

## EDITORIAL

**“DENTAL EDUCATION PAKISTAN (DEP) - VISION 2025  
A PATH FINDER NATIONAL POLICY DOCUMENT  
A WAY FORWARD, TOWARDS PROGRESSION & GLOBALIZATION”**

Abraham Flexner, considered as “Father of Modern-day Medical Education” about a century ago revolutionized entire Health Education & Service Structure, by publishing his shivering report based on standards, resulting in closure of compromised academic institutes. His contributions transformed the entire USA/Canadian Health Sector, including Dentistry. His report strongly demanded, appropriate knowledge and skills application to avoid compromised patient care, as the most important characteristic required for ailing humanity and this also includes oral/ dental health care.<sup>1</sup> The current Dental Education Pakistan (DEP) also needs Flexner related academic efforts to attain excellence & “globalization” to be at par with international standards. In this regard for a national cause, we hope to continue contributing the same.

**Past & Present Situation:**

Normal oral/dental health care, forms an integral part and gateway to normal general health and unfortunately, this aspect still remains neglected at national & international levels.<sup>2,3</sup> In past, dental education was locked-up by Pakistan Medical & Research Council (PMRC), without any efforts made for its promotion. Sadly, dental profession since last 50 years in Pakistan has been unable to take independent national standing and faced atrophic academic status due to grave absence of dedicated academic leadership & other sour reasons<sup>3</sup>. Therefore, we strongly support, promoting collaboration and mutual respect from all concerned Medical & Dental Fraternity to bridge this major national gap.<sup>2,3</sup> Currently, Pakistan has 13 public sector medical universities and 11 private sector medical universities and we don't have a single dental university. We have, associated 72 private and 45 public sector medical colleges. Whereas, for dentistry 42 are private colleges, whereas, only 17 are public sector dental colleges. A vast majority of medical & associated dental colleges in Pakistan being private, have medical professional ownerships/CEO. Sadly, except very few, majority are commercially driven and not keen to promote dental education and the new 5 years DDS program agenda.<sup>3</sup> In addition, majority of private dental colleges' academic leadership has not played its due active positive roles to promote the 5 years DDS Agenda for lack of motivation & other obvious reasons<sup>3!</sup>. Thus, public sector again takes pride addressing above

stated as a “Pending National Academic Agenda” and will also be happy to include private dental leaderships in team.

Till date, the College of Physicians and Surgeons Pakistan (CPSP) has produced the largest number of PG clinical dental fellows/consultants in Pakistan, who are greatly contributing positive roles to promote DEP. Dental profession is indeed grateful to CPSP past and present executive leaderships and acknowledges their positive roles to revolutionize DEP by starting fellowship training programs in all 5 major clinical dental specialties.<sup>3-5</sup> We hope, this DEP Vision-2025 shared will serve as a “Pathfinder National Ademic Policy document” to address new academic gaps-recommendations and promote nascent DEP towards excellence. A decade ago, efforts were made to start 5 years BDS program at Dow University of Health Sciences (DUHS), endorsed by HEC. Later, important academic gaps were realized and agenda aborted. Presently, we are happy to see positive evolution of DEP and feel it is ready to stand independently and carve a niche.

Khan *et al*, were pioneers in Pakistan to reform DEP and promote; Research Methodology & Biostatistics as separate teaching/examination subject in old 4 year BDS Program.<sup>6</sup> This was later updated to include 3 additional specialties i.e: Behavioral Sciences, Geriatric Dentistry and Forensic Odontology.<sup>5</sup> Finally, major changes were proposed by Katpar *et al*, at Pakistan's Pioneer National Conference on Dental Education, a landmark achievement to put DEP on global map.<sup>7</sup> This conference explored new dental specialties, to be taught as separate teaching & examination subjects. It should be noted, that, few are only taught as casual chapters ie: Research Methodology-Biostats, Epidemiology, Behavioral Sciences, Ethics with Professionalism, Paediatric Dentistry, Forensic Odontology, Geriatric Dentistry and Maxillofacial/Dental Radiology.<sup>7</sup> The resolution to teach these 7 subjects, as separate teaching & examination specialties has been already sent to all concerned PMDC/PMC, HEC, National Executive leaders and many others towards globalization.<sup>4,7</sup>

**DEP & ROLE of Pakistan Medical Commission (PMC):**

As corresponding author, have recently received PMC updated year 2021, 4 year BDS curriculum with

optional subjects included, by a carefully selected dental curriculum team, having included: Research Methodology-Biostatistics & Epidemiology, Behavioral Sciences, Pediatric Dentistry, Forensic Odontology, Ethics and Professionalism, all as only optional teaching subjects. Wonder why, Geriatric Dentistry and Maxillofacial Dental Radiology were excluded? The optional subject matter needs critical revisit. Above stated 7 specialties explored at Dental Education Conference-2014, were also used by previous PMDC dental educationists to form policies for: initial recognition framework for medical & dental schools 2019 for dental colleges 50 admission per class and to also form standards for accreditation of medical & dental colleges inspection/approval proforma. Hats-off, to all previous authorities for including Optional Subjects, without giving any positive contribution/ acknowledgement-anywhere to all pioneer published work to form these policies.<sup>4,5,7</sup> We support former PMDC and current PMC roles to introduce institutional standards, accreditation formula and national dental licensure exam policy towards globalization. We hope that gaps will be addressed before launching licensure policy.

#### **Fiv Major Objectives to Promote New 5 Year DDS Program:**

- I. To produce general dental graduates, who are academically and clinically more competent than previous generations in general & are better trained to serve oral health care patients, via quality services for community issues. They are academically better trained to promote research.
- II. To produce dental academic leaders and managers, who would be better equipped & trained to address evolving future national and international dental academic challenges.
- III. To attain international academic ties/exemptions/collaborations for passed out 5 year DDS Dental graduates and respective degree awarding institutes of Pakistan.
- IV. To bridge existing academic gaps, bring mutual professional respect, and promote collaborative research culture between dental and medical professions in Pakistan and abroad.
- V. To promote better HR opportunities for Pakistani DDS passed graduates internationally and to compete at UAE/ KSA/ UK and other fronts.

#### **Global Dental Education & DEP Year 2021:**

Pakistan's Pioneer National Conference on Dental Education was organized by Pakistan's 1st public sector medical university-Liaquat University of Medical

and Health Sciences in 2014. With our old-current 4 year BDS program in vogue, we share the global picture as under: internationally dentistry is a 5-6 years program excluding internship in USA, Canada, Europe and other countries. The atleast 5 years dentistry program is in vogue at progressive Asian Countries, i.e: Iran<sup>7</sup>, Saudi Arabia<sup>8</sup>, China-Hong Kong<sup>9</sup>, Libya<sup>10</sup>, Turkey<sup>11</sup>, Malaysia<sup>12</sup>, Thailand<sup>13</sup>, India <sup>14</sup>, and also includes Japan, Singapore, Yemen and Korea. All above stated countries have also upgraded their curriculum towards international standards, as per global dental congress recommendations.<sup>8-14</sup> Now, with this present scenario, should we still wait for Flexner to change our existing DEP status?

#### **SIX Major Academic Gaps present in existing 4 year BDS program in Pakistan:**

- I. No room present in our current 4 year BDS program to introduce any new or optional dental specialty <sup>3,6</sup>.
- II. Present dentistry curriculum needs global update with introduction of missing specialties which are non-existing in Pakistan but taught internationally. Related solution lies to upgrade this, as 5 years DDS Program.<sup>2-6</sup>
- III. Pakistani dental graduates can not do direct clinical dental practice in advanced countries and need to pass licentiate DDS/DMD exams and register again as bachelors. This costs great financial burden, tedious admission/ registration issues, stress, time constraints with other social issues. <sup>3,6</sup>
- IV. At present, we have very limited/ insignificant local ties for international collaborative research culture with weak ties also with local medical profession. Therefore, interdisciplinary, cross cultural, collaborative local and international research culture needs new bridges.<sup>3,4,9</sup>
- V. Similarly, there is almost total absence of dental faculty exchange programs internationally for undergraduate, post graduate and faculty at public sector institutes and this matter needs promotion.
- VI. Sadly, till date, we do not have a national policy to promote general dentistry via postgraduate programs, as majority of graduates in Pakistan will become General Dental Practitioners (GDP). Therefore, University based 1-2 years (MSc)- Masters in Clinical Dentistry, (AEGD)- Advanced education in General Dentistry/(GPR)- General Practice Residency like programs offered in USA etc must be promoted for our society needs.

**PMC Optional Dental Specialties matter & exploring Academic Concerns:**

As briefed earlier, starting new optional specialties in old 4-year BDS program will greatly affect entire program structure. The current in vogue 3rd-4th year clinical training structure at BDS Program being formative is strongly critical to developing basic clinical /dental procedural skills. The old program has no room for expansion to accommodate optional dental specialties in the given time frame/ timetable. With addition of above stated 5 optional subjects, even if clinical training format is revised from 1st or 2nd year onwards and pressed, it will cause serious clinical training issues, leading to “hyposkillia”-having poorly developed procedural skills.<sup>6,11,12,14</sup> Hyposkillia, in long run will compromise clinical training associated with poor learning outcomes. Our current, 4 year BDS program, with combination of optional dental subjects, hyposkillia and compromised academics in the long run will lead to a negative cyclic process. We coin a new term “**Academic Dysplasia**” and surely, with wisdom, academic dysplasia can be prevented!

**Five Challenges needing attention for New 5 Year DDS Program - A National Agenda:**

- I. Additional one year increased financial burden on parents/ students/ guardians.
- II. Update new curriculum with learning outcomes, as: integrated, competency based etc. with major emphasis to produce competent general dental graduates for our changing society needs. Credit/contact/clinical-lab hours need revision/augmentation in line with globalization i.e; at-least 40 work hours per week with positive changes in entire academic schedule/ calender.
- III. Update new transcripts with addition of 7 new specialties, as separate teaching & examination specialties with updated revised program/curriculum structure towards globalization.
- IV. Establish affiliations/recognition with regional and advanced countries & organizations, offering 5-6 years DDS program. These include FDI, Commission on Dental Accreditation (CODA), WHO, World Federation Medical Education (WFME) and others.
- V. Revisit DEP national academics, existing team roles at all related platforms. New motivated leadership & teams needed to address this pending national agenda.

**Future Directions for DEP:** Dentistry from apprentice model has now evolved into a manually dexterous,

artistic- highly skilled & high cost associated health profession. For this profession; patient confidentiality, Ethics, trust, positive communication and safe procedural skills are most crucial to prevent academic dysplasia for our future dental graduates.<sup>4,9,11</sup> We are convinced, the only practical solution to enhance the



Note: “**A PICTURE IS WORTH A THOUSAND WORDS**”. This self-explanatory, charter on dental education Pakistan (DEP) was signed by all related Stakeholders-25th February 2015 at a seminar on dental education to attain excellence for dental profession. Related details for this charter are available on internet, mentioned in our previous published Editorial & this is used as Ref.# 4 for this Editorial.

**Figure-1: Charter on dental education- 2015.**

traditional-old 4 year dentistry program is, “**Implement Charter of Dental Education-2015**” (Figure), thereby replacing it by New 5-years DDS program with introduction of all above stated 7 mandatory dental specialties, as separate teaching-examination subjects, also along with teaching clinical dental practice management.<sup>4,6,7</sup> The ancient Greek philosopher Heraclitus (500 BC) said, “the only thing constant is change”-an absolute truth of varying shades, sadly still denied by majority. However, we hope our local dental academic institutional leaderships, especially from private sector would now support a “positive change” towards globalization.

In 2014, Pakistan’s Pioneer National Conference on Dental Education was organized by Liaquat University of Medical & Health Sciences and now, we at Dow University of Health Sciences are overjoyed to promote & implement this cause. Therefore, we humbly recommend that DUHS decade old efforts and LUMHS positive unprecedented agenda be revived. **We propose**, “replacing old BDS with new 5 year DDS program to be executed from new 1st year batch enrolled at DUHS from the year 2022 onwards”.

**Excellence Achieved By Allied Health Care Professions in Pakistan:**

It is a great achievement to see Physiotherapy, Pharmacy and Nursing as allied health care professions, upgrading their old 4-year programs into 5-year degree programs towards globalization.<sup>16-19</sup> We extend

our congratulations to all stake holders involved and plan to achieve the same for dental profession. Why wait for Flexner to make this important progressive change for DEP?

#### **Forming Separate Pakistan Dental Commission (PDC) & Support:**

All above stated progressive countries, have separate dental councils to address related statutory, academic and related dental professional issues, as per global dental congress guidance formed for European Union towards globalization.<sup>2,3,6,11,13,14</sup> Similarly, it is high time we establish an independent Pakistan Dental Commission (PDC) to address the same. For this important totally neglected pending matter, support from the following will accelerate the process, i.e: Pakistan Medical Commission (PMC), Pakistan Medical Association (PMA), Pakistan Association of Medical and Dental Institutions (PAMI), Pakistan Dental Association (PDA).

#### **Directly Observed Procedural Skills (DOPS) & Clinical Dental Academics:**

Dentistry is an artistic, manually dexterous technique sensitive, challenging but a dynamic and skilled health profession, which tests operator's skills at "Millers Pyramid-Does Level". Therefore, we feel, Directly Observed Procedural Skills (DOPS), is most suitable formative assessment tool and should be used at undergraduate and post graduate levels, to assess clinical dental procedural skill domains for: cognition, clinical skills, communication, professionalism and management plan as the main learning outcomes for clinical dental students. Kindly note that, DOPS has been used informally for decades at our annual clinical dentistry oral/practical exams in our country without any formal structural code. We are grateful to dental-medical education for educating us about DOPS!

To update non-dental educationists, our oral health care professional needs are challenging, varying and different from medical & other health care professions. In dentistry, each-individual undergraduate 3<sup>rd</sup> and 4<sup>th</sup> year student is directly involved in treating patients from simple invasive to difficult oral health issues in all clinical dental specialties under supervision of Faculty. They are also treating as independent operators depending upon the severity/complexity of an oral health problem. This is not the norm for the overall similar level undergraduate medical students. Our three decades plus individual clinical experience guides us that, about 80% dental treatment involves invasive manual skill procedures performed inside patient's oral cavity, such as: tooth extraction,

cavity fillings, root canal procedure, scaling & root planing clinical examination of oral malignancy, performing incisional biopsy, giving local anesthesia, making dental prosthesis, placing dental implants etc. Therefore, we recommend, DOPS be used as effective assessment and learning strategy method.<sup>16</sup> To further enhance DEP, competency based or integrated curriculum, DOPS along with dental chair/bed side teaching, case based learning, PBL, flipped classroom method (FC) with updated learning strategies should also be promoted for new 5 years DDS program. DOPS as a reliable formative, successful assessment tool is already used in various dental & medical specialties such as; Orthodontics, Periodontology, Operative Dentistry, Otolaryngology, Gen. Surgery, Obstetrics-Gynaecology, ENT, Dermatology etc and shows promising results for Competency Based Education (CBE).<sup>20-23</sup> However, to promote DOPS in dentistry, more research will further support the cause. "Lest not forget" dental academics during present times must be evidence based, made student, patient and community centered; in line with modern principles of dental-medical education.

#### **National Health Status & Annual GDP Budget:**

Nishtar *et al*, boldly shared bird's eye view on the following 5 areas as under: entire health structure of Pakistan, significance of 18th amendment, political parties stance on health, role of GDP in annual health expenditure and prevalent corruption.<sup>3,24</sup> They also included vital role of prevalent, weak accountability status, being strongly prevalent in our society. They supported 5% GDP annual national budget, proposed to reform entire health status in Pakistan towards globalization, a great effort<sup>24</sup>. Unfortunately, our annual national GDP health budget FY 2019-20 is only 1.2% and for a long time it has not been increased<sup>25</sup>. As per article 9 of Pakistan's constitutional ACT, health is one of the seven known determinants for human security. Pakistan's annual health budget in FY 2009 was again very low whereas, Bangladesh had 1.2% in same year which is equal to our current FY year 2019-20 GDP. However, Sri Lanka was spending 1.4% GDP in same FY 2009, still higher than our current 2019-20 share<sup>19,24,25</sup>. We humbly propose the following as under: Revisit National Health Priorities, keeping annual national health budget as 3% GDP from next year onwards, terminate solo fixation policy to promote only medical profession and also promote dentistry at same levels along with all above stated allied health care professions also. Create national budget compartmentalization Policy and solo budget utilization for dental/medical and all other allied health care profes-

sions. We strongly agree and support Nishtar *et al*, that “Good governance is based on positive accountability” as one of the most important atrophic social aspect which needs strong will implementation.<sup>3,6,19,24</sup> We are greatly optimistic and sure that implementation of new academic recommendations shared in the Table, will lead DEP towards globalization and excellence. Therefore, we also reiterate support to promote severely

Positive Change” & having related proposal strategy, we say-No & want to promote positive contributions towards globalization. We are sure, 75% fact box agenda implemented by year 2025 or earlier will promote DEP towards excellence & globalization. Thus, we want to follow our great Quaid who said: “I do not believe in taking the right decision, I take a decision and make it right”.

**Table: Vision Dental Education Pakistan Year-2025.**

<b>New Gaps &amp; 10 Commandment Recommendations towards Globalization.</b>
1. Upgrade old BDS into new 5-year DDS program with mandatory introduction of 7 new dental specialties as teaching / examination subjects in transcripts. Dental graduates having MBA qualifications in marketing/ Hospital administration etc. be appointed/promoted as dental hospital managers, starting as a new career specialty to enhance DEP and patient care.
2. Revisit/ reform entire national public sector health care, education & service structure. All public sector dental institutes, being in minority be academically strengthened at all national levels. Consider & support forming, separate Pakistan Dental Commission/Council.
3. Dental faculty development program, academics & research culture be promoted. Certificate Program in Health Profession Education (CHPE) be made mandatory requirement by the stakeholders for all appointment/ selection/ promotions as dental faculty from Assistant Professor till Professor. Promote 1-2 years MSc Clinical Dentistry Programs to improve Quality Care - HEC to reconsider its Policy!
4. DEP faces great dearth of independent dental/ oral health journals. This atrophic, embarrassing aspect having less than 5 journals being published in Pakistan must be promoted to augment academics & research culture. Unfortunately, none of the published Journals is indexed internationally. Sadly, we don't even have a single journal published by any public sector medical university. This matter needs promotion with financial incentives for authors. Furthermore, industrial collaborations must also be explored & promoted for DEP.
5. Revisit Pakistan's Millennium & Sustainable Developmental Goals (MDG & SDG): Oral/Dental Health Care along with all missing allied health care professions i.e.: nursing, physiotherapy, pharmacy must also be included separately in both areas and solo promotion policy for medical profession, discouraged. Furthermore, oral health care & diseases prevention, especially oral Cancer be also included as separate part of national primary health care.
6. Consider upgrading, annual national health budget to at-least 3% of annual GDP from next year. Separate budget allocations & utilization be made for dentistry/medicine & all other allied health care professions.
7. Promotion of accountability process must be supported at health academics/ services in Pakistan & separate, independent academic platform for DEP be promoted. Lead role opportunity given to Public Sector University based Executive dental Academics to representat & be only considered - involved at all national executive level Oral/Dental Health Policy matters to avoid associated issues.
8. To overcome shadows from medical profession; with support by each Provincial Governemnts; upgrade existing leading public sector dental college & dental hospitals into- a dental university. This can be done in phases & will promote addressing DEP professional issues. Similarly, have its charter/ dental graduate as its vice chancellor. As no Dental University exists in Pakistan, its time to promote DEP. All the private dental colleges in respective provinces of Pakistan to consider affiliation with these public sector dental universities.
9. Revise all provincial public sector oral- dental health care service structure in Pakistan, as special or general cadre. Dental graduates with major and minor PG qualifications be grouped as specialists/ consultants in all provincial government & also supported appointments as Hospital Managers as MS/ Deputy MS.
10. Current COVID pandemic 19 issues, associated infectious diseases, clinical dental services offered during COVID, along with non-existing tele-dental services be included in new 5 years DDS dental curriculum to meet future academic challenges. In addition, efforts for collaborative national/ international lecture sharing be also promoted with support- expansion of IT systems.

atrophic accountability process and revisit MDG.<sup>19,24</sup>

#### **Outcome DEP Vision-2025:**

Implementing new DDS program proposal from year 2022 will not only promote: competent & better skilled dental graduates, better academic leaders, attract more international students, augment national social image; but will also shift pragmatic paradigms towards positive social & political international acceptability for Pakistan<sup>3,4,6,26</sup>. The new 5-year DDS program is an implementation matter with objectivity, eligibility criteria, needing support from PMC, dental-medical fraternity and all others concerned. We share a trillion-dollar question, “should we still wait for Abraham Flexner to be reborn and change our current DEP for new 5 years DDS program? As “Agents of

#### **ACKNOWLEDGEMENTS**

Prof Noshad A Shaikh, former Vice Chancellor, LUMHS is greatly acknowledged for extending visionary patronage to organize, Pakistan's pioneer national conference on Dental Education 2014 @ Liaquat University of Medical & Health Sciences. As corresponding Author, it's a great honor: to be a part of his team with Dental Faculty to conceive/ form, Charter on Dental Education 2015. Similarly, Prof. Mohammad Saeed Quraishy Vice Chancellor, Dow University of Health Sciences is also greatly acknowledged for his vision to promote DEP & support hiring foreign qualified Forensic Odontology dental faculty. This is a pioneer positive step & under his able leadership, we anxiously aim to attain excellence for Pakistan by starting 5 year DDS program with support from all concerned.

#### **Dedication**

In pursuance of academic excellence, this comprehensive guest editorial is shared to promote DEP & new 5 years DDS program proposal. This is our national responsibility for: promoting pending national Agenda for dentistry, mother land country & is dedicated a humble academic contribution for Pakistan's 74<sup>th</sup> Independence Year celebrations.

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