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PHYSICAL ACTIVITY – BEFORE LUMBAR FUSION SURGERY

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Background

- No. of patients undergoing lumbar fusion surgery for degenerative disc disease (DDD) has increased worldwide (*Harris et al, 2009*)
- Physical activity is of essence, both to avoid the negative health consequences of insufficient physical activity (WHO) and to promote the analgesic effect from physical activity (*Meeus et al 2010, Nauge et al 2012*)
- Little is known about physical activity and sedentary behaviour among patients with DDD.



Objective

- To describe levels of physical activity among patients with degenerative disc disease who are to undergo lumbar fusion surgery.



Method

- A cross-sectional study design with 66 persons with DDD
- Measuring **Physical Activity** (PA) with an accelerometer ActiGraph GT3X+
 - Time spent in moderate and vigorous PA/week
 - Time spent sedentary per day
 - Number of steps per day





Method

WHO's global guidelines on physical activity for health

- At least 150 minutes of moderate-intensity physical activity per week or
- 75 minutes of vigorous-intensity physical activity per week or
- An equivalent combination of moderate- and vigorous-intensity physical activity

Recommendations on physical activity, steps/day

- 7000 steps per day is recommended for health benefits (*Tudor-Locke, 2011*)

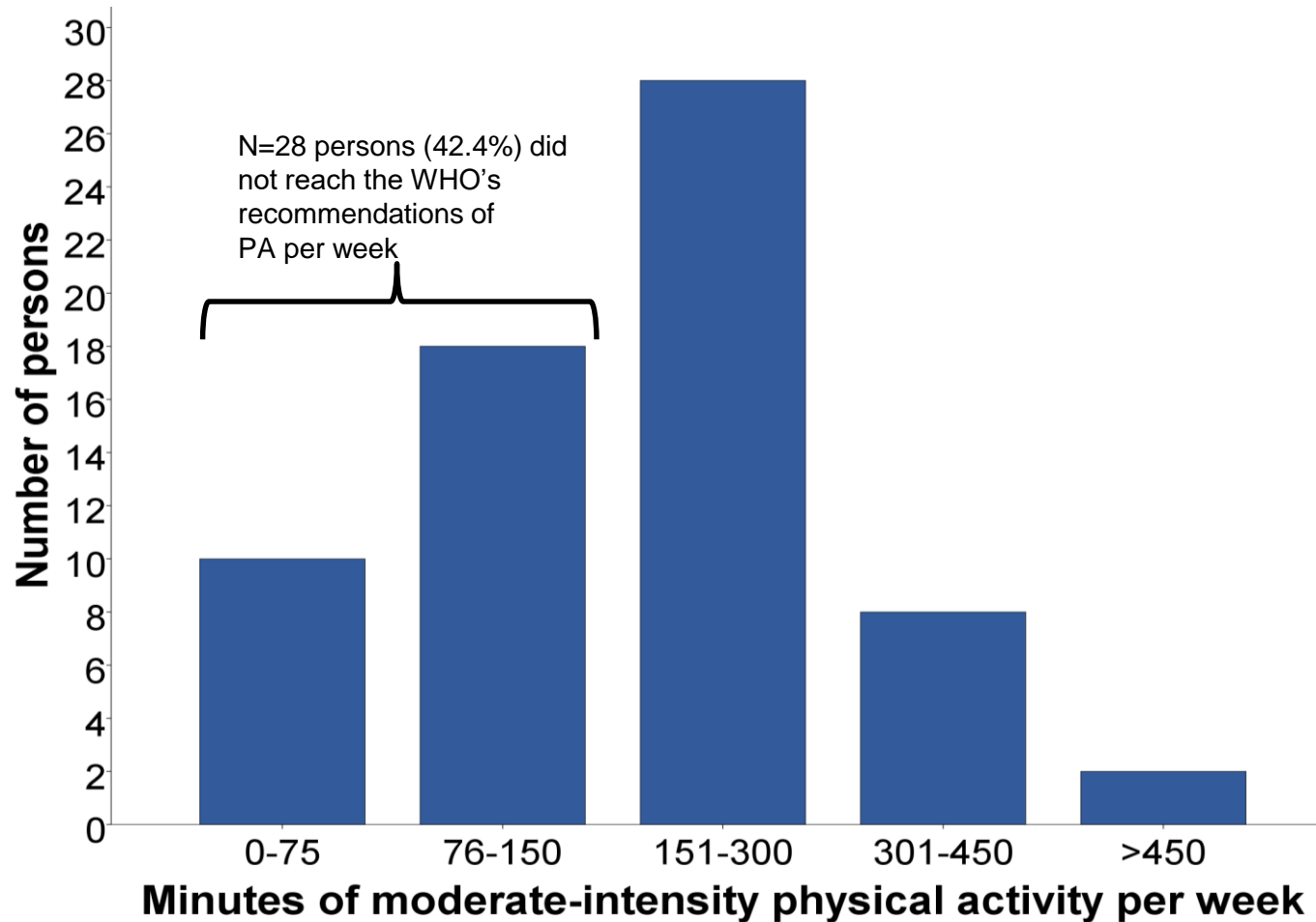


Study Population – before surgery

Variable	Total population	Women	Men
Number	66	37	29
Age, years (SD)	45	44 (7.9)	46 (7.6)
Back pain duration >2 years	46	23	23
Disability (Oswestry Disability Index)	36.4 (12.2)	37.2 (12.0)	34.2 (11.2)
Pain intensity, low back (Visual Analogue Scale)	62.1 (20.4)	64.9 (18.6)	57.9 (22.1)
Pain intensity, leg pain (Visual Analogue Scale)	36.4 (31.0)	36.3 (28.8)	35.8 (34.4)

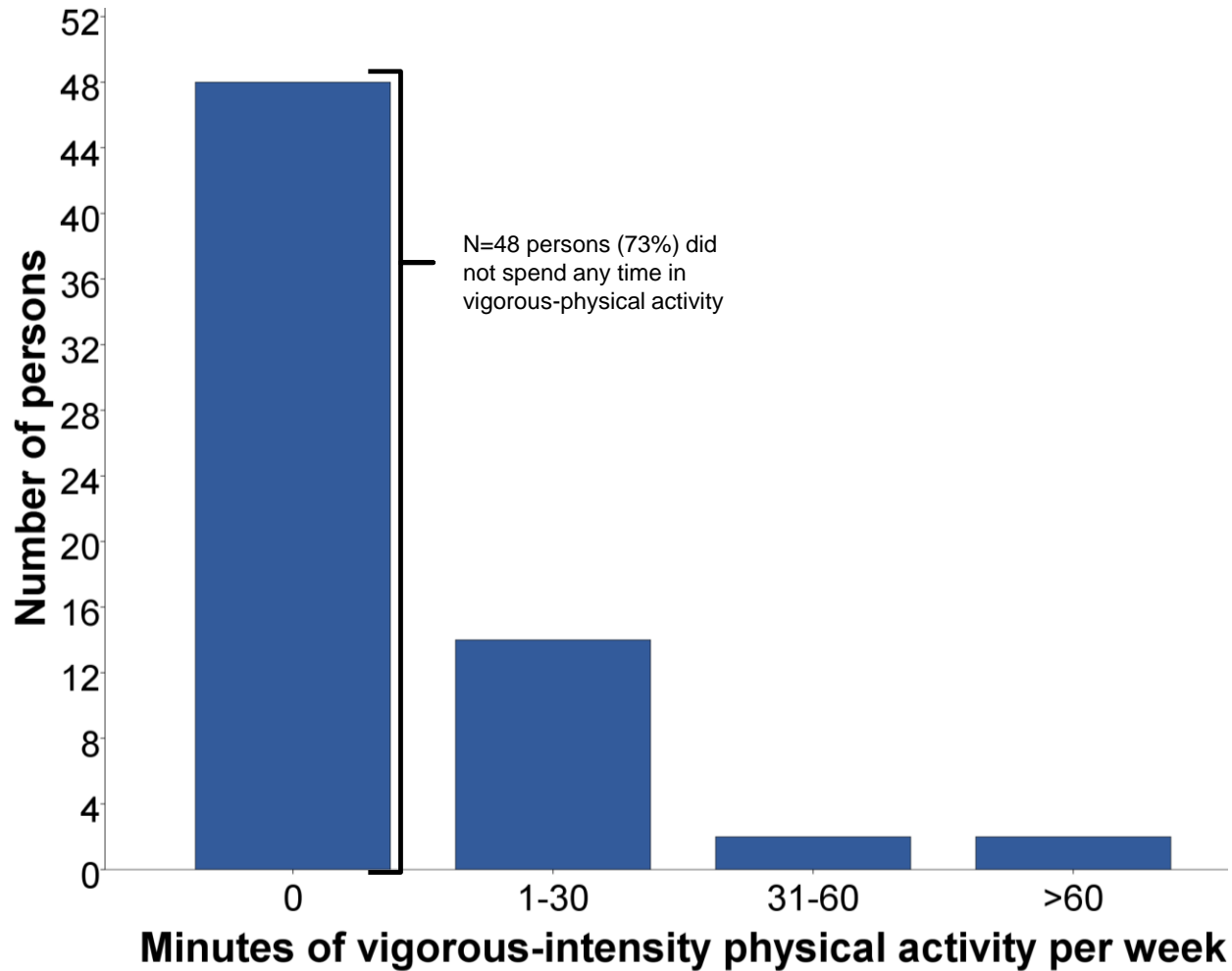


Results – time spent in *moderate* physical activity





Results – time spent in *vigorous* physical activity





Results - Time spent *sedentary* and *steps*

Variable	Operationalized by	Mean (SD)
Sedentary hours/day	GT3X+ accelerometer	9.0 (1.64)
Steps/day	GT3X+ accelerometer	7535 (2733)



Conclusion

- Nearly half of the study population did not reach the WHO's recommendation for moderate-intensity PA per week. These patients might, therefore, have an increased risk of developing negative health conditions such as cardiovascular disease, obesity, cancer and diabetes.
- Two third of the patients did not spend any time in vigorous-intensity PA which might reduce the analgesic effect on pain.
- These aspects must be considered when designing protocols for prehabilitation and rehabilitation for this patient group.



Take home message

These persons that did not reach the recommendations for physical activity per week might have an increased risk of developing negative health consequences



Disclosure

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