

Markers of Prominence in Persian General Practitioners' Books and Online Medical Journals

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Abstract

Giving certain elements more significance than others in the same context is called prominence. This study aims at identifying and comparing markers of focal and thematic prominence in Persian general practitioners' books (GPBs) and Persian online medical journals (OMJs) based on Levinsohn's model. The data were gathered from 100 texts from two written Persian GPBs and 100 texts from two Persian OMJs. SPSS software version 24 was used to evaluate the data. Results demonstrated "emphatic markers" such as *faeqat* 'just' were used for focal prominence much more frequently in OMJs than in GPBs. In addition, significant differences were observed between GPBs and OMJs with regard to the markers of focal prominence and prominence in general, but not with regard to markers of thematic prominence. This may be related to the twofold effect of the different discourse types and different addressees of these texts.

Keywords: focal prominence, thematic prominence, medical discourse, medical journal, general practitioners' books

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1. Introduction

De Beaugrande & Dressler (1981) propose a discourse approach to the study of language called “text linguistics” in which one can describe how texts are created by the speakers and understood by hearers. As to the nature of text linguistics, Levinsohn (2015a, p. 1) asserts that “text-linguistics (discourse analysis) does not draw its explanations from within the sentence or word (in other words, the factors involved are not syntactic or morphological)”. “Rather”, he maintains, “its explanations are extra-sentential (from the linguistic and wider context of the utterance)”.

Longacre (1996) recognizes four broad discourse genres: narrative, procedural, behavioral and expository discourse. He considers exhortations to be a sub-branch of behavioral discourse which “deals with how people did or should behave” (Longacre 1996, p. 9). As for the term “exhortation”, “to exhort” is defined by Webster's Revised Unabridged Dictionary to mean “to incite by words or advice; to animate or urge by arguments, as to a good deed or laudable conduct; to address exhortation to; to urge strongly; hence, to advise, warn, or caution” (<http://biblehub.com/topical/e/exhort.htm>).

This paper uses the term “prominence” in its discussion of exhortations. According to Callow (1974, p. 50), prominence involves “any device whatever which gives certain events, participants, or objects more significance than others in the same context”. Levinsohn (2015b, p. 54) also follows Callow in dividing prominence into two types: “focal” and “thematic” and “focal” prominence.

Thematic prominence involves giving prominence to “what I’m talking about” (Levinsohn, 2015b, p. 54). Focal prominence includes giving prominence to information that “has NOT been established in the text (it is ‘new’) or needs to be reestablished” (Levinsohn, 2015a, p. 54).

Levinsohn (2015b, p. 51) follows Comrie (1989, pp.127–128) in using the “Principle of Natural Information Flow” (NIF) in connection with the order of constituents in a clause or sentence. When the principle of NIF is adhered to, established (thematic) information comes before non-established (focal) information. However, sometimes, this principle is violated by placing a focal constituent before the established information, resulting in this “preposed” constituent being given focal prominence (Levinsohn, 2015b, p. 54). See example 5 for preposed focal constituents in Persian medical texts.

Developing the use of the internet as a social medium which impacts all aspects of individuals’ lives, has led to a more diverse and easier relationship between people and different forms of media like journals. Among these are online medical journals which focus on the health of individuals. Focusing on the public as their addressees, they mostly try to make people more familiar with the recognition of diseases and provide them with instructions for treatment. On the other hand, prescription books written by general practitioners concentrate on giving instructions to other general practitioners and students of the medical sciences. Of course, good communication between writers and readers happens when the writers are more familiar with and consider their addressees’ needs and expectations using appropriate language. Therefore, the investigation of

discourse features of medical texts can lead to a better and more mutual understanding between the writers and the readers of these texts.

Previous works on Persian discourses have focused mostly on narrative texts (see for example Ahangar et al., 2014; Ahangar et al., 2015, 2017; Ahangar et al., 2016). However, few studies have been published on Persian medical discourse. In particular, no one to the best of our knowledge has focused on hortatory texts in Persian medical texts. In addition, Levinsohn's (2015a, b) works have mostly concentrated on oral and written texts, but he has not investigated online texts.

This study makes use of the terms and clarifications discussed above in its analysis of Persian hortatory texts of two genres: Persian GPBs and OMJs. In particular, it discusses markers of focal and thematic prominence by applying Levinsohn's (2015a, b) model. The followings are research null hypotheses regarding the distribution of prominence markers in Persian GPBs and OMJs:

1. There is not a significant difference between the distribution of "prominence" markers in Persian GPBs and OMJs.
 - 1.1 There is not a significant difference between the distribution of "focal prominence" markers in Persian GPBs and OMJs.
 - 1.2 There is not a significant difference between the distribution of "thematic prominence" markers in Persian GPBs and OMJs.

2. Review of Related Literature

The writers of the present study could not find any detailed and comprehensive research on the relative prominence of different sentences in texts in Persian, especially in written material. The studies found by the writers are described below.

Mahootian (1997, p. 128) found that 'heavy' adjective phrases (relative clauses) could be optionally postposed to the end of the sentence. Unlike Mahootian (1997), Roberts (2009) encountered many examples in his text corpus of heavy relative clauses that were not postposed. Roberts (2009) found out that Persian relative clauses were postposed to convey emphatic prominence and there was a discourse-pragmatic reason for it.

Orooji (2012) believed the movement of elements to the beginning of the sentence is only a kind of topicalization and there is no kind of focalization at the beginning of the Persian sentences. Later et al., (2016) argued focalization was represented in three different strategies. These strategies involved syntactic, morphological, and phonological tools.

Najafi Chaleshtari (2014) showed that the prominence markers proposed by Levinsohn (2010) were applicable to Persian written sports reports, but their frequency was different. Although some studies have investigated various types of (discourse) markers (e.g., Kahkesh & Alipour, 2017; Moafi et al., 2021; Shabani et al., 2019), the distribution of "prominence" markers in Persian GPBs and OMJs has been rarely explored.

3. Methodology

In this part, the research corpus, procedure and data analysis are outlined.

3.1. Corpus

This study's corpora consisted of 100 texts from two written Persian GPBs and 100 texts from two Persian OMJs. The two Persian GPBs under investigation were *nosxenevisi bærâj-e pezešk-an* "Prescription for practitioners" (PFP) written by Attar (2016) and *rahnæma-j-e tædviz-e daru* "Drug prescription guide" (DPG) written by Ayati Firoozabadi and Fallah (2015). The addressees of the GPBs were general practitioners and students of medical sciences, though writers sometimes directed their exhortations to patients. In order to make the data more homogenous two online medical journals entitled *pezešk ?anlajn* meaning "DR Online" (DO) and the other *pezeškane bedune mærz* meaning "DRs Without Borders" (DWB) were chosen as Persian OMJs. The addressees of these journals were the public with some medical knowledge.

3.2. Procedure and Data Analysis

The study proceeded following the steps outlined below:

1) recognizing and listing the markers of focal and prominence in GPBs and OMJs; 2) counting the frequency of each one; 3) finally, analyzing the statistical significance of the findings through the use of SPSS software version 24.

SPSS software version 24 was used to investigate whether there were significant differences between the distribution of prominence markers (including focal prominence markers and thematic prominence markers) in GPBs and OMJs or not.

4. Results and Discussion

In this section, the prominence markers found in GPBs and OMJs are described and exemplified with instances from each corpus. Firstly, descriptions of the prominence makers in each corpus are provided. Then, an analysis of prominence markers in the Persian GPBs and OMJs is presented.

4.1. Description of Prominence Markers

A description of the markers of prominence found in the Persian GPBs and OMJs is presented in turn in this subsection. First, however, the information structure of sentences of each is described, together with any points of departure that are present.

4.1.1. Description of the Prominence Markers Found in Persian GPBs

This subsection illustrates the prominence markers found in GPBs. As mentioned, prominence may be given to two types of constituents:

- A. to part or all of the comment, which is the focal element of the sentence (that which is new and non-established)-called focal prominence; and
- B. to the topic (that which is old and established)-called thematic prominence.

Markers of focal prominence and thematic prominence in GPBs are now considered in turn.

One point to be mentioned here is that following Beneš (1962), Levinsohn (2015a) recognizes another element which can be added to the beginning of the sentence without violating the NIF: a point of departure. Points of departure are placed at the beginning of the clause or sentence at points of discontinuity to establish “a starting point for the communication” and to indicate “both the nature of the discontinuity and the relationship of what follows to the context” (Levinsohn, 2015a, p. 41).

4.1.1.1. Focal Prominence Markers in the Persian GPBs

Prominence in GPBs may be given to both focal constituents and thematic constituents. In this corpus, focal prominence was given to specific constituents in three different ways (the second and third of which are syntactic devices):

- a. using emphatic markers. Note that, in this paper, the term “emphatic markers” is used in a general way to refer to any word, particle or expression that gives prominence to part or all of an exhortation. Such forms include adverbs such as *serfæn* “merely” and *tærğihæn* “preferably”, particles such as *tænha* “only” (according to Karimi (2005), *faghat* “only” has an inherent focus feature in Persian), orienters such as *be xater dašt-e baš-id*, and *be jad dašt-e baš-id* “remember”, demonstratives used cataphorically such as *ʔin* “this”, and reflexive pronouns like *xod* “self”.
- b. preposing the constituent, thereby violating the Principle of Natural Information Flow;
- c. postposing the constituent, which may be a relative clause or an argument of the verb (to a position between the elements of the compound verb).

The devices used to give focal prominence to a constituent in the Persian GPBs are now considered in turn.

A. Emphatic Markers in the Persian GPBs:

- *hæmin* and *hæman* “the same” (the emphatic form of “this”)

3) <i>dærman-e</i>	<i>mævared-e</i>	<i>ædid</i>	<i>leptospiroz</i>	<i>be suræt-e</i>	<i>væridi</i>	<i>mi-ba -æd</i>
treatment-EZ	cases-EZ	severe	Leptospirosis	to form-EZ	venous	IMP-be.PRES-3SG
<i>be hæmin</i>	<i>ellæt</i>	<i>nijaz</i>	<i>be bæstæridær</i>	<i>bimarestan</i>	<i>æst</i>	
to EMPH.this	reason	need	to hospitalization in	hospital		be.PRES.3SG

“Treatment of severe cases of Leptospirosis is venous and **for this reason** there is a need for hospitalization.”

(Ayati Firrozabadi & Fallah, 2015, p. 192, Leptospirosis, DPG)

Table 1 shows the frequencies and percentages of the emphatic markers used in GPBs (DPG and PFP). See subsection 4.2 for a discussion of their significance.

Table 1

Emphatic Markers Giving Prominence to the Constituent with which They Associate in GPBs

Emphatic markers	DPG	% of total	PFP	% of total
<i>hærfæ særiʔtær</i> “immediately, as soon as possible”	2	0.11%	1	0.11%
<i>beviʒe, bexosus</i> “especially”	0	0%	3	0.33%
<i>fæqæt</i> “just”	1	0.05%	0	0%
<i>tænha</i> “only”	0	0%	1	0.11%
<i>hæmin</i> “the same, this (emphatic)”	1	0.05%	0	0%
<i>beʒoz, mægær ʔinke</i> “except, not unless”	0	0%	3	0.33%
<i>tærʒihæn</i> “preferably”	0	0%	1	0.11%
<i>be xater dɑʃt-e bɑʃ-id</i> “remember”		0%	1	0.11%
Total	4	0.22%	10	1.10%
Total number of sentences in the set	1790	100%	905	100%

B. Syntactic Devices of Prominence in the Persian GPBs

Syntactic devices of prominence in the Persian GPBs, include the following:

B.1. Preposing in the Persian GPBs

The writers of GPBs used preposing of a focal constituent only once for prominence in the corpus. The following instance shows preposing of the prepositional phrase *bɑ oksī en* “with oxygen”, to the beginning of the sentence and after the point of departure *dær æksær-e mævared* “in most cases”:

- 5) *dær æksær-emævared bɑ oksī en særdærd xub mi- æv-æd*
 in most-EZ cases with oxygen headache good IMP-become.PRES-3SG
 “In most of the cases, the headache will be treated with oxygen.”

(Attar, 2016, p. 34, Cluster Headache, PFP)

As the title indicates, this text is about a kind of headache called cluster headache, so *særdærd* “headache” is established information. In the default form of the sentence which conforms to the Principle of Natural Information Flow, the non-established, focal information *bɑ oksī en* “with oxygen” would come after this established information. However, this prepositional phrase has been preposed for focal prominence.

B.2. Postposing in the Persian GPBs

Another device used for giving prominence to a focal constituent in GPBs is postposing. Postposing a constituent in the sentence includes both the postposing of the relative clause and the postposing of the argument of the verb to a position between the elements of the compound verb.

B.2.1. Postposing the Relative Clause in the Persian GPBs

The following example from GPBs illustrates the postposing of a relative clause:

6) <i>be</i>	<i>donbal-e</i>	<i>mæsræf-e</i>	<i>levostatin</i>	<i>væ</i>	<i>aturuvastatin</i>				
to	following-EZ	consumption-EZ	Lovastatin	and	Atorvastatin				
<i>æqlæb</i>	<i>æfzaje -e</i>	<i>anzim-ha-j-e</i>	<i>terans-e</i>	<i>aminaz did-e</i>					
almost	increasing-EZ	enzymes-PL-EP-EZ	trans-EZ	aminase see.PAST-PASTP					
<i>mi- æv-æd</i>		<i>ke</i>	<i>mæ mulæn</i>	<i>hæmrah ba</i>	<i>zær-di</i>	<i>væ</i>	<i>sajer-e</i>		
IMP-become.PRS-3SG		that	usually	along with	yellow	and	other-EZ		
<i>æləjem</i>	<i>væ</i>	<i>ne ane-ha-j-e</i>	<i>balini</i>	<i>ne-mi-ba -æd</i>					
signs	and	sign-PL-EP-EZ	clinical	NEG-IMP-be.PRES-3SG					

“Following the consumption of Lovastatin and Atorvastatin, increasing transaminase enzymes is sometimes seen which is often not accompanied by jaundice and other symptoms and clinical signs.”

(Ayati Firoozabadi and Fallah, 2015, p. 82, Treatment of Increasing LDL..., PFP)

In sentence 6, the relative clause *ke mæ mulæn hæmrah ba zær-di væ saj-e æləjem væ ne ane-ha-j-e balini ne-mi-ba -æd* which describes *æfzaje-e anzim-ha-j-e terans-e aminaz* is postposed. In the default structure, the relative clause would come after *æfzaje-e anzim-ha-j-e terans-e aminaz*. The relative clause may have been postposed here because the writer wants to convey **two** pieces of important information (both of which will be focal):

- a) “increasing transaminase enzymes is sometimes seen”
- b) Those transaminase enzymes are “often not accompanied by jaundice and other symptoms and clinical signs”.

B.2.2. Postposing of an Argument in the Persian GPBs

The following example illustrates the postposing of an argument of the verb to a position between the compound verb elements:

7) <i>mođaz</i>	<i>be</i>	<i>estefade</i>	<i>æz</i>	<i>2 geræm nijasin</i>	<i>dær</i>	<i>ruz</i>	<i>hæst-im</i>
allowed	to use		from	2 gram Niacin	in	day	be.PRES-2PL

“We are allowed to use up to 2 grams of Niacin in a day.”

(Ayati Firoozabadi and Fallah, 2015, p. 81, Treatment of Increasing LDL..., PFP)

In this sentence *mođaz* is the first element of the compound verb *mođaz hæst-im* “we are allowed”. *estefade æz 2 geræm nijasin dær ruz* has been postposed to a position between the components of the compound verb, that is, *mođaz* and *hæst-im*. As this part includes the focal information of the sentence, this is an instance of focal prominence.

4.1.1.2. Thematic Prominence in the Persian GPBs

Prominence is given to a thematic constituent in GPBs when it is moved from the complement clause of a sentence to the main clause. In example 7, the default position of “Coloxacillin” is after *behtær æst* and at the beginning of the complement clause; however, it has been moved from the second clause to the beginning of the main clause. As “Coloxacillin” is established information, this movement gives prominence to a thematic constituent:

- 8) *klogozasilin behtær æst bā me de-j-e xali tædʒviz æv-æd*
 Coloxacillin better be.PRES.3SG with stomach-EP-EZ empty prescription SUBJ.become.PRES-3SG
 “Coloxacillin is better to be prescribed with an empty stomach.”

(Ayati Firoozabadi and Fallah, 2015, p. 172, Bee Bite, DPG)

Table 2 indicates the frequency and percentages of each type of prominence in GPBs. See subsection 4.2 for discussion of their significance.

Table 2
The Frequency of Focal and Thematic Prominence in GPBs

Type of prominence		DPG	% of total	PFP	% of total	
Focal prominence	Emphatic markers	4	0.22%	10	1.10%	
	Syntactic devices	Preposing	0	0%	1	0.11%
		Relative clause	1	0.05%	1	0.11%
		The argument of the verb (to a position between the elements of the compound verb)	2	0.11%	0	0
		Postposing				
Total of focal prominence		7	0.39%	12	1.32%	
Thematic prominence		31	1.73%	1	0.11%	
Total of focal and thematic prominence		38	2.12%	13	1.44%	
Total number of sentences in the set		1790	100%	905	100%	

4.1.2. Description of the Prominence Markers in the Persian OMJs

The markers of focal prominence and thematic prominence in OMJs are now considered in turn.

4.1.2.1. Focal Prominence Markers in the Persian OMJs

Devices used to give focal prominence to a constituent in OMJs include using special emphatic markers, syntactic devices such as preposing or postposing elements of the sentence, and amplification as a slowing-down device. They include the following:

A. Emphatic Markers in the Persian OMJs:

- Cataphoric use of *in* “this”

- 12) *rah-e digær-e enteqal dær bejn-e næmazgozar-an-e*
 way-EZ other-EZ transference in between-EZ one who prays-PL-EZ
mæsaʒed in æst ke færd-e bimar bā ætse væ
 mosque this be.PRES.3SG that individual-EZ patient with sneezing and
sorfe ... bimari-rabe digæran montæqel mi-næma-j-æd
 cough ... disease-OM to others transference IMP-DO.PRES-EP-3SG

“Another way for transferring among those who are praying **is this**: that the patient may infect his prayer stone, prayer rug ... or carpet **with sneezing and coughing** and transfer the disease to the others.”

(Prevention from Flue, DO)

Table 3 shows the frequency and percentages of the emphatic markers used in DWB and DO to give prominence to a focal constituent. See subsection 4.2 for a discussion of their significance.

Table 3

The Frequency and Percentages of Emphatic Markers Used in DWB and DO

Emphatic markers	DWB	% of total	DO	% of total
<i>hætmæn</i> “sure”	19	1.17%	7	0.50%
<i>hætta</i> “even”	9	0.55%	14	1%
<i>ta çəji ke ʔemkan daræd, ta hæddeʔemkan</i> “as much as possible”	8	0.49%	3	0.21%
<i>hæmvare, hæmiʃe</i> “always”	3	0.18%	6	0.43%
<i>morættæbæn, betore morættæb</i> “regularly”	1	0.06%	3	0.21%
<i>tænha</i> “only”	6	0.37%	2	0.14%
<i>fæqæt</i> “just”	4	0.25%	6	0.43%
<i>serfæn</i> “merely”	2	0.12%	1	0.07%
<i>beçoz, mægær</i> “except”	1	0.06%	3	0.21%
<i>qætʔæn</i> “certainly”	0	0%	2	0.14%
<i>hæmin, hæman</i> “the same, this, that (emphatic)”	0	0%	4	0.29%
<i>hiʃ</i> “none”	1	0.06%	2	0.14%
<i>hærgæz, behiʃvæçh</i> “never, not at all”	5	0.31%	5	0.36%
<i>ækidæn</i> “highly”	0	0%	2	0.14%
<i>belafasele, hærfæ særiʔtær</i> “immediately, as soon as possible”	9	0.55%	8	0.57%
<i>dæqiqæn</i> “exactly”	0	0%	3	0.21%
<i>betore çeddi</i> “seriously”	1	0.06%	2	0.14%
<i>dorost</i> “right”	0	0%	1	0.07%
<i>tærçihæn</i> “preferably”	2	1.06%	1	0.07%
<i>xod</i> “self”	1	0.06%	1	0.07%
<i>xosusæn, bexosus, beviçge</i> “especially”	9	4.78%	7	0.50%
<i>ʔin</i> “this” (cataphoric)	6	0.37%	7	0.50%
<i>be xater daʃt-e baʃ-id, be jad daʃt-e baʃ-id</i> “remember”	2	0.12%	2	0.14%
<i>deqqæt kon-id, tævæjjoh daʃt-e baʃ-id</i> “pay attention”	4	0.24%	3	0.21%
Total	93	5.74%	95	6.83%
Total number of sentences in the set	1620	100%	1390	100%

B. Syntactic Markers of Focal Prominence in the Persian OMJs

Syntactic markers of focal prominence in OMJs include the following:

B.1. Preposing in the Persian OMJs

In example 13, *in daru-ha* is established information and the prepositional phrase *ba qæza*, which conveys non-established information, has been preposed for focal prominence:

- 13) *ba qæza in daru-ha-ra mæsræf kon-id*
with food this drug-PL-OM consumption IMPER.do.PRES-2PL
ke moğeb-e me de dærd-e oma næ- æv-æd
 that cause-EZ stomach pain-EZ you NEG-become.PRES-3SG

“Take food with this medicine to prevent pains in your stomach.”

(When is the Best Time for Consuming Drugs? DO)

B.2. Postposing in the Persian OMJs

Postposing a constituent in the sentence in OMJs also includes both the postposing of the relative clause and the postposing of the argument of the verb to a position between the elements of the compound verb.

B.2.1. Postposing the Relative Clause in the Persian OMJs

The following example illustrates the postposing of a relative clause in OMJs.

- 14) *fæ alijæt-i monaseb æst ke oma-ra xæste næ-kon-æd*
 activity-INDEF suitable be.PRES.3SG that you-OM tired NEG-do.PRES-3SG

“An activity is appropriate which doesn’t make you tired.”

(Instructions of Prevention from Heart Diseases, DO)

In this sentence, the relative clause *ke oma ra xæste næ-kon-æd* is non-established information and gives some details about the type of physical exercise which would be appropriate for patients suffering from heart disease. The default position of this relative clause is after *fæ a lijæt-i* and before the main verb; however, the relative clause has been postposed for focal prominence.

B.2.2. Postposing of an Argument in the Persian OMJs

The following example illustrates postposing the argument of a compound verb to between the elements of the verb.

- 15) *valedejin væ moræbi-j-an-e mæhd-e kudæk-ha lazem*
 parents and trainer-EP-PL-EZ kindergarten-EZ baby-PL necessary
æst ræ ajæt-e osul-e behda t-e dæst væ ræ ajæt-e
 be.PRES.3SG adhere-EZ principles-EZ health hand and adhere-EZ
adab-e sorfe-ra næma-j-ænd rituals-EZ cough-OM SUBJ.do.PRES-EP-3PL

“It is necessary for parents and trainers of kindergarten to observe health principles and adhere to rituals of coughing.”

(Prevention from Flue, DO)

The default position of the first argument of the first compound verb (which conveys non-established information), *osul-e behda t-edæst*, is before the main verb. The writer here moves this argument to the position between *ræ ajæt* and *næma-j-ænd* to give it focal prominence. Similarly, the default position of *adab-e sorfe* is before the main verb. This argument is also placed between the elements of the verb: *ræ ajæt* and *næma-j-ænd* to give it focal prominence.

C. Amplification in the Persian OMJs

Amplification in OMJs acts as a slowing-down device to give focal prominence to what follows. In the following sentence, *ʃe ... væ ʃe* ‘either ... or’ adds detail about how the baby is fed. The amplification here acts as a slowing-down device to give focal prominence to *besjar xætærnak* ‘very dangerous’.

16)	<i>ʃir dadæn be</i>	<i>nozad dær</i>	<i>halæt-e xabide</i>	<i>ʃe</i>			
	milk giving to	baby in	state-EZ sleeping	what			
	<i>ba i e-j-e</i>	<i>ʃir væ</i>	<i>ʃe sine-j-e</i>	<i>madær mi-tævan-æd</i>			
	with bottle-EP-EZ	milk and	what breast-EP-EZ	mother IMP-can.PRES-3SG			
	<i>besjar xætærnak</i>	<i>ba -æd</i>					
	very dangerous	be.PRES-3SG					

“Feeding the baby in the sleeping mode, either with the bottle or with the breast, is very dangerous.”

(Prevention from Choking the Baby, DWB)

4.1.2.2. Thematic Prominence in the Persian OMJs

As in GPBs, most instances of thematic prominence in OMJs involve moving a constituent (which conveys established information) from the complement clause of a sentence to the main clause. Example 17 illustrates using this device in this corpus. There has been a prior reference to diabetics type 2, so this is established information. Moving the constituent *æfrad-e dijabeti-j-e no -e 2* ‘diabetics of type 2’ to the beginning of the sentence makes it thematically prominent.

17)	<i>æfrad-e dijabeti-j-e</i>	<i>no -e 2 lazem æst be</i>	<i>tousije-ha-j-e</i>
	individuals-EZ diabetic-EP-EZ	type-EZ 2 necessary be.PRES.3SG	to recommendation-PL-EP-EZ
	<i>zir æmæd kon-ænd</i>		
	belowapplying SUBJ.do.PRES-3PL		

It is necessary that diabetics of type 2 follow the recommendations below:...

(Necessary Recommendations for Diabetics of Type 2, DWB)

Table 4. Indicates the Frequency and Percentages of Each Type of Prominence in OMJs.

Table 4.

The Frequency of Focal and Thematic Prominence Markers in OMJs.

Prominence types	Subsets	DWB	% of total	DO	% of total		
Focal prominence	Emphatic markers	93	5.74%	95	6.83%		
	Syntactic devices	Preposing	7	0.43%	5	0.36%	
		Postposing	Relative clause	11	0.67%	12	0.86%
			...an argument to a position between the elements of the compound verb	3	0.18%	8	0.57%
		Amplification	6	0.37%	0	0%	
Total of focal prominence		120	7.41%	120	8.63%		
Thematic prominence		17	1.05%	13	0.93%		
Total of focal and thematic prominence		137	8.46%	133	9.57%		
Total number of sentences in the set		1620	100%	1390	100%		

4.2. Analysis of the Prominence Markers in Persian GPBs and OMJs

In this subsection, the frequency of use of prominence markers in GPBs and OMJs is compared. Table 5 shows the frequencies and percentages of emphatic markers in the two corpora.

Table 5

Emphatic Markers Used in GPBs and OMJs

Emphatic markers	GPBs	% of total	OMJs	% of total
<i>hætmæn</i> "sure"	0	0%	26	0.86%
<i>hætta</i> "even"	0	0%	23	0.76%
<i>ta çajj ke ʔemkan daræd</i> , "as much as possible"	0	0%	11	0.36%
<i>hæmvare, hæmiʃe</i> "always"	0	0%	9	0.30%
<i>morættæbæn, betore morættæb</i> "regularly"	0	0%	4	0.13%
<i>tænha</i> "only"	1	0.03%	8	0.26%
<i>fæqæt</i> "just"	1	0.03%	10	0.33%
<i>serfæn</i> "merely"	0	0.12%	3	0.09%
<i>beçoz, mægær</i> "except"	3	0.11%	4	0.13%
<i>qætʔæn</i> "certainly"	0	0%	2	0.06%
<i>hæmin, hæman</i> "the same, this, that (emphatic)"	1	0.04%	4	0.13%
<i>hiʃ</i> "none"	0	0%	3	0.10%
<i>hærgez, behiʃvæçh</i> "never, not at all"	0	0%	10	0.33%
<i>ækidæn</i> "highly"	0	0%	2	0.07%
<i>belafasele, hærfæ særiʔtær</i> "immediately, as soon as possible"	3	0.11%	17	0.56%
<i>dæqiqæn</i> "exactly"	0	0%	3	0.10%
<i>betore çeddi</i> "seriously"	0	0%	3	0.10%
<i>dorost</i> "right"	0	0%	1	0.03%
<i>tærçihæn</i> "preferably"	1	0.04%	3	0.10%
<i>xod</i> "self"	0	0%	2	0.07%
<i>xosusæn, bexosus, beviçge</i> "especially"	3	0.11%	16	0.53%
<i>be xater dæʃt-e bæʃ-id</i> , "remember"	1	0.04%	2	0.07%
<i>deqqæt kon-id, tævæjjoh dæʃt-e bæʃ-id</i> "pay attention"	0	0%	3	0.10%
<i>ʔin</i> "this" (cataphoric)	0	0%	13	0.43%
Total	14	0.52%	188	6.24%
Total number of sentences in the corpus	2695	100%	3010	100%

As Table 5 indicates, there are major differences in the frequency of use of emphatic markers in GPBs and OMJs.

Table 6 presents the differences in frequency and percentages of the use of focal and thematic prominence markers in GPBs and OMJs.

Table 6*Total Frequencies of Focal and Thematic Prominence in GPBs and OMJs*

Prominence types		GPBs	% of total	OMJs	% of total	
Focal Prominence	Emphatic markers	14	0.52%	188	6.24%	
	Preposing	1	0.03%	12	0.40%	
Syntactic devices	Postposing	Relative clause	2	0.07%	23	0.76%
		...an argument to a position between the elements of the compound verb	2	0.07%	11	0.36%
	Amplification	0	0%	6	0.20%	
Total of focal prominence		19	0.70%	240	7.97%	
Thematic prominence		32	1.19%	30	1%	
Total of focal and thematic prominence		51	1.89%	270	8.97%	
Total number of sentences in each corpus		2695	100%	3010	100%	

The Chi-Square test results below relate to the verification of the major null hypothesis of the research; namely, “there is not a significant difference between the distribution of prominence markers in Persian GPBs and OMJs”. This hypothesis has two minor null hypotheses; namely, “there is not a significant difference between the use of “focal prominence” markers in Persian GPBs and OMJs” and “there is not a significant difference between the use of thematic prominence markers in Persian GPBs and OMJs”. Tables 7 and 8 present Chi-square test results relating to the two minor null hypotheses of the hypothesis of this research, and Table 9 gives the results of Chi-square test relating to the hypothesis.

Regarding the first minor null hypothesis of the paper, the Chi-square test results for focal prominence which are presented in Table 7 show that $p=0.000$ with the degree of freedom=1. As p is less than 0.05 ($p<0.05$), the first minor null hypothesis is rejected. Thus, there is a significant difference between the use of focal prominence markers in Persian GPBs and OMJs.

Table 7*Chi-square Test Results for Focal Prominence in GPBs and OMJs*

	GPBs	OMJs	X ²	Degree of freedom	p-value
Focal prominence	19	240	188.575	1	0.000
	0.7%	7.97%			

Table 8, which presents the Chi-square test results for thematic prominence, shows that $X_2=0.065$ with the degree of freedom=1. As $p=0.799$ and is more than 0.05 ($p>0.05$), the second minor null hypothesis is confirmed, and there is not a significant difference between the use of thematic prominence markers in Persian GPBs and OMJs.

Table 8*Chi-Square Test Results for Thematic Prominence in GPBs and OMJs*

	GPBs	OMJs	X ²	Degree of freedom	p-value
Thematic prominence	32	30	0.065 ^a	1	0.799
	1.19%	0.1%			

Table 9 again concerns the null hypothesis of the research and presents the Chi-square test results for prominence in general. It shows that $X^2=153.012$ with the degree of freedom=1. As $p=0.000$ and is less than 0.05 ($p<0.05$), the null hypothesis of the research is rejected and there is a significant difference between the distribution of prominence markers in general in Persian GPBs and OMJs.

Table 9

Chi-Square Test Results for Prominence in General in GPBs and OMJs

Prominence	GPBs	OMJs	X^2	Degree of freedom	p-value
	51	270	153.012 ^a	1	0.000
	1.89%	8.97%			

The Chi-square test results of the study in Table 9 disclosed that there was a significant difference between the distributions of markers of focal prominence in general in the Persian GPBs and OMJs. The reason for this difference may be related to the twofold effect of the different discourse types (with different registers) and different addressees of these texts. Based on sociolinguistic observations, register is one of the most effective factors in choosing a special speaking style among people. GPBs are scientific texts which are written by physicians for other physicians or for students of medical science. As there is a special register among the physicians and those who study medical sciences, the writers of GPBs are expected to use the characteristics of this register when they are writing for their colleagues. At the same time, as GPBs are scientific books, their writing style mostly conforms to the principle of formal writing of Persian (or the standard variant).

Conversely, the writers of OMJs are those physicians who are writing for members of the public who have some medical knowledge. Here, the dominant register would not be the one which is employed between those working on medical sciences.

According to Schiffrin (1987), the use of discourse markers depends on five factors, the last one according to her is the relations of the speaker/hearer to the talk and ideas and also, the information state (cognitive capacities of the speaker/hearer-organization and management of knowledge and meta-knowledge). This last factor can help us in the clarification of using more emphatic markers (which are a kind of discourse markers) by OMJs. As previously said, the relation between speaker/hearer in the OMJs differs from those in GPBs, because GPBs' writers are physicians and their addresses are also other physicians or the students of medical sciences, but OMJs writers are physicians, their addresses are public with some medical knowledge. Here, the relations of the speaker/hearer differ. So. It can be said the difference in using more emphatic markers by OMJs relates to their different addresses.

In addition, according to Khaghaninejad (2016), the participants of his study from the middle social class used more emphatic markers than those with high social class. We can conclude that the addresses of OMJs (public with some medical knowledge) were considered mostly from the middle

social class; thus the use of more emphatic markers by the writers. On the other hand, the writers of GPBs who are physicians are mostly from higher social classes, thus the use of less emphatic markers by the writers.

As to the thematic prominence in the Persian GPBs and OMJs, Table 8 indicated no significant difference between the uses of these prominence markers in these corpora.

In the present study, the writers found some devices which gave prominence to specific constituents in the sentence. These were some morphological devices; that is, emphatic markers, amplification and syntactic devices including preposing and postposing a constituent. This finding is in line with the findings of Fatahi et al. (2013) who argued that focalization is realized with three different strategies involving syntactic, morphological, and phonological tools, morphology and syntax. Examining the existence of phonological tools was outside the scope of this study).

Karimi (2005, p. 134) stated that the focal element *faqat* “only” has an inherent focus feature. Although not all the emphatic markers in our data have an inherent focus feature, the writer of this study found some other emphatic markers with an inherent focus feature, as well. Among these emphatic markers were *tænha* “only”, *bexosus*, *bevidge*, *maxsusæn*, *xosusæn* “especially”, *bedgoz* “except”, *ækidæn* “highly”, *hærgæz* “never”, *behifvæçh* “not at all”, *serfæn* “merely”, *hætta* “even” and *hætmæn* “sure”.

Turning now to the topic of postposing, Mahootian (1997, p.128) says that “heavy” adjective phrases (relative clauses) can optionally be postposed to the end of the sentence (cited in Roberts, 2009, p.134). The writer of this study encountered five cases in which the relative clause had been postposed for the sake of heaviness. Example 18 shows a sentence from PFP with a postposed heavy relative clause:

18) <i>asiklovir</i>	<i>aje -tærin</i>	<i>daru-j-e</i>	<i>zed-d-e</i>	<i>virusi</i>	<i>æst</i>	
Acyclovir	common-SUPER	drug-EP-EZ	anti-RED-EZ	viral	be.PRES.3SG	
<i>ke bæraçj-e</i>	<i>dærman-e</i>	<i>ofunæt-ha-j-e</i>	<i>tæbxali-j-e</i>	<i>sade</i>	<i>mored-e</i>	
that for-EZ	treatment-EZ	infection-PL-EP-EZ	herpes-EP-EZ	simple	case-EZ	
<i>estefade</i>	<i>qærar</i>	<i>mi-gir-æd</i>				
use	put	IMP-get.PRES-3SG				

“Acyclovir is the most common anti-viral drug which is used for treating the simple herpes infections.”

(Attar, 2016, p. 114, Simple Herpes Virus, PFP)

Here, the relative clause is restrictive. ‘Acyclovir’ is new information (non-established) and, therefore, focal. In contrast, the relative clause is part of the topic and has been placed after the verb because it is heavy.

On the other hand, Roberts (2009, pp. 134–135) found that, in his corpus, Persian relative clauses may be postposed even when they are not heavy. See, for example, the following sentence from his corpus (discussed further below, some of the glosses have been changed to be in accordance with the glosses of this study):

5.10) <i>pir-e</i>	<i>mard-i</i>	<i>bud</i>	<i>ke</i>	<i>se-tā</i>	<i>pesar</i>	<i>da t</i>
old-EZ	man-INDEF	be.PAST.3SG	CLM	three-CL son	have.PAST.3SG	

“There was an old man who had three sons.”

In the above sentence, the clause that is relativized, *se-tā pesar dā t* ‘had three sons’, contains only two constituents: an object and a verb. Roberts (2009, p. 135) therefore states that “it could not be said to be heavy with constituent material, yet it is postposed. It is also not restrictive as it does not identify ‘an old man’, but instead introduces his three sons into the text.” In the light of this kind of sentence, Roberts (2009) concludes that Persian relative clauses are not postposed just for the sake of being heavy, but also “to introduce important new information into the text”; i.e., for focal prominence.

In both GPBs and OMJs, there were some cases of postposing the relative clause to the end of the sentence. As a reminder consider example 19:

- 19) *fæ alijæst-i monaseb æst ke omā-ra xæste næ-kon-æd*
 activity-INDEF suitable be.PRES.3SG that you-OM tired NEG-do.PRES-3SG
 “An activity is appropriate which doesn’t make you tired.”

(Instructions of Prevention from Heart Diseases, DO)

Here, the restrictive relative clause is not heavy yet has been postposed to the end of the sentence for focal prominence. The same is true of the postposed relative clause in the following sentence:

- 20) *dijafragm æzole-j-e bozorg-i æst ke qæfæse-j-e sine*
 diaphragm muscle-EP-EZ large-INDEF be.PRES.3SG that chest-EP-EZ breast
væ æm-ra æz hæm dōdā mi-kon-æd
 and stomach-OM from also separate IMP-do.PRES-3SG

The diaphragm is a big muscle which separates the chest from stomach.

(Guidance for Prevention from Heartburn, DWB)

In addition to the above mentioned cases, the writer of this study also encountered instances like 21 in which a non-restrictive relative clause is postposed not to make it prominent, but to background it (see discussion below):

- 21) *ævæl-e sobh mæsræf kon-id ke be enerđi*
 beginning-EZ morning consumption IMPER.do.PRES-2PL that to energy
nijaz dar-id næ dær æb ke væqt-e arame æst
 need have.PRES-2PL not in night that time-EZ peace be.PRES.3SG

“(Multivitamins are an energy producer.) So, consume them in the early morning when you need energy, not at night when it’s time to calm down.”

(When is the Best Time for Consuming Drugs? DO)

The focus of this sentence is ‘in the early morning ... not at night’, with the *ke*-clauses providing the reason for each instruction. So, placing them later in this particular sentence seems to background them, rather than highlight them.

As for the movement of elements to the beginning of the sentence in Persian, Orooji (2012) believes (as noted in section 2) that such movement is only a kind of topicalization and there is no kind of focalization at the beginning of the Persian sentences. The results of this study are at variance with the above statement, as the writer found a few cases in which the preposed constituent

was focal, so its movement to the beginning of the sentence gave it focal prominence, as in the following example.

22) *dær æksær-emævared ba oksi en særdærd xub mi- æv-æd*
 in most-EZ cases with oxygen headache good IMP-become.PRES-3SG

“In most of the cases, the headache will be treated with oxygen.”

(Attar, 2016, p. 34, Cluster Headache, PFP)

5. Conclusions

This study investigated the prominence markers including markers of focal and thematic prominence in Persian general practitioners' books (GPBs) and online medical journals (OMJs). To perform this, one hundred texts from two written Persian GPBs and 100 texts from two Persian OMJs were selected. This study confirmed: 1) emphatic markers, preposing, postposing and amplification were used as markers of focal prominence in GPBs and OMJs. 2) cases of thematic prominence in both corpora were associated with moving a constituent from the complement clause to the main clause. 3) significant differences between GPBs and OMJs were observed with regard to the markers of focal prominence and the markers of prominence in general. This means that these markers were used significantly more frequently in OMJs than in GPBs. 4) as to the markers of thematic prominence, no significant difference was seen between the distribution of these markers in GPBs and OMJs. This means that both genres used markers of thematic prominence with more or less the same frequency.

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- Necessary Recommendations for Diabetics of Type 2, DWB. <http://www.pezeshk.us/?p=30222>

List of Abbreviations

2	2 nd person	OMJs	Online medical journals
3	3 rd person		Past tense
EMPH	Emphatic	PAST	Past participle
EP	Epenthesis	PASTP	Present
EZ	Ezafe	PRES	Plural
GPBs	General practitioners' books	PL	Prescribing for practitioners
IMP	Imperfect	PFP	Reduplication
IMPER	Imperative	RED	Singular
INDEF	Indefinite	SG	Subjunctive
NEG	Negative	SUBJ SUPER.	Superlative
OM	Object marker		

