

Usage of Turkish language in medical literature and frequent errors

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Summary

Language is an instrument for handing down the thoughts, scientific acquirements, poetic and literary products. The initial efforts for determining suitable Turkish counterparts against foreign words and terms have began during the Republican Era. Mustafa Kemal Atatürk, with an educational vision beyond his epoch, has promoted Turkish language as a scientific language instead of Persian and Arabic languages and thus conquered our language's independence. In the information age which we are living today, the communities should improve and support their national language of science in order to use the existing data and to make scientific facts available for each individual in the community. The frequently-encountered cases in medical literature that are inappropriate for Turkish language are classified as follows: the foreign terms and words used in spite of an existing Turkish counterpart, ignoring methods for derivation of Turkish terms, translation mistakes, faults in spelling, words denoting different meanings with similar way of writings. The usage of Turkish terms within the academic level, thesis of proficiency and literary products and maintaining writing skills suitable for the Turkish language spelling rules are important for our language to become a scientific language. Efforts for pioneering and becoming a precedent are required. (*Turk Arch Ped* 2011; 46: 178-82)

Key words: Turkish, medical literature, language

Introduction

Language is an instrument for handing down the thoughts, scientific acquirements, poetic and literary products. Populations can only be productive with the presence of their languages and cultures and can contribute to humanity (1). The common property constituting a nation is maintained by its language (2). Whatever language a person talks he/she thinks in that language and expresses himself/herself in that language in the best way (3). When a patient can not understand his/her physician, he/she loses his/her trust, recedes from the physician and refers to people who understands his/her native language and whom he/she understands for treatment (4). There are data proving that the language which has the oldest written data among living languages worldwide is Turkish (5).

In the Turkish history, the Turkish language was used as a scientific language for the first time in medicine (6). This was caused by the requirement that the reference source for prevention of diseases and patient care should be in the native language (7). The initial efforts for determining suitable Turkish counterparts against foreign words and terms have began

during the Republican Era (8). Mustafa Kemal Atatürk, with an educational vision beyond his epoch, has promoted Turkish language as a scientific language instead of Persian and Arabic languages and conquered our language's independence in this way (9). He derived geometry terms with their roots and annexes including *eksi*, *çarpi*, *bölü*, *çarpma*, *bölme*, *eğri*, *doğru*, *üçgen*, *dörtgen*, *açı*, *açıortay*, *üçgenin iç açıları toplamı* (plus, minus, division, multiply, divide, curve, straight line, triangle, quadrangle, angle, bisector, sum of internal angles of a triangle) and brought 129 new words to the Turkish language (10,11).

Terms are words corresponding to a specific and certain concept related to science, art, occupation or any subject. Terms are also the words of the natural language. To be a term does not mean that the word has lost its property of being an ordinary word of the natural language (12). In the information era in which we live, national scientific language should be developed and supported for the populations to use their present data and scientific facts to reach each individual in the population (13).

We arranged this article with the objectives of emphasizing the importance of use of Turkish terms in publications and noting

frequent errors and the points which should be cared about to prevent these errors for our language to become a scientific language and not to lose its richness.

The terms which are inappropriate for the Turkish language and which we encounter in medical articles are discussed below (Table 1).

1-Terms and words which are not used, although the Turkish counterparts are present.

Use of foreign terms and words in articles in spite of an existing Turkish counterpart is frequently encountered.

Foreign terms and words frequently used because of habitude in spite of an existing Turkish counterpart are sampled in Table-2. Some words emphasized under the title of "When the Turkish counterpart exists" in the journal of the Turkish Pediatric Archive are as follows: primer-birincil (primary), sekonder-ikincil (secondary), santral-merkezi (central), spontane-kendiliğinden (spontaneously), vaka-olgu (case) (vaka: olay (event), vakia: olgu (case)), faktör-etmen (factor), lokal -yerel (local), parametre-değişken (parameter), method-yöntem (method), kriter-ölçüt (criterion) (14).

In a study performed by Yavuz (15), titles and introduction and objective parts of 50 speech texts and 115 posters included in the XIV.th National Allergy and Clinical Immunology Congress book published in 2006 were examined in terms of use of Turkish. 32% of a total of 5160 words (1698 words) were found to be foreign and 46% of these foreign words (793 words) were found to have Turkish counterparts.

2- Ignoring derivation methods of Turkish terms

Turkish is an affixed language. Successive affixes constitute the greatest property of the Turkish language and generally of all affixed languages (16). Its structure is clear, understandable and grammatical. It has affixes which are appropriate to derive about 170 terms (15). It is thought that with this property about 2 million new words and terms can be derived (17). Although it has such a rich background, there are words which have been affixed according to the mode of affixation in foreign languages and which are not appropriate for the structure of the Turkish language.

Prefixes: In Turkish words, there is no structure which is called prefix. Affixes are in the end of the word (18).

Prefix of "anti-": Counterparts for the words including antiallergic (antialerjik-alerjiönler), antipyretic (antipiretik-ateş-düşürür), antiseptic (antiseptik-mikropkırın), antiproliferative (antiproliferatif-çoğalmönler), anticoagulant (antikoagülan-pıhtıönler), antidiabetic (antidiyabetik-şeker-düşürür), antiemetic (antiemetik-kusmakeser) can be found by using derivation

methods of Turkish terms and new terms can be derived using guides for terms.

Prefixes of "pre-" and "post-": These are used in a way which is not in accordance with the rules of use of the Turkish language. For prefix of "pre-" we can use the words "ilk" and "ön, önce"(19). "Nöbet öncesi" instead of "prenöbet" (preseizure), "nöbet sonrası" instead of "postnöbet" (postseizure) and "operasyon öncesi" instead of 'preoperatif' and 'operasyon sonrası' instead of "postoperatif" (postoperative) would be a more appropriate use for the Turkish language.

Suffixes:

In Turkish, suffixes are used. However, sometimes foreign suffixes can be used at the end of the words which have become Turkish.

Suffix of "-sit": Words which are used with the suffix of "-sit" can be counterparted with the word of -kırın. Examples include bakterisit-bakterikırın (bactericid), tenyasit-tenyakırın (teniacide), insektisit-böcek-kırın (insecticide).

-metre: the word "ölçer" can be used as a counterpart for the word of -metre. Examples include kalorimetre-ısıölçer (calorimeter), termometre-sıcaklıkölçer (thermometer).

Suffix of -en: It is a suffix which produces an adverb in the Arabic language. The word "haricen"(externally) which is derived from the word "hariç" is therefore not appropriate for the Turkish language. Use of the word "dışarıdan" instead of "haricen" is more appropriate (18). To give an example, instead of noting "haricen kullanılır" (used externally) for creams and lotions, an expression of "dışarıdan kullanılır" would be more appropriate. Instead of noting "haricen kız, haricen erkek"

Table 2. Terms and words which have Turkish counterparts

USED	TURKISH
adolesan	ergen (adolescent)
agregasyon	kümelenme (aggregation)
agreve etmek	şiddetlendirmek (aggravate)
aksidental	rastlantısal (accidental)
demarkasyon	sınır (demarcation)
direkt	doğrudan (direct)
diüretik	idrarsöker (diuretic)
dominant	baskın (dominant)
emboli	damar tıkanıklığı (emboly)
etik	ahlak (ethics)
frekans	sıklık (frequency)
hipertansiyon	yüksek kan basıncı (hypertension)
kronik	süreğen (chronic)
manuel	elle işletilen (manual)
prematüre	erken doğan (premature)
progresif	ilerleyici (progressive)
prospektüs	tanıtım (prospectus)
terapi	tedavi (therapy)
baypas	köprüleme (bypass)
stent	kafes (stent)

Table 1. The terms and words which are inappropriate for the Turkish language used in medical articles

1. Terms and words which are not used, although the Turkish counterparts are present.
2. Ignoring derivation methods of Turkish terms
3. Translation errors
4. States which are not appropriate for spelling rules
5. Words with similar spelling and different meanings

Table 3. Examples of words produced by use of derivation methods of Turkish terms.

USED	TURKISH
antialerjik	alerjiönler (antiallergic)
antipiretik	ateşdüşürür (antipyretic)
antiseptik	mikropkırın (antiseptic)
antiproliferatif	çoğalmönler (antiproliferative)
antikoagülan	pihtıönler (anticoagulant)
prenöbet	nöber öncesi (pre-seizure)
postnöbet	nöbet öncesi (pre-seizure)
preoperatif	operasyon öncesi (preoperative)
bakterisit	bakterikırın (bactericide)
tenyasit	tenyakırın (teniacide)
insektisit	böcek kırın (insecticide)
k kalorimetre	ısıölçer (calorimeter)
termometre	sıcaklıkölçer (thermometer)
haricen	dışardan (external)
afebril	ateşsiz (afebrile)

(externally female, externally male) in the examination of external genital organs, expressions of “kız dış görünümünde, erkek dış görünümünde” can be used. In Table 3, examples of words produced by use of derivation methods of Turkish terms.

2- Translation errors

The words which have become international with scientific developments, which are used commonly in our language and for which no Turkish counterparts could be found yet should be written as they are read. In other words, the Turkish language is a phonetic language. It is read as it is written and written as it is read. As in the example of etyoloji-etioloji (etiology), there are no word groups with special pronunciation in our language (i.e. in english: ei, ae, ie, ch, tsch, tz). The letters are read individually (20).

The words interferon (interferon), serum (serum), influenza (influenza), vitamin (vitamin), globulin (globulin) originate from Latin and even the work terim (term) originate from Latin. Exchange of words and concepts between languages can not be prevented. The important point is to make the words coming from foreign languages Turkish (21).

Expressions like “erken çocukluk, geç çocukluk” are not Turkish. If they are used as counterparts for the english words “early childhood, late childhood” it is translated falsly. To translate these as “küçük çocuklarda, büyük çocuklarda” would be more appropriate for our language (15). There are no definitions like “erken çocukluk, geç çocukluk” in the section of “childhood periods” in the book named Pediatri (Pediatrics) edited by Neyzi (22) published in 2009.

Turkish words do not end with the letters of “b” or “d”; corticosteroid should be written as kortikosteroit, thyroid should be written as tiroit, lipid should be written as lipit, nucleotide should be written as nükleotit, method should be written as metot, etude should be written as etüt, standard should be written as standart, lobe should be written as lop and myocard should be written as miyokart (18).

In the words translated into Turkish, the consonant “-y” which is the combining letter is used between two vowels like “-i, -a” or “-i, -e” when writing in accordance with Turkish reading. Examples include kardiak-kardiyak (cardiac), anjiografi-anjiyografi (angiography), kranial-kranial (cranial), psikiatri-psikiyatri (psychiatry), diabet-diyabet (diabetes), pediatri-pediyatri (pediatrics), laboratuvar-laboratuvar (laboratory), ürolitiazis-ürolityazis (urolithiasis), idiyopatik-idiyopatik (idiopathic), diastol-diyastol (diastole) and psoriasis-psoriyazis (psoriasis).

According to the Turkish spelling checker words do not start with letter groups including “py-“, my-“ etc. While these letters are half vowels in the original languages they belong, they are consonants in Turkish. By putting a “i” in between they can be written as they are read (like piyelografi, miyelografi). If one wants to be true to the original Latin language, the situation is different: examples include “multiple myeloma”, myasthenia” and they are preferably written in italics.

The habit of using foreign words frequently causes wrong writing including konstrüksiyon (construction) instead of konstriksiyon (constriction), strüktür (structure) instead of striktür (stricture) and fatal (fatal) instead of fötal (fetal).

Some words which are frequently used erroneously in articles include: Abse-apse (abcess), tetanoz-tetanos (tetanus), dekompanze-dekompanse (decompensated), gangren-kangren (gangrene), glukoz-glikoz (glucose), gradient-gradyan (gradient), kataterizasyon-kateterizasyon (catheterization), konjesyon-konjestiyon (congestion), kontraendikasyon-kontrendikasyon (contraindication), prematür-prematüre (premature), antiasit-antasiit (antacid) and zigzag-zikzak (zigzag) (23).

In the “vocal fremitus” method which is a medical examination method used for examination of the lungs, as the patient repeates a simple word which would produce a sound of “n” from the nasal passage, the physician puts his/her hands on the back of the patient, feels the vibration with his /her hands and makes the necessary evaluation. In French, the words 40-41 are repeated for this examination. In English, the words 10-11 are preferred. In Turkey, the patients are made to repeat the words 40-41. Although there are thousands of words which would produce a sound coming from the nasal passage, we solved the problem by translating the French words (24). This problem solving led to an examination method which is not appropriate for the objective.

The word “maruziyet” which is frequently used to mean “maruz kalmak” (exposure) is derived from the word “maruz” which is an Arabic word. However, there is no word “maruziyet” in either Turkish or Arabic (23).

4- States which are not appropriate for spelling rules

a) Word series which are not appropriate for noun phrases

Some phrases used in Turkish are being translated directly from a foreign language. For example, it would be more appropriate to use the expression ‘Sinüzitten sorumlu bakteriyel etkenler hastaların %60’ında gözlenir’ without changing the order of the words constituting the defined noun phrase instead of ‘Sinüzitten sorumlu bakteriyel etkenler %60 hastada gözlenir’.

Similarly, vitamin names are also used erroneously including vitamin C, vitamin D or even C vit, D vit. Considering the accordance of the words constituting the phrase, use of C vitamini, D vitamini would be more appropriate (18).

In titles of radiology reports, erroneous use of phrases are seen including "IVP tetkik" and "BT tetkik". It is appropriate to use "IVP tetkiki" and "BT tetkiki" (adding the affixes of the phrases) (25).

Similarly, noun phrases translated from French should be in accordance with the Turkish word index. For example, colic renal-böbrek koliği (renal colic), tuşe rectal- rektal tuşe (rectal examination). If these words have to be used, they can be written in italics sticking to the original nouns (in situ, in vivo) with quotation marks (20).

b) Names of causative agents in microbiology and parasitology

In microbiology, if causative agents include only species name and does not include genus name, they are written in Latin and in italics. For example, "Staphylococcus". In taxonomic classification, species name is Staphylococcus and genus name is "aureus". Species names are written in capitals and genus names are written in small letters. If only the species will be noted, the first letters are written as small letters (examples include enterokok, streptokok, stafilokok).

c) Correction marks

Correction Marks are used to separate two words with different meanings, but the same spelling. They may not be used, if confusion will not be created when not used. The words "hal" and "adet" are the best examples for this. Since the word "hal" in the sentence 'Halden alınan sebzelerde enfeksiyon olasılığı nedeniyle sebzelerin yıkanması dikkatli yapılmalıdır.' means vegetable market, correction mark is not used. In the sentence 'Hastanın hâlden çok haberdar olunamayabilir' the word "hal" means state, correction mark should be used. Some of the correction marks used previously are not used any more, since no confusion exists. The words ilaç, lazer, ahlak, cerrahi, tıbbi and adli are used without correction marks.

d) Abbreviations

Abbreviations should be written using the first letters of the Turkish words instead of the English words (ie. CT (Computerized tomography) should be written as BT (bilgisayarlı tomografi)).

The word "örneğin" (for example) which we frequently use should be written as "ör." instead of "örn.". "ve benzeri" (etc.) should be written as "vb." instead of "v.b.". Similarly, the abbreviation for the word gram should be "g" instead of "gr.". When confusion about abbreviations is present, the rules of the Turkish Language Institute should be considered (26).

Affixes added to abbreviations composed of capitals should be used according to the reading of the capitals. AEİ'tan (antiepileptik ilaçtan) is a wrong use. It should be written as AEİ'den.

In abbreviations formed with small letters, the affixes are formed according to the reading of the original word ('Doğum ağırlığı 1000 g'dan düşük bebeklerde' instead of 'Doğum ağırlığı 1000 g'den düşük bebeklerde').

e) Decimal numbers

In Turkish, decimal numbers are written using comma instead of point. Comma should be used in sentences like 'serum potasyum değeri 3,5 saptanmıştır' instead of 'serum potasyum değeri 3.5 saptanmıştır' (27).

f) Conjugated words

The information in the third item in the section of conjugated words is as follows: "When the meaning of both words or the second word changes in the way of similitude, these conjugated words are written connected (28).

Conjugated words with a structure of undefined noun phrase should be written adjacently (examples include aslanagzı, kuşburnu, yavruagzı, bülbülyuvası, Japonbayrağı, tahtapapuç, eklemfaresi, omuriliksoğanı, belsoğukluğu, aybaşı, itdirseği, kunduracıgöğsü, güvercingöğsü, kafatası, çatıkemiği, soyağacı).

In subordinatives formed based on similitude, the first word causes a change in meaning of the second word, so they should be written adjacently (18). Examples include alabacak, başparmak, yeleboyun, çekiçparmak, tüfektetiği, kabakulak, örümcekparmak.

5) Words with similar spelling and different meanings

Efforts of producing Turkish words and terms have been generally based on meanings, points related to grammar have not been considered, many words which could be brought to the language with antagonism have been wasted and lost. The words "yetmezlik" and "yetersizlik" are examples for this. The word "yeterlik" which is a noun derived from a verb has been added an affix of "-li" and it has become an adjective. Then it has become an abstract noun with the affix of "-lik". In parallel to the form of "yeterlilik" the word "yetersizlik" was derived. The forms of "yetmezli" and "yetmezlilik" have not been utilised. "Yetmezlik" means a state of not being able to suffice in spite of all efforts. "Yetersizlik" means is a state of insufficiency which is reversible and which can be intervened. It can be expressed as 'Kalp yetmezliği söz konusu olduğunda hasta ölür ama kalp yetersizliği çeşitli tıbbi müdahalelerle önlenir'

In some cases, confusion in use occurs because of common sounds. Özgül means spesifik (specific), özgün means orijinal (original). For example, mongoloid face is specific (özümlü) for Down syndrome and presence of Y chromosome is original for the male gender. Confusion while speaking of these two words can sometimes also be observed in articles. Similarly, "etkin" means "devinimli, işleyen, çalışan, etkisi görülen-duyulan, faal-aktif"(active); examples can be given like 'Işık tedavisi sarılıkta etkin bir tedavidir.', 'Bir ön enzimin etkin enzim hâline dönüşmesi için' 'Kullanılan ilaçların etkin doz aralığı belirlenmelidir.' "Etken"(factor) means something that contribute to an outcome. Examples can be given like 'Etken maddesi farklı ilaçlar olup etkileri aynı olan ilaçlar mevcuttur.' 'Alerjisine polenler etken olmaktadır.' 'Çocukların çoğunun başarısında aile içerisinde gördükleri sevgi ve ilgi etken olmaktadır.' Besides, a living organism causing a disease is also called "etken"(agent). For example; 'Alınmış olan kan kültürlerinde etken Staphylococcus aureus olarak tespit edilmiştir (the causative agent has been found to be Staphylococcus aureus in hemoculture) (8).

The greatest enemy of a language is damage to the structure of its rules and to its internal logic. Therefore, improvisation should be avoided (29).

Use of the language in a beautiful and conscious way is based on use of the right sources. Therefore, habitude of using dictionary and guides is very important. In our country, we need expert institutions composed of scientists and linguists who will adress foreign terms when they are heard and observed, who will try to find their Turkish counterparts and who will make a consensus on the proposed Turkish counterparts or on the grammar of the accepted words with a Western origin (18).

Our beautiful and rich Turkish which is convenient to derive words with affixes is actually appropriate to be a scientific language, but it is being altered and deformed with foreign words and terms.

Use of Turkish terms in the academic setting, dissertations and publications and abiding with the Turkish grammar rules are very important for our language to be a scientific language and not to lose its richness. Leadership and modeling are required in this context.

References

1. Cankur Ş. Tıp eğitiminde dil: II Eğitim dilinde Türkçe'nin yeri ve geleceği. Uludağ Üniversitesi Tıp Fakültesi Dergisi 2002; 28: 33- 5.
2. Pala İ. Türk dili nereden nereye. Journal of İstanbul Kultur University 2002; 2: 47-54.
3. Erkan T. Editörden. Turk Ped Arş 2008; 43: 1.
4. Tıp terimlerine Türkçe karşılık önerileri kılavuzu. Ankara: Turk Pediatri Kurumu Yayınları, 2006: 1-2
5. Baydar T. Ercilasun AB. Türk dili tarihi, Akcağ yayınları, Ankara 2004,488 s. T. A.U. Türkiye Araştırmaları Enstitüsü Dergisi 2008; 36: 307-13.
6. <http://turkoloji.cu.edu.tr/ESKI%20TURK%20DILI/9.php> 18/12/2010 00:22
7. Uzel İ. Türkçe dış hekimliği terimleri üzerine görüşler. Turk Dili Dergisi 2005; 643: 37-46.
8. Zulfikar H. Dünden bugüne Türkçe. Turk Dili Dergisi 2006; 656: 131-9.
9. Acartürk E, Sansoy V. Onsoz. Kardiyoloji (Yürek Bilimi) Türkçe Terimler Kılavuzu. İstanbul: Karakter Color AŞ, 2008: 1.
10. <http://www.tdtkb.org/content/bili%C5%9Fimin-ya%C5%9Fam%C4%B1ntemeli-matematik-ya-da-matematiksizli%C4%9F-bedeli-prof-drday%C4%B1n-k%C3%B6ksal-tbd-onu> 20.01.2011 23:30
11. Gazi Mustafa Kemal. Geometri. Ankara: Turk Dil Kurumu Yayınları, 2007: 49.
12. Balcı. A. Aydın Koksall ile Türk dillerinde ortak bilim sözleri üzerine söyleşi. Turk Dili, Dil ve Edebiyat Dergisi 2010; 705: 218-37.
13. Aktay G. Türk Dil Kurumu ilac ve eczacılık terimleri sözlüğü. Turk Dili Dergisi 2010; 704: 129-38.
14. Arısoy N. Türkçesi varken. Turk Ped Arş 2010; 45: 73-4.
15. Yavuz H. Alerji ve bağışıklık bilimi hekimlerinin dili. Turk Dili Dergisi 2010; 703: 28-34.
16. İpek B. Türk dilinde vasıta hali. Türkiye Araştırmaları Dergisi 2008; 23: 63-97.
17. Sander S. Sağlık bilimleri süreli yayınlarında dil sorunu. Sendrom 2004; 7: 95-7.
18. Zulfikar H. Dünden bugüne Türkçe. Turk Dili Dergisi 2003; 615: 328-31.
19. Olmez M. Türkçe'nin ve Türk dillerinin yaşı konusu. Toplum ve Bilim 2003; 95: 62-74.
20. Kazancı G. Tıp Dili ve Türkçe. TTB Surekli Tıp Eğitimi Dergisi. 2003; 12: 222-6.
21. Yurdakok M. Tıp dergilerinde dil sorunu. Çocuk Sağlığı ve Hastalıkları Dergisi 1997; 40: 593-8.
22. Neyzi O, Bundak R. Buyume-gelişme ve bozuklukları. İçinde: Neyzi O, Ertuğrul T, (yazarlar). Pediatri. İstanbul: Nobel Tıp Kitabevleri, 2009: 89-94.
23. <http://tdkterim.gov.tr/bts/?kategori=verilst&kelime=tetanos&ayn=tam.08/11/2010.23:19>
24. Bolukbaşı O. Türkçe tıp eğitimi; Eski ama gerçekleşmiş bir hayalin el birliği ile yok edilişi. TTB Surekli Tıp Eğitimi Dergisi 2004; 11: 415- 7.
25. Aydınoğlu U. Radyoloji dili: temel sorunlarımız. Tanısal ve Girişimsel Radyoloji Dergisi 2003; 9: 5-9.
26. <http://tdk.org.tr/TR/Genel/BelgeGoster.aspx?F6E10F8892433CFFA-AF6AA849816B2EF6ADB17BCA15FC4FC> 08/11/2010.23:21
27. <http://tdk.org.tr/TR/Genel/BelgeGoster.aspx?F6E10F8892433CFFA-AF6AA849816B2EF6B8A15D6B4ADC2B6D> 08/11/2010.23:31
28. Zulfikar H. Dünden bugüne Türkçe. Turk Dili Dergisi 2007; 666: 516-21.
29. Onal C. Dilde Türkçeleşmenin neresindeyiz? Sendrom 2006; 2: 3-4.