

# Physical activity of patients with myeloproliferative neoplasms – a multicenter survey from the East German Study Group for Hematology and Oncology (OSHO #97)

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## 1 Background

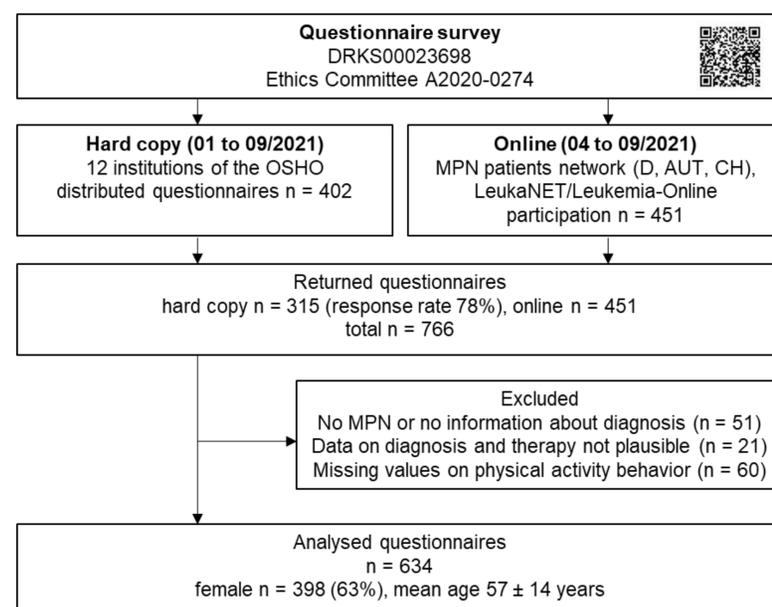
- Patients (pts) with myeloproliferative neoplasms (MPN): variety of disease- and therapy-related symptom burden, impaired hematopoietic system function
- **open questions:** influence on physical activity (PA) and effects of PA

## 2 Research questions

1. PA behavior changes due to a MPN disease
2. Influence of fears of certain events PA
3. Differences between physically active vs. inactive pts

## 3 Methods & Sample

Figure 1. Flow chart of the study



## 4 Results

Figure 2. Influence of MPN on physical activity (n = 620)

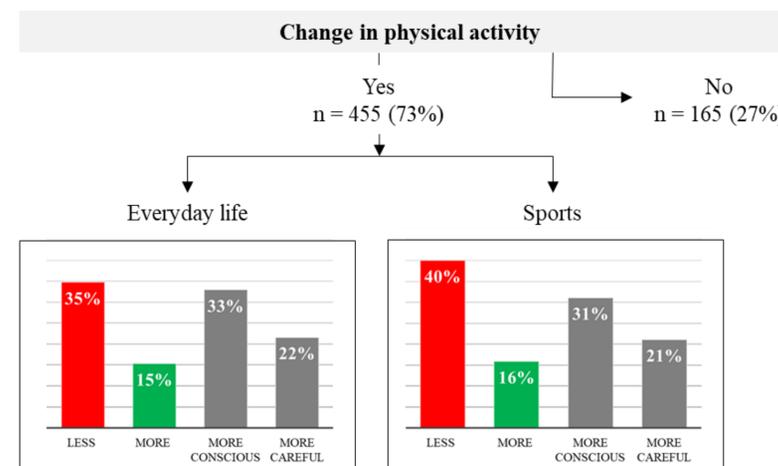


Figure 3. Anxieties during physical activity in MPN patients (n = 624)

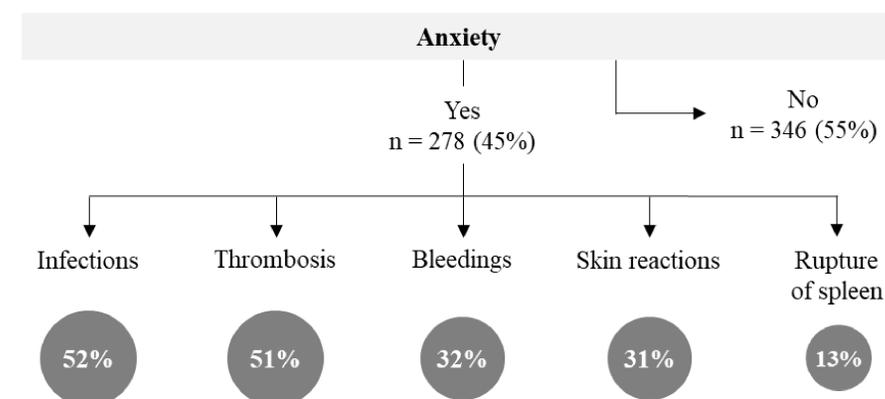


Table 1. Characteristics of MPN patients depending on the level of physical activity<sup>a</sup>

	inactive (1) (n = 86)	non-targeted active (2) (n = 229)	sporty active (3) (n = 226)	p 1 vs 2	p 2 vs 3	p 1 vs 3	p χ <sup>2</sup> -test
<b>Demographics</b>							
Gender, female	64.0	66.7	58.8				.224
Age (years)	59.5 ± 15.5	56.0 ± 12.9	54.7 ± 12.9	.018*	.363	0.004*	
BMI (kg/m <sup>2</sup> )	26.6 ± 5.2	25.8 ± 4.4	25.3 ± 4.8	.319	.072	.013*	
<b>Quality of life<sup>1</sup></b>							
Fatigue	60.1 ± 22.7	63.2 ± 21.2	73.2 ± 19.7	.266	≤.001**	≤.001**	
<b>Symptoms<sup>2</sup></b>							
Fatigue	45.6 ± 31.5	43.9 ± 29.8	33.0 ± 28.1	.656	≤.001**	≤.001**	
Bone and muscle pain	37.3 ± 31.9	33.1 ± 28.9	25.0 ± 27.6	.467	≤.001**	.005*	
Concentration problems	31.7 ± 28.6	35.0 ± 27.5	23.9 ± 25.5	.283	≤.001**	.024*	
<b>Side effects</b>							
Skin irritations	41.9	48.0	40.3				.267
Splenomegaly	32.6	25.8	31.0				.026*
bleeding tendency	22.1	33.3	31.4				.242
Thrombosis (last 3 month)	7.0	1.7	4.9				.038*
<b>Falls (last 12 months)</b>							
	23.3	13.1	9.7				.007*

<sup>a</sup>Pts were divided into three groups depending on their level of physical and sports activities. Physical activity was measured with the Godin-Shepard Leisure-Time Physical Activity Questionnaire, and the five stages of the transtheoretical model of behavioral change were used to determine the motivation to participate in regularly sports. Group 1 "inactive": all insufficiently active pts who do no sport at all. Group 2 "non-target active": all moderately and sufficiently active who do no sport at all. Group 3 "sporty active": all moderately and sufficiently active pts who do sport regularly.  
continuous variables: mean ± standard deviation, categorical variables: percentage of patients  
mean differences for continuous variables: Mann-Whitney U test, categorical variables: χ<sup>2</sup>-test  
Abbreviations: n; number of patients, BMI; Body Mass Index,  
<sup>1</sup>range 0-100, higher values represent high quality of life, <sup>2</sup>range 0-100, higher values represent more discomfort;  
bold: statistically significance, \* p ≤ .05, \*\* p ≤ .01

## 5 Conclusion

- 73% of MPN pts change their PA due to the disease
- factors that have an influence on PA: fears, especially of infection and thrombosis, age, and motivation
- fears and anxieties are common
- sporty pts: lower symptom burden & higher HrQoL
- physically inactive pts: significantly higher prevalence of falls & higher BMI
- In conclusion, especially older and non-sporty MPN pts could benefit from motivational as well as disease-specific PA information.

## Funding

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