



THE AGA KHAN UNIVERSITY

DENTAL HYGIENE PROGRAMME

2022 REPORT



DIRECTOR'S MESSAGE



Dear Friends,

I am pleased to share this report with you which outlines how the Dental Hygiene Programme started by my dear friend and mentor, Dr Saida Rasul, has evolved and grown since it was started seven years ago.

Two of these seven years have been dominated by the global COVID-19 pandemic which, despite the huge amount of uncertainty, forced us to significantly innovate both in the way we structured our course design as well as our instructional delivery. Like other universities in Pakistan, AKU had to quickly close its campus to students when the government imposed a lock-down in March 2020. This resulted in classes coming to a halt and our students having to travel home, many to remote villages in the Northern Areas. To ensure that our students learning journeys would not be disrupted and that they would not be marginalised or sidelined, as is the case with many low- and middle-income countries, we transitioned to a virtual learning environment and continued delivering the Associate of Science in Dental Hygiene programme asynchronously. Thanks to the incredible efforts of our faculty, staff, colleagues in IT, and our students I am proud to report that all of our students completed their studies and we were all able to embrace the unexpected changes that came with the pandemic as the “better normal”.

Beyond the pandemic, I am pleased to share that a strong research culture is taking root in the Dental Hygiene programme with graduates and faculty contributing to important research focused on key dental issues prevalent in the region. Our alumni – although still small in number – are securing jobs at leading dental practices and hospitals and have gone on to serve their communities, which was the intention of the programme when it was established.

All of these developments would not have been possible without your steadfast support and I want to personally thank you for the time effort, advice and donations you have given to us. Although there are still significant dental health challenges in Pakistan and the wider region we serve, I can say with confidence that we are training the best dental hygienists who are ready to tackle these issues head-on and make a difference in their community's health and general quality of life.

With gratitude and best wishes,

Salima SherAli Alibhai



EXPANDING ACCESS TO HIGH-QUALITY ORAL CARE

90%

of all oral diseases remain untreated in Pakistan*

3%

of public dental care is focussed on preventative services**

1:1.3M

Ratio of dentists in Pakistan to the population**

1:75K

Ratio recommended in developing countries**

Regular dental check-ups from well-trained providers are a vital form of health care. Not only does such care prevent serious and painful dental problems, it also enables early detection of a variety of other oral health issues including cancers.

Research has also shown that poor dental hygiene is correlated with heart disease, stroke, and pre-term birth in pregnant women. **It is therefore important that everyone has access to high-quality oral health care.**

According to the World Health Organization, Pakistan has some of the highest rates of head, neck and oral cancer as well as periodontal disease in the world. There is a severe lack of qualified dental care providers and relatively few people receive preventative care. Many people seek dental care only when in pain, and they are forced to resort to practitioners whose skills and infection control practices puts patients at serious risk. There are huge gaps in the provision of dental hygiene care in the country, with rural and remote areas, in particular, having inadequate access to quality oral care.

To address this, AKU started a comprehensive, internationally benchmarked Dental Hygiene Programme in 2015 which aims to provide world-class education and training in dental hygiene in Pakistan, thus raising the quality of dental hygiene degrees and the status of dental hygiene professionals in Pakistan. It is creating a cadre of motivated and excellent dental hygienists who are equipped to return to their communities and serve the population's needs.

* FDI World Dental Federation

** World Health Organisation

A MODEL PROGRAMME

AKU's Associate of Science in Dental Hygiene (ASDH) is a one-of-a-kind degree programme in Pakistan.

Founded by dental surgeon Dr Saida Rasul and supported by a group of generous donors, the two-year competency-based programme offers students the highest quality training in the basic sciences, dental hygiene theory, preclinical and clinical practice. This programme includes rotations in oral surgery, oncology, periodontics, orthodontics, prosthodontics, restorative dentistry, ENT, and head and neck pathology.

Led by Salima Alibhai, a University of Washington-trained dental hygienist with a master's in public health, the programme is being taught by visiting faculty, all of whom are TKN volunteers, from around the world as well as local faculty, including from other departments in AKU's Medical College such as pathology, community health sciences, oncology and immunology. Students benefit from the best international and local faculty who not only have expertise in periodontology, restorative care, endodontics, and orthodontics but also other fields of medicine relevant to dental hygiene, equipping students with a holistic and well-contextualised knowledge of dental hygiene.

In addition to getting hands-on experience at the Aga Khan University Hospital, students are trained in AKU's one-of-a-kind dental simulation lab. The facility is equipped with 17 state-of-the-art 'phantom heads' – high-fidelity patient mannequins that enable students to practice a variety of dental procedures and refine their skills prior to working on real patients.

A key component of the Dental Hygiene Programme is its community outreach through the provision of subsidised preventive and curative dental hygiene care to those that cannot afford the cost of treatment in Karachi and the northern, mountainous areas of Pakistan. Students participate in community sessions and workshops in informal settlements in Karachi and remote areas in Gilgit Baltistan, where they work directly with patients and raise awareness about the importance of dental care and oral hygiene.

Since the start of the COVID-19 pandemic, the programme has begun raising awareness about dental hygiene among school children and girl guides through online sessions. It has also provided oral health guidance to patients and attendants as well as a number of AKU support staff (such as housekeeping and maintenance employees) at AKUH and its secondary hospitals in Karachi. During the pandemic, the programme has been able to reach over 300,000 people through in-person and on-line outreach activities.



THE PROGRAMME BY NUMBERS

Despite being relatively new, the ASDH is attracting students from across Pakistan as well as East Africa. Many of the students enrolled in the ASDH programme are the first in their family to pursue higher education. In many cases, their attendance is made possible by financial assistance funded by generous donors to the University.

85%

of students receive over 90% financial assistance

80%

of graduates are women

46

Graduates*

55%

of students are from the Northern Areas of Pakistan, with the rest from Karachi, Sindh, KPK, Punjab and Kenya

300,000

people reached through in-person and on-line community outreach activities

9

students currently enrolled in the Associate of Science in Dental Hygiene Programme

* 19 Associates of Science in Dental Hygiene and 27 Diplomas in Dental Hygiene. The diploma programme was replaced by the ASDH programme in 2017 after the Government's discontinuation of diploma programmes.

Partnering with the University of Alberta

AKU's Dental Hygiene Programme has benefited immensely from its partnership with the University of Alberta (U of A). Under the leadership of Dr Sharon Compton, Professor and Associate Chair of Dental Hygiene, U of A reviewed AKU's proposal to start a dental hygiene programme and donated course outlines, syllabi and learning materials. More recently, U of A has shared videos developed by Sally Lockwood to assist with teaching in the periodontal instrumentation skills lab.



ELIA'S STORY



“Dental care is about much more than just emergency care,” says student Elia Nasim of AKU’s Associate of Science in Dental Hygiene programme.

Elia hails from a village in the Garam Chashma Valley in Chitral in northern Pakistan, where she has witnessed how most people only pay attention to their oral health when the pain becomes intolerable.

“They rush to the dentist and just want to remove the cause of their pain. They rarely ask themselves what caused the pain or how they can avoid such a situation in the future,” she says.

Elia’s academic and career ambitions have been deeply influenced by the experiences of friends and family in her hometown. She remembers her own mother frequently warning her about the dangers of taking daily oral hygiene for granted.

“When I was a child, my mother would tell me over and over again: ‘You will only know the value of teeth when you lose them.’”

Her mother’s warnings came from painful, personal experience as she needed to have all her teeth removed due to the searing pain of sensitive teeth. Her mother’s oral health challenges changed the family’s routine, with her elder sister putting off her studies to cook a soft diet for her mother, her father frequently accompanying her mother to the hospital, and Elia herself constantly reassuring her mother that everything would work out for the best.

Thankfully, dentures have helped Elia’s mother return to live a normal life. But other people in her village haven’t been so fortunate. Elia recalls how a 60-year-old resident of her village lost his life due to poor infection control practices shortly after a procedure to treat oral cancer at a local clinic.

“The death was shocking news for us all and it really made me think about the underlying causes of the oral health challenges around us,” she says.

Oral cancer is the most prevalent form of cancer among men in Pakistan and the consumption of *naswar*, an addictive form of chewable tobacco, is a visible habit in the area. It is also common for children and adults not to brush their teeth and consume paan, betel leaf, and areca nuts, which damages their teeth.

“So much pain and so much disease can be avoided if people just give a few minutes to their dental health every day,” says Elia.

After completing her studies, Elia is determined to return to her hometown.

“I remember overhearing a conversation in a clinic between two women that had a great impact on me,” she says. *“They were discussing how they avoided visiting the dentist as they felt uncomfortable being treated by a man. There are currently no women dental practitioners in my area, and by returning home I hope to not only address this issue but to also look at the wider problems in my community.”*

“Dental hygienists are educated to play many roles as clinicians, educators, community outreach workers, preventive healthcare advocates and administrators,” Elia adds. *“My education has opened my eyes to the full scope of a career as a dental hygienist. I’m keen on playing as many roles as I can to encourage people around me to prioritise their oral health.”*



OUR GRADUATES' PATHS

Our graduates are employed in dental clinics working in collaboration with dentists as members of the dental health care team. Several are currently employed as interns with the Aga Khan University Hospital or with Aga Khan Health Services in Pakistan and Kenya.

Interns in these private and community dental health settings conduct community outreach sessions creating awareness about oral hygiene, gum disease, nutrition counselling, cancer, the effects of smoking, chewing beetle nut and other substances. Others are engaged in paediatric oncology and palliative care.

Our graduates are also making significant contributions to research and new knowledge generation. We are proud to share that Shazia Taimoor from the Class of 2019 had her research paper on *'Integration Of Dental Hygiene Care For Pediatric Oncology Patients, Experience At A Tertiary Care Hospital In LMIC. A Quality Care Improvement Initiative'* accepted for the 54th Congress of the International Society of Paediatric Oncology (SIOP 2022) to be held in Barcelona in September 2022. Her classmate, Alwina Ghazi, also had her paper on the *'Effect of Electronic, Conventional Smoking, and Non-smoker on Periodontal Stage, Grade, and Distribution of Periodontal Diseases'* accepted for the European Federation of Periodontology Conference which was held in Copenhagen in June 2022.

Earlier this year, we launched an equivalency programme through AKU's Virtual Learning Platform to enable our graduates from the first three classes to further their education and apply for jobs within the public and private sectors both in Pakistan and abroad. The equivalency programme will allow for all diploma alumni to seamlessly achieve their ASDH degrees.





Shazia Taimoor, Class of 2019, presenting her research at an AKU annual conference on paediatric haematology & oncology.



RESEARCH AND CONTINUING EDUCATION

Building a strong research culture is now a key focus of the Dental Hygiene programme. The programme was fortunate to participate in a large-scale, multi-province study under the leadership of Distinguished Professor. Dr. Zulfiqar Bhutta and Dr. Jai Das in collaboration with the Ministries of Health, Sindh and Punjab, the Mother and Child Care Research Inc. (Canada) and the Trust for Vaccines & Immunization (TVI).

The study aimed to gather vital data on lifestyle and behaviors including dietary habits, nutritional status, health seeking behavior, physical activity, approach towards education, and the association of the aforementioned outcomes with social determinants of health. The study also examined the oral health conditions of over five thousand children between the ages of five to ten utilizing smart phone technology for data collection, the largest study of its kind to date.

Our ongoing research explores graduate experiences and perceptions of the programme that will give further credence to the need of qualitative educational frameworks in dental hygiene education for the region. Findings from the initial studies titled: *'Rapid Transition to Online and Remote Teaching and Learning During COVID-19: Faculty and Student Experiences in Pakistan'* and *'Dental Hygiene Education in Pakistan: Program Evaluation'* were accepted for an oral and poster presentation at the International Symposium on Dental Hygiene to be held in Dublin in August 2022.

In early 2022, we were invited by the International Agency for Research on Cancer (IARC) onto a prospective research project, alongside two large global consortia on Head and Neck cancer and AKU's cancer researchers that will focus on cancer genomics and prevention within the context of Pakistan.

In addition, the programme is currently working on a collaborative project with the AKU Community Health Sciences Department under the guidance of Professor and Chair Dr. Sameen Siddique on a School Health Project in the Azam Basti Neighborhood of Karachi. The project aims to provide oral health education and screenings as part of an interprofessional collaboration with the School of Nursing, Medicine, and Community Health to over five hundred of the most marginalized and vulnerable children in the community. Our future pipeline projects include large-scale community health programs in conjunction with the Aga Khan Health Board, Pakistan and the Aga Khan Health Services, Pakistan to provide access to oral care, education, and screening to reduce the overall burden of disease in the larger community.

In May 2022, a half-day 'Continuing Dental Education Programme' was held focusing on the topic of qualitative patient-centred care. Targeted at Dentists, Dental Hygienists, and Dental Auxiliaries the workshop was held in-person at the Stadium Road campus in Karachi and also had a number of online participants. The programme also included a special forum in which alumni from Kenya and Pakistan shared what they are currently doing and how their education at AKU has impacted their life's journey.

OUR FUTURE

Going forward, the Dental Hygiene programme will remain firmly focused on providing world-class training.

We will educate students so that they become the best dental hygienists in the region, equipped to tackle and take the lead in addressing oral health issues prevalent in the developing world. To enable greater reach to communities in rural and remote areas, the programme will also work more closely with the Aga Khan Health Services while continuing to deepen our work with the Aga Khan University Hospitals in Karachi and Hyderabad.

Finally, the programme also intends to increase our partnerships nationally and internationally to raise the profile of our work, draw attention to the particular oral health challenges in this context, and further strengthen the quality of dental hygiene education and research to address these issues.





For more information and to discuss giving options:
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