Cognitive Dysfunctions of older Prisoners in North Rhine-Westphalia, Germany

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Background:

Corresponding to the demographic change in general, an enormous increase of older inmates can be registered in prison-population: In Germany the number of prisoners aged 60 years and older grew from 506 in 1993 to 2246 in 2015. Research on this population is rare, international studies point to lower educational level for older inmates, a worse health status and more risk factors for developing a neurodegenerative disorder. Focusing on cognitive performance the documented prevalences differ widely between the studies. For Germany no data of cognitive (dys-)function exist at all.

Figure 1: Inmates aged 60 years or older in Germany

Methods:

With approval by the Federal Ministry of Justice of North Rhine-Westphalia, Germany, we conducted a pilot study to gather data on the prevalence of cognitive dysfunction of elderly inmates. In five prisons all inmates aged 60 and older were asked to participate. We used standardized screening tools for global cognitive functioning and for frontal and executive performances. Additionally we evaluated depressive symptoms. Sociodemographic and biographic data were collected as well.

Tool	Cognitive Domain
Mini Mental Status Examination (MMSE)	Orientation, Memory, Calculation, Attention, Language
DemTest	Verbal Memory, Working Memory, Number Transformation, Semantic Fluency
Trail Making Test (TMT)	Visuomotor Speed & Mental Flexibility
Frontal Assessment Battery (FAB)	Inhibition, Abstraction, Interference, Phonematic Fluency
PHQ-9	Depressive Symptoms

Results:

58 prisoners participated in our study from a total of 5 prisons in North Rhine-Westphalia, 9 female and 48 male.

21 participants were in custody, 28 in sentences and 9 in preventive detention.

Committed crimes varied from driving without license to homicide - the sentences from one month to life-long-sentences. Time of incarceration at time of the interview differs from one month to 48 years. One third of the participants were first-time-inmates.

Participants	
age	60-90 (mean 67,5)
education	4-18 (mean 12,3)

	N	Min	Max	mean	SD
MMST raw score	57	20	30	27,89	2,201
MMST z-value	53	-4,75	2,00	-,74	1,57
FAB total	57	6	18	14,09	2,78
TMT-A z-value	50	-2,89	2,72	-,33	1,3
TMT Quotient z-value	44	-2,28	2,05	-,27	1,1
TMT-B z-value	45	-2,34	2,77	-,42	1,25
DEMTECT total	53	3	18	12,77	3,41
PHQ-D total	53	0	22	8,57	6,27

Table 1: Results of cognitive measurement (including mean & standard deviation)

Figure 2: Classification of cognitive performances according to the respective cut-offs

Conclusion:

A large group of the prisoners in our sample showed cognitive dysfunctions to some degree, and the prevalence is above the data for general population. Future studies should focus on longitudinal course to evaluate whether these deficits could point to an early dementia syndrome.

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