



My Tryst of Writing and Publishing a Comprehensive Medical Textbook in Vernacular Hindi and New Hindi Medical Terminology

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Abstract

In India, although the native language is not English but the medical education is imparted in English. The authors have written a textbook of surgery in Hindi with the intention of promoting the understanding of surgery and encouraging reflective and deep learning for students whose native language is Hindi. In this article, the authors share experiences of writing such a book, the reasons for the same and also discuss the creation of new medical nomenclature in Hindi.

Keywords Medical education · Hindi · Nomenclature · Terminology · Surgery

Introduction

In many non-English speaking countries, the language used in medical education is native. The list of such countries includes Germany, France, Japan, Russia, China, Brazil (Portuguese), Indonesia, and many more. India is a multi-lingual country and the issue of a single national language in post independent India has been a vexed one. English is taught and spoken in India for over two centuries. For most people in some of the northern and central states of India, Hindi is the mother tongue. Those educated with graduate degrees mostly have less or more skills in English language. Modern medical science—MBBS, engineering, and other technologies are taught in English language throughout the 29 Indian states. Similarly, in the entire Indian sub-continent consisting of India, Nepal, Pakistan, Bangladesh, and Sri Lanka despite different native languages medium of medical teaching has remained English.

Well-educated and usually affluent population speaks English, and this is considered a status symbol. People want

to study in “English-medium” schools and “Hindi-medium” schools are considered “backward” by some.

Class room and bedside teaching of modern medicine has the extra benefit of annotations and body language used by teachers, mentors, and patients thus improving the overall comprehension of the learner. The need for a comprehensive textbook of surgery in Hindi, to facilitate learning in the vernacular, was felt for many years. The authors devoted more than 10 years to create a comprehensive textbook in Hindi in *Devanagari* script, *Adhunik Shalya Chikitsa Vigyan* (Jaypee Brothers, 2015) [1]. Driven by a feeling of nationalism and desire to fill the gap of creating technology and science textbook in Hindi, the authors have created a self-reading text for better understanding with the additional agenda of using the opportunity to popularize some of the existing and create some new Hindi terminology. The textbook was written in Hindi with the intention of promoting the understanding of subject and encouraging reflective and deep learning for students whose native language is Hindi. In this article, the authors share experiences of writing such a book, the reasons for the same and also discuss the creation of new medical nomenclature in Hindi.

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Background in Hindi

The senior author (TCG) acknowledges that his knowledge and love for Hindi is because of the significant contribution of his Hindi teachers. He studied many books of Ayurveda and Naturopathy including चरक संहिता, सुश्रुत संहिता, अष्टांगहृदयम्

(these three are known collectively as *बृहदत्रयी*—the three great) and many more [2–11]. From these books he learnt the Hindi (or Sanskrit) names of large number of symptoms, signs and diseases, e.g., *मूत्रकृच्छ्र* for strangury, *अरुचि* for anorexia, *आध्मान* for distension, *व्रण* for ulcer, *क्षत* for wound, *नालव्रण* for fistula, *उष्ट्रग्रीव नालव्रण* for horseshoe fistula, and *अपस्मार* for epilepsy, etc. [2–11].

TCG has written two literary books in Hindi—*आद्यंत* (text 7th edition, 523 pages) [12] and *इन्द्रधनुष* (poetry, 9th edition, 162 pages) [13] and edited one book *पिताश्री की सुमन संचयिका* (4th edition, 295 pages) [14] written by his revered father. Hence, the senior author has enough training and experience of writing in Hindi.

Why We Chose to Write Full Textbook of Surgery in Hindi?

When TCG was in government service, regular circulars/letters used to come from State and Central Governments for writing medical books in Hindi. In February 1972, a proposal to write some chapters for a multi-author Textbook of Surgery in Hindi came from Professor K. N. Udupa and Professor G. D. Singhal of Institute of Medical Sciences, Banaras Hindu University, Varanasi. TCG, a lecturer at that time, wrote four chapters but this book was not published.

In the 1980s, in one of the College Day Function the then Chief Minister of Uttar Pradesh, Shri Mulayam Singh Yadav, came as the chief guest. In his College Day address, he asked the teachers to write medical books in Hindi, and announced 2-year leave with full pay to do the job. This may have been a political pep talk and such speeches were more driven by nationalistic feelings rather than developing learning abilities in Hindi heartland.

In 1988, Professor Irving Taylor, David Patey Professor of Surgery from University College, London Medical School came to visit Department of Surgery at King George's Medical College, Lucknow. He was shown TCG's book on Clinical Signs of Disease [15] and was requested to write Foreword for the second edition of the book. At that time, he cajoled TCG to write a full textbook of surgery in his own mother tongue Hindi.

Furthermore, the authors very well realized that there were many medical students who do not understand English well and were actually afraid or refrained from opening a textbook in English.

Asians are considered rote learners involving mostly superficial learning [16]. Deep learning using reflection and praxis is uncommon. English language only makes the matter worse for them. It has been shown that understanding improves if the subject is taught in a language that used for conversation. For most north Indian population, this language is Hindi.

Regrets of Writing Surgical Textbook in Hindi

In 1990, when TCG completed writing *आधुनिक शल्य चिकित्सा विज्ञान* containing 3060 pages, he searched for a publisher. Initially, he approached some government agencies including Uttar Pradesh Hindi Sansthan, where he was asked to submit a proposal with five printed copies of the book. As the process seemed tedious and uncertain, the author approached private publishers most of whom refused to publish. Finally, in the year 2000–2001, Jaypee Brothers, New Delhi, agreed to publish. The entire manuscript was revised and rewritten finally comprising of 75 chapters running into 3060 pages. However, the publishers felt that the cost for publishing such a large book would be significant and the book could be commercially non-viable. On their insistence, the book was reduced to half and the sections covering ENT, orthopedics, neurosurgery, endocrine surgery, and heart and lungs diseases were shelved. Finally, the book had 45 chapters in 1032 pages on an ordinary paper and all the colored images were published in black and white [1].

Around 2001, TCG started writing *शल्यकीय रोग निदान*—a book on how to diagnose surgical disease. Again, the manuscript of this book was sent to many publishers but was rejected. Fortunately, one publisher accepted it and after working on it and making it ready for printing sent the manuscript to National Book Trust (NBT) for subsidized paper. The NBT “rejected” the proposal saying that so far no medical college in India is teaching surgery in Hindi. To this, TCG sent a letter to NBT reminding them that without books in Hindi how the teaching can be in Hindi. As expected, there was no reply. In fact, the publisher was very angry with the author and did not even return the original manuscript.

Is There a Rationale of Reading in Hindi?

Hindi is native language for a large population in India and is the language used in conversation. Studying a subject in native language will improve the understanding of the subject and promote reflective practices. Also, as Indians, it is of interest to know the medical terminology in Hindi.

Creating Medical Terminology in Hindi

The Commission for Scientific and Technical Terminology (CSTT) [17], New Delhi has published a comprehensive glossary of technical terms where the committee has given Hindi nomenclature for various medical terms. While consulting this glossary [17] for writing the book, *Adhunik Shalya Chikitsa Vigyan* [1], the authors realized that many medical terms were either absent (chancre, hydatid, hematocele, pyocele, etc.) or were misnomers (lump, epithelium, telangiectasia, etc) [17].

Table 1 Nomenclature created by TC Goel (बहुत से शब्द गढ़े हैं)

Medical word	Name by CSTT	New Name	Reason
General terms			
Chancre	शेकर	विव्रण	Medical dictionary [18] meaning of chancre is a destructive sore. “Sore” means an “ulcer” and the Hindi word for ulcer is ब्रण. The Hindi word for tissue destruction is विगलन or विनाश. Hence, वि from विगलन or विनाश was added to ब्रण resulting in विव्रण
Chancroid	शेकराभ	विव्रणाभ	
Gangrene	कोथ	विगलन	विगलन which means necrosis or - पूतिगलन which means necrosis with putrefaction with पूति stands for putrefaction.
Hydatid	हाइडेटिड	जलबूंद	Medical Dictionary [18] meaning of Hydatid is a drop of water i.e., जलबूंद, Hence hydatid cyst becomes जलबूंद रसकोष्ठ
Peritoneum	पर्युदर्या	पर्युदरम (परि+उदरम)	<p>The Hindi terms made by us has uniformity and similarity –</p> <ul style="list-style-type: none"> • परि means around • अधि – epi or above, जठर – gaster or stomach • अधोजठरम, अधो mean below • अधोपशुकीयम, अधो means hypo or below • पशुका means ribs
Epigastrium	अधिजठर	अधिजठरम	
Hypogastrium	अधोजठर प्रदेश	अधोजठरम	
Hypochondrium	अधः पशुकि प्रदेश	अधोपशुकीयम	
Lump	उत्सेध, फूलना, सूजन	शोथ	<ul style="list-style-type: none"> • “Lump” is not mentioned in Medical Dictionary¹⁸ • Oxford English Dictionary [19]-A compact shapeless mass, a localized swelling like a tumor, an aggregation • Webster [20] – defines it as “Heavy” • उत्सेध - Protuberance but all the lumps do not protrude • फूलना, सूजन are diffuse swellings as seen in inflammations <p>The word “शोथ” has a feeling of “heaviness” and is, therefore, more appropriate</p>
Inflammation	सूजन, वरम	प्रदाह	सूजन is inappropriate (misnomer)
Epithelium	उपकला	अधिकला	Hindi word for Epi is अधि not उप as उप means below (sub)
Telangiectasia	वाहिका स्फीति	वाहिनीकास्फीति	वाहिनिका means small blood vessel and वाहिका means a small tube

Urology			
Chyle	वसा लसीका, काइल	पायस	पायस - It means milk as chyle is milky and contains emulsified fat like milk
Chyluria	वसा लसीकामेह, काइलमेह	पायसमूत्रता	मूत्रता - we suggest “मूत्रता” for “-uria”. मूत्रता seems better as compared to मेह and also has similarity to the English term “-uria”
Hematocele	Not given	रक्तवृषण	वृषण is Hindi word for testis
Pyocele	Not given	पूयवृषण पूय	पूय means pus
Chylocele	Not given	पायसवृषण	
Meatus	कुहर, द्वार, मियेटस	मुकला	Word “मुकला” is used for small holes in western Uttar Pradesh. Further, It resembles “meatus”
Ureter	गवीनी, मूत्रनली	मूत्रवाहिनी	मूत्रवाहिनी as urine flows through it
Urethra	मूत्रमार्ग	मूत्रवाहक	as it is larger and thicker than ureters
Prostate	पुरस्थ, कुछ लोग पौरुष ग्रंथि कहते हैं	प्रस्थित	प्रस्थित - The reasons are – <ul style="list-style-type: none">• It resembles prostate in pronunciation• Prostate lies prostrate below bladder• As per flow of urine it lies in front (प्र-स्थित) of urinary bladder
Epispadias	अधिमूत्रमार्ग	अधिमूत्रवाहकता	The CSTT terms are dissimilar. Our modifications make the two terms uniform and are similar to the English terms
Hypospadias	अधोमूत्रमार्गता	अधोमूत्रवाहकता	
Cardiology			
Endocardium	अन्तर्हृद् कला	अन्तःहृदयम	The three CSTT words are dissimilar. We have made them uniform and similar to the English terms in pronunciation. All these five terms resemble the English terms in pronunciation
Myocardium	हृदपेशी	हृदपेशीयम	
Pericardium	परिहृद्, हृदयावरण	परिहृदयम	
Hydropericardium	जल परिहृद्	जलपरिहृदयम	
Hemopericardium	रक्तपरिहृद्, रक्त हृदयावरण	रक्तपरिहृदयम	
Cor pulmonale	फुफ्फुजन्य हृदरोग	हृद्-फुफ्फुस रोग	
Gastro-Enterology			
Esophagus	ग्रासनली	ग्रासवाहिनी	ग्रासवाहिनी as bolus or food and drinks flow through it. It is similar to पित्तवाहिनी which is the Hindi term for bile duct
Cardia	अभिहृद्, जठरागम	हार्दिया	Resembles the English term “cardia” in pronunciation
Omentum	वपा (means fat or marrow)	उदरवर्ती	उदरवर्ती as वर्ति means a wick, curtain as given in Bhargava's Dictionary [21].
Neurology			
Hydrocephalus	जल शीर्ष	जलशिरता	जलशिरता for uniformity
Cauda equina	मेरु रज्जु पुच्छ	बाजि पुच्छ	बाजि means a horse (equina) and cauda

			means पुच्छ
Orthopedics			
Periosteum	पर्यास्थि कला	पर्यास्थीयम (परि+अस्थियम)	for uniformity in pronunciation
Fibula	बहिर्जंघिका	दुबला	<ul style="list-style-type: none"> Fibula is a feeble bone as compared to tibia “दुबला” is a simple name as compared to बहिर्जंघिका दुबला is similar to fibula in pronunciation
Tibia	अन्तर्जंघिका	सबला	<ul style="list-style-type: none"> सबला - As it is stronger (सबल) as compared to fibula सबला-दुबला – appropriate names for the twin tibia-fibula
Radius	रेडियस बहिःप्रकोष्ठिका त्रिज्या	त्रिज्यिका	त्रिज्यिका – Slight modification for uniformity and to differentiate it from त्रिज्या (radius) of a circle.
Ulna	अलना अन्तःप्रकोष्ठिका	भुज्यिका	The English Medical Dictionary [18] meaning of ulna is “arm” which means भुजा
Ankylosing spondylitis	बद्ध कशेरुकसंधि शोथ	संधिग्रही मेरुप्रदाह	Our term better defines this name
Trochanter	ट्रोकेन्टर	प्रवर्ध	English Medical Dictionary [18] meaning of trochanter is “processus below the neck of femur.” Hindi translation of processus is प्रवर्ध
Greater	वृहत् (great)	वृहत्तर	वृहत्तर as वृहत् means “great”
Lesser	लघु (less)	लघुत्तर	लघुत्तर as लघु means “less” or “small”
Talipes equino varus	उन्नत अन्तर्गत टेलिपेस	अन्तर्गत बाजि मुगदरपाद	Talipes – मुगदरपाद Equino – बाजि, घोड़ा Varus – अन्तर्गत

Abbreviations: CSTT: Commission for Scientific & Technical Terminology

Also, some terms were fairly difficult to use and pronounce (e.g., बहिर्जंघिका, अन्तर्जंघिका, etc.) even for Hindi-speaking population. Similarly, there were terms that were related but their Hindi terms were dissimilar (eg., epigastrium, hypogastrium, and hypochondrium were termed अधिजठर, अधोजठर प्रदेश, and अधः पशुकि प्रदेश).

TCG took on himself the task of creating new medical terms and also modifying the terms as defined by CSTT. Table 1 shows the list of medical terms that were either modified or created and the reasons. There were certain rules while developing this nomenclature. The meaning of the word (disease or symptom) was determined. In most cases, a Sanskrit or Hindi word was then identified with an inclination to keep the length and pronunciation similar to the term in English. For

example, Dorland’s Medical Dictionary [18] meaning of Hydatid is “a drop of water” i.e., जलबूंद; hence, we suggest the term जलबूंद रसकोष्ठ for hydatid cyst. We have modified some nomenclature for terms that are misnomers. For example, the CSTT term for the word “lump” is उत्सेध, फूलना, सूजन. The word lump, however, is not mentioned in Dorland’s Medical Dictionary [18]. Oxford English Dictionary [19] defines lump as an irregularly shaped piece of something hard or solid while the Webster Dictionary [20] meaning is “Heavy”. उत्सेध & the term given by CSTT actually means “protuberance.” But all the lumps do not protrude; similarly, terms फूलना, सूजन are diffuse swellings as seen in inflammations and do not convey the meaning of lump. The author (TCG) feels that the term शोथ will be appropriate as it means lump. The authors feel

that terms in Hindi must be searched for in Hindi and Sanskrit itself and at many times, there will be a more appropriate nomenclature within the realms of mother Hindi. And this has been one major achievement of writing this textbook; several new terms were researched and some of which are shown in Table 1.

Is it really worthwhile developing and altering this nomenclature? Many physicians would argue that creating nomenclature in Hindi is pointless. The nomenclature already existing in English can be adopted as is done for so many other terms. For example, the popular term of railways and trains remains the same in Hindi. Also, many English medical terms are already in common usage in Hindi press and media, for example, words like the heart, brain, kidney, liver, hepatitis, gall bladder stones. However, the authors strongly believe that the nomenclature in Hindi must not only be present but it must be simple to understand.

Conclusions

The journey from conception to publication of a comprehensive Textbook of Surgery in Hindi language has evoked mixed feelings. We do not know if in any other clinical subjects like Gynecology, Ophthalmology, Medicine, and Pediatrics, etc. such a comprehensive Textbook in Hindi or any other Indian regional language exist. Countries with small populations of 10–20 million have created excellent comprehensive textbooks in their native vernacular for example in Romania, Italy, Hungary, etc. In India, however, only nominal content textbooks for nursing and paramedical courses in modern medical subjects have been published in Hindi. The nursing and paramedical students are routinely seen to be using such Hindi textbooks. All the major textbooks read during MBBS are in English. Although, a large number of medical English language textbooks in almost all subjects are now equally written and edited by Indian authors. One advantage of this has been the easier transition and the ability of Indian medical graduates in finding employment in developed English speaking countries like USA, UK, Canada, and Australia in comparison to European Union and non-English speaking countries. TCG feels highly accomplished, satisfied with deliverance to creativity having done this book of over 1000 pages and 500 illustrations. The effectiveness of the textbook in Hindi of this type remains to be seen and yet to evolve.

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