HOW TO UNDERTAKE RESEARCH AS A DENTAL UNDERGRADUATE

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How do dentistry and mental health link together? What role do dentists have in addressing patient mental health? How confident do you feel about taking on that role? When you find a research question that interests you and grabs your attention, you shouldn't be afraid to approach a project alongside your studies. For a small group of us at Barts and the London Dental School, this question was related to confidence and education around patient mental health. What started as a small idea ultimately snowballed into a multi-centre research project called 'Open Up', spanning five dental schools across the UK and Ireland. Whether you have high ambitions in research, want to contribute to the field or simply want to explore an area of interest, we hope this serves as a guide to get you started.

When you first consider a research question, you should begin by looking at the literature that already exists in the field – formally known as a 'literature review'. Our research question was 'How confident are UK dental students at addressing patient mental health?'. So we took a step back and looked

at the UK clinical picture and the current best available research. You should initially outline the picture within the population you are interested in and follow by evidencing the need for your research question. For example, our literature review covered the following points:

- Psychiatric disorders are on the rise within the UK population with 20% of men and 30% of women professionally diagnosed with a psychiatric condition¹
- Several studies had already investigated practitioner confidence when addressing patient mental health and reported low confidence²
- We found no studies that assessed UK dental undergraduate education or student confidence around patient mental health.
- According to the GDC dental practitioners are in a position where we need to be able to 'identify, explain and manage the impact of medical and psychological conditions'.³

Once you have a good grasp of the existing literature around your research question you should consider the benefit your work could

bring to the dental research community. This will help you plan the project and figure out the best way to answer your research question. We wanted to see if modern dental undergraduate education was creating confident dental students who could comfortably address patient mental health. To be of benefit, we needed to survey the existing clinical year groups in the BDS curriculum and run focus groups to gather dental students' opinions on how their confidence could be enhanced. A literature review and a basic outline of the study puts you in good stead to then approach a potential supervisor.

A supervising tutor will guide your research project with their experience and will ensure you get the most out of it, advising you on how to proceed and helping you collaborate with others. This chosen person can be any tutor who is willing, but someone is much more likely to supervise you if you come to them with at least a partially-formed idea. A supervising tutor is key to helping you secure approval to run your project, assisting you in analysing your findings and guiding your project write-up if you wish to submit it to a journal.

After securing our supervising tutor and successfully pitching the project, we ran our initial study. We found that students believed an interactive workshop with case-based discussion was the best way to improve their confidence when addressing patient mental health. Dr Catherine Marshall, a clinical lecturer in psychiatry, helped us develop such an educational intervention; she also helped us develop pre- and post-workshop surveys that allowed us to see how participant confidence changed as a result of the workshop. She was instrumental in the project, giving expert input on her field. If your topic of interest requires specialist advice, do not be afraid to reach out and collaborate for the best results.

Once you have your research question, methodology and a supervising tutor, you should feel more comfortable with conducting a project alongside your degree. This is a strong starting point, but projects will inevitably change and mould around your circumstances. We initially published work based on research in a single institute, only later realising that we could think bigger and conduct the study across multiple dental schools. Don't restrict yourself, but don't bite off more than you can chew either!

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You need to think ‘*will my project benefit from participation from a wider group of people?*’ Larger groups of study participants can lead to more generalisable data, which is of greater use to researchers. Therefore, we decided to survey the confidence of dental students across multiple dental schools and then deliver our workshop intervention at each school. Student representatives were appointed at each school and were responsible for the research there. This is also a key point – when undertaking research, you should appropriately credit those involved, will they be authors or acknowledgements? It is important to consider this early on and be clear to the people you ask to help with the study.

Our representatives became authors of the study, alongside Dr Marshall and our supervisor, Dr Hurst. Expanding a project can be difficult, but if you want to work on a larger study then you can consider collaborating with students via DentSoc, (or DentSoc presidents), BDSA, conferences or even via shout-outs in the Student BDJ. Using these methods, we were able to collaborate with students at Trinity College Dublin, Newcastle, Kings College London and Dundee.

When conducting research, your circumstances will change and you will have to adapt. For us, we had to work around the COVID-19 pandemic; we had a large multi-centre project that relied on the delivery of an in-person workshop during a massive public health crisis! Admittedly, this isn't something we could have prepared for, but it highlights that research isn't always smooth sailing. We initially planned to collaborate with nine dental schools, but the pandemic meant we had to reconsider, shrink and shorten the project.

Putting your research on hold isn't ever ideal, but sometimes it is best to take a step back and reconsider how the project may need adapting to a change. The change might be something small or large – perhaps you

had a personal change in circumstances and what you had planned is no longer feasible. This is fine! Just adapt the work so that what you have done doesn't go to waste.

In our case we had to adapt the research for online delivery of the workshop and restrict the study to the schools that had already made progress with surveying

the student body. This change took a long time to consider, leaving the project on a long hiatus. However, once we had taken time to consider these decisions, the changes were easier to implement. Adapting to COVID-19 for us meant brainstorming with our representatives to ensure everyone knew how we were re-designing our methodology.

Sometimes, these changes can be ultimately beneficial! Despite our initial difficulties in organising online virtual webinars in place of our in-person workshops, we found that the format made things easier. It allowed the representatives to be better supported as we could drop in on the virtual sessions if they needed it. With the online

Top tips for research around studies

1. Perform a literature review around your concept to identify gaps in research and to ensure thorough understanding of the field
2. Choose who to work with – as an undergraduate you will always need a supervisor, but do you want to work with others? This can split the workload but you must ensure everyone is appropriately credited
3. Consider what impact your research could have and design your methodology appropriately to ensure your data answers your research question
4. If you want to collaborate with other schools and do a larger study, you can reach out via DentSoc, BDSA or *BDJ Student*
5. Be prepared to adapt and make changes as you go, things will not always go to plan!

format we also had the option to have the workshop delivered by the same people, thereby increasing uniformity amongst workshops.

After all these difficulties, we managed to evidence that whilst national student confidence was low when addressing patient mental health, the workshop was an effective beneficial intervention! This knowledge is of benefit to dental research as it evidences how, if we are appropriately educated, we can improve patient outcomes, better supporting and understanding those with poor mental health. You too can make such an input in the field of dental research; if you have an inkling of an idea or a more fleshed out question you want to explore, why not consider research alongside your degree? It can be as much of a benefit to yourself (via conferences, collaboration and project management) as it can be to others and our patients.

References

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