Saudi Medical Academics, Research Papers and Promotions in Developing Medical Colleges

Sami Al Kindy[1]

**Abstract**

**Introduction:** It has been established that research productivity is the prime indicator to assure the success and promotion of any given medical institute. In the Kingdom of Saudi Arabia, academic promotion is mainly based on points collected from published researches. This, however, is met with hurdles in developing medical colleges. The research aims to study factors impeding Saudi faculty, in developing medical colleges, from publishing researches.

**Methodology:** A descriptive and cross-sectional survey of 12-questions inquiring about barriers and facilitators of publications and solutions suggested by the participants. The questionnaire was collected from previous studies and piloted to improve the reliability. Then, a structured interview was conducted during the period from March 2018 to March 2019.

**Results:** Twenty-three Saudi faculty members from developing medical colleges of Taif (14), Tabuk (4), and Imam (5) Universities, were interviewed, who pointed out, that institutional support was generally inadequate (34.8%), and the publications of some faculty were due to personal effort and colleague assistance. Constrains to publication were: time (100%), resources, and environmental (86.9%). The solutions put forward were the establishment of university hospitals, functional research centers, fund allocations, and provision of protected time. Finally, more than 61% of faculty agreed that due to the current promotion policies, ghostwriting may develop.

**Conclusion:** The research production constraints (Time, Resource, and Environment) are documented in well-established medical colleges, however, it is rooted and compound in developing medical colleges of Saudi Arabia. Abraham Flexor's reforms may be considered and simple theoretical recommendations are not enough.

**Keywords:** Saudi Arabia; medical colleges; faculty development; ghostwriters; research productivity; Arab Countries; biomedical researches

Introduction

The best gauge to measure the success and progress of any given medical college is by assessing the frequency and quality of published research papers (Chandran, 2009). An appraisal study conducted in Minnesota Medical School
established a significant association of dynamic interplay of individual and institutional characteristics, complemented with effective leadership and high levels of research productivity among academics in medical colleges (Bland et al., 2002). Therefore, it was critical to determine and identify parameters that either promote or hinder academic research production. They were classified into 2 broad groups; individual and institutional factors. Individual factors included aspects such as researcher's age, gender, salary, academic rank, number of years in the profession, teaching load, and the faculty members' confidence in writing refereed studies. While institutional factors included the institution size, funds allocated for research, presence of research groups, departmental support, subscriptions of journals, and the availability of information technology (Al Ghanim and Al Hamali, 2011).

In Saudi Arabia, according to the regulations of the Ministry of Higher Education (MHE), promotion is mainly based on points collected from published research. Four and six points are needed for an associate and a full professor academic grade respectively. These points are credited in the following manner; one point for a single author, half a point for sharing the article as a first author, while one quarter for being a co-author with more than three authors.

A recently added clause requires to have at least one research published in a journal with an impact factor, with no consideration for number of citations. However, the publications have to have a multi-journal outlet. Other low weighing tools include community services, participation in scientific meetings, and additional academic diplomas (Faculty bylaws, 2017). In this setup, it is justified, to give a brief history of the developing medical colleges in Saudi Arabia.

Since 2001, more than twenty medical schools have been established to meet the increasing demand of doctors (Bin Abdul Rahman, 2008), however, despite the noble and good intentions, there was no appropriate strategic plan, the required essential resources were not identified, there was an extreme shortage of qualified faculty. Moreover, the appropriate clinical training facilities were inadequate. A forecast was predicted, and a warning set, "Abraham Flexor's reforms will be mandatory somewhere in future whereas it will be too late to remedy the problem" (Tekian and Almazrooa, 2011).

Methods

**Research Setting:** The research was conducted in the College of Medicine, Taif University. Study Design: It is a descriptive, cross-sectional survey (see Appendix 1).

**Study Population:** Male and female Saudi faculty members of medical colleges of Taif (15 participants), Tabuk (4), and Imam (5) Universities were randomly selected. Teachers, assistant teachers, and non-Saudi were excluded. Sampling: Non-probability, purposive Research.

**Instruments:** A structured interview was conducted during the period from March 2018 to March 2019. The interview had 12 points/questions which were written and based on the objectives of this study: What was your experience as a faculty member regarding support for research from your department and university leadership? Then participants were invited to state the barriers to and facilitators of publication, they were also asked about how to promote research in general and collaborative research, the last and probably sensitive and important question was "Do you think ghostwriting may develop due to the present promotion strategy?". The questionnaire was modified from the previous literature and approved by a medical educationist and a Surgeon with excellent administrative experience. A pilot interview was done on 2 Saudi junior faculty members and two senior academics to know how well they understood the questions. Based on their feedback, three questions were rephrased Data Collection Procedure The faculty who participated were individually approached, consented to, and surveyed through telephone. An interview code was given for each interviewee.
**Data Analysis:** Descriptive statistics were calculated for items 1 to 5 and 12, as for the remaining, common themes were identified.

**Results/Analysis**

Twenty-three Saudi faculty members of medical colleges of Taif, Tabuk, and Imam Universities, were interviewed. Out of the 23 interviewees, 20 (87%) were males and 3 (13%) females, their ranks were Assistant Professors 8 (34.8%), Associate Professors 13 (56.6%), and 2 (8.7%) Professors.

The majority graduated between 1990 and 2000 n= 16 (69.6%), while the rest between 2001-06, n=6 (30.4%). The stated number of publications per faculty ranged between a minimum of 1 to a maximum of 40, and was credited to as follows: one to ten publications were credited to 9 (39,1%) faculties of these four had six (26%) and one had a single (4.3%) publication respectively, 11-20 publications were credited to 7 (30.4%), and 21- 30 publications were credited to 5 (21.7%), while more than 31 publications, 39 and 40 respectively, credited to two (21.7%) only.

The first question asked was "What was your experience as a faculty member concerning support for research from your department and university leadership?" Eight faculty (34.8%) members acknowledged some sort of support; including attending a workshop on research (1), publications (3), research projects (1), and 'verbal' support! as one member stated. While 15 respondents (65.2%) clearly declared "they got no support from their institutions".

The next interview question was "explain the reasons which you think prevented academic researchers in your institution." Three themes emerged: time, resource, and environmental constraints. Time constraints were the first of the three, it was reported by all 23 interviewees. Only 3 (13.04 %) faculty members reported that their sole responsibility was teaching while the rest 20 (86.9%), compromised a mixture of obligations including besides teaching, one or more administrative duties (including committee members), 4 (17%) VD (Vice Deans), 7 (30.4%) were heading departments, while one is a faculty dean.

Nearly all faculty members felt these were liabilities and left them little or no time for research activities. The uniform and common element of resource constraints, amongst the interviewee, was the lack of university hospitals with readily accessible patient data. Lack of IT (Information Technology) facilities, research centers with epidemiologists and biostatisticians were among the other reported causes. While for environmental constraints, the absence of research environment in general and the complicated policy and procedure of research funding were cited.

The next question was "What solution/ suggestions do you have for these issues?" all interviewees suggested the presence of a university hospital as a prime resource for data collection, and augment quality research productivity. The provision of a functional research center with human, physical, and IT resources was the next commonest suggestion.

Fund allocation for research was also a common suggestion amongst almost all respondents. Library access and animal labs were suggested by a few. The respondents felt that protected time would help them focus on this academic scholarly activity and would, therefore, boost research productivity. A healthy research environment was another factor, with the suggestion of collaboration with various institutions, streamlining of policies, shun cumbersome procedures, the formation of research groups and faculty development activities were quoted.

Faculty members were asked, "What factors helped publish papers in the past?" The responses were grouped into internal and external factors. Within internal factors, the most emerging reason for publications was personal efforts, internal motivation, and interest. The commonest external factor was colleague help, during fellowship (as a training requirement) quoted by the majority, as well as promotion prerequisite.
The second to last question was "How can collaborative research be promoted?" The themes that emerged were collaborations and policies. Faculty members suggested collaborations between Saudi and Non-Saudi faculty members, among institutions in the form of, joint workshops and training sessions, signing of agreements, and memoranda of understanding. Eighteen interviewees (78.2%) also suggested that the policies for collaborations should be documented and simplified. All respondents believed these policies should be clear.

The last and probably sensitive and important question was "Do you think ghostwriting may develop due to the present promotion strategy?" more than 60% of the interviewees replied a frank "yes, and only 3 (13.04%) answered that the present procedures and promotion policies will not promote ghostwriting, while the remaining 6 faculty members (26.9%) were not sure and responded as 'maybe'. Table 1.

### Table 1: Barriers to research among college staff in developing Medical Colleges in Saudi Arabia

| Character                                                                 | No %          |
|--------------------------------------------------------------------------|---------------|
| Sex                                                                      |               |
| Women                                                                    | 3 (13%)       |
| Men                                                                      | 20 (87%)      |
| Ranks                                                                    |               |
| Assistant Professors                                                     | 8 (34.8%)     |
| Associate Professors                                                     | 13 (56.6%)    |
| Full Professor                                                           | 2 (8.7%)      |
| Support as a barrier to research                                         | 15 (65.2%)    |
| Administrative duties as a barrier to research                           | 20 (86.9%)    |
| Policies for collaborative research                                      | 18 (78.2%)    |
| Thought that present promotion strategy may develop ghostwriting         | 20 (86.9%)    |

### Discussion

The structured interview gave ample time for faculty members to reflect their ability to persevere, furthermore, our results showed that faculty members, irrespective of their gender, age, year of graduation, or the number of publications status agreed on several issues. Among these, lack of institutional support, lack of resources, none or little protected time, absent research environment.

The first five questions cite faculties bio-data, who were overwhelmingly male (87%). This disparity can be explained by the already lesser number of qualified Saudi female faculty. This inclination has been monitored, whence Saudi Government has taken multiple initiatives to address this issue (Mazawi, 1999). Although not a preview of this study, nevertheless, various authors have shown how gender balance in higher education is being created in the Arab States in general and Saudi Arabia in particular (Parveen, 2014; Mazawi, 2015).

Regarding the faculty ranks distribution, where associated professors were the majority followed by assistant professors and full-fledged professors respectively, we cannot further comment on the distribution, as the sampling for this study was non-probability, purposive. The exclusion of teachers and assistant teachers was because their scale and promotion requirements were separate.

The range of publications among the sample population interviewed ranged from a minimum of one to a maximum of 40 papers. A comparison of publications from the period of 2010 and 2015, between the established and understudy medical colleges, Scopus site was sought (Tables: 2, 3). Journal impact factor, frequency of citations, as well as animal-related researches were not considered.
Table 2: Total researches published 2011-15 in developing (Taif, Tabuk, and Imam) and developed medical colleges King Saud University (KSU)

|       | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------|------|------|------|------|------|
| Taif  | 11   | 16   | 32   | 37   | 18   |
| Imam  | 0    | 1    | 1    | 1    | 0    |
| Tabuk | 0    | 0    | 0    | 0    | 0    |
| KSU   | 348  | 398  | 462  | 431  | 422  |

Table 3: A comparison of published papers in developing with developed medical colleges KSU 2011-15

| Medical Colleges | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|------------------|------|------|------|------|------|-------|
| Taif             | 11   | 16   | 32   | 37   | 18   | 117   |
| Imam             | 10   | 12   | 26   | 30   | 49   | 129   |
| Tabuk            | 0    | 0    | 0    | 0    | 0    | 0     |
| Jouf             | 2    | 6    | 1    | 3    | 2    | 16    |
| Taiba            | 18   | 23   | 33   | 28   | 44   | 152   |
| Jazan            | 0    | 2    | 3    | 2    | 2    | 14    |
| Najran           | 2    | 7    | 5    | 9    | 7    | 30    |
| Hail             | 5    | 7    | 12   | 7    | 14   | 45    |
| Al Baha          | 0    | 0    | 0    | 2    | 2    | 2     |
| Al Qassim        | 4    | 2    | 6    | 2    | 7    | 32    |
| KSU              | 348  | 398  | 462  | 431  | 422  | 2061  |

Data From SCOPUS

The responses to departmental and university leadership support rendered, was not plausible, as so as 8 (34.8%) faculty members received some support for research activities while the majority 15 (65.2%) did not. Moreover, if all aspects of research productivity are reviewed, it will be established that institutional support is important if not crucial (Mohrman and Baker, 2008).

To make the current study more comprehensible to readers, the whole questionnaire was reviewed, in which questions 6 to 11 exhibited three specific themes (constrains):

Time, resource, and environment

When we look at the first theme "Time Constraints," Nearly all faculty members had liability and left them little or no time for research activities. These overburdens can be explained by the Saudization policy, the government is implementing. College of Medicine in Taif is an example; in a non-published data, the total number of male staff members is 76 of which 19 (25%) Saudis, of which 5 (6.6%) were none medics, while 57 (75%) are none Saudis. All Saudi staff occupied one or more administrative posts.

The concept of protected time, albeit not new, needs to be understood and utilized in an optimum manner. It was clearly explained and summarized in a short communication in form of a question and answer, "How much protected time is enough? No published evidence exists that supports a specific level of effort.

Historically, institutions have followed the 80:20 rule, that is, 80% research time and 20% clinical, teaching, and administrative time" (Barnard, 2015). A study in the American University, Beirut, Lebanon (Dakik, Kaidbey and Sabra, 2006) concluded that faculty members must spend most of their time attending clinical services to support
their salaries and, therefore, have less available protected time for research. Similar views were echoed from Aga Khan University, Karachi (Sabzwari, Kauser, and Khuwaja, 2009), where a total of 64% of faculty who were already involved in the research had time constraints. The present study showed that all those interviewed faced the same issue. Their perception was that "protected" time needs to be given to all faculty members "regardless" of administrative duties.

The second theme was 'Resource Constraints'. Where the majority pointed out the lack of teaching university hospitals and thus readily available patient data. Nevertheless, when available access may have some constraints, and relevant ethical concerns (Alkabba et al., 2012).

Data from the study provided evidence that one faculty published two projects through university-provided funds while another had a single funded publication. The exercise needs to be encouraged and expanded. Despite the fact, individuals who have to struggle and initiate the research, as seen here, institutional support should be obligatory in the shape of training for grant writing, secretarial support, initial funding, and other requisite defined by experts (Kanji, 2015; Mohrman and Baker, 2008) Funding, however, should not be the exclusive responsibility of universities, yet, sought from external agencies (McGovern, 2012).

The third theme 'Environmental Constraints' identified, probably reflects bureaucracy in the form of policies and grant procedures simplification. Moreover, English, being a second language in most developing countries, may be considered as one of the environmental factors (Al-Saraj, 2011), especially when technical terms and academic writing is concerned (Kutubkhanah Alsaeid, 2011).

Research Culture is affected where English is a second language. This was the focus of study from Jazan University (Ullah, 2017). Another study conducted a mixed quantitative and qualitative "Need Analysis” study at the University of Taif College of Medicine and Medical Sciences (CMMS) during the academic year 2008 to identify English for Medical Purposes (EMP). This was to develop a course for undergraduate students to enhance their proficiency in the English language. It concluded that the majority of the students lacked the required English language proficiency (Javid, 2010). The study suggested that EMP should be emphasized more instead of English for Specific Purposes (ESP) and English for Academic Purposes (EAP) but the researcher's ESP is needed. Evidence suggests that problem of language proficiency is deep-rooted and creates impedance both at the individual and institutional level. This is not unnecessarily magnified but when the context of research in any area, be it medical sciences, engineering, or management sciences, though small, yet significant part can be played by secretarial and support staff who, as part of the research culture help enhance productivity, quality, and efficiency.

Various feedback was given by the faculty when asked "What solution/ suggestions do you have in mind for this issue?" This was categorized according to the previously identified themes of Time, Resources, and Environmental constraints.

An immediate change that could be brought about is creating a policy of protected time for academic and research activity within the official time frame. Some (Nejatizadeh et al., 2016) suggested that the output produced by the faculty will also depend upon the mentoring provided that may be local or in collaboration with more experienced faculty in other universities.

More than 75% (18) of the surveyed suggested that collaborations should be documented, simplified and implementable. In support, a study exhibited that when the research was carried in collaboration with international researchers, significantly improves the quality of the publications (Dakik, Kaidbey and Sabra, 2006). Furthermore, the Collaborative Responsive Education Mentoring Model (CREMM), has shown, in some institutions to increase faculty research productivity (Bryant-Shanklin and Brumage, 2011).

One huge untapped resource in undergraduate medical students, unpublished research noted at Taif Medical College.
Research by undergraduate medical students is not a new phenomenon in medicine, in an editorial discussion (Metcalfe, 2008), how Charles Best, as a medical student under Frederick Banting, discovered insulin. Paul Längerhans, a medical student in 1896, discovered that Insulin comes from Pancreatic Islets, now known as Islets of Längerhans. Alan Hodgkin, a former professor of biophysics at the University of Cambridge, won the Nobel Prize in 1972 for work on nerve transmission in a study he began as an undergraduate student.

Any academic institution can boost its undergraduate curriculum by encouraging researches (Madan and Teitge, 2013). A study at Makerere University showed that when the educational system/ curriculum involves undergraduate students in research, there is a direct positive impact on the faculty whose supervisory and research skills improve as a consequence (Munabi, Katabira, and Konde-Lule, 2006).

Others (Hayward, Laursen, and Thiry, 2017) showed that by working with undergraduate students, senior faculty not only enhanced their research skills but also motivation. This certainly does need training and support at the initial stage but in the long term, overall productivity is improved and recognition in global academia is observed.

The final question in this study was "Do you think ghostwriting may develop due to present promotion procedures?" More than 80% of faculty members acknowledged that the present promotion policies will or may foster ghostwriting. Ghostwriters are those who take part in research including data analysis, and/or writing of a manuscript but are not unveiled or acknowledged in the author byline (Yadav and Rawa, 2018). They can be of three forms, one is by suppressing the contribution of a junior colleague (usually postgraduate student, postdoctoral fellow, or a junior researcher), despite having carried out the research and provided the required draft manuscript. Another form is wherein an individual, not affiliated with the research, writes the draft and works as an editor for the author. The third, which is most alarming, whereas a medical writer appointed by stake holders, writes the draft, and after the approval, a reputed scientist is allowed to cite his name as the author! (Bavdekar, 2012). We hypothesize, without malice, type two "potential" ghostwriting is implied in this setup. This delicate issue will not be discussed further.

Tenure track, a transformation from a "teaching" career to an academic research profession, could be the introduction of a tenure track system, defined as a " fixed-term contract with the perspective of a permanently higher level post subjected to positive evaluation without a renewed application for the next position", applied in a large number of Universities in USA, Canada and some European countries like Finland and the Netherlands (Rug.nl., 2018). The University of Groningen in The Netherlands has applied and reviewed its tenure track system which is characterized by a careful, strict selection policy, directed towards attracting extremely talented researchers (Bunton and Mallon, 2007).

One advantage for the organization is that capable researchers can be appointed and can develop within the Faculty so that optimum benefit can be derived from their increasing academic level. It is accepted that no system is perfect, hence critics believe, that although the tenure system remains well recognized in medical schools, the proportion of faculty on tenured or tenure-eligible tracks has continued to decline over time (Bormann et al., 2014). This can be attributed to changes in the financial assurance associated with tenure and this has transformed the central concept of tenure at many medical schools. Moreover, several schools have lengthened the probationary period for tenure-track faculty during the past 25 years.

The League of European Research Universities advice paper in September 2014 recommended tenure track as an additional career path oriented to young and bright researchers within universities (Bormann et al., 2014). The paper also suggested that it allows universities to attract and retain more women in an academic career because it is often at certain points in their lives, women, for various reasons change career paths.

**Limitations and strengths of study:**

The limitation of this study was clearly the small sample size but as the emphasis was a specific target population,
this was unavoidable. The questionnaire was also limited but focused to find answers to specific questions. The methodology adopted by recording the interviews and then reviewing them did not leave anything to chance. This can be considered cumbersome if dealing with larger sample size, but it provided clarity of thought to the researcher at the time of analysis. Certain themes were identified which could focus the attention of researchers in future, interested in conducting studies on similar issues in the Kingdom. Finally, publications selected from Scopus were not up to date, we felt it wouldn't have affected the study outcome, moreover, statistically there won't be a significant increase in publications of the concerned colleges.

**Recommendations:**

All recommendations based on this study can be interpreted to have short- and long-term suggestions for developing medical colleges.

- Protected time policy for research activities needs to be framed and implemented.
- Funding for research to be budgeted, access simplified, distributed efficiently and equitably.
- Mentorship and collaboration with local and international universities to be explored.
- Undergraduate researchers to be encouraged at the institutional level and formalized.
- Faculty posts offered, with promotion requirements and salary scale, to be revised in the context of tenure track.

**Author's further recommendations:**

- Increase retirement age to retain mentors, scholars, and researchers with dignity and honor.
- Recruit retired renowned national and international scholars as mentors for young academics.

**Conclusion**

The research production constraints (Time, Resource, Environment) are documented in well-established medical colleges, however, it is rooted and compound in developing medical colleges of Saudi Arabia, Abraham Flexor's reforms may be considered and simple theoretical recommendations are not enough.

**Take Home Messages**

- Fruits of honest hard work is a long-term strategy especially in academia
- Infinite backing of Leadership and stake holders is not a privilege
- Limited resources, once optimized, can produce wonders

**Notes On Contributors**

Sami A Al Kindy, MD. MHPE (UIC), FRCSEd (ORL-HNS), DLO NG) Professor and Senior Consultant ORL-HNS, College of Medicine, Taif University, Saudi Arabia. A graduate of King Edward Medical University (Session 82-88). Clinical Training in Republic of Ireland. Published more than eighteen papers in local and international journals and a medical book (Integrated ORL-HNS Notes) for Undergraduate medical students.
Acknowledgements

Ara Tekian, Yoon Son, Syed Moen and Hyder Mirghani for their invaluable advice and guidance, and the late Gamal Allam for his contribution in collecting some data.

Bibliography/References

Alkabba, A., Hussein, G., Albar, A., Bahnassy, A., et al. (2012) ‘The major medical ethical challenges facing the public and healthcare providers in Saudi Arabia’, Journal of Family and Community Medicine. https://doi.org/10.4103/2230-8229.94003.

Alghanim, S. A. and Alhamali, R. M. (2011) ‘Research productivity among faculty members at medical and health schools in Saudi Arabia. Prevalence, obstacles, and associated factors’, Saudi Med J, 32(12), pp. 1297-303.

Al-Saraj, T. M. (2011) Exploring foreign language anxiety in Saudi Arabia: a study of female English as foreign language college students [PhD], Department of Learning, Curriculum and Communication Moiety of Children and Learning Institute of Education, University of London, https://discovery.ucl.ac.uk/id/eprint/10020618. (Accessed: 10 January 2021).

Barnard, J. (2015) ‘Protected Time’, Journal of Pediatric Gastroenterology and Nutrition, 60(3), pp. 292-293. https://doi.org/10.1097/MPG.0000000000000693.

Bavdekar, S. B. (2012) ‘Authorship issues’, Lung India, 29(1), pp. 78-80. https://doi.org/10.4103/0970-2113.92371.

Bin Abdulrahman, K. (2008) ‘The current status of medical education in the Gulf Cooperation Council countries’, Ann Saudi Med, 28(2): p. 83–88, https://doi.org/10.5144/0256-4947.2008.83.

Bland, C. J., Seaquist, E., Pacala, J. T., Center, B., et al. (2002) ‘One school's strategy to assess and improve the vitality of its faculty’, Academic Medicine 77:368-76l. https://doi.org/10.1097/00001888-200205000-00004.

Bormann, A., Heede, A., Jehle, C., and Müller, J. (2014) ‘Tenure and tenure track at LERU universities: Models for attractive research careers in Europe’, League of European Research Universities, LURE Publication.

Bryant-Shanklin, M. and Brumage, N. W. (2011) ‘Collaborative Responsive Education Mentoring: Mentoring for Professional Development in Higher Education’, Florida Journal of Educational Administration & Policy, 5, pp. 42-53.

Bunton, S. and Mallon, W. (2007) ‘The Continued Evolution of Faculty Appointment and Tenure Policies at U.S. Medical Schools’, Academic Medicine, 82(3), pp. 281-289. https://doi.org/10.1097/acm.0b013e3180307e87.

Chandran, L., Gusic, M., Baldwin, C., Turner, T., et al. (2009) ‘Evaluating the performance of medical educators: a novel analysis tool to demonstrate the quality and impact of educational activities’, Acad Med,1, pp. 58-66. https://doi.org/10.1097/acm.0b013e31819045e2.

Dakik, H. A., Kaidbey, H., Sabra, R. (2006) ‘Research productivity of the medical faculty at the American University of Beirut’, Postgraduate Medical Journal, 82(969), pp. 462-464. https://doi.org/10.1136/pgmj.2005.042713.

Faculty bylaws (2017) Chapter 1, Articles 26-38, pp 7-12. Available at: https://ksau-hs.edu.sa/English/Deanships/Dqm/Documents/2017/05/faculty-bylaws-Updated.pdf (Accessed: 11 March 2021).
Hayward, C., Laursen, S., and Thiry, H. (2017) ‘Why Work with Undergraduate Researchers? Differences in Research Advisors’ Motivations and Outcomes by Career Stage’, *CBE—Life Sciences Education*, 16(1).

Javid, C. Z. (2011) ‘EMP Needs of Medical Undergraduates in a Saudi Context’, *Kashmir Journal of Language Research*, 14(1), pp. 89-110.

Kanji, S. (2015) ‘Turning Your Research Idea into a Proposal Worth Funding’, *The Canadian Journal of Hospital Pharmacy*, 68(6), pp. 458-464. https://doi.org/10.4212/CJHP.V68I6.1502.

Kutubghanah Alsaeid, H. I. (2011) ‘The opportunities and constraints experienced by students and teachers using online systems for learning English at King Abdulaziz University’, Saudi Arabia [Ph. D]. *University of Warwick, Institute of Education*. http://webcat.warwick.ac.uk/record=b2584338-S1 (Accessed: 11 March 2021).

Madan, C. R., and Teitge, B. D. (2013) ‘The benefits of undergraduate research: The student's perspective’, *The Mentor: An Academic Advising Journal*. https://doi.org/10.26209/mj1561274.

Mazawi, A. (1999) ‘Gender and Higher Education in the Arab States’, *International Higher Education*, pp.18-19. https://doi.org/10.6017/ihe.1999.17.6505.

Mazawi, A. (2000) ‘A Special Focus: Knowledge, Power, and Academe in the Arab States’, *International Higher Education*,14. https://doi.org/10.6017/ihe.2000.18.6855.

McGovern, V. (2012) ‘Getting grants’, *Virulence*, 3(1), pp. 1-11. https://doi.org/10.4161/viru.3.1.18844.

Metcalfe, D. (2008) ‘Involving medical students in research’. *Journal of the Royal Society of Medicine*,101(3), pp.102-103. https://doi.org/10.1258/jrsm.2008.070393.

Mohrman, K., Ma, W. and Baker, D. (2008) ‘The Research University in Transition’: *The Emerging Global Model. Higher Education Policy*, 21(1), pp. 5-27. https://doi.org/10.1057/PALGRAVE.HEP.8300175.

Munabi, I. G., Katabira, E. T. and Konde-Lule, J. (2006) ‘Early undergraduate research experience at Makerere University Faculty of Medicine: a tool for promoting medical research’, *African Health Sciences*, 6(3), pp. 182-186. https://doi.org/10.19082/2405.

Nejatizadeh, A., Sarnayzadeh, M., Kohnouji, K. and Ghasemi, R. (2016) ‘Constraining Factors of Research among faculty members at Hormozgan University of Medical Sciences’, *Electronic Physician*, 8(5), pp. 2405-2409. https://doi.org/10.19082/2405.

Parveen, M. (2014) ‘Saudi Feminization: Dynamical phases of Saudi women in the field of Education and Employment’, *J Am Sci*, 10(1s), pp. 52-66.

Rug.nl (2018) (Rijksuniversiteit Groningen Netherlands) [University of Groningen Netherlands] [Internet]. Available from: https://www.rug.nl/feb/work-with-us/job-opprtunities/2014-10-tenure-track-eng.pdf (Accessed: 22 March 2021).

Sabzvari, S., Kauser, S., and Khawaja, A. K. (2009) ‘Experiences, attitudes and barriers towards research amongst junior faculty of Pakistani medical universities’, *BMC Medical Education*, pp. 1-7. https://doi.org/10.1186/1472-6920-9-68.

Tekian, A. and Almazrooa, A. (2011) ‘Does Saudi Arabia need an Abraham Flexner?’, *Med Teach*, pp. 33: 72–73. https://doi.org/10.3109/0142159X.2010.528475.

Ullah, F. (2017) ‘Socio-Cultural Constraints in Learning English Language at Jazan University, Kingdom of Saudi Arabia’, *International Journal of Language and Linguistics*, 5(2). https://doi.org/10.11648/j.ijll.20170502.11.
Appendices

Appendix 1

Interview forms

Name:

1 Sex:

2 Academic post:

3 Year since Graduating medical school:

4 Academic/ administrative duties:

5 Tell us about your experience as a faculty member including support from your department and university leadership

6 Reasons preventing academic research

7 How are collaborative projects promoted?

8 Solutions/ suggestions:

9 Protected time:

10 What helped publish papers?

11 Why not able to publish more?

12 Do you think ghost writing may develop due to present promotion procedures?

Declarations

The author has declared that there are no conflicts of interest.

This has been published under Creative Commons "CC BY 4.0" (https://creativecommons.org/licenses/by-sa/4.0/)

Ethics Statement

Taif University, Kingdom of Saudi Arabia, Research Ethics Committee, Application number 39-35-0025, Approval on 18/3/2018.
External Funding

This article has not had any External Funding

MedEdPublish: rapid, post-publication, peer-reviewed articles on healthcare professions’ education. For more information please visit www.mededpublish.org or contact mededpublish@dundee.ac.uk.