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Sleep quality and quality of life of long-term survivors of Hodgkin's or non-Hodgkin's lymphoma:

A registry based study in Schleswig-Holstein, Germany, based on adults

P. Lewin[1], F. Hammersen[1], E-M. Wolschon[1], G. Brabant[2], A. Katalinic[1] , A. Waldmann[1]

[1] Institute for Social Medicine and Epidemiology, Luebeck // [2] Experimental and Clinical Endocrinology, MK I, University of Luebeck, Germany

Background & Aims

Over the last decades survival increased for most cancer types resulting in a growing population of cancer survivors and especially long-term survivors.

In order to provide evidence about the frequency of sleep disturbances and the association with quality of life/wellbeing we conducted a population-based survey in long-term survivors of Hodgkin's and non-Hodgkin's lymphoma, respectively.

Methods

Via the population-based cancer registry of Schleswig-Holstein 942 long-term survivors (time since diagnosis >=5 years) of Hodgkin's (HL) and non-Hodgkin's lymphoma (NHL), respectively, were identified and invited to participate in a postal survey.

The questionnaire included the Pittsburg Sleeping Quality Index (PSQI [1]), the SF-36 [2], and the WHO-5 Wellbeing index [3,4] to evaluate sleep quality and quality of life / wellbeing.

PSQI-scores <=5 are used to classify good sleepers (>5: bad sleepers).

SF-36 values are reported as T-scores based on the German norm values.

Results

A total of 515 survivors (55%; HL: 117/233; NHL: 398/709) with a mean age at survey of 64 years (SD: 14) provided data. Mean age at diagnosis was 53 (SD: 14) years. According to the PSQI sum score 48.2% of long-term survivors were classified as "bad sleepers". When compared to "good sleepers" (mean age: 60 years) "bad sleepers" (65 years) were more likely to be female and to have 3 or more comorbidities.

The T-scores for the SF-36 domains of the "good sleepers" ranged around the norm of 50 (range: 47 [physical functioning] to 54 [mental health]), while the T-scores of the "bad sleepers" ranged around 40 (range: 38 [physical function] to 45 [mental health]).

In the total cohort, 25% reported reduced wellbeing (WHO-5 score <13), no differences were found between Hodgkin's and non-Hodgkin's lymphoma survivors. Among those with reduced well-being were 77% "bad sleepers" (group of HL: 71% were "bad sleepers"; group NHL: 80%) .

Summary and Conclusion

Nearly 50% of long-term survivors of Hodgkin's and non-Hodgkin's lymphoma reported low sleep quality. "Bad sleepers" as compared to "good sleepers" reported lower quality of life and wellbeing.

Due to the cross-sectional design of our study this evidence is limited.

Nevertheless, physicians, nurses, and health care workers should be aware of potential problems with sleep quality and it's association with reduced quality of life/wellbeing.

References

[1] Buysse et al. (1989) Psych Res, 28 (29): 193-213.

[2] Brazier et al. (1992) BMJ, 305 (6846): 160-164.

[3] Bech (2004) QoL newsletter, 32: 15-16.

[4] Bech et al. (2003) Int Nat J Psych Res, 12 (2): 85-91.

Further information:

http://www.sozmed.uni-luebeck.de

Annika.Waldmann@uksh.de

Tab. 1: Description of our study population according to subgroup

	Hodgkin's lymphoma	Non-Hodgkin's lymphoma
Contacted	**233**	**709**
Active refusal of participation	2 (0.9%)	59 (8.3%)
Moved away	34 (14.6%)	46 (6.5%)
Deceased	7 (3.0%)	53 (7.5%)
Crude participation	**117 /** 233 (50.2%)	**398** / 709 (56.1%)
Participation among eligibles	**117 /** 192 (60.9%)	**398** / 610 (65.2%)
Sex		
female	46 (39.3%)	176 (44.2%)
male	71 (60.7%)	222 (55.8%)
Age (years)		
at diagnosis	42 (SD 15)	57 (SD 12)
at survey	52 (SD 15)	66 (SD 12)

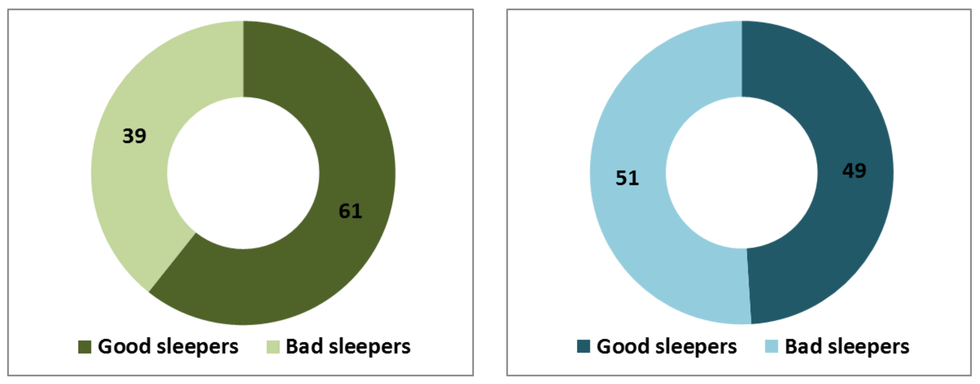

Fig. 2: Proportion of Hodgkin- (left, green) and non-Hodgkin lymphoma (right, turquoise) survivors who are bad or good sleepers

Tab. 2: Sleep quality at follow up of cancer survivors of Hodgkin and non-Hodgkin lymphoma

	Hodgkin's lymphoma		Non-Hodgkin's lymphoma	
	Mean	95%-CI	Mean	95%-CI
PSQI total score	5.8	5.1 – 6.5	6.4	6.0 – 6.7
PSQI Subscales				
Subjective sleep quality	1.1	1.0 – 1.3	1.1	1.1 – 1.2
Sleep latency	1.1	0.9 – 1.3	1.2	1.1 – 1.3
Sleep duration	0.7	0.5 – 0.8	0.6	0.6 – 0.7
Habitual sleep efficiency	0.7	0.5 – 0.9	0.9	0.8 – 1.0
Sleep disturbances	1.1	1.0 – 1.3	1.2	1.2 – 1.3
Use of sleeping medication	0.1	0.2 – 0.2	0.2	0.2 – 0.3
Daytime dysfunction	0.9	0.8 – 1.1	1.0	0.9 – 1.1

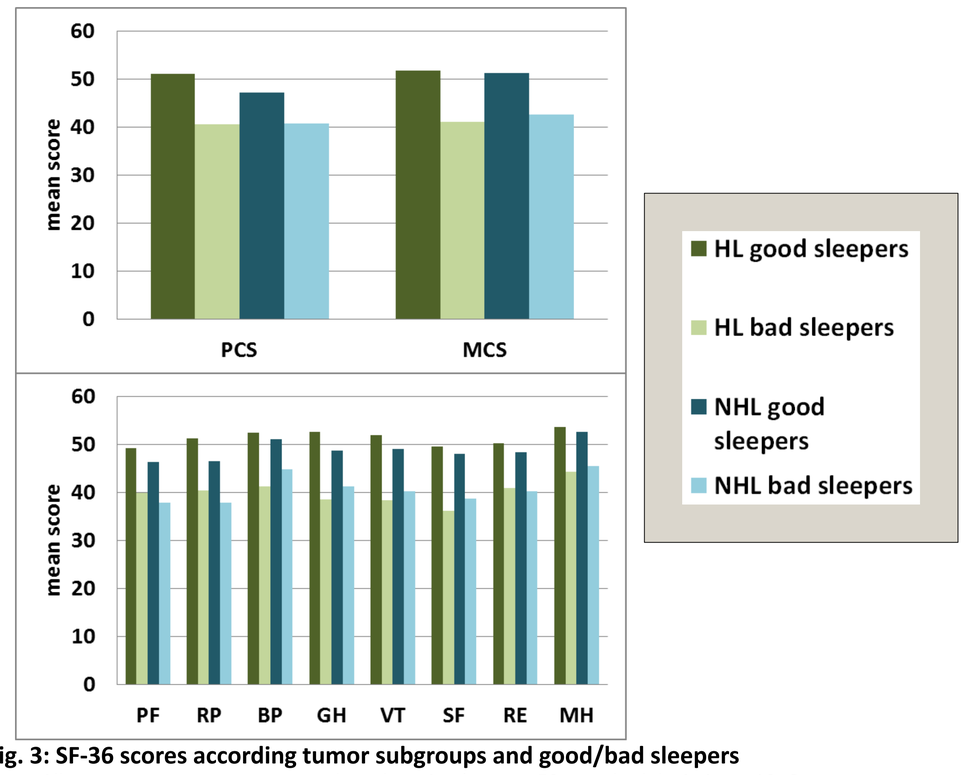

Fig. 3: SF-36 scores according tumor subgroups and good/bad sleepers

Note: All summary measures use norm-based scoring (mean = 50, standard deviation = 10, German gen. pop. norm, 1994) SF-36 domains: **PCS** = Physical Component Summary; **MCS** = Mental Component Summary **PF** = Physical Function; **RP** = Role Physical; **BP** = Bodily Pain; **GH** = General Health; **VT** = Vitality; **SF** = Social Function; **RE** = Role Emotional; **MH** = Mental Health

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