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## Introduction

Illness and chronic health problems, are in general known to impact on physical ability and the performance of activities of daily living (ADL) (1).

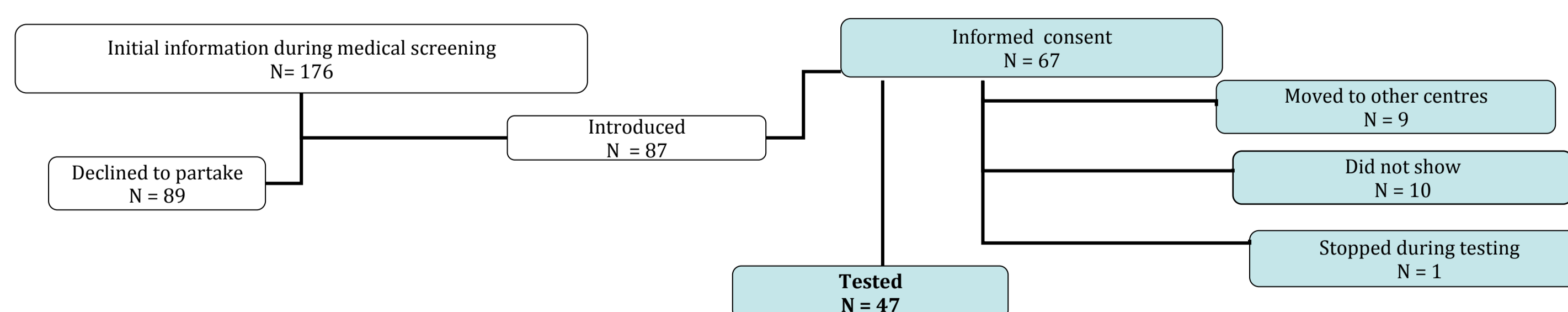
Asylum seekers show a high prevalence of pain and psychological symptoms. Most of them have been subjected to traumatic incidents and experience post-migration stress. Moreover, asylum seekers who have been subjected to torture show increased health problems compared to asylum seekers who have not been subjected to torture. Considering the exposure to torture and trauma and the general health in the asylum seeking population, ADL performance could very well be affected by the sequelae from torture and post-migration stress. There are indications that the exposure to torture, trauma and post migration stress leads to a decrease in number of daily activities and problems with the ADL-performance (2). Earlier studies have relied on self-report of ADL-performance, but research has shown there is a discrepancy between self-report and observation based assessments (3). Thus, in the field of studies of torture survivors there is a need for an objective and systematic evaluation of ADL task performance.

## Aim

The aim of this study was to describe whether exposure to torture, as defined by the Tokyo Declaration (4), was related to the ability to perform daily activities (ADL) and if the torture survivors differed from a group of asylum seekers that had not been subjected to torture.

## Methods

Participants, aged 20-50, were recruited through the Danish Red Cross. Data was gathered through interviews and observation-based assessment of 47 asylum seekers from Iran, Afghanistan and Syria. Written information about the project had been prepared in Dari, Arabic and Farsi. The observation-based test Assessment of Motor and Process Skills (AMPS) was used to assess ADL performance. The questionnaires WHO-5 Well-being Index, Major Depression Inventory ICD-10 (using the ICD-10 algorithm, grouped into 1, no depression, 2, distress and lighter depression, 3, moderate depression, 4, severe depression), Pain Detect and a questionnaire covering age, country of origin, civil status, education, exposure to torture and other traumatic events were used.



Unsystematic beating. Drawing by Mogens Nargaard

## Results

Group differences Descriptive of the two groups using a two-tailed t-test with equal variances not assumed

N=47	No torture N=10	Torture N=37	Difference	P-Value* (< 0.05)
	Mean ± SD (min-max)	Mean ± SD (min-max)	Group difference (95% CI)	
Age	29.10 ± 8.569 (22-50)	30.59 ± 8.060 (20-49)	Lower -0.7981 Upper 4.992	0.629
Education/years	11.10 ± 3.635 (0-19)	10.19 ± 5.562 (0-19)	Lower -2.137 Upper 3.958	0.542
AMPS motor	2.24 ± 0.3312 (1.68 - 2.63)	1.89 ± 0.7813 (0.00 - 2.90)	Lower 0.1456 Upper 0.6868	0.041*
AMPS process	1.35 ± 0.6199 (0.20 - 2.27)	1.25 ± 0.7612 (-0.02 - 2.49)	Lower -0.3873 Upper 0.5935	0.663
WHO-5	35.20 ± 15.17 (8 - 56)	28.11 ± 22.79 (4 - 84)	Lower -5.56 Upper 19.74	0.257
MDI (raw score)	26.2 ± 2.27 (0 - 43)	31.7 ± 11.65 (4 - 47)	Lower -12.875 Upper 1.870	0.134
Pain Detect	7.2 ± 8.323 (0 - 21)	7.75 ± 7.507 (0-23)	Lower -6.826 Upper 5.7127	0.851
VAS- average pain	4.0 ± 2.9277 (0 - 8)	4.3636 ± 2.924 (0 - 10)	Lower -2.9124 Upper 2.185	0.759
VAS- current pain	0.78 ± 3.188 (0 - 4)	2.68 ± 3.188 (0 - 10)	Lower - 3.448 Upper - 0.350	0.180
Pain duration	3.2 ± 1.476 (1-4)	2.76 ± 1.784 (1-4)	Lower -0.721 Upper 1.607	0.433

### Torture

37 of the 47 participants reported exposure to torture. The most common physical methods were unsystematic beatings, suspension from extremities and forced positions. Others were isolation, sleep deprivation and deprivation of basic needs.

### Motor and process skills in ADL

The study results showed that measures of ADL skills were lower in the overall study population as compared to a previously composed reference sample of healthy people of same age. The age norms for AMPS process skills is 2.08 and for motor skills 2.21. Further a statistical

significant and clinical relevant difference in ADL motor skills between tortured and non-tortured were observed. There was no difference in ADL process skills. ADL motor skill measures below the 2.0 logits cut off indicate increased effort or fatigue during task performance. ADL skill measures below the 1.50 ADL motor cut off and/or below the 1.00 ADL process cut off indicate a need for minimal assistance for community living.

### Pain, well-being and depression

Scores below 50 on the WHO-5 showed that both the tortured and non-tortured as a whole suffers from stress and low well-being. This was also found with the MDI, where 18 showed signs of severe depression, 8 showed signs of moderate depression and 5 had signs of distress and milder depression. The remaining 16 persons showed no sign of depression. Neither the MDI nor WHO-5 indicated any differences between groups. Neither Pain Detect Score nor the pain duration measured at 1 to 4 (0-30 days, 30-90 days, 90-180 days and above 180 days) showed any significant difference between tortured and non-tortured.

### Motor and process skills correlations

Spearman's rho	AMPS Process	AMPS motor
Age	Correlation coefficient 0.83 Sig. (two-tailed) 0.581	-0.312* 0.033
Education	Correlation coefficient 0.336 Sig. (two-tailed) 0.21	0.185 0.212
Torture	Correlation coefficient -0.029 Sig. (two-tailed) 0.848	-0.186 0.211
WHO-5	Correlation coefficient 0.480** Sig. (two-tailed) 0.001	0.458** 0.001
MDI	Correlation coefficient -0.325* Sig. (two-tailed) 0.026	-0.317* 0.030
Reporting of Pain	Correlation coefficient -0.267 Sig. (two-tailed) 0.070	-0.322* 0.027
Pain Detect score	Correlation coefficient -0.029 Sig. (two-tailed) 0.845	-0.233 0.115
VAS-current pain	Correlation coefficient 0.92 Sig. (two-tailed) 0.557	-0.195 0.210
Pain - duration	Correlation coefficient -0.171 Sig. (two-tailed) 0.251	-0.282 0.055
VAS average pain	Correlation coefficient -0.290 Sig. (two-tailed) 0.066	-0.411** 0.008

### Correlations

There was no correlation between neither the AMPS process score or AMPS motor score and torture. Statistically significant, but weak correlations were found between process skills and MDI. There were also statistically significant, but weak correlations between motor skills and MDI, age and presence of pain. Stronger statistical significance and correlations were found between motor skills and VAS average pain, and between both motor and process skills and WHO-5.

## Discussion

The results regarding health and wellbeing did not differ from earlier research. However, the prevalence rate of exposure to torture was higher than expected based on published epidemiological studies. This might be due to the inclusion of study participants from few and selected countries.

This is the first study evaluating functional ability in survivors of torture using performance based assessments. A statistically significant and clinically relevant difference between the tortured and non-tortured regarding motor skills was observed. As literature mostly describes psycho-social sequelae from torture, we expected to find differences primarily in AMPS process as opposed to the motor skills. As with other chronic pain populations a significant although weak correlation with psychological distress was present as well as current and average level of pain. The finding of ADL motor skills below expected age-norms and a more pronounced motor skill in-efficiency in the tortured population, underlines the need for multi-disciplinary rehabilitation also focusing on the physical aspects, including performance of activities of daily living.

This study included asylum seekers that had just arrived in Denmark. It still remains to be elucidated whether the time spent at the centres have any bearing on the ability to perform ADL, as many studies show that the general health declines depending on time spent at a centre.

## Conclusions

**A significant difference between tortured and non-tortured asylum seekers concerning ADL motor skills was observed, but none regarding pain or psychological distress measures.**

**The observed impairment of physical ability, especially in the tortured population, underlines the need for multi-disciplinary rehabilitation also focusing on the physical aspects, including performance of activities of daily living.**

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