Exam preparation and exam performance in the FRCA Clinical exams – a candidate survey

Introduction

The purpose of this research is to investigate whether there is a correlation in the way candidates prepare for exams and their performance at the exams and if this is affected further by the candidates' ethnicity and/or sex.

Over a one year period *(three Primary FRCA OSCE/SOE and two Final FRCA SOE exams)*, candidates were asked to complete a questionnaire on how they had prepared for OSCE and SOE examinations. The Final SOE and the Primary OSCE/SOE candidate questionnaire contained nine questions. The first question asked candidates about the resources they used, by providing them with a list of eight resources: Textbooks, exam practice books, podcasts, BJA education, free online resources, phone/tablet apps and e-LA. Candidates were asked to rate using a four-point scale, on how often they use these resources: Never, Occasionally, Regularly, All the time. The questionnaires then went on to ask what exam courses candidates had attended prior to this exam sitting, the number of study days taken, whether they received exam focused teaching during clinical work, if exam practice was provided by their hospital and what clinical experience the candidate received across the training units. The questionnaires also asked if they were part of a study group and how else they prepared for this exam.

Candidate numbers (The number assigned to a candidate for a specific exam) were requested to allow responses to be linked to exam results and demographic data, this data was then anonymized.

The ethnicity categories were grouped in the following way:

Table 1:

BME	WHITE	Asian/Asian British Indian
• Asian/Asian British–Pakistani	• White-British	• Asian/Asian British - Indian
• Asian/Asian British – Other	• White- Irish	
• Asian/Asian British–Bangladeshi	• White-Northern Irish	
• Pakistani	• White-Other	
• Arab	• White-Scottish	
• Other	• White-English	
• Black/African/ Caribbean/Black British-Caribbean	• White-Welsh	
• Black/African/ Caribbean/Black British- African		
• Mixed/Multiple ethnic groups - White & Asian		
• Mixed/Multiple ethnic groups - Other		
• Mixed/Multiple ethnic groups - White & Black Caribbean		
• Asian/Asian British-Chinese		

Analysis of responses to questionnaire

1) Pass rates for Primary and Final

- **Primary OSCE/SOE pass rates by candidate group (Table 2)**

  The total number of candidates in each group may include candidates who appear more than once in the data due to re-sits.

  o 41.9% of candidates who sat the Primary passed both units at the same sitting.
  o 12.1% of the all the candidates failed both units at the same sitting.
  o 394 female candidates sat the Primary and their overall success rate was 60.2% whilst for the 446 male candidates, the overall success rate was 61.7%.
  o BME and Asian/Asian British Indian overall success rate was significantly lower (approx.. 10%) than white candidates 53.8%, 54.7% vs. 63.7%.

Table 2:

Candidate group	Total number of candidates in group	Candidate group % Pass rate
All	840	61.0%
Overall pass (both units passed at this sitting)	352	41.9%
Fail both units	102	12.1%
Sat SOE unit only and passed SOE	114	71.1%
Sat OSCE unit only and passed OSCE	97	81.4%
Female	394	60.2%
Male	446	61.7%
Ethnicity - White	515	63.7%
Ethnicity BME	119	53.8%
Ethnicity (Asian/Asian British-Indian)	95	54.7%
Ethnicity - unknown	111	61.3%
PMQ - UK	703	64.2%
PMQ ROW (inc Eur)	41	34.1%
PMQ unknown	96	49.0%
UK PMQ White	475	65.3%
UK PMQ BME	102	56.9%
UK PMQ (Asian/Asian British - Indian)	53	64.2%
UK PMQ -ethnicity unknown	73	67.1%
Trainee	754	62.9%
Non- Trainee	86	44.2%

- **Final SOE pass rates by candidate group (Table 3)**
  The total number of candidates in each group may include candidates who appear more than once in the data due to re-sits.
  o 251 female candidates sat the Final and their success rate was 67.3% whilst for the 446 male candidates, the overall success rate was 69.5%.
  o BME and Asian/Asian British Indian overall success rate was significantly lower than white candidates (57%, 55.6% vs 77.4%).
  o UK PMQ BME candidates performed significantly less well than their counterparts UK PMQ white and UK PMQ Asian/Asian British Indian candidates (55.6% vs 77.7%, 65.6%).

Table 3:

Candidate group	Total number of candidates in group	Candidate group % Pass rate
All	569	68.5%
Female	251	67.3%
Male	318	69.5%
Ethnicity - White	305	77.4%
Ethnicity BME	135	57.0%

Ethnicity (Asian/Asian British Indian)	90	55.6%
Ethnicity - unknown	39	69.2%
PMQ - UK	439	71.5%
PMQ ROW(inc Eur)	69	50.7%
PMQ unknown	61	67.2%
UK PMQ White	283	77.7%
UK PMQ BME	90	55.6%
UK PMQ (Asian/Asian British Indian)	32	65.6%
UK PMQ ethnicity unknown	34	67.6%
Trainee	511	69.1%
Non- Trainee	57	63.2%

2) Traditional Resources v Online resources (Tables 4 to 7)

Traditional resources are Textbooks, exam books and BJA education. Online resources are Podcasts, free online, paid online, phone/tablet Apps, e learning. If candidates identified that they used any one of the traditional resources 'all the time' or 'regularly', they were counted as traditional resource users and the same applies to those candidates identified as online resource users.

Almost all candidates used traditional resources regardless of which exam they were sitting and whether it was their first attempt or a re-sit. However, there was more variation between different groups when looking at the use of online resources. For the Primary exam, candidates who were on their first sitting, 88 to 91.9% of them used online resources to prepare, whilst the usage of online resources decreased for those candidates who were re-siting, 63.2% to 85.4%. For the Final SOE, the difference between the use of online resources was more significant for candidates whose primary qualification was obtained in the UK but belong to different ethnic groups. PMQ UK Asian/Asian British Indian tended to use online resources 9 to 10.3% less than their PMQ UK BME and white counterparts.

Table 4:

Final SOE - first attempts only	n	Traditional resources user	Online resources user
All	424	99.1%	70.8%
Pass	289	99.3%	70.6%
Fail	135	98.5%	71.1%
Female	189	100.0%	68.8%
Male	235	98.3%	72.3%
Ethnicity - White	240	99.6%	71.3%
Ethnicity (Asian/Asian British Indian)	59	98.3%	74.6%
Ethnicity BME	94	97.9%	69.1%
Ethnicity - unknown	31	100.0%	64.5%
PMQ - UK	343	99.7%	70.8%
PMQ ROW (inc Eur)	40	97.5%	80.0%
PMQ unknown	41	95.1%	61.0%
UK PMQ White	228	99.6%	71.5%
UK PMQ BME	63	100.0%	74.6%
UK PMQ (Asian/Asian British Indian)	24	100.0%	62.5%
UK PMQ ethnicity unknown	28	100.0%	64.3%
Trainee	384	99.2%	70.6%
Non- Trainee	40	97.5%	72.5%

Table 5:

Final SOE - two attempts or more	n	Traditional resources user	Online resources user
All	145	100.0%	76.6%
Pass	101	100.0%	79.2%
Fail	44	100.0%	70.5%
Female	62	100.0%	79.0%
Male	83	100.0%	74.7%
Ethnicity - White	65	100.0%	75.4%
Ethnicity (Asian/Asian British-Indian)	31	100.0%	83.9%
Ethnicity BME	41	100.0%	73.2%
Ethnicity - unknown	8	100.0%	75.0%
PMQ - UK	96	100.0%	76.0%
PMQ ROW(inc Eur)	29	100.0%	75.9%
PMQ unknown	20	100.0%	80.0%
UK PMQ White	55	100.0%	74.5%
UK PMQ BME	27	100.0%	74.1%
UK PMQ (Asian/Asian British Indian)	8	100.0%	87.5%
UK PMQ ethnicity unknown	6	100.0%	83.3%
Trainee	127	100.0%	78.0%
Non- Trainee	17	100.0%	64.7%

Table 6:

Primary OSCE/SOE – first attempt	n	Traditional resources user	Online resources user
All	540	99.1%	88.5%
Overall pass (both units passed at this sitting)	311	100.0%	87.1%
Fail both units	82	96.3%	91.5%
Pass SOE unit only	74	98.6%	91.9%
Pass OSCE unit only	73	98.6%	87.7%
Female	248	99.6%	89.5%
Male	292	98.6%	87.7%
Ethnicity - White	337	99.7%	88.7%
Ethnicity (Asian/Asian British-Indian)	57	98.2%	94.7%
Ethnicity BME	67	97.0%	85.1%
Ethnicity - unknown	79	98.7%	86.1%
PMQ - UK	461	99.6%	88.3%
PMQ ROW(inc Eur)	21	100%	90%
PMQ unknown	58	94.8%	89.7%
UK PMQ White	314	100.0%	88.9%
UK PMQ BME	61	96.7%	83.6%
UK PMQ (Asian/Asian British – Indian)	34	100.0%	91.2%
UK PMQ ethnicity unknown	52	100.0%	88.5%
Trainee	490	99.0%	88.6%
Non- Trainee	50	100.0%	88.0%

Table 7:

Primary OSCE/SOE – second attempt	n	Traditional resource user	Online resources user
All	300	98.7%	79.0%
Overall pass (both units passed at sitting)	41	100.0%	85.4%
Overall pass (with previous passes in OSCE or SOE)	160	98.8%	79.4%
Fail both units	20	95.0%	75.0%
Sat SOE unit only	114	99.1%	74.6%
Sat OSCE unit only	97	97.9%	82.5%
Female	146	99.3%	81.5%
Male	154	98.1%	76.6%
Ethnicity - White	178	98.9%	79.2%
Ethnicity (Asian/Asian British-Indian)	38	97.4%	78.9%
Ethnicity BME	52	100.0%	80.8%
Ethnicity - unknown	32	96.9%	75.0%
PMQ - UK	242	99.2%	77.7%
PMQ ROW(inc Eur)	20	95%	75%
PMQ unknown	38	97.4%	89.5%
UK PMQ White	161	98.8%	78.3%
UK PMQ BME	41	100.0%	80.5%
UK PMQ (Asian/Asian British – Indian)	19	100.0%	63.2%
UK PMQ ethnicity unknown	21	100.0%	81.0%
Trainee	264	98.9%	78.8%
Non- Trainee	36	97.2%	80.6%

3) Study leave and courses attended (Tables 8 and 9)

For the Primary OSCE/SOE, the duration of study days taken by BME candidates was significantly higher than white & Asian/Asian British Indian candidates, (6.64, vs, 4.93, 4.77 days). For the Final and those who obtained their primary medical qualification in the UK, Asian/Asian British Indian candidates took far fewer study days than PMQ UK BME and white candidates (3.6 vs 4.5, 4.7 days).

For both the Primary and Final exam, significantly more female than male candidates attended national exam courses. Primary candidates who passed both units at the same sitting also attended more national courses than those who failed both units at the same sitting, a difference of +6.7%. For those candidates whose primary medical qualification was gained in the UK, but belong to different ethnic groups, there was a significant difference in their attendance at national courses; Asian/Asian British Indian candidates attended less national courses compared to their BME and white counterparts (56.6% vs 67.6% & 68.2%. This trend was not repeated for the Final SOE, instead the opposite is true; Asian/Asian British Indian candidates attended more national courses than their BME and white counterparts (81.3% vs 73.3% & 71.7%).

Table 8:

Primary OSCE/SOE	Average days taken	Percentage of candidates who attend Local & Regional courses	Percentage of candidates who attend national courses
All	5.28	67.5%	66.2%
Overall pass (both units passed at the same sitting)	5.95	67.6%	72.4%
Overall pass (with previous passes in OSCE or SOE & both units passed)	5.29	68.2%	67.6%
Fail both units at the same sitting	6.03	69.6%	65.7%
Overall fail (including previous unit passes)	5.26	66.5%	64.0%

Sat SOE unit only	4.57	63.2%	60.5%
Sat OSCE unit only	3.11	70.1%	52.6%
Female	5.40	67.5%	73.1%
Male	5.17	67.5%	60.1%
Ethnicity - White	4.93	68.2%	68.7%
Ethnicity (Asian/Asian British-Indian)	4.87	64.2%	64.2%
Ethnicity BME	6.64	70.6%	65.5%
Ethnicity - unknown	5.77	64.0%	56.8%
PMQ UK	5.15	70.6%	66.6%
PMQ ROW (inc Eur)	6.62	43.9%	65.9%
PMQ unknown	5.70	55.2%	63.5%
UK PMQ White	4.93	68.6%	68.2%
UK PMQ BME	5.84	75.5%	67.6%
UK PMQ (Asian/Asian British - Indian)	5.35	67.9%	56.6%
UK PMQ ethnicity unknown	5.05	78.1%	61.6%
Trainee	5.15	70.6%	66.6%
Non- Trainee	6.28	40.7%	62.8%

Table 9:

Final SOE	Average days taken	Percentage of candidates who attend Local & Regional courses	Percentage of candidates who attend national courses
All	4.6	74.9%	73.3%
Pass	4.6	76.4%	73.8%
Fail	4.6	71.5%	72.1%
Female	4.5	76.5%	79.3%
Male	4.7	73.6%	68.6%
Ethnicity - White	4.5	81.0%	75.7%
Ethnicity (Asian/Asian British Indian)	4.7	77.8%	80.0%
Ethnicity BME	4.6	67.7%	70.3%
Ethnicity - unknown	5.1	82.1%	64.1%
PMQ UK	4.5	75.9%	72.4%
PMQ ROW(inc Eur)	5.9	76.8%	78.3%
PMQ unknown	4.5	65.6%	73.8%
UK PMQ White	4.5	76.3%	71.7%
UK PMQ BME	4.7	72.2%	73.3%
UK PMQ (Asian/Asian British Indian)	3.6	75.0%	81.3%
UK PMQ ethnicity unknown	4.5	82.4%	67.6%
Trainee	4.6	76.5%	73.2%
Non- Trainee	5.1	61.4%	73.7%

4) Exam modules, practice and study groups (Tables 10 to 13)

When candidates were asked how much clinical experience they have at the time of sitting the Final and Primary exam, for each training unit the responses they could choose from were; no experience, minimal experience, some experience but unit not complete, unit completed but unit signed off, or unit completed and signed off. For the purpose of this analysis, we looked at the numbers of units completed and signed off and assigned a points system (table 1). The average number of completed units for each group was then calculated *(table 3 & 4, column 1)*.

The candidates were also asked to rate using a four-point scale how often they received exam practice during their clinical and department work: Never, Occasionally, Regularly, All the time. This scale was then assigned points *(table 2)* and the average points for each group was calculated (*Table 3 & 4, columns 2 & 3*).

For the Primary, BME candidates had on average, completed and signed off more modules than any other group. For the Final, there was no significant difference in the units completed and signed off by different groups.

When we looked at how much exam practice candidates received in their clinical and hospital work for both the Primary and Final, there was no significant difference between pass and fail candidates. The same also applies to the amount of time pass and fail candidates prepared for the Primary and Final exams.

There is some indication that ethnicity is a barrier to joining study groups, although it is not consistent across groups in both parts of the exam:

For the Final, BME candidates, even if they obtained their primary medical qualification in the UK were less likely to belong to a study group.

In the Primary, Asian/Asian British Indian candidates and those candidates whose primary medical qualification was not obtained in the UK were less likely to belong to a study group.

Table 10:

Modules completed and signed off	Points
0	0
1	5
2	10
3	15
4	20
5	25
6	30
7	35
8	40
9	45
10	50
11	55
12	60

Table 11:

Four point scale description	Points
Always	10
Regularly	6.33
Occasional	3.33
Never	0

Table 12: **Primary OSCE/SOE**	**Average points for Modules completed and signed off (Clinical experience)**	**During Clinical work**	**Exam practice in dept**	**Part of study group (% yes)**	**Average prep time (months)**
All	23.86	4.04	4.39	59.40%	3.6
Overall pass *(both units passed at the same sitting)*	18.59	4.05	4.65	68.18%	3.7
Overall pass *(with previous passes in OSCE or SOE)*	23.50	4.13	4.59	53.75%	3.7
Fail both units at the same sitting	23.14	4.23	4.14	54.90%	3.2
Overall fail *(including previous unit passes)*	24.44	3.89	4.07	52.74%	3.4
Sat SOE unit only	35.13	4.06	4.67	59.65%	4.2
Sat OSCE unit only	32.42	4.08	3.63	40.21%	3.0
Female	25.29	3.93	4.20	63.71%	3.6
Male	22.60	4.13	4.56	55.61%	3.6
Ethnicity - White	25.80	4.14	4.54	62.14%	3.5
Ethnicity (Asian/Asian British-Indian)	20.11	3.64	4.33	46.32%	3.1
Ethnicity BME	27.31	3.84	3.98	57.14%	3.9
Ethnicity - unknown	14.41	3.94	4.03	60.36%	4.0
PMQ UK	25.34	4.07	4.42	62.16%	3.5
PMQ ROW (inc EUR)	16.10	3.73	4.18	36.59%	4.3
PMQ unknown	16.35	3.78	4.15	48.96%	3.7
UK PMQ White	25.78	4.17	4.54	63.58%	3.5
UK PMQ BME	28.58	3.80	4.03	58.82%	3.7
UK PMQ (Asian/Asian British – Indian)	26.04	3.56	4.39	54.72%	3.3
UK PMQ ethnicity unknown	17.47	4.12	4.13	63.01%	3.6
Trainee	24.54	4.00	4.34	60.74%	3.6
Non- Trainee	17.97	3.82	4.18	47.67%	3.8

Table 13: **Final SOE**	**Average points for Modules completed and signed off**	**During Clinical work**	**Exam practice in dept**	**Part of study group (% yes)**	**Average prep time (months)**
All	23.2	4.00	4.77	67.49%	3.9
Pass	22.7	4.07	4.86	66.15%	4.0
Fail	24.1	3.86	4.58	70.39%	3.6
Female	24.2	4.09	4.92	68.92%	3.7
Male	22.3	3.93	4.66	66.35%	4.0
Ethnicity - White	23.6	3.99	4.88	70.82%	4.0
Ethnicity (Asian/Asian British Indian)	20.3	3.92	4.77	70.00%	3.6
Ethnicity BME	24.4	3.95	4.42	59.26%	3.8
Ethnicity - unknown	21.9	4.31	4.99	64.10%	4.2
PMQ UK	24.0	4.09	4.85	69.70%	3.8
PMQ ROW(inc Eur)	24.6	3.67	4.30	66.67%	4.6
PMQ unknown	15.1	3.38	4.23	52.46%	3.6
UK PMQ White	23.61	3.99	4.88	71.02%	3.95
UK PMQ BME	26.9	4.17	4.71	63.33%	3.6

UK PMQ (Asian/Asian British Indian)	21.1	4.06	4.63	71.88%	3.4
UK PMQ ethnicity unknown	21.8	4.37	4.86	73.53%	4.5
Trainee	23.9	3.99	4.75	69.47%	3.9
Non- Trainee	16.7	3.71	4.38	49.12%	4.0

Conclusion

Primary

1. Overall candidates who re-sit the Primary tend to use online resources less than candidates who are on their first attempt.

2. Asian/Asian British Indian candidates and those candidates whose primary medical qualification was not obtained in the UK were less likely to belong to a study group. When we look at these groups pass rates (54.7% & 34.1%) they are significantly lower than their white counter parts (63.7%) and those who obtained their Primary medical qualifications in the UK (64.2%).

3. BME candidates take more study days than any other ethnic group, but their performance is similar to Asian/Asian British Indian candidates and significantly lower (-9.9%) than white candidates.

Final

1. Candidates who re-sit the Final tend to use traditional & online resources more when compared to candidates on their first attempt.

2. BME candidates regardless of where they obtained their Primary medical qualification were less likely to belong to a study group and their pass rate was significantly lower than their white counterparts (BME - 57% & BME UK PMQ - 55.6%) vs (white - 63.7% & White UK PMQ - 77.7%).

3. UK PMQ Asian/Asian British Indian candidates took fewer study days than UK PMQ BME & white candidates and their Final pass rate was better than UK PMQ BME candidates (65.6% vs 55.6%), however they performed less well than their white counterparts (65.6% vs 77.7%)

Themes common to both the Primary & Final exam

For both the Primary and Final, significantly more female than male candidates attend national exam courses, however there is little difference between these candidates' success rates.

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