

UWC – UCT Dental Human Genetics Collaboration: A Report.



SADJ May 2018, Vol 73 no 4 p290 - p291

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INTRODUCTION

The genome project has provided opportunities to understand the genetic characteristics of disease and to create novel approaches to prevent, diagnose, and manage medical and dental disorders. There is growing evidence of the part of the dentist in recognizing not only dental and oral disorders but also systemic markers of genetic disorders. In this way, the dentist has a role in the overall health and well-being of patients. The contribution of hereditary factors to caries, periodontal disease, oral cancer, and malformed or absent teeth, is increasingly evident in dentistry, as are the implications of systemic genetic disorders in oral and dental health care.

This article highlights some of the opportunities that collaboration between higher education institutions bring to the development of sustainable community-university partnerships. In particular, it explores the potential for universities to collaborate on building effective engagement mechanisms that support an ongoing flow of new projects and partnerships over time. It draws on evidence gathered over the years in terms of research and scientific publications, conference attendance and community engagement.

THE BEGINNING

The collaborative relationship between the Division of Human Genetics at UCT and the Dental Faculty at UWC began in the 1990's when Prof LXG Stephen of UWC, Faculty of Dentistry, undertook a PhD in Department of Human Genetics at UCT. During the project, it became increasingly evident that access to dental health care for persons with genetic disorders was suboptimal. For these reasons and in view of the growing interest and importance of genetic disorders, a collaborative UWC-UCT Dental Genetic Clinic was established at the Red Cross Children's Hospital in 2000. The accomplishment of this clinic solidified the prior informal association

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ACRONYMS:

OSD : Occupation Specific Dispensation

between Paediatrics, Human Genetics and Dentistry. This initiative resulted in the development of a facility that was unique in South Africa.

ACADEMIC SIGNIFICANCE

In 2002, the UWC-UCT Dental Genetic Clinic was upgraded and whilst there was a full-time dentist employed, special emphasis was placed on facilitating optimal specialized dental care for patients with heritable disorders. Over the years several MSc students of UWC, Faculty of Dentistry, both local and foreign, particularly from other African countries, have rotated through this clinic. During this period, these postgraduate students were mentored with regard to the dental management of children with genetic disorders and congenital abnormalities. In this way, the interface between Medical Genetics and Dentistry was bridged and knowledge and interest in this field developed. Some of these Masters students went on to specialize in various fields of dentistry and a two completed PhD's in Human Genetics. Their project titles were 'Dental Implications of Inherited Connective Tissue Disorders in South Africa' and 'Dental Implications of Genetic and Congenital Intellectual Disabilities in Cape Town'. The UWC-UCT Dental Genetic collaborative initiative has resulted in frequent congress participations and 29 publications in peer reviewed medical and dental literature. These are listed below.

OUTREACH AND COMMUNITY ENGAGEMENT

When appropriate, the dental team were members of the multidisciplinary medical team that went to community centres for the disabled, schools for the disabled and various outreach clinics, including hospitals within and beyond Cape Town. This approach enabled dentists to interact with the larger health care team and in this way, provide affected individuals with necessary dental care. An important facet of several genetic disorders is the psychosocial attributes which cannot be overlooked. Given the cosmetic aspect of dentistry, these individuals were provided with suitable care.

CURRENT SITUATION

At the Faculty of Dentistry, UWC, a Dental – Genetics Clinic has been formalized which serves as a referral centre for patients with genetic disorders from throughout the Western Cape. When necessary, these patients are managed by a multidisciplinary team of specialists. Over the last few years, several local and foreign postgraduate students have expressed interest in the field of

genetics and currently there are three registered MSc students and two PhD students with projects in the field of Human Genetics and Dentistry. The emerging interest in interdisciplinary research has facilitated the involvement of academics from the Dental Faculty in becoming members of the South African Human Genetics Society and the African Society for Human Genetics and subsequently to attend and participate in congresses. In this way, the awareness of the importance of Genetics in Dentistry has been strengthened and several African collaborative opportunities have been identified.

INTRA- AND INTER FACULTY COLLABORATION AT UWC

Patients presenting with a genetic disorder require a comprehensive multidisciplinary approach to their oral and dental management and collaborative intra-faculty relationships between the Departments of Prosthodontics, Orthodontics, Oral Medicine and Periodontics, Paediatric Dentistry, and Maxillofacial Surgery, are essential. Inter-faculty collaborations have also been established at the University of the Western Cape between Dental Genetics, Faculty of Science and Bioinformatics in particular SANBI.

CONCLUSION

The collaborative relationship between the Division of Human Genetics at UCT and the Dental Faculty at UWC has enabled and provided opportunities for members of the dental fraternity at UWC to speak the language, understand concepts and recognize the clinical implications in order to work as meaningful members of a healthcare team.

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