Mentorship in anesthesia: A perspective survey among anesthesia residents in Riyadh, Saudi Arabia

ABSTRACT

Context: Mentorship is an integral part of the professional and academic growth; however, the position of mentorships in anesthesia is still yet to be understood. As an attempt to understand this phenomenon, we targeted Riyadh Anesthesiology residents and program directors to explore their perception of mentorship relationships.

Aims: The aims of this study were to assess the prevalence of mentorship in anesthesiology training and to assess the perspective of mentorship from anesthesiology residents.

Settings and Design: This was a cross-sectional study.

Methods and Material: We administered a 20-item validated cross-sectional survey to program directors and anesthesia residents to all Riyadh SCFHS anesthesiology departments. Residents were asked about their perceptions of barriers and benefits to effective mentoring.

Statistical Analysis Used: IBM SPSS version 23 and Microsoft Office Excel version 2010.

Results: Fifty anesthesiology residents and three program directors responded to our survey. The majority of residents agreed that mentorship was beneficial to the overall success as an anesthesiologist (36 of 50, 72%). Although all three program directors reported that a formal mentorship program is part of their residency program (3 of 3, 100%), only (25 of 50, 50%) responded with access to a mentor. Difficulties reported included lack of formalized meeting times, insufficient times with mentors, and mentor-mentee incompatibility.

Conclusions: In conclusion, the study indicated the positive perspective and high principles to mentorship held by anesthesiology residents in Riyadh, Saudi Arabia. It evidenced the beneficial, professional, and social impact that mentoring hails to the development of future anesthesiologists, and despite all that, it remains underutilized.

Key words: Anesthesiology; mentoring; residency

Introduction

The first concept of mentoring began in the Greek civilization when Homer Odysseus left for the Trojan wars. He left a mentor in the responsibility of his castle and the upbringing of Telemachus, his son, and this was the first documented

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instance of mentoring.[1] The term Mentorship is defined as a bidirectional relationship between a mentor and a mentee; this relationship can be either:

1- Formal, whereby the mentor assesses the mentee skills and development.
2- Informal, where the senior or more experienced colleague guide the less experienced.[2]

Mentorship in health professionals has many potential benefits and can be divided into three different categories. First, increasing job satisfaction to the mentee, providing research opportunities and several grants and publications. Second, improvement of academic self-efficacy and most importantly career advancement with interests in academia. Third, and as this is a bidirectional relationship, it further benefits the mentor himself through personal fulfillment, development, leadership and coaching skills, and other career advancements. The institution likewise benefits by the increasing work performance, professional development of employees, and accelerated training.[3,4] In general, males had higher chances of having a mentor with the relationship being positive in comparison to females. Four different barriers were noted in anesthesia mentorships including gender, limited time, and availability of mentors, and generational gaps.[5] Further limitations included different perceptions of the relationship goals, disillusionment, and bad mentorship results.[6] Mentorships have been studied extensively in other specialties, yet the data in anesthesia and mentorship is scarce. In the United States, for example, a study showed that most anesthesiology programs implemented formal mentorships, and this was higher in academic institutes.[7] In Canada, a study showed the perspective of anesthesiology residents regarding mentoring, which showed positive perception from the anesthesiology residents.[8] Currently, in Saudi Arabia, there is no evidence of research relating to anesthesia mentorship, and also an option of open transcription comments for any input regarding anesthesia mentorship.[Appendix 1] that has been provided by Ergun et al.[8]

Response options used a 7-point Likert scale (1 = strongly agree; 2 = agree; 3 = somewhat agree; 4 = undecided; 5 = somewhat disagree; 6 = disagree; 7 = strongly disagree).

Similarly, a 4-item survey in English was distributed to program directors about resident’s demographics, and whether the program had formal mentorship training, and how the mentors were assigned with the duration of mentorship [Appendix 2]. This also has been provided by Ergun et al.[8]

Imam Muhammad bin Saud Islamic University institutional review board approved our study in 12/2/2020. Study information, ethical statement, and assurance of anonymity were presented at the first page of the questionnaire, and participation was voluntary. Furthermore, Missing or incomplete responses were excluded from the study.

Survey distribution
Survey [Appendix 1] was made available on google forms (google.com/forms) during that period and was sent to Riyadh’s anesthesiology chief resident who distributed the survey through social groups to program residents.

Survey [Appendix 2] was sent electronically to each program director in Riyadh Saudi Arabia.

Data analysis
We followed the same methodology in analyzing data as Ergun et al. “We generated frequencies for all collected quantitative data. For presentation purposes and to facilitate analysis, we collapsed “agree” and “somewhat agree”, and “disagree” and “somewhat disagree” for all survey responses to produce a five-point scale. Missing data were excluded from both the numerator and denominator (complete case analysis).”[8]

Statistical analysis was performed on IBM SPSS version 23 (Statistical Package for the Social Sciences) and Microsoft Office Excel version 2010. This will be displayed in graphs, tables, and figures.
Results

Our responses were from 3 of Riyadh anesthesia program directors and 50 Riyadh anesthesia residents (3 of 3, 100%) programs surveyed reported a formal mentorship program. A minority of program directors surveyed indicated that residents were assigned to mentors by their academic program (1 of 3, 33.3%), and the majority (2 of 3, 66.6%) programs allowed residents to select their mentor(s).

(42 of 50, 84%) of anesthesiology residents respondents were male, and (8 of 50, 6%) were female. The majority were aged between 25 and 30 (64%), and (25 of 50, 50%) reported access to a mentor [Table 1], furthermore (22 of 25, 88%) reported that their mentors were anesthesiologists. The number of mentors per resident ranged from 1 to 5. In addition, 24 of 25 (96%) had formally assigned mentors and (18 of 25, 72%) had access to “informal” mentors [Table 1].

Table 1: Demographics of respondents

| Variable          | Frequency | Percent |
|-------------------|-----------|---------|
| Sex               |           |         |
| male              | 42        | 84.0%   |
| female            | 8         | 16.0%   |
| Age               |           |         |
| 25-30 years       | 32        | 64.0%   |
| 31-35 Years       | 18        | 36.0%   |
| Level of resident |           |         |
| PGY1              | 5         | 10.0%   |
| PGY2              | 10        | 20.0%   |
| PGY3              | 11        | 22.0%   |
| PG4               | 9         | 18.0%   |
| PG5               | 15        | 30.0%   |
| Career path       |           |         |
| unknown           | 4         | 8.0%    |
| Academic hospital | 22        | 44.0%   |
| Community Hospital| 24        | 48.0%   |
| Do you have a mentor? | 25 | 50.0% |
| No                | 25        | 50.0%   |

Table 2: Mentorship roles among residents engaged with a mentor (n=25)

| Variable                          | Choices     | Frequency | Percent |
|-----------------------------------|-------------|-----------|---------|
| Do you have formally assigned mentors | Yes        | 24        | 96.0%   |
| Do you have informal mentors       | No          | 1         | 4.0%    |
| Do you have mentors who are anesthesiologists | Yes  | 22        | 88.0%   |
| No                                | 7           | 28.0%     |
| Do your mentor assist with academic goals | Yes  | 25        | 100%    |
| No                                | 0           | 0%        |
| Do your mentor assist with career opportunities | Yes  | 20        | 80.0%   |
| No                                | 5           | 20.0%     |
| Do your mentor assist with personal/family goals | Yes  | 19        | 76.0%   |
| No                                | 6           | 24.0%     |
| Do your mentor assist with financial goals | Yes  | 12        | 48.0%   |
| No                                | 13          | 52.0%     |

Of the anesthesiology residents receiving mentorship, all reported benefit with academic goals (25 of 25, 100%) and (20 of 25, 80%) reported use with carrier opportunities [Table 2]. Overall residents agreed that mentorship helps with successful career advancement (38 of 50, 78%) and (41 of 50, 82%) agreed that mentorship benefits the development of clinical skills [Table 3]. Furthermore, (36 of 50, 72%) agreed that mentorship relationship is significant in terms of overall success as an anesthesiologist [Table 4].

Anesthesiology residents responded that the barriers of mentor and mentee relationship included a lack of skilled mentors (33 of 50, 66%), whereas (38 of 50, 76%) agreed that there is a lack of personal connection between mentor and mentee. Furthermore (20 of 50, 40%) agreed that there is a lack of mentors of the same gender, and (38 of 50, 76%) reported the lack of formalized meeting times with mentors. Finally (39 of 50, 78%) agreed that there is insufficient time for mentorship [Table 4].

Transcribed comments

Twelve respondents provided written comments which all were resounding into one theme that mentorship is essential for the development of a physician which are exemplified by the following quotes: “Mentorship in Anesthesia field is very crucial part because of lack of time due to work. It will be very beneficial to have mentor for every resident to guide them through academic progression and support him/her even with the psychological point of view.” And “It would be a great of help and guidance that would give a fixed confidence for the junior residents and construct their approaches as physicians.”

Discussion

This study investigated the perspective of mentorship among anesthesia residents in Riyadh, Saudi Arabia.

Our research found that anesthesiology residents agree with the importance of mentorship as it leads to successful career advancement, development of clinical skills, building confidence and an increase in academic and personal productivity. These results endorse the literature in regards to the necessity of mentorship for the growth and development of future anesthesiologists [9] [Table 3].

Furthermore, regarding the perception of barriers of mentorship, most respondents agree that there is a lack of skilled mentors, inadequate time available for mentoring, lack of formalized meeting times and objectives, and lack of personal connections between the mentor and mentee. It should be noted that the majority disagrees with lack
of mentors of the same gender and background 52% and 46%, respectively. And as observed in the literature, mentor training is vital to overcome the observed barriers and increase the skill of mentors which has been proven beneficial to both mentor and mentee on the long run.\textsuperscript{[1,2,5,9]} [Table 4].

As regards to the current mentor-mentee relationship, we observed the presence of both formal and informal mentors who are mostly anesthesiologists 88%, and overall the relationship was positive as was observed that mentors assisted the residents with academic goals, personal goals and career opportunities, whilst the assistance of financial goals was only 48% [Table 2].

The significance of these findings indicates that Anesthesiology residents in Riyadh, Saudi Arabia, understand the impact and importance of a mentor and the concept of mentorship on a successful career as a future anesthesiologist. However, we have noted as regards to the barriers to mentorship the perspective of lacked skilled mentors, lack of available time and objectives even though the responses from residents who have mentors

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
\textbf{Item} & \textbf{Strongly agree} & \textbf{Agree} & \textbf{Undecide} & \textbf{Disagree} & \textbf{Strongly disagree} & \textbf{N/A} \\
\hline
Successful career advancement & 29 & 10 & 3 & 4 & 0 & 4 \\
\hspace{0.5em} Percent & 58.0% & 20.0% & 6.0% & 8.0% & 0.0% & 8.0% \\
\hline
Increased academic productivity & 27 & 14 & 4 & 2 & 0 & 3 \\
\hspace{0.5em} Percent & 54.0% & 28.0% & 8.0% & 2.0% & 0.0% & 6.0% \\
\hline
Increased grant funding & 12 & 23 & 3 & 5 & 1 & 6 \\
\hspace{0.5em} Percent & 24.0% & 46.0% & 6.0% & 10.0% & 2.0% & 12.0% \\
\hline
Increased personal productivity & 23 & 22 & 2 & 2 & 0 & 1 \\
\hspace{0.5em} Percent & 46.0% & 44.0% & 4.0% & 4.0% & 0.0% & 2.0% \\
\hline
Development of clinical skills & 18 & 23 & 0 & 4 & 1 & 4 \\
\hspace{0.5em} Percent & 36.0% & 46.0% & 0.0% & 8.0% & 2.0% & 8.0% \\
\hline
Faculty retention & 8 & 24 & 9 & 3 & 1 & 5 \\
\hspace{0.5em} Percent & 16.0% & 48.0% & 18.0% & 6.0% & 2.0% & 10.0% \\
\hline
Fostering teaching skills & 16 & 25 & 2 & 4 & 0 & 3 \\
\hspace{0.5em} Percent & 32.0% & 50.0% & 4.0% & 8.0% & 0.0% & 6.0% \\
\hline
Building confidence & 26 & 18 & 3 & 0 & 1 & 2 \\
\hspace{0.5em} Percent & 52.0% & 36.0% & 6.0% & 0.0% & 2.0% & 4.0% \\
\hline
\end{tabular}
\caption{Perspectives regarding the role of mentorship ($n=50$)}
\end{table}

\begin{table}[h]
\centering
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline
\textbf{Item} & \textbf{Strongly agree} & \textbf{Agree} & \textbf{Undecide} & \textbf{Disagree} & \textbf{Strongly disagree} & \textbf{N/A} \\
\hline
Lack of skilled mentors & 15 & 18 & 2 & 8 & 0 & 7 \\
\hspace{0.5em} Percent & 30.0% & 36.0% & 4.0% & 16.0% & 0.0% & 14.0% \\
\hline
Insufficient time available for mentorship & 12 & 27 & 3 & 4 & 0 & 4 \\
\hspace{0.5em} Percent & 24.0% & 54.0% & 6.0% & 4.0% & 0.0% & 8.0% \\
\hline
Lack of financial compensation for mentors & 13 & 18 & 5 & 6 & 4 & 4 \\
\hspace{0.5em} Percent & 26.0% & 36.0% & 10.0% & 12.0% & 8.0% & 8.0% \\
\hline
Lack of mentors of the same gender & 5 & 15 & 0 & 18 & 8 & 4 \\
\hspace{0.5em} Percent & 10.0% & 30.0% & 0.0% & 36.0% & 16.0% & 8.0% \\
\hline
Lack of mentors of the same background & 5 & 16 & 2 & 14 & 9 & 4 \\
\hspace{0.5em} Percent & 10.0% & 32.0% & 4.0% & 28.0% & 18.0% & 8.0% \\
\hline
Mentorship programs that do not have formalized meeting times & 7 & 31 & 4 & 2 & 0 & 6 \\
\hspace{0.5em} Percent & 14.0% & 62.0% & 8.0% & 4.0% & 0.0% & 12.0% \\
\hline
Mentorship programs that do not have formalized objectives & 12 & 28 & 3 & 1 & 1 & 5 \\
\hspace{0.5em} Percent & 24.0% & 56.0% & 6.0% & 2.0% & 2.0% & 10.0% \\
\hline
Lack of a personal connection between mentor and mentee & 11 & 27 & 3 & 1 & 3 & 5 \\
\hspace{0.5em} Percent & 22.0% & 54.0% & 6.0% & 2.0% & 6.0% & 10.0% \\
\hline
Lack of mentors who have similar personal and professional goals & 6 & 24 & 2 & 8 & 2 & 8 \\
\hspace{0.5em} Percent & 12.0% & 48.0% & 4.0% & 16.0% & 4.0% & 16.0% \\
\hline
Do you believe you benefit/could benefit from an effective mentorship relationship in terms of overall success as an anesthesiologist? & 29 & 7 & 1 & 0 & 0 & 4 \\
\hspace{0.5em} Percent & 58.0% & 14.0% & 2.0% & 0.0% & 0.0% & 8.0% \\
\hline
\end{tabular}
\caption{Perceived barriers to mentorship}
\end{table}
was beneficial in the advancement to become a future anesthesiologist.

We have used an already available and validated 20 item English language questioner by[8] to be able to reproduce and compare our results.

Overall, our findings are similar and support those of Ergun et al. who surveyed the perspective of Canadian anesthesia residents.

Limitations of our study included sample size and response rate in reference to the time of conducting the research. In addition, there was no available data on the number of current anesthesiology residents and anesthesiology training programs.

In conclusion, the study indicated the positive perspective and high principles to mentorship held by anesthesiology residents in Riyadh Saudi Arabia. It proved the beneficial, professional, and social impact that mentoring hails to the development of future anesthesiologists, and despite all that, it remains underutilized.

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Conflicts of interest
There are no conflicts of interest.

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