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Performance of candidates declaring dyslexia in the MRCGP clinical skills assessment: cross sectional study

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Background: Dyslexia

- Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling.

- Dyslexia is classed as a specific learning disability (SLD)

- 6 million people are affected in the UK.

- In particular very few studies have looked at performance of candidates with dyslexia in licensing examinations.

- Hence, little is known about the relative performance of medical graduates with dyslexia in licensing examinations

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Background: Objective Structured Clinical Examinations (OSCE)

- Two previous studies focused on undergraduate performance: multiple choice tests and one postgraduate study looked at AKT

- There have been **no** previous studies into the performance in a licensing OSCE of doctors with dyslexia during postgraduate training.

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The aim of this study

- To investigate the performance of doctors with dyslexia undertaking an OSCE which forms part of the licensing examination for UK general practice.

- Comparing (dyslexics vs non-dyslexics) candidates

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Inclusion-Exclusion Criteria

- Age: Adult patients (≥21 years)

- Eight years CSA results: 2010 – 2017

- All candidates (UK and Overseas)

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Method

- Descriptive Statistics.

- Early vs late dyslexia declarers

- Multi-variable logistic regression to analyse the performance of the candidates adjusting for known confounders.

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Descriptive Results: Characteristics of CSA candidates declaring dyslexia compared with those not declaring dyslexia

Candidate characteristics	Dyslexia declared		Dyslexia not declared		χ^2
	N=598	(%)	N=20281	(%)	
Sex					
Female	315	(52.7)	12,581	(62.0)	p<0.001
Male	283	(47.3)	7,675	(37.8)	
Missing	0	(0)	25	(0.1)	
Country of primary medical qualification					
UK	437	(73.1)	15740	(77.6)	
EU & Russia	41	(6.9)	798	(3.9)	p=0.001
Rest of the world	120	(20.1)	3743	(18.5)	

Descriptive Results

Candidate characteristics	Dyslexia declared		Dyslexia not declared		χ^2
	N=598	(%)	N=20281	(%)	
Number of attempts					
One	388	(64.9)	16357	(80.7)	p<0.001
2-3	**142**	**(23.7)**	3141	(15.5)	
≥4	**68**	**(11.4)**	783	(3.9)	

Descriptive Results: Characteristics of candidates passing the CSA declaring dyslexia compared with those not declaring dyslexia

Candidate characteristics	Dyslexia declared		Dyslexia not declared		χ²
	N=598	(%)	N=20281	(%)	
Sex					
Female	315	(52.7)	12,581	(62.0)	p<0.001
Male	283	(47.3)	7,675	(37.8)	
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Descriptive Results: Characteristics of candidates **passing** the CSA declaring dyslexia compared with those not declaring dyslexia

Candidate characteristics	Dyslexia declared		Dyslexia not declared		χ²
	N=598	(%)	N=20281	(%)	
Number of attempts					
One	371	(72.7)	16199	(82.9)	p<0.001
2-3	108	(21.2)	2912	(14.9)	
≥4	31	(6.1)	431	(2.2)	

Descriptive Results: Early vs Late

Candidate characteristics	Dyslexia declared early		Dyslexia declared late		χ^2
	492 (82.3)	(%)	106 (17.7)	(%)	
CSA Examination outcome					
Pass	447	(90.9)	63	(59.4)	p<0.001
Fail	45	(9.2)	43	(40.6)	
Ethnicity					
White British	283	(57.5)	14	(13.2)	p<0.001
BME	193	(39.2)	90	(84.9)	
Unknown/missing	16	(3.3)	2	(1.9)	
Country of primary medical qualification					
UK	415	(84.3)	22	(20.8)	p<0.001
Rest of the World	59	(12.0)	61	(57.6)	
EU & Russia	18	(3.7)	23	(21.7)	

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Regression Results: Multivariable logistic regression showing factors associated with passing the CSA

Candidates passing CSA	Incident Rate Ratio	95% confidence interval	P-Value
All non-declarers of dyslexia	Reference		
Early declaration of dyslexia	**0.94**	(0.92 to 0.97)	p<0.00625
Late declaration of dyslexia	**0.78**	(0.67 to 0.91)	p<0.00625
First attempt	Reference		
2-3 attempts	**0.97**	(0.95 to 0.97)	p<0.00625
4 or more attempts	**0.59**	(0.55 to 0.63)	p<0.00625
Female	Reference		
Male	**0.98**	(0.98 to 0.99)	p<0.00625
UK and Ireland	Reference		
EU & Russia	**0.94**	(0.92 to 0.96)	p<0.00625
Rest of the World	**0.94**	(0.93 to 0.95)	p<0.00625
White British	Reference		
Black Ethnic Minority	**0.99**	(0.99 to 1.00)	p<0.00625

Conclusion/Discussion

- Candidates declaring dyslexia were more likely to be male (47.3% vs 37.8%; p<0.001) and to have a non-UK primary medical qualification (27.0% vs 22.4%; p=0.001), but were no different in ethnicity compared with those who did not declare dyslexia.

- The chance of candidate passing was lower when dyslexia was declared late (Incident Rate Ratio [IRR] 0.78, 95% Confidence Interval [CI] 0.67 to 0.91) compared with being declared early (IRR 0.94 95% confidence interval [CI] 0.92 to 0.97) – also confirmed by previous research .

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Conclusion/Discussion

- Candidates were more likely to have a non-UK medical qualification (79.3% vs 15.7%; p<0.001) or come from a minority ethnic group (84.9% vs 39.2%; p<0.001).

- Confounding of assessment in those who had English is a second language.

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Conclusion/Discussion

- Candidates taking the CSA between 2010 and 2017 were less likely to pass the CSA compared with candidates who did not declare dyslexia.

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Further Research

- Why are the candidates not declaring dyslexia early?
- Why were the candidates declaring dyslexia less likely to pass the CSA? This is not the case with AKT.

- A wider evaluation of performance of candidates with dyslexia in other medical licensing exams is also needed.

- Qualitative research could help to fill the gaps: addressing differential performance, either through educational input, coping strategies, test accommodations or test design.

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