

# Maximising Meagre Resources: Filling the Need Gaps Through Improvising, Edifying, and Training - A Dermatologist's Perspective

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Pakistan belongs to a low-middle economy as calculated by the Gross National Income per capita, using the World Bank Atlas method. The scarcity of resources leads to many economic, health, education, social instability, and infrastructure challenges. It translates into large swathes of disadvantaged population deprived of adequate medical facilities. People living in distant areas have to travel long to reach urban tertiary care centres, which is not a viable option for quite a few. Dermatologists serving such communities are improvising their management plans; trying to make healthcare affordable, without jeopardising the safety of patients and healthcare teams. The role of clinical tutors is important in this regard. They have to prepare the postgraduate students to be able to provide meaningful patient care under constrained financial conditions.

Comprehensive and effective guidelines for clinical practice ensure evidence-based practices; thus, safeguarding quality healthcare.<sup>1</sup> The synthesis of guidelines is usually funded, supported and promoted by government agencies and professional organisations, as following recommended guidelines reduce variation and clinical errors during practice. However, the importance of adapting guidelines for resource-constrained settings is being progressively recognised in the medical literature.<sup>1-4</sup> Such adaptations are made after thoroughly assessing the barriers and facilitators while implementing the international guidelines by regional or local experts in that field. Therefore, it is important to keep abreast with the latest medical developments which are rapidly expanding. Yet, it is imperative to know or devise viable solutions locally, especially when following the guidelines of WEIRD (Western, Educated, Industrialised, Rich, Democratic)<sup>5</sup> countries is impractical due to nonavailability or high cost. It has been proposed that expensive and time-consuming clinical practice guidelines may be unrealistic in settings with limited funding or resources.<sup>3</sup>

One glaring example is the use of Biologics and Janus kinase inhibitors (JAK inhibitors) which have potentially revolutionised management plans of many dermatological diseases internationally. But the hard reality is that they are beyond the reach of many patients residing in low-middle economies. This has been highlighted previously while commenting on the guidelines published for pemphigus management. It is suggested to make the guidelines encompassing for vast populations by dwelling in greater depth second- and third-line options, apart from recommending the biologic rituximab as the agent of choice.<sup>6</sup> Rituximab is currently the first-line medicine in the management of pemphigus vulgaris in affluent societies. However, with scant resources, high-dose systemic steroid is a cheaper and effective, time-tested medication; being vigilant that steroids are associated with potentially life-threatening complications, thus, requiring careful monitoring and judicious use of steroid-sparing medication.

Similarly, strategies need to be devised for the speciality training of healthcare professionals in resource-constrained settings, keeping in mind the meagre supplies.<sup>7</sup> Much work remains to be done, especially in the realm of dermatology. Nevertheless, there are examples of how tutors and preceptors have employed different approaches to impart knowledge, keeping local contextual factors in mind. Long before the international recognition of the lack of racial diversity in text books,<sup>8,9</sup> local preceptors/mentors have been training about how the colour of skin diseases is modified in the population due to darker skin shades (Fitzpatrick Type III to V), while keeping western textbooks as the main sources for the development of dermatology curriculum for postgraduate residents. Similarly, local patients' history of exacerbating factors has been given importance even if they may not be mentioned in western textbooks e.g. many patients report sunlight and humidity worsening their skin conditions. Investigations are tailored according to the resources available and at times decisions are based on clinical diagnoses with bedside tests only, with timely initiation of life-saving treatment, especially for dermatologists practising in far-flung areas. Such examples include Tzanck smear for acantholytic cells in pemphigus vulgaris or for giant cells in cases of haemorrhagic varicella etc. Prompt initiation of treatment can radically modify disease outcomes in such conditions. Similarly, for genital herpes tests such as PCR and viral culture are not routinely available and a Tzanck smear along with patient history and examination

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*Received: July 18, 2024; Revised: September 20, 2024;*

*Accepted: October 04, 2024*

*DOI: <https://doi.org/10.29271/jcpsp.2024.12.1403>*

clinches the diagnosis. While dealing with other sexually transmitted infections (STIs), strategies are devised according to the facilities available, keeping in mind the best possible management plan for patients. Nucleic acid amplification tests (NAATs) for chlamydia are often unavailable, making it more cost-effective and feasible to empirically prescribe doxycycline for concomitant chlamydia infection in patients being treated for other STIs e.g. gonorrhoea; especially as chlamydial infection can be asymptomatic.<sup>10</sup> Similarly, tutors have been employing medical case vignettes for diseases and investigations that are not routinely encountered but are considered vital for residents' learning. Hence, the dermatology supervisors are mindful of preparing their residents to skillfully deliver dermatology care in diverse settings; be it a state-of-art institute or a scantily financed medical setup.

In our setups, reusable instruments are preferred over disposable ones e.g. biopsy punches. They are cleaned, sterilised, and used again and again; making them economical and sustainable in the long run. Similarly, instruments are utilised in more ways than one! Using suture as a sling for holding biopsy specimen while it is dissected out, making a hook from sterilised syringe needle instead of using skin hook, bending needle for milia and comedones extraction and for phenolisation etc.<sup>11</sup> Similarly, cryotherapy is quite commonly performed by cotton-tipsticks in addition to cryogun. For small, flat-plane warts, delivering liquid nitrogen using a common pinhead atop an orange stick enables precise delivery at the diseased site only, minimising the risk of post-inflammatory hyperpigmentation. Another example is the use of sunlight as a source of UVA (PUVA-SOL) for patients requiring phototherapy who are unable to visit medical setups frequently for treatment.<sup>12</sup>

Apart from the disparity of best possible management plans between the wealthy and poor economies, there are neglected tropical diseases (NTDs)<sup>13</sup> which implore the world's attention. NTDs predominantly afflict the tropics and subtropics. Dermatologists are trained to manage cutaneous NTDs i.e. cutaneous leishmaniasis (CL) and leprosy etc. effectively. Antimony compounds, such as meglumine antimoniate, are the gold standard for treating CL for the last many decades. However, drug resistance and unacceptable side effects are now marring the systemic use of the therapeutic agent.<sup>14-16</sup> Full-scale, extensive research is urgently required to find novel solutions for NTDs; similar to how resources were made available for fighting the COVID-19 pandemic. The development of vaccines in record time is a monumental achievement by the mankind. With similar firm resolve, resilience, and co-ordinated efforts, the development of new agents for NTDs is possible. However, the ground reality is that the pandemic has led to setbacks in NTD-control programmes, putting strain on already weak healthcare systems of low- and middle-income countries as it disrupted essential medical supply manufacturing and distribution.<sup>17</sup> Regional and local researchers need to highlight the long-reaching consequences of such delays and to emphasise the need for global cooperation and renewed investment to put the NTD roadmap back on track.

Key points and challenges have been raised in this editorial, which may provide an impetus for local researchers, subject experts, and governing bodies to take a deeper look into the matter. An attempt has been made to present a bird's view of how best to utilise meagre resources when Pakistan's healthcare system is facing massive challenges.<sup>18</sup> A critical reflection on these problems is needed for the assessment of their relevance to current practices and possible solutions in delivering the best possible management plans.

#### COMPETING INTEREST:

The author declared no conflict of interest.

#### AUTHORS' CONTRIBUTION:

AR: Concept, drafting, approval, and agreement to be accountable for all aspects of the work.

#### REFERENCES

1. Wang Z, Norris SL, Bero L. The advantages and limitations of guideline adaptation frameworks. *Implement Sci* 2018; **13(1)**:72. doi: 10.1186/s13012-018-0763-4.
2. Harrison MB, Legare F, Graham ID, Fervers B. Adapting clinical practice guidelines to local context and assessing barriers to their use. *CMAJ* 2010; **182(2)**:E78-84. doi: 10.1503/cmaj.081232.
3. McCaul M, Ernstzen D, Temmingh H, Draper B, Galloway M, Kredo T. Clinical practice guideline adaptation methods in resource-constrained settings: Four case studies from South Africa. *BMJ Evid Based Med* 2020; **25(6)**:193-8. doi: 10.1136/bmjebm-2019-111192.
4. Chang AY, Kiprono SK, Maurer TA. Providing dermatological care in resource-limited settings: Barriers and potential solutions. *Br J Dermatol* 2017; **177(1)**:247-8. doi: 10.1111/bjd.15372.
5. Wooliscroft B, Ko E. WEIRD is not enough: Sustainability insights from Non-WEIRD countries. *J Macromarket* 2023; **43(2)**:171-4. doi: 10.1177/02761467231169880.
6. Tabassum S, Rahman A. Pemphigus management guidelines: A life-saving perspective. *J Am Acad Dermatol* 2021; **85(1)**:e45-6. doi: 10.1016/j.jaad.2021.01.105.
7. Habibi J, Bosch J, Bidulka P, Belson S, DePaul V, Gandhi D, et al. Strategies for specialty training of healthcare professionals in low-resource settings: A systematic review on evidence from stroke care. *BMC Med Educ* 2023; **23(1)**:442. doi: 10.1186/s12909-023-04431-w.
8. Bains C. Lack of racial diversity in medical textbooks could mean inequity in care, study suggests. The Canadian Press 2018. Available from: <http://www.cbc.ca/news/health/racial-diversity-medical-textbooks-1.4562352>.
9. Trabilisy M, Roberts A, Ahmed T, Silver M, Manasseh DME, Andaz C, et al. Lack of racial diversity in surgery and pathology textbooks depicting diseases of the breast. *J Surg Res* 2023; **291**:677-82. doi: 10.1016/j.jss.2023.07.019.
10. Dukers-Muijers NHTM, Evers YJ, Hoebe CJA, Wolffs PFG, de Vries HJC, Hoenderboom B, et al. Controversies and evidence on Chlamydia testing and treatment in asymptomatic women and men who have sex with men: A narrative review. *BMC Infect Dis* 2022; **22(1)**:255. doi: 10.1186/s12879-022-07171-2.

11. Solanki LS, Dhingra M, Thami GP. Uses of hypodermic needle in dermatology. *Indian J Dermatol Venereol Leprol* 2013; **79**:721-4.
12. Gahalaut P, Mishra N, Soodan PS, Rastogi MK. Effect of Oral PUVAsol on the quality of life in Indian patients having chronic plaque psoriasis. *Dermatol Res Pract* 2014; **(2014)**:291586. doi: 10.1155/2014/291586.
13. Fuller LC, Asiedu KB, Hay RJ. Integration of management strategies for skin-related neglected tropical diseases. *Dermatol Clin* 2021; **39(1)**:147-52. doi: 10.1016/j.det.2020.08.013.
14. Rahman A, Tahir M, Naveed T, Abdullah M, Qayyum N, Malik DH, et al. Comparison of meglumine antimoniate and miltefosine in cutaneous leishmaniasis. *J Coll Physicians Surg Pak* 2023; **33(12)**:1367-71. doi: 10.29271/jcsp.2023.12.1367.
15. Tahir M, Bashir U, Ahmed N, Mumtaz J. Electrocardiographic changes with standard dose of meglumine antimoniate therapy in cutaneous leishmaniasis. *Pak Armed Forces Med J* 2021; **71(4)**:1235-38. doi: 10.51253/pafmj.v71i4.4048.
16. Panezai A, Inayat S, Saifullah TD, Habibullah D, Afridi M, Ghani S. ECG manifestations of meglumine antimoniate in treatment of cutaneous leishmaniasis. *J Pak Assoc Dermatol* 2020; **30(3)**:382-7.
17. Butala CB, Cave RNR, Fyfe J, Coleman PG, Yang GJ, Welburn SC. Impact of COVID-19 on the neglected tropical diseases: A scoping review. *Infect Dis Poverty* 2024; **13(1)**:55. doi: 10.1186/s40249-024-01223-2.
18. Muhammad Q, Eiman H, Fazal F, Ibrahim M, Gondal MF. Healthcare in Pakistan: Navigating challenges and building a brighter future. *Cureus* 2023; **15(6)**:e40218. doi: 10.7759/cureus.40218.

