# **ASPIRE - A Journey from Intuition to Innovation**

Alhad Mulkalwar.1

## The Experience

A student's mind is filled with multiple aspirations and fears. For every undergraduate, the path towards their M.B.B.S is an exciting journey of learning and self-discovery. There are many examples of noteworthy contributions by medical students during their studies –the discovery of heparin and the description of the sinoatrial node and pancreatic islets to name a few. 1 Early research exposure also leads to improvement in the productivity of postgraduate research.<sup>2</sup> However, research opportunities for undergraduate students are reported to be unsatisfactory and inadequate and little is known about the challenges students experience when conducting research.3

As a medical student passionate for research and having personally realized all that the world of research had to offer, I often wondered why an institute like mine, which produced many quality publications, had so few undergraduate students involved in research. I interacted with my teachers and colleagues to find out the reasons behind this discrepancy. Although many students seemed to be interested in being a part of research activities, few knew how they could start becoming involved. The students who did start a project seldom continued it until the end and very few eventually co-authored the publication (Figure 1). This attrition was found to be due to numerous factors including lack of supportive mentorship, conflict with the mainstream course work, or simply loss of interest.

I soon realized that the students needed to have appropriate guidance regarding different aspects of research. At first, I decided to start with something small, on an individual level, to educate my junior colleagues about the different approaches, opportunities and prospects regarding undergraduate medical research. I conducted informal group sessions to share my own research experiences, positive takeaways and the common challenges, pitfalls and dilemmas I faced in the process. Seeing the consistently positive results over three years, I realized the need of a formal institution that could guide the undergraduate students through their research paths. Hence, I decided to establish, in my institute, a department called the Association for Support and Propagation of Innovation, Research and Education (ASPIRE);

Figure 1. Results of my survey regarding attitude of medical students towards research depicting high degree of attrition (based on data of undergraduate students of Seth GSMC and KEM Hospital; MBBS batches, 2015-2018).

Total number of students in every undergraduate batch (n=180) Students interested in medical research (20%) Students taking up research projects (10%) Students completing the project (5%) Publication of manuscript (3%)

Figure 2. ASPIRE - Association for Support & Propagation of Innovation, Research & Education.



with the intent of supporting and nurturing the curiosity of young medical students (Figure 2). This article summarizes my personal experiences as I navigated my way through the tumultuous path to graduation, and more specifically, the lessons from my unique endeavor of ASPIRE.

1 M.B.B.S (Bachelors Degree in Medical Sciences), Intern, Seth Gordhandas Sunderdas Medical College and King Edward Memorial Hospital, Mumbai, India.

About the Author: Dr. Alhad Mulkalwar has completed his graduation and currently working as an Intern (M.B.B.S.) at Seth G.S.M.C. and K.E.M. Hospital, Mumbai, India. He is a recipient of the Indo - Asian Jonas Salk Young Scientist Award in Medical Sciences and the Indo-Pacific Edward Jenner Distinguished Innovative Scholar Award by the International Multidisciplinary Research Foundation in collaboration with United Nations 75th Anniversary Dialogue on U.N. Sustainable Development Goals, 2020. He has also received the International Young Researcher Award in Medical Science by the Center for Professional Advancement, West Midlands, United Kingdom.

## Correspondence:

Alhad Mulkalwar. https://orcid.org/0000-0001-6236-3841

Address: Acharya Donde Marg, Parel East, Parel, Mumbai, Maharashtra, India.

Email: alhad.mulkalwar@gmail.com

Editor: Adam Urback Student Editors: Muhammad Romail Proofreader: Ciara Egan Lavout Editor: Francisco J. Bonilla-

Submission: Sep 4, 2021 Revisions: Sep 24; Oct 22; Nov 25, 2021; Jan 19, 2022 Manan & Shuo-Yan Gau Responses: Sep 25; Nov 24; Dec 13, 2021; Jan 20, 2022

Acceptance: Feb 18, 2022 Publication: Feb 21, 2022 Process: Peer-reviewed Mulkalwar A.

To bridge the existing gaps of research knowledge and opportunities among the undergraduate medical students of the institute, a proposal to establish a student led research council, named ASPIRE, was drafted with the following aims & objectives:

- Collaborate with different departments of the institute to educate students on various aspects of research through seminars and workshops
- Conduct activities and workshops for students to increase the participation of undergraduate students in research projects
- Coordinate with various departments of the college to make ongoing research projects more approachable for the students
- Help students find the right mentor and requisites to work on a novel research idea or innovation
- Guide students working on a research study throughout the process with the help of research experts from our college
- Collaborate with various institutes and trusts of other disciplines to promote research and innovation

The specific mechanisms proposed to achieve the above objectives have been summarized in *Figure 3*. I knew this was not going to be an easy journey. Theoretically, the idea of this new department seemed simple, but altering the status quo at

the institution was sure to invite opposition. In my early days as a student, I was not very good at handling failures and often they had a negative impact on my health; which is why most of my colleagues and close friends warned me against this risk. At times, I was willing to give up on this project before starting due to fear of what may happen and the possibility of failure. However, I realized that not trying was a certain way of failing. I decided it was at least worth a try. Not knowing where to start, I spoke to a few approachable faculty members with whom I had worked with previously. They acknowledged the need for such a platform but were also apprehensive regarding its feasibility and the bureaucratic hurdles that may interfere in its implementation. I met with all the senior professors of the college personally to explain the idea and at the same time incorporate their suggestions to better the model. Although I faced initial resistance, slowly the initiative started garnering support. After almost a year's hard work, I was allowed to present the idea at our Annual General Body Meeting, where the proposal passed with an overwhelming majority. ASPIRE thus became one of India's few student-led Medical Research and Innovation bodies. Today, it is one of the institution's most active organizations, having launched multiple initiatives to improve the awareness about medical research and guiding students along their own research journey.

Figure 3. Initiatives Proposed Under ASPIRE to Promote Undergraduate Medical Research.

 Journal
 Club:
 Sessions students
 for undergraduate

 explain
 and analyze
 different different different different study designs, enabling
 them to better to better different different different different designs, enabling

 comprehend
 and
 critique different designs, enabling

 published
 medical literature.

Workshops by the faculty members for **designing** and **validating questionnaires** and conducting **community-based research studies** in collaboration with the Department of Community Medicine.

Interactive sessions by experienced faculty members to explain to medical students the contribution of research to administration and policy making, eventually translating into practice as standard treatment guidelines for National Health Programs.

## Research Consultation Services:

Appointment-based regular consultation services analogous to hospital outpatient departments, conducted by research experts for resolution of students' queries regarding specific aspects of research methodology to help eliminate the technical hurdles they may encounter in the course of their projects.

ASPIRE
Initiatives for
Undergraduate
Medical Research

Educational visits to various laboratories and departments of the college to orient and stimulate the young minds in para-clinical research studies - institutional biochemistry and microbiology laboratories, pharmacology practical experiment center, Animal House for animal-based research studies, Avruveda Research Center, etc.

Research Database: A single up-to-date compilation of all the research projects currently in progress at the Institute and vacancies therein for students, enabling them to be a part of the research project of their interest.

Sessions in coordination with the Institutional Ethics Committee for guidance on drafting proposals and Informed Consent Document to ease the process of submission for research studies carried out by students.

Sessions on writing medical literature, understanding different types of media (poster / paper / symposium) and platforms to present their studies, hands-on workshops for using search engines like PubMed and softwares for biostatistical analysis.

Mulkalwar A.

On a personal level, the gratification for me was not as much for establishing this organization per se, but the ability it gave me to believe in the strength of persistence, patience, and optimism. The journey of this small endeavor was merely one of many enriching experiences I have witnessed throughout studying for my M.B.B.S. I am barely able to remember how shy and introverted I was when I started off my medical school journey. I had spent the better part of my childhood consciously avoiding the tough paths, and thereby avoiding mistakes and failures. It is only now that I realize the importance of risks and failures in personal growth. My advice to all would be to act on their ideas, no matter how uncertain and precarious the journey may seem. Do not let the comfort of inaction rob you of potential greatness. You never know what prospects are in store for you.

These experiences made me realize my love for administration and diplomacy, which eventually led me to quit the field of medicine post-M.B.B.S. to pursue a career in Indian diplomacy. This was not an easy decision. I will admit it is scary starting this new chapter of my life; but I will do it anyway because although I am afraid of failure, I am even more terrified of regret. You do not

need to be fearless, just do not let fear overrun your desire to move past it.

When I envision my career, I choose to focus on the opportunity and not the obligation. I might fail at some point in time, but my undergraduate days taught me to not give up on my goals. So when asked, "Are you really going to change your career despite completing a lengthy and tough degree like M.B.B.S.?" I simply like to reply, "I have finally realized my passion and courage only because of the experiences in my M.B.B.S."

Not having a vision for our lives is the greatest disservice we can do to ourselves. Let every choice and decision of your life be an informed and conscious one. Unfortunate events and setbacks are bound to befall us, and more often than not we will not have a say in these instances. Nevertheless, our success lies in the ability to not give up, and the choice between giving up and going, that is completely in our hands.

It is not easy, but it will definitely be worth it.

## References

- Brass LF. Is an MD/PhD program right for me? Advice on becoming a physician-scientist. Mol Biol Cell. 2018;29(8):881–5.
- Reinders JJ, Kropmans TJ, Cohen-Schotanus J. Extracurricular research experience of medical students and their scientific output after graduation. Med Educ. 2005;39(2):237.
- Murdoch-Eaton D, Drewery S, Elton S, Emmerson C, Marshall M, Smith JA, Stark P, Whittle S. What do medical students understand by research and research skills? Identifying research opportunities within undergraduate projects. Med Teach. 2010;32(3):e152-60.

### Acknowledgments

None.

### **Conflict of Interest Statement & Funding**

The Authors have no funding, financial relationships or conflicts of interest to disclose.

## **Author Contributions**

Conceptualization, Writing - Original Draft Preparation, Writing - Review & Editing: AM.

### Cite as

Mulkalwar A. ASPIRE - A Journey from Intuition to Innovation. Int J Med Stud. 2022 Jan-Mar;10(1):101-103.

This work is licensed under a Creative Commons Attribution 4.0 International License

ISSN 2076-6327

This journal is published by Pitt Open Library Publishing

