International Journal of Surgery 67 (2019) 32–36

Contents lists available at ScienceDirect

International Journal of Surgery

journal homepage: www.elsevier.com/locate/ijsu

Gender representation in leadership roles in UK surgical societies

Helen Skinner[a,*], Joshua R. Burke[a,b], Alastair L. Young[a], Robert A. Adair[a], Andrew M. Smith[a]

[a] Department of Pancreaticobiliary Surgery, St. James's University Hospital, Leeds Teaching Hospital Trust, Beckett Street, Leeds, West Yorkshire, LS9 7TF, UK
[b] Leeds Institute of Biomedical & Clinical Sciences, Clinical Sciences Building, St James's University Hospital, Leeds, West Yorkshire, LS9 7TF, UK

ARTICLE INFO

Keywords:
Specialties
Surgical
Surgeons
Leadership
Committee membership

ABSTRACT

Introduction: Despite making up more than half of new doctors, women are underrepresented in most surgical specialties. Various reasons have been suggested for this including issues with work-life balance, discrimination and a lack of female role models in the specialty. We sought to quantify the extent of gender discrimination in leadership roles in surgical societies in the UK.

Methods: All major Surgical Specialty Organisations were identified via the Royal College of Surgeons Website. Leadership and committee information was collected via organisation websites on 5th September 2018. All societies were then contacted requesting data including total membership, their stage of training and the gender split.

Results: Of the twenty-four organisations contacted, eighteen were able to provide data. Women accounted for 11.8% (2446/20 803) of consultant and 34.3% (5267/15 366) of trainee members. 2/24 presidents; 3/26 of vice presidents; 18.1% (39/215) of executive committees and 13.5% (49/364) of wider committee members were female. Thirty-four committee members were not included as they were not surgeons (23 female; 11 male).

Discussion: Despite accounting for 27% of the surgical workforce and indeed 24% of surgical society members, women account for only 2 of 24 Presidents and 18.1% (39/215) of the executive committees of surgical societies in the UK. Action should be taken so women are fairly represented in leadership roles in surgical societies with one of the benefits being more visible role models for prospective female surgeons.

1. Introduction

Over the last five decades there has been a gradual increase in the number of women entering medical training. Since the early 1990's, the majority of medical students in the UK have been female and women comprise 55% of the current medical student cohort. Consequently, the number of female qualified doctors has increased from 43% in 2012 to 47% in 2017 with a greater number entering specialty training [1]. Despite this, women account for only 27% of the surgical workforce in the United Kingdom [2].

Women make up only 12% of Consultant surgeons in the UK. However, this figure was only 3% in 1991 [3]. There has been a greater female representation amongst surgical trainees, where numbers have increased from 24% in 2012 to 32% in 2017. Despite this, it remains the training pathway that attracts the lowest number of female doctors [1].

There are a number of possibilities why fewer females are opting for a career in surgery. It has been suggested that women choose not to continue with higher surgical training as this is the peak age for conception [4]. The perception that a career in surgery is not compatible with raising a family has also been shown to deter some trainees [5,6]. There is also some evidence of discrimination against females within the surgical workforce [7,8], dissuading some who may have otherwise considered a career in surgery. It has been suggested that there is a gendered 'glass ceiling' in academic surgery that is perpetuated through bias about traditional gender roles, lack of gender concordant mentors and manifestations of sexism [7]. There is also evidence that greater representation of females at a higher level significantly increases the number of females opting for a career in surgery [9].

There is little current data considering females in surgical leadership roles in the UK or representation in national organisations. This study aims to assess, for the first time, gender representation within surgical organisation committees in the UK and the gender split within surgical organisation membership.

2. Methods

All major UK based surgical specialty organisations were identified via the Royal College of Surgeons Website [10]. The three UK based Royal Colleges of Surgery (England, Edinburgh and Glasgow) were also included.

* Corresponding author.
E-mail addresses: helen.skinner5@nhs.net (H. Skinner), alistair.young@nhs.net (A.L. Young).

https://doi.org/10.1016/j.ijsu.2019.05.007
Received 9 January 2019; Received in revised form 30 March 2019; Accepted 6 May 2019
Available online 20 May 2019

An Internet search was taken on publicly available websites to identify the President, Vice Presidents or President Elect and further committee members of each society via individual organisation websites. For each organisation a governing committee was identified and any other committees or sub-committees were combined. Individuals within an organisation were counted once; independent of the number of committees they served on. Any committee members who were not surgeons were excluded. The data set was correct as of 5th September 2018.

Each surgical specialty organisation was contacted with a request for membership data. This included the number of members of each society, their stage of training and the gender split of each group. Each organisation was contacted via email initially and a further email two weeks later. Those who had not responded after one month were telephoned with a request for the same data. Organisations who had not yet responded after a further month were emailed again with a final request for data. The data was reported in line with the Consolidated criteria for Reporting Qualitative Research (COREQ) criteria.

3. Results

Twenty-eight surgical organisations were identified (Table 1). *The British Society of Gastroenterology*, *The College of Emergency Medicine*, *The Society of Clinical Perfusion Scientists for Great Britain and Ireland* were excluded as they were deemed not to specifically represent the surgical specialty. *The British Association of Day Surgery* was also excluded for this reason, with senior committee roles occupied by physicians with an anaesthetic background.

All remaining major surgical specialty committees were contacted (n = 24). In total, data was not available for six organisations. Three

Table 1
Included and excluded Surgical Specialty Organisations.

Surgical Specialty Organisation	Included/ Excluded
Association of Breast Surgery (ABS)	Included
Association of Coloproctology of Great Britain and Ireland (ACPGBI)	Included
Association of Laparoscopic Surgeons of Great Britain and Ireland (ALSGBI)	Included
Association of Surgeons of Great Britain and Ireland (ASGBI)	Included
Association of Surgeons in Training (ASiT)	Included
Association of Upper Gastrointestinal Surgeons (AUGIS)	Included
British Association of Aesthetic Plastic Surgeon (BAAPS)	Included
British Association of Day Surgery (BADS)	Excluded
British Association of Endocrine and Thyroid Surgeons (BAETS)	Included
British Association of Oral and Maxillofacial Surgeons (BAOMS)	Included
British Association of Paediatric Surgeons (BAPS)	Included
British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS)	Included
British Association of Surgical Oncology (BASO)	Included
British Association of Urological Surgeons (BAUS)	Included
British Orthopaedic Association (BOA)	Included
British Society for Surgery of the Hand (BSSH)	Included
British Society of Gastroenterology (BSG)	Excluded
British Transplant Society (BTS)	Included
British Association of Otorhinolaryngologists (ENT UK)	Included
College of Emergency Medicine (CEM)	Excluded
Royal College of Surgeons (England)	Included
Royal College of Surgeons (Edinburgh)	Included
Royal College of Physicians and Surgeons (Glasgow)	Included
Society of Academic and Research Surgery (SARS)	Included
Society of British Neurological Surgeons (SBNS)	Included
Society for Cardiothoracic Surgery in Great Britain and Ireland (SCTS)	Included
Society of Clinical Perfusion Scientists for Great Britain and Ireland (SCPSGBI)	Excluded
Vascular Society of Great Britain and Ireland (VSSGBI)	Included

Table 2
Overview of Surgical Specialty Organisation data.

	Population	Total	Male	Female	% Female
Organisation 1	Executive Committee	8	8	0	0.0
	Wider Committees	33	30	3	9.1
	Membership	**1132**	**919**	**213**	**18.8**
	Consultant	876	744	132	15.1
	Trainee	214	138	76	35.5
	Other	42	37	5	11.9
Organisation 2	Executive Committee	4	4	0	0.0
	Wider Committees	18	18	0	0.0
	Membership	**342**	**318**	**24**	**7.0**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 3	Executive Committee	11	9	2	18.2
	Wider Committees	12	12	0	0.0
	Membership	**1170**	**995**	**175**	**15.0**
	Consultant	682	608	74	10.9
	Trainee	266	184	82	30.8
	Other	222	203	19	8.6
Organisation 4	Executive Committee	13	10	3	23.1
	Wider Committees	–	–	–	–
	Membership	**2567**	**1568**	**999**	**38.9**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 5	Executive Committee	6	6	0	0.0
	Wider Committees	21	21	0	0.0
	Membership	**397**	**-**	**-**	**-**
	Consultant	315	–	–	–
	Trainee	85	–	–	–
	Other	–	–	–	–
Organisation 6	Executive Committee	10	7	3	30.0
	Wider Committees	–	–	–	–
	Membership	**438**	**382**	**56**	**12.8**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 7	Executive Committee	4	4	0	0.0
	Wider Committees	25	21	4	16.0
	Membership	**956**	**729**	**227**	**23.7**
	Consultant	505	430	75	14.9
	Trainee	334	215	119	35.6
	Other	117	84	33	28.2
Organisation 8 (data estimated)	Executive Committee	12	12	0	0.0
	Wider Committees	20	18	2	10.0
	Membership	**300***	**240***	**60***	**20.0***
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 9	Executive Committee	8	7	1	12.5
	Wider Committees	16	15	1	6.3
	Membership	**1273**	**1092**	**181**	**14.2**
	Consultant	967	887	80	8.3
	Trainee	306	205	101	33.0
	Other	–	–	–	–

(*continued on next page*)

Table 2 (*continued*)

	Population	Total	Male	Female	% Female
Organisation 10	Executive Committee	6	5	1	16.7
	Wider Committees	22	20	2	9.1
	Membership	**4912**	**4457**	**455**	**9.3**
	Consultant	2229	2143	86	3.9
	Trainee	1046	842	204	19.5
	Other	1637	1472	165	10.1
Organisation 11	Executive Committee	9	7	2	22.2
	Wider Committees	15	12	3	20.0
	Membership	**1360**	**1029**	**331**	**24.3**
	Consultant	658	569	89	13.5
	Trainee	408	265	143	35.0
	Other	294	195	99	33.7
Organisation 12	Executive Committee	8	7	1	12.5
	Wider Committees	10	9	1	10.0
	Membership	**977**	**867**	**110**	**11.3**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 13	Executive Committee	19	16	3	15.8
	Wider Committees	54	49	5	9.3
	Membership	**876**	–	–	–
	Consultant	680	–	–	–
	Trainee	196	159	37	18.9
	Other	–	–	–	–
Organisation 14	Executive Committee	5	4	1	20.0
	Wider Committees	17	16	1	5.9
	Membership	**654**	**586**	**68**	**10.4**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 15	Executive Committee	5	4	1	20.0
	Wider Committees	43	35	8	18.6
	Membership	**26 972**	**20 635**	**6239**	**23.1**
	Consultant	14 312	12 532	1778	12.4
	Trainee	12 660	8103	4461	35.2
	Other				
Organisation 16 (data estimated)	Executive Committee	8	7	1	12.5
	Wider Committees	17	13	4	23.5
	Membership	**25 000***	**19 000***	**6000***	**24.0***
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 17	Executive Committee	3	2	1	33.3
	Wider Committees	–	–	–	–
	Membership	**4830**	**4076**	**754**	**15.6**
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 18	Executive Committee	11	6	5	45.5
	Wider Committees	58	36	22	37.9
	Membership	**706**	**404**	**302**	**42.8**
	Consultant	574	353	221	38.5
	Trainee	132	51	81	61.4
	Other	–	–	–	–

Table 2 (*continued*)

	Population	Total	Male	Female	% Female
Organisation 19	Executive Committee	2	1	1	50.0
	Wider Committees	12	12	0	0.0
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 20	Executive Committee	12	11	1	8.3
	Wider Committees	5	4	1	20.0
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 21	Executive Committee	10	7	3	30.0
	Wider Committees	–	–	–	–
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 22	Executive Committee	22	18	4	18.2
	Wider Committees	–	–	–	–
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 23	Executive Committee	13	9	4	30.8
	Wider Committees	–	–	–	–
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–
Organisation 24	Executive Committee	6	5	1	16.7
	Wider Committees	9	9	0	0.0
	Membership	–	–	–	–
	Consultant	–	–	–	–
	Trainee	–	–	–	–
	Other	–	–	–	–

organisations did not collect demographic data about their members and therefore could not provide the requested information. Two organisations were unable to provide membership data, as they were subspecialty organisations of a larger establishment. One organisation was unwilling to divulge the requested data.

3.1. Membership

The remaining 18 organisations were able to provide varying amounts of data regarding their membership (Table 2). Eight organisations were able to provide all requested data. A further eight organisations were able to provide total membership and their gender distribution. Two organisations were able to provide total membership and stage of training, however unable to provide information about gender.

Female memberships comprised 24.1% (19 957/82 859) of the 16 surgical organisations available to provide gender data. Of the organisations able to provide both gender and training data; females constituted 11.8% (2446/20 803) of consultant members and 34.3% (5267/15 366) of trainee members. For all organisations, the gender split was more evenly distributed at trainee level than consultant.

3.2. Leadership roles

Of the organisations included, 8.3% (2/24) had female presidents and 11.5% (3/26) of vice-president or president elect roles were filled by females. Two of the societies considered had no vice president or president elect role. Three organisations had multiple vice presidents, two of which had one female in this role.

In total 579 committee positions were identified with females occupying 15.2% (88/579) of these roles. No clear wider committee was identified for six organisations. Women represented 18.1% (39/215) of executive committees and 13.5% (49/364) of wider committee members (Table 2). Thirty-four committee members were not included as they were not surgeons. This included 10 females and 8 males from executive committees and 13 females and 3 males from wider committees.

4. Discussion

This study has demonstrated that women are significantly underrepresented in surgical specialty organisation leadership roles. Of the organisations considered, only 2 of 24 presidents and only 15.2% of all committee members were female.

The appropriate level of representation can be argued reflecting personal beliefs. Some may argue it should be 12% to reflect consultant membership; 24% to reflect total female membership or perhaps 47% to reflect the proportion of female doctors. Some may feel that this does not go far enough and that 50% is more appropriate. Wherever individuals fall in this discussion, it should be recognised that current representation is disproportionately low and there is a need to reduce gender disparity in surgical leadership roles.

The number of females entering a career in surgery is increasing however it is unclear what effect this will have on female representation in leadership roles. It is possible that there will be a natural proportional increase as the demographic of the surgical workforce changes. However as there is little historical data surrounding gender representation in surgical leadership it is difficult to predict if there are other hidden barriers that prevent women from entering these roles. Despite an increase in the number of female consultant surgeons to 12% over the last 30 years, our data has illustrated that females remain underrepresented, comprising only 8% of these leadership roles.

Previous evidence has supported this, suggesting that females are not just less likely to achieve these roles but may be less likely to pursue prestigious leadership posts in the first place [11–13]. It is possible that it may become more difficult for women to obtain leadership roles as the gender balance changes and female surgeons increase in number. Male colleagues who previously occupied these roles may become more resistant as they perceive their influence and opportunity to drive the agenda for change diminishes.

A further issue is the gender pay discrepancy that has been highlighted in UK Medicine [14]. In 2018, the current average salary for male doctors of all grades was just under £87 500 whereas this figure was just under £63 700 for females [15]. These disparities increase at more senior levels and of the highest paid 99 consultants in the NHS only 5 were female and despite 24 of these high-earners being surgeons, only 1 of this group was female [16]. Some of the pay disparities may be contributed to by ‘bonus payments’ such as clinical excellence awards. Within the surgical workforce 124 national clinical excellence awards were awarded over the last 2 years, however only 8 (6%) of these were awarded to females [17,18]. The inequity in leadership positions may contribute to this as women may be disproportionately placed to apply for these awards or be less likely to be successful for such an award due to gender imbalance in awarding committees.

There are many potential consequences of the gender disparity demonstrated. In addition to discriminatory behavior, which is specifically counter to domain 4 of the General Medical Council's guidance on Good Medical Practice [19], there are other effects.

A recurrent theme within the literature is the importance of senior female role models in trainee career planning [7,20,21]. Greater representation of females at a higher level has been shown to significantly increase the number of females opting for a career in surgery [9]. Currently females comprise 55% of medical students and 56% of foundation doctors in the UK [1] but surgery is still not considered an attractive career choice for women amongst newly qualified doctors [5,9,22]. Continued underrepresentation of women in the surgical specialty poses a significant issue for the future surgical workforce. Specialty organisations may offer an opportunity for greater visibility of senior female surgeons in positions of prominence to act as role models for aspiring surgical trainees.

With current concerns surrounding recruitment and retention in surgical specialties, there are significant long-term workforce planning benefits in attracting more women into surgery, and having highly visible successful role models is an important part of this. Some would argue that positive discrimination for female candidates would achieve this, but this would run the risk of being seen as devaluing these important roles. The answer surely lies in attempting to address and identify the barriers that potential female candidates face, pursuing policies encouraging eligible candidates to apply and asking for more transparency in all of these processes. In the process of data collection for this study, six national organisations (25%) were either unable or unwilling to provide any data on gender disparities and in others the quality and amount of data was variable. Perhaps encouraging national organisations to publish the gender balance amongst their membership and leadership roles, such as is routine in many private sector companies, would be a good place to start further discussion and clarity in this matter.

Limitations of this study include the cross sectional nature of this analysis and is reliant on committee websites being up to date. The presidential and committee data change annually and whilst this data is representative on the date collected, it is possible that there will be yearly variation in gender representation. However, since most executive committees and presidential roles are awarded to senior members within an organisation and the wider executive committee ratios mirror gender ratios within surgery [2], it seems likely these figures are representative. The associations investigated were those recognised by the Royal College of Surgeons of England [10]. This is not an exhaustive list of all UK organisations and some surgical specialties, such as Ophthalmology, are not considered. Only UK based organisations have been studied although there is evidence that comparative healthcare systems are facing similar issues with gender inequality in surgical leadership [7,11,21,23]. Further analysis of international organisations may add to the findings of this study.

In addition, this study only considers leadership in surgical specialty organisations. Other leadership roles such as Surgical Deans, Programme Directors and members of specialist advisory committees have not been assessed. Interrogation of these leadership roles would add to the findings of this study and if the results concurred would further highlight an issue that needs to be addressed.

This study has highlighted an underrepresentation of female surgeons in leadership roles within specialty organisations. The causes for this are unclear and multifaceted. Whilst the surgical specialty is diversifying, it is important to ensure it remains an attractive career pathway to all applicants. We must address the perceived ‘glass ceiling’ or risk decreasing competition, devaluing the specialty and failure to maintain the necessary workforce to deliver a surgical service within today's NHS.

Ethical approval

No ethical approval required.

Sources of funding

None declared.

Author contribution

Conception of the study and Study Design- Alastair Young, Robert Adair, Andrew Smith, Joshua Burke, Helen Skinner.

Data Collection- Helen Skinner.

Data Analysis and Writing- Helen Skinner, Joshua Burke and Alastair Young.

Conflicts of interest

None declared.

Research Registration number

N/A.

Guarantor

Helen Skinner.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration

This work was presented as a short oral presentation at the ASGBI Women In Surgery Symposia in Telford on 5th October 2018.

The authors declare that this article is an original work, has not been published before, and is not being considered for publication elsewhere in its final form, in either printed or electronic media.

Data statement

The data used within this study is available and included in the manuscript (Table 2). Any republication of the data (e.g. in secondary analysis or translation) will not constitute redundant publication, will not breach copyright, and will reference the original publication.

CRediT authorship contribution statement

Helen Skinner: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Visualization, Project administration. **Joshua R. Burke:** Conceptualization, Methodology, Validation, Formal analysis, Data curation, Writing - original draft, Writing - review & editing, Visualization, Project administration. **Alastair L. Young:** Conceptualization, Methodology, Formal analysis, Data curation, Writing - original draft, Writing - review & editing, Visualization, Supervision, Project administration. **Robert A. Adair:** Conceptualization, Methodology, Validation, Supervision. **Andrew M. Smith:** Conceptualization, Methodology, Validation, Supervision.

Acknowledgements

The authors would like to thank the 18 surgical organisations who responded to the request for data and who contributed to the manuscript.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijsu.2019.05.007.

References

[1] General Medical Council, The State of Medical Education and Practice in the UK, (2017) https://www.gmc-uk.org/static/documents/content/SoMEP-2017-final-full.pdf.
[2] NHS Digital, NHS hospital and community health services: selected medical and dental staff1 by gender, specialty and grade, NHS Trusts and CCGs in England as at 31 January 2018, Headcount, 2018.
[3] Royal College of Surgeons, Women in Surgery Statistics, (2017) https://www.rcseng.ac.uk/careers-in-surgery/women-in-surgery/statistics/ , Accessed date: 5 March 2018.
[4] S.A. McNally, Surgical training: still highly competitive but still very male, Bull. Roy. Coll. Surg. Engl. 94 (2012) 53–55, https://doi.org/10.1308/147363512X13189526438675.
[5] H.-L. Kerr, L.A. Armstrong, J.E. Cade, Barriers to becoming a female surgeon and the influence of female surgical role models, Postgrad. Med. 92 (2016) 576 LP-580 https://doi.org/10.1136/postgradmedj-2015-133273.
[6] E.W. Ek, E.T. Ek, S.D. Mackay, Undergraduate experience of surgical teaching and its influence and its influence on career choice, ANZ J. Surg. 75 (2005) 713–718, https://doi.org/10.1111/j.1445-2197.2005.03500.x.
[7] Y. Zhuge, J. Kaufman, D.M. Simeone, H. Chen, O.C. Velazquez, Is there still a glass ceiling for women in academic surgery? Ann. Surg. 253 (2011) 637–643, https://doi.org/10.1097/SLA.0b013e3182111120.
[8] T.-C. Yu, A. Jain, M. Chakraborty, N.C. Wilson, A.G. Hill, Factors influencing intentions of female medical students to pursue a surgical career, J. Am. Coll. Surg. 215 (2012) 878–889, https://doi.org/10.1016/j.jamcollsurg.2012.08.018.
[9] L. Neumayer, S. Kaiser, K. Anderson, L. Barney, M. Curet, D. Jacobs, T. Lynch, C. Gazak, Perceptions of women medical students and their influence on career choice, Am. J. Surg. 183 (2002) 146–150.
[10] Royal College of Surgeons, Surgical Specialty Associations, R. Coll. Surg. (n.d.) https://www.rcseng.ac.uk/news-and-events/media-centre/surgical-specialty-associations/ , Accessed date: 5 March 2018.
[11] A. Weiss, K.C. Lee, V. Tapia, D. Chang, J. Freischlag, S.L. Blair, S. Ramamoorthy, Equity in surgical leadership for women: more work to do, Am. J. Surg. 208 (2014) 494–498, https://doi.org/10.1016/J.AMJSURG.2013.11.005.
[12] D.M. Blumenthal, R.W. Bergmark, N. Raol, J.D. Bohnen, J.A. Eloy, S.T. Gray, Sex differences in faculty rank among academic surgeons in the United States in 2014, Ann. Surg. (2018), https://doi.org/10.1097/SLA.0000000000002662.
[13] E.S. Spencer, A.M. Deal, N.R. Pruthi, C.M. Gonzalez, E.W. Kirby, J. Langston, P.H. McKenna, M.J. McKibben, M.E. Nielsen, M.C. Raynor, E.M. Wallen, M.E. Woods, R.S. Pruthi, A.B. Smith, Gender differences in compensation, job satisfaction and other Practice patterns in urology, J. Urol. 195 (2016) 450–455, https://doi.org/10.1016/J.JURO.2015.08.100.
[14] British Medical Association, Independent Review of the Gender Pay Gap in Medicine, (2018).
[15] NHS Digital, Average Earnings for Medical and Dental Staff by Gender, Grade and Ageband, (2018) https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/average-earnings-for-medical-and-dental-staff-by-gender-grade-and-ageband.
[16] NHS Digital, Top Earning Consultants by Age Band and Gender, (2018) https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information/2018-supplementary-information-files/top-earning-consultants-by-age-band-and-gender.
[17] Advisory Committee on Clinical Excellence Awards, Clinical Excellence Awards, 2016, (2016) https://www.gov.uk/government/publications/clinical-excellence-awards-successful-candidates-2016.
[18] Advisory Committee on Clinical Excellence Awards, Clinical Excellence Awards, 2017, (2017) https://www.gov.uk/government/publications/clinical-excellence-awards-successful-candidates-2017.
[19] General Medical Council, Good Medical Practice, (2014).
[20] R.B. Levine, H.F. Mechaber, S.T. Reddy, D. Cayea, R.A. Harrison, "A good career choice for women": female medical students' mentoring experiences: a multi-institutional qualitative study, Acad. Med. 88 (2013) 527–534, https://doi.org/10.1097/ACM.0b013e31828578bb.
[21] N.M. Seemann, F. Webster, H.A. Holden, C.E. Moulton, N. Baxter, C. Desjardins, T. Cil, Women in academic surgery: why is the playing field still not level? Am. J. Surg. 211 (2016) 343–349, https://doi.org/10.1016/j.amjsurg.2015.08.036.
[22] J.E.F. Fitzgerald, S.-W. Tang, P. Ravindra, C.A. Maxwell-Armstrong, Gender-related perceptions of careers in surgery among new medical graduates: results of a cross-sectional study, Am. J. Surg. 206 (2013) 112–119, https://doi.org/10.1016/j.amjsurg.2012.04.009.
[23] K. Okoshi, K. Nomura, K. Fukami, Y. Tomizawa, K. Kobayashi, K. Kinoshita, Y. Sakai, Gender inequality in career advancement for females in Japanese academic surgery, Tohoku J. Exp. Med. 234 (2014) 221–227.