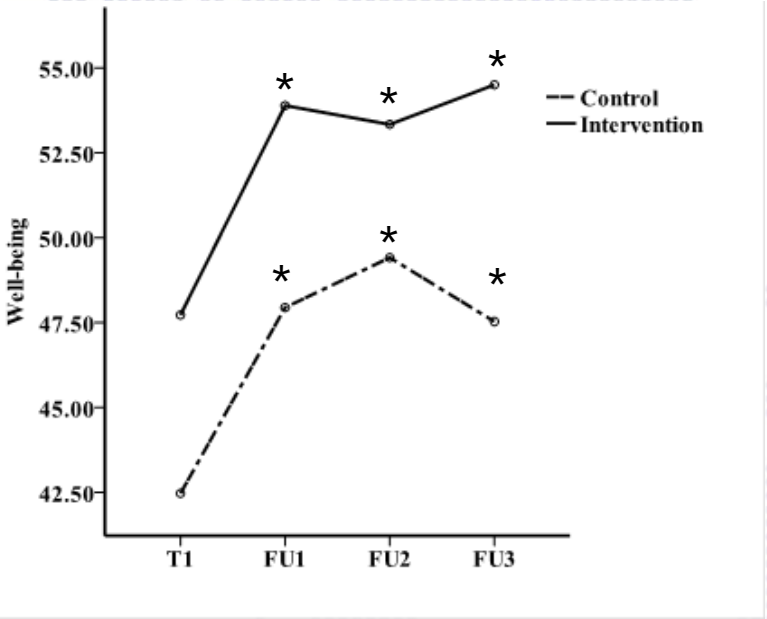


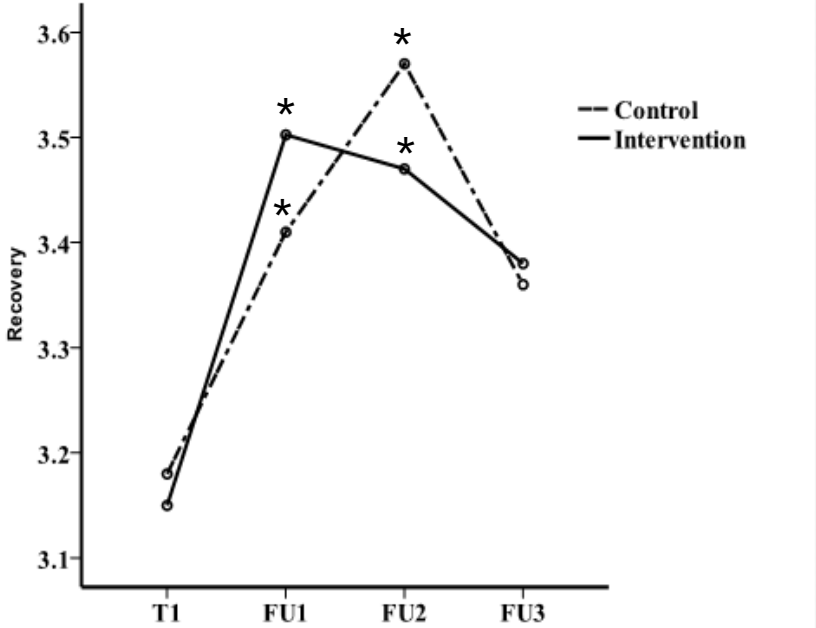
T1: Beginning of vacation
T2: End of vacation
*: Compared to T1

- Strain ≠ Stress
- Significant difference between the groups

- Strain decreased to a greater extent in the vacation group

Long-term Effects



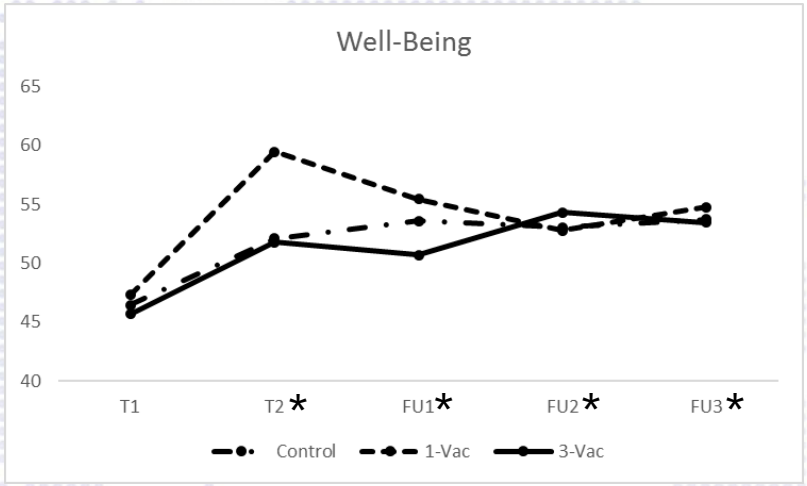


T1: Beginning of vacation
FU1: 15 days post-vacation
FU2: 30 days post-vacation
FU3: 45 days post-vacation
*: Compared to T1

Take home I

- Positive effects in all parameters
- Significant long-term effects until 45 days after end of vacation
- No differences between the groups except for strain (staying at home vs. hotel vacation)

1 Short-Term Vacation vs. 3 Short-Term Vacations vs. Staying at Home



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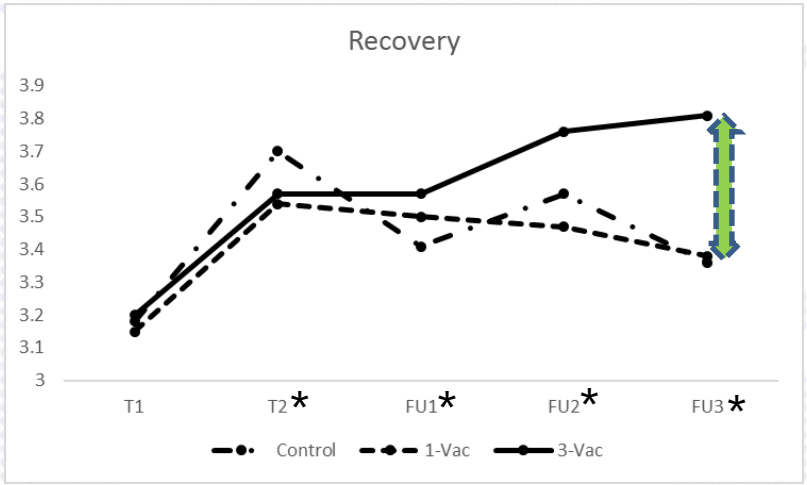
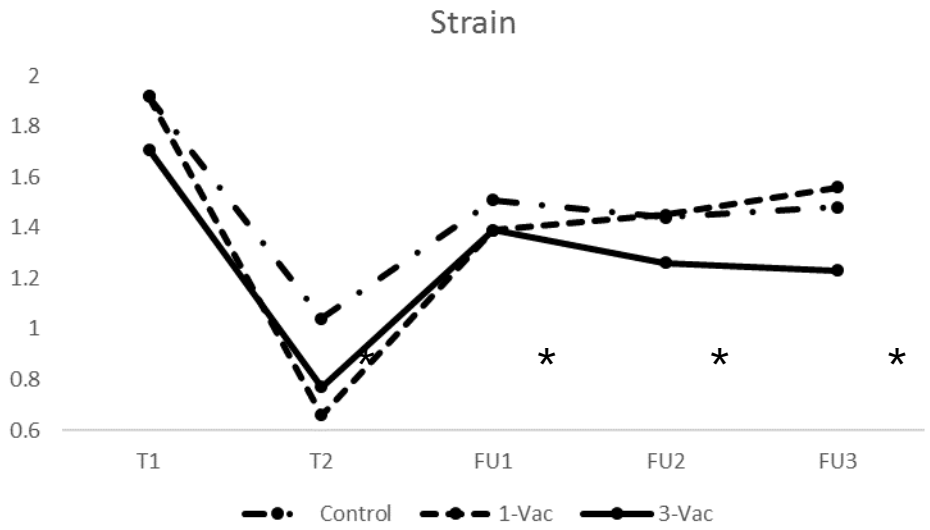


*: As compared to T1
Significant improvement in all groups



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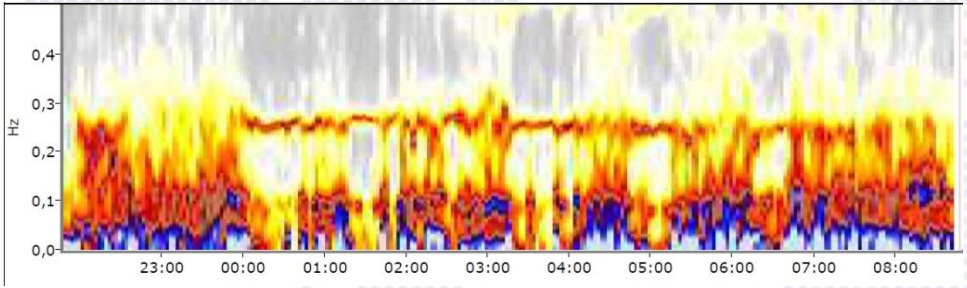
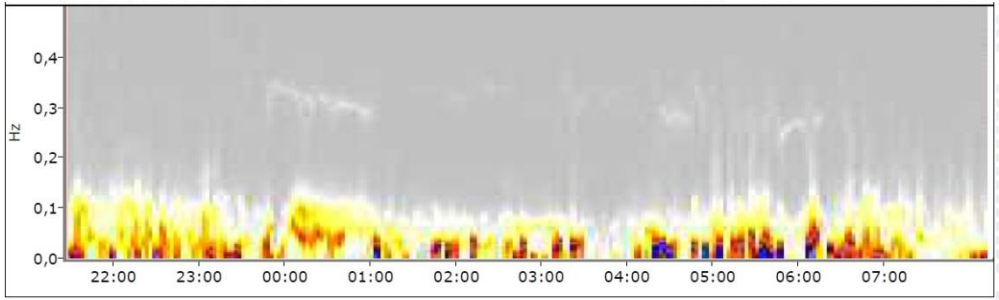
*: As compared to T1
Significant improvement in all groups

Objective Parameter – Sleep Quality

- **Heart Rate Variability** as measure for the autonomic nervous system



„Good“ vs. „Bad burning fire“



Objective Parameter – Sleep Quality

- 1st Vacation: comparison first and last night → impairment of sleep quality
- 3rd Vacation: comparison first and last night → no improvement during vacation, *however*

→Sleep quality during 3rd vacation on a higher level as compared to 1st vacation „BOOSTERING“

Take home II

- Positive effects in all perceived parameters
- Unexpected long-term effects until 45 days after end of vacation (one and three short vacations)
- Boostering of sleep quality with repeated vacations
- Challenge -> integrate AMAS III results into new health tourism products
  - Short term vacation packages in spa hotels
  - Day Spa

Thank You

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