RESEARCH ARTICLE

A STUDY OF THE PREVALENCE OF PASSIVIZATION IN MEDICAL ARTICLES SELECTED FROM IRAQI AND WORLDLY SCIENTIFIC JOURNALS

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ARTICLE INFO

Article History:
Received 14th, April, 2015
Received in revised form 23rd, April, 2015
Accepted 13th, May, 2015
Published online 28th, May, 2015

Key words: Passivization, Active Voice, Language of Science, Medical Articles, Grammatical Errors.

ABSTRACT

Background: Passivization means the rearrangement of the sentence elements integrated with Be auxiliary to transfer the focus from one element to another. It was a distinctive syntactic characteristics of the academic - scientific writings. Throughout the last decades, many specialists have taken a contrary attitude towards the adoption of it and have been partial to the active in this genre and specifically in medical writings because of its undesirable consequences. Aims: This study aimed to investigate the prevalence of passivization in published medical articles and the grammatical errors occurred. Methods: The study analyzed syntactically and statistically (60) medical articles published in (5) selected authentic Iraqi and worldly journals between 2009-2014. Conclusions: The results showed that passivization had an excess prevalence in the articles written by non-native English speakers and in journals that have no instruction to convey their knowledge in directly and economically and accordingly we set up certain recommendations.

INTRODUCTION

Passive voice

Foley & Hall (2003: 104) and Azar & Hagen (2009:211-4) state that the passive forms are used for certain reasons of style and meaning clarity. It aims at avoiding the presence of unimportant or unknown doer of the action which is the subject (henceforth referred as S) of the active sentence. Consequently, the passive transformation changes the order of information from the beginning of an active sentence so the focus will be on "what happens to the S" not on "what the S does" (Murphy, 2004:84). It is thus more extremely common in academic, scientific and technological than in speech which is characterized by the dominance of the active (http://unilearning.uow.edu.au/academic/3ari.htm/). Stageberg (1980:209), Foley & Hall (2003:105), Murphy (2004:84-6) and others state that passivization cannot be done only if the active sentence has only transitive Vs having (indirect and) direct Os. They set up the following points to explain how the passive sentence is constructed:

1. The O of an active verb (henceforth referred as V) becomes the S of the passive sentence.
2. The use of the auxiliary Be (the form that is proper to the S person and V tense) is obligatorily and normally required since it is the main marker of the passive.

3. The V is transformed into the past participle (henceforth referred as P.P.).
4. The S of the active sentence is mentioned postpositively and optionally preceded by the preposition (by) to give necessary information or to complete the meaning of the sentence, and this optional marker of passive voice (by phrase).

Quirk et al. (1985:159) term the above grammatical elements of the passive sentences as the passive S for the O of the active transitive V, the passive participle for the P.P., the passive V phrase for the auxiliary + P.P. and the passive agent or the agent by phrase for the S of the active V. They explain this active – passive correspondence in this formula:

noun phrase 1 + active V phrase + noun phrase 2 ~ noun phrase 2 + passive V phrase + (by + noun phrase 1)

In accordance with the above points, or they can be called the grammatical requirements, all tenses and aspects can be transformed into the passive as shown Table (1) below

Azar & Hagen (2003:213) explain that in passive voice the questions have the same treatment in their active forms, i.e., the first auxiliary (operator) precedes S as in:

- Is the room cleaned every day?
- When should the room have been cleaned?

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Stageberg (1980:210–3) and Murphy (2004:88) state that with V-s (such as offer, give, ask, pay, show, teach, tell, find, buy, etc.) having two Os (direct and indirect Os), two forms of passive are possible, i.e., either the direct O or indirect O can be the passive S and most often the O indicating the person begins the sentence while the other O comes latter so it is called a retained O. Usually if the indirect O of the active V is the retained O it is introduced with a preposition as shown below:

<table>
<thead>
<tr>
<th>Tenses and Aspects</th>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>present simple</td>
<td>I cleans this room every day.</td>
<td>The room is cleaned every day.</td>
</tr>
<tr>
<td>Past simple</td>
<td>I cleaned this room yesterday.</td>
<td>The room was cleaned yesterday.</td>
</tr>
<tr>
<td>Modal/Infinitive</td>
<td>I will clean the room later.</td>
<td>The room will be cleaned later.</td>
</tr>
<tr>
<td>Present progressive</td>
<td>I am cleaning the room now.</td>
<td>The room is being cleaned….</td>
</tr>
<tr>
<td>Past progressive</td>
<td>I was cleaning the room when…</td>
<td>The room was being cleaned….</td>
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<tr>
<td>Present perfective</td>
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<td>The room has been cleaned.</td>
</tr>
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- He gave the police the information. - The police were given the information.
- The information was given to the police.

If the sentence contains a direct O followed by a complement of this O, there is only one passive form for the sentence, as in:

- We choose Charlotte a captain.
- Charlotte was chosen captain. (But not)
- A captain was chosen Charlotte.

Passive with Get

Quirk et al. (1985:160–1), Azar & Hagen (2004:233) and Murphy (2004:88) state that in informal spoken English the V get can replace be, which is the normal passive auxiliary to describe only actions in all the cases mentioned above, as in:

- I did not know how the window was got broken.
- Jill and John got married since 2009.

But it cannot be used to describe states or things that do not happen, as in:

- That house is owned by my uncle. Not: That house gets owned by…
- Jill is liked by everybody. not: Jill gets liked by everybody.

Stageberg (1980:204) explains that using get in passive is useful to avoid the occasional ambiguity of the (be), as in:

- The gate was closed at ten o’clock. (has two meanings)
- The gate got closed at ten. (the focus on the action)

Various structures in passive voice

Quirk et al. (1985:163) and Foley & Hall (2003:104) present others forms of English structures that can be transformed into passive voice according to certain criteria:

1. With multi-word Vs, the particle should never be separated from its V in this construction, as in:
   - They take the company over in 2001. - The company was taken over in 2001.

Also with prepositional Vs, the separation is not very possible in passive, as in:

<table>
<thead>
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- The engineers went very carefully into the problem.
- The problem was very carefully gone into (by the engineers).

A. Vs like make (means force), see, hear, help, ask, need, etc. are followed by to + infinitive in passive sentences, as in:
   - The boss made me work late. - I was made to work late.

1. The V Let has no passive form so that Vs such as allow, permit, give permission can be used in stead of it to passivize the sentence:
   - The teacher let us leave early. - We were allowed to leave.

Quirk et al. (ibid:162), Foley & Hall (ibid:104–7) and Murphy (2004:90) state that the passive-infinitive (to be + P.P.) occurs in the following cases:

A. reported speech with ask for + O, as in:
   - Inspector Pascoe asked for the prisoners to be held in the cells overnight.

A. the V need, as in: - That cage really needs to be cleaned.
B. reported speech. When the active sentence has an O clause:
C. He was said to be innocent. - He is believed to have been a genius.
D. avoiding direct personal responsibility with the V blame, as in:
   - Don’t blame me. Nothing can be done about it.

Passive with V-ing Form

Foley & Hall (ibid:105–6) and Murphy (ibid:88) state that the passive form of present participle doing/seeing, etc. is being done/seen, as well as Vs like remember/regret/manage/hate,
that refer to the past. These passive structures can be seen implicitly in sentences and the presence of ( V+ing + P.P. ) is its indicator, as in:

- I don't like being lied to.
- The deal having been signed, we went out to celebrate.
- I remember being taken to the zoo when I was a child.

Non –Progressive Passive

Azar & Hagen (2009: 227-9) explain that when the passive form is used to describe an existing situation or state it is called " non progressive passive". This type is identified when no action is taking place, i.e., the action happened earlier, there is no by – phrase and the P. P. functions as an adjective. In addition, some of these sentences are examples of everyday English idiomatic usage and have no equivalent active sentences as in:

- I cannot find my purse. It is gone.
- I am lost. means: I don't know where I am.

Propositions other than ( by ) can follow many of the non-progressive passive Vs to make the passive transformation sounded fully natural, as in:

- I am finished with my work. - Ann is married to Alex.

Constraints of using passive voice

It was mentioned above that the main condition to passivize any sentence is the presence of a transitive V, i.e., there are certain form of categories of VVs that are constraints of using passive voice. Foley &Hall (2003:104 -7) and Murphy (2004: 88) present some of these:

1. all copulars (linking ) and intransitive Vs like happen, sleep, come, seem, die, etc.
2. An accident happened. ( no passive form)
3. middle Vs like have( sown), contain, lack, befall, belong, resemble, seem, suit, etc.
- She has / lacks the necessary money. (no passive form)
4. Vs like ( want, love, hate + O + infinitive)  
- She wanted him to leave.
5. They also add the following cases that must be avoided in passivization:
- using present form of Be (am, is, are) with the V born.
7. - When were you born? Not When are you born?
- perfect future continuous tenses since they will be complex structures, as in:
- By next month they will have been investigating the murder for over a year.
- Not - By next month the murder will have been being investigated ….
8. - repeating the same passive auxiliary forms in a sentence, as in:
- They have been signed and dated in front of two witnesses.
9. Not - They have been signed and have been dated in ….
10. d - when the O is finite or non-finite clause (Quirk, 1985: 163-4), as in:
- - John thought (that) she was attractive. Not - That she was thought …
- - John hoped to meet her. Not - To meet her was hoped …
- - John enjoyed seeing her. Not - Seeing her was enjoyed….

Academic language of Science (scientific writings)

Gottlieb and Ernst-Slavit (2013: 2) state that academic language is an English register that is used for "a specific purpose and audience in a particular context" and it is not easy to be read or used by a general person because it includes terminology, phrases, and concepts that are unique to the subject matters and constructed according to distinct grammatical patterns. The presence of specialized dictionaries or specialists for the explanation is considered a necessity for those users who are unfamiliar with it. This language aims to communicate the academic and scientific abstract and complex ideas and this function make it – especially in its writing form, different from the general language (Lemke, .1988:81; Chamot & O'Malley, 1994; Zviars, 2008: 22, all cited in Nagy and Scott,2000:3-7 and http://owl.english.purdue...).

Academic language is an important topic in English for specific purposes (ESP), which according to Hutchinson and Waters (1987), is divided into three branches according to the subject areas: English for science and technology, English for business and economics, and English for social studies and each branch involves English for academic purposes and English for occupational purposes. Robinson(1980:17) identifies them as the "general English plus the extra components of science", i.e., the same system of pronunciation and rules of grammar, spelling, and orthography compacted with the science elements. Consequently, English for medical studies that is an example of the first branch is the main means through it the new knowledge, information and skills of the medical field are taught by teacher, acquired / mastered by students, and used by scientists or specialists in this science (Ewer and Latorre, 1967:224 and Stevens 1976:64).

Grammatical Characteristics of academic language of science

Throughout the study and investigation of the academic - scientific language in its spoken and written forms, ESP researchers and others scholars like Ewer (1971:67), Master (1991:16), Lemke ( 1990 : 130, cited in Nagy and Scott,2000:7), Lowe (2009:1-2) and others specify the following grammatical characteristics of this genre of writing:

A. Preference for using passive voice and depersonalizing statements i.e. intentional avoidance of the active voice and the personal pronouns(I, we).
This research aims to investigate the prevalence of passivization (passive voice) in comparison with the active in selected medical articles to see if the first characteristic is still working on or the authors of the sample have adopted a reverse attitude.

**Passive voice in the academic language of science**

More than a century ago, scientists typically wrote in an active style that included the first-person pronouns I and we, but in 1920s, these pronouns became less common as scientists and engineers adopted a passive writing style in USA considering it more objective and well suited to science writing so it became the standard style for medical and scientific journals for decades (Moore, 1991; 388-9; Kirkman, 1975: 198-200 and Nagy and Scott, 2000: 7-9). The justifications of those scientists' use of this construction have been "either out of habit or to make themselves seem scholarly, objective or sophisticated" or they are reluctant to write directly and personally (Moore, ibid). But with the passage of time, the belief of the obligation of using this construction in the scientific writing is gradually being disappeared to the extent that Dandy-Evans & John (1998: 76) consider the fact of using it more frequently than active voice in this genre "a myth" and this has been in agreement with Master's viewpoint (1991:22), in his analysis of several scientific writings, that "the passive voice has a greater use in scientific writing, but the active voice still has the dominance".

As a result, heated debate has been arisen among writers who have been into two groups. Some like George Gopen and Judith Swan (1990), Jonathan Knight (2003), and Charlene Sorenson & Tonya Johnson (2011) prefer the passive voice to the active and consider the former serious, impersonal, analytical, objective, intellectual, rational, and formal. Also, it increases the validity and encouraging precision and probity. Others like J. Kirkman (1975), Randy Moore (1991), Leslie Sage (2003) and Elise Langdon-Neuner (2007) criticize it severely as being inflexible, impersonal, indirect, weak, wordy and often boring style since it makes the writer and reader work unnecessarily hard. In addition, they disprove the default merits since, for example, objectivity is connected with the writer's personality and the writing style does not determine the validity of results.

Royds - Irmak (1975:7) & Blicq (1981:319), both cited in Master (1991:16), Quirk, et al. (1985: 166) and Dandy-Evans & John (ibid) solve this problematic case when they declare that the use of the passive or active voice is not determined by the diversity of the subject matter or of the form of language - spoken / written - but by the stylistic function of the prose. Accordingly, the passive form will be the best choice with the informative, analytical, descriptive and explanatory prose like news items and scientific articles, whereas the active suits the imaginative, political and accusatory one. Torone et al. (1987:201) conclude that active voice is more common especially in presenting "strategic points".

**Patterns and Consequences of passivization in the academic language of science**

Kirkman (1975, cited in Nagy and Scott, 2000: 9) states that there are two patterns of passivization which can be applied in an active scientific sentence, as shown below:

1. **Active - We subjected the DNA to 9PCR analysis**.
2. **Passive pattern [1] - The DNA was subjected to 9PCR analysis**.
3. **Passive pattern [2] - The DNA was analyzed using 9PCR**.

In passive pattern [1] which is the known style, the personal pronoun we was omitted and replaced by the direct O that is the scientific term The DNA. Also, the main past V of the sentence subjected to is preceded by the auxiliary was and converted into P.P. In pattern [2], the verbalized form (analyze) of the noun (analysis) replaces the original V of the active sentence and the general purpose V (use) is introduced in its -ing participle form. The latter is more complicated than the former since a word class conversion and introducing of words out the structure obligatory required.

The above applications of the passive voice procedures, making the doer of an action indefinite or unknown and avoiding the use of subjective personal pronouns like I or we, etc. usually lead to the following grammatical consequences (Dandy-Evans & John, 1998:78, http://owl.english.purdue.edu/... , https://cgi.duke.edu/web/... , http://www.biomedicaleditor..., and http://www.nature.com/scitable/...):

1. Depersonalization of statements means focusing on the material or the result of the action by hiding the human agents responsibility and this suggests that scientists were acted upon rather than that scientists acted. Widdowson (1974:288-9) states that in scientific writings it is better to use the first plural personal pronoun we to refer to both the reader and writer.
2. Necessarily and abundantly usage of Vs like achieve (e.g.: was achieved), carry out, effect, experience, occur, observe, perform, result, show, etc., which are called carrier Vs since they carry abstract nouns when it is needed.
3. Nominalization the action of the sentence abusively - deriving a noun (phrase) from Vs-is a common consequence that makes the sentence weaker than its active form (Quirk et al. 1985: 23 and Crystal, 2003:314).

For examples, the following four sentences suffer normally from these three consequences of passivization as appeared below:
The removal of the coating was effected by the application of alcohol.

- In this section, a discussion of the influence of the recirculating-water temperature on conversion rate of … is presented. (a too long S and a passive V at the end)
- Regular inspections of the burners were not carried out.
- The temperature is believed to be the cause for …. (ambiguous who believes this, the author of the paper or the scientific community as a whole.)

Getting rid of these problems and making the sentences more simple, direct, and economic in the number of words can be through their active forms only with manipulating the followings (http://www.nature.com/scitable):

1. Not necessarily require a person as the agent, an inanimate S is often appropriate. as in:
   a. Alcohol removed the coating.
   b. This section discusses the influence of …. (ambiguous who believes this, the author of the paper or the scientific community as a whole.)

2. Readers sometimes need people to be mentioned, as in:
   - We did not inspect the burners regularly.
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Dangling modifiers: This consequence occurs when the V of a subordinate clause is nonfinite (to infinitive or –ing participle) and its S is implied. If this sentence is taken literal, it often seems "nonsensical or laughable" and in turn grammatically and scientifically inexact or ambiguous (Crystal, ibid:122), as in:

- To dissect its brain, the affected fly was mounted on a…

In the above sentence, the S of the to infinitive clause is ambiguous, i.e., who was dissecting its brain? The best solution of this case is cancelling the passivization and using the personal pronoun we that will be grammatically and semantically the S of it, as in:

- To dissect its brain, we mounted the affected fly on …

As it has been explained above, there are negative consequences of using the passive voice in this type of language, therefore, the majority of worldly journals, such as British Medical Journal (BMJ), The Journal of Neuroscience, Nature, Science, Behavioral Ecology, The Journal of Traumand Discussion, Ophthalmology, etc. prefer nowadays writing in the active voice the academic and scientific knowledge and specially in (bio)medical and technological fields for the directness, simplicity and the identification of the performers of the actions and events. For example, the BMJ has written this instruction for its authors, "Please write in a clear, direct, and active style....Write in the active [voice] and use the first person where necessary," whereas the Journal of Neuroscience has made this, "Overuse of the passive voice is a common problem in writing…. it makes the manuscript dull by failing to identify the author's role in the research....Use direct, active-voice sentences." (http://www.biomedicaleditor.com/active-voice.html).

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Generally, the aim of this study is to investigate the prevalence of passivization in comparison with the active voice in medical articles published in Iraqi and worldly journals. To be more specific, it attempts to achieve the following objectives: (a) determining statistically which one is more prevalent than the other in this genre of writings, b) accordingly, specifying the authors' awareness and attitude of adopting or avoiding this indirect grammatical construction to know if the authors have manipulated the new tendency of avoiding the use of the passive and encouraging the appearance of doers, and d) if there are any, stating the categories of the grammatical errors occurred in the passive sentences.

Corpus of the study

For the sake of syntactic and statistic analysis, we selected randomly (60) medical articles written in English from different volumes of (5) authentic Iraqi and worldly journals published between 2009 to 2014. The fivefold distribution of this sample and reasons of choosing these journals are shown below:

Group A included 15 articles selected from the Journal of the Faculty of Medicine Baghdad that is the oldest and most important medical journal in Iraq and this group included (bio)medical articles written mostly by the medical teaching staff in the Iraqi universities (www.comed.uobaghdad.edu.iq/PageViewer.aspx?id=24).

Group B included 15 articles taken from The New Iraqi Journal of Medicine, which is the official journal of the Iraqi Ministry of Health. This journal has published (bio)medical articles written by researchers working in universities, hospitals, and medical institutions in Iraq or abroad such as USA, UK, Sweden, etc. (publicationethics.org/.../new-iraqi-journal-medicine).

Group C included 10 articles chosen from British Medical Journal BMJ that is one of the most popular, authentic and open access journals in the medical field. It has emphasized the use of the active voice in writing the language of science as mentioned above (http://resources.bmj.com/bmj/authors/bmj-house-style).

Group D included 10 articles selected from The Journal of Neuroscience that is an open access journal has its important place in this field and like the previous one it has made a clear warning of using passive voice (http://www.jneurosci.org.)

Group E included 10 articles from Virology Journal, which is an open access and the majority of its authors are non-native speakers of English and like the Iraqi journals there is no reference of grammatical instructions for using or not using passivization to be followed (www.virologyj.com/).

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The researcher adopted the following procedures to achieve the purpose of the study:

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In the above sentence, the S of the to infinitive clause is ambiguous, i.e., who was dissecting its brain? The best solution of this case is cancelling the passivization and using the personal pronoun we that will be grammatically and semantically the S of it, as in:

- To dissect its brain, we mounted the affected fly on …

As it has been explained above, there are negative consequences of using the passive voice in this type of language, therefore, the majority of worldly journals, such as British Medical Journal (BMJ), The Journal of Neuroscience, Nature, Science, Behavioral Ecology, The Journal of Traumand Discussion, Ophthalmology, etc. prefer nowadays writing in the active voice the academic and scientific knowledge and specially in (bio)medical and technological fields for the directness, simplicity and the identification of the performers of the actions and events. For example, the BMJ has written this instruction for its authors, "Please write in a clear, direct, and active style....Write in the active [voice] and use the first person where necessary," whereas the Journal of Neuroscience has made this, "Overuse of the passive voice is a common problem in writing…. it makes the manuscript dull by failing to identify the author's role in the research....Use direct, active-voice sentences." (http://www.biomedicaleditor.com/active-voice.html).
1. Specifying all the finite sentences and clauses in the five groups of the study sample.
2. Classifying them into two categories: a) sentences with transitive Vs that are in turn divided into passive sentences and active sentences, and b) the excluded sentences with no O (intransitive V or copulas - the descriptive S+V+C or S+V+A).
3. Determining the frequencies that are not mentioned in the tables and ratios of the occurrences of these categories and subcategories to state the prevalence of them.
4. Checking out grammatically all the passive sentences to see if they are constructing according to rules of the passivization and identify the found out grammatical errors.
5. Setting up the relevant conclusions and recommendations.

RESULTS AND DISCUSSION

The Occurrences of the Finite sentences in the Sample

The results of the syntactic and statistical analysis in this study are shown in Table (2) below that explains the ratios of the occurrences of the sentences having transitive Vs, which require obligatory direct or indirect plus direct Os – that are the focus of this study – versus those that do not contain O.

Table 2 the Ratios of the Finite Sentences Occurrences in the Sample

<table>
<thead>
<tr>
<th>Category</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentences with Trans. V</td>
<td>50%</td>
<td>61%</td>
<td>71%</td>
<td>87%</td>
<td>61%</td>
</tr>
<tr>
<td>Sentences with no O</td>
<td>50%</td>
<td>39%</td>
<td>29%</td>
<td>13%</td>
<td>39%</td>
</tr>
</tbody>
</table>

In the four groups B (articles of The New Iraqi Journal of Medicine), C (articles of BJM), D (articles of The Journal of Neuroscience), and E (articles of Virology Journal), the ratios of the first category were higher than those of the second. Group D had the highest ratio (87%) of the occurrences of sentences with transitive Vs and group C comes next (71%). Both were written by native English speakers (mostly from USA and UK), whereas groups B and E take the third position with the same ratio (61%) and their researchers were non-native English speakers: Chinese, Japanese, etc. who published in the journal of group E, and Iraqi researchers who have worked abroad or cooperated with foreign researchers and published their articles in the official journal of the Iraqi Ministry of Health. Only in group A (articles of Journal of the Faculty of Medicine Baghdad) the ratios of the two categories were equal (50%) and the researchers who wrote the articles of this group are all Iraqi instructors working in Iraq.

The identification and descriptive sentences (S + V + complement / adverbial) exemplified the majority of the second category - sentences with no O - to give an identification of the S or to expose the numerical data of the results that determine mainly the increase or decrease of the ratios. For example, group D showed the lowest ratio indicating that the statistical analyses did not play a noticeable role in the findings of these articles.

The Occurrences of the Passive and Active sentences in the Sample

To achieve the aims of this study, the researcher worked on the sentences of the first category to specify the ratios of the occurrences of the passive sentences against the active ones. It is important to be mentioned here that the whole sample contained only the normal form of the passive voice, which means that the get passive or the other forms were completely absent because this type of English register - scientific writings - is formal and there is no room for the elaboration or complication. Table (2) below shows these numerical results:

Table 3 the Ratios of the Passive and Active Sentences Occurrences in the sample

<table>
<thead>
<tr>
<th>Groups</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive Sentences</td>
<td>81%</td>
<td>72%</td>
<td>36.5%</td>
<td>43%</td>
<td>80%</td>
</tr>
<tr>
<td>Active Sentences</td>
<td>19%</td>
<td>28%</td>
<td>65.5%</td>
<td>57%</td>
<td>20%</td>
</tr>
</tbody>
</table>

The above data revealed a recognizable variation in the uses of the voice in the sample and this attributed to certain reasons. Group A had the dominance (81%) of manipulating the indirect and transformed grammatical construction and all its Iraqi researchers were far out of the active voice (19%), which are sentences that cannot be passivized only because of the type of the Vs (more specifically the middle Vs like have). These ratios indicate that there is a great preference of the passive by the Iraqi authors who are certainly non-native English speakers and as mentioned previously have worked inside (Iraqi universities). Group E (80%) comes secondly with a very little difference that was only (1%). As with the former group, the authors of this group who used passive voice in a wider way in their articles are non-native speakers of English. The following excerpts from the group B (2009, Vol. 5, No. 3) show the excess use of the passive.

- The time interval of MRI relative to the onset of... were[sic] determined in ... and patients were then categorized into two groups ... MRI were performed ... .(p:25)
- Bleeding was effectively controlled in all patients with two doses, no adverse effect [was] recorded and major surgical interference was avoided. (p:80)

The third rank was dominated by group B (72%) and this ratio was still high in comparison to that of the use active voice (28%). This decrease in the passive prevalence can be related to the fact that some of the Iraqi researchers of group B have worked abroad in universities, hospitals or other medical institutions and the majority cooperated with researchers who are native English speakers in carrying out their researches. The effect of the foreign partners’ style and mechanism, which is going to be discussed latter, on the Iraqi was
The GMF system was used to classify severity of the limitation in the passive form of 59 consecutive patients. This retrospective analysis included a total of 59 neuroradiologists. These three passive sentences can be transformed simply into active voice as in: We classified (the) severity of the limitation in … with the GMF system. Two neuroradiologists evaluated the images independently. This retrospective analysis included a total of 59 consecutive patients.

Finally and in accordance with what we explained in ( ), the excess prevalence of passivization in the above three groups was attributed to the following:

1. The authors’ intentional adoption of passivization – according to their traditional viewpoint – to make their writing style appear scholarly and sophisticated through increasing the objectivity and probity of their scientific writings, i.e., being more accurate and precisely.

2. The authors’ unintentional imitation of the old-fashioned writing style of adoption this indirect grammatical construction, i.e., they use it out of habit and do not keep up with the change.

The reverse vision appeared in the other two groups C and D that included articles written mainly by researchers who are native English speakers and tend to use and prefer active voice instinctively and habitually. As it has mentioned above the two worldly journals that published the articles always instruct their authors to avoid passive and emphasize the use of active voice for achieving the directness and clarity. These things made group C and D have only (36.5%) and (43%) respectively of the occurrences of passive sentences, indicating that those researchers have well awareness of the merits of active voice and tried to get rid of the perils of the other voice such as depersonalizing the statements and often the doer - the researcher(s) – is/are known. Consequently, the ratios of active voice sentences were (65.5 % and 57% respectively) showing a noticeable and acceptable increase in the use of this direct and simple grammatical construction. The researchers – specifically in group C- were in accordance with the instructions of the journals which are in agreement with their background grammatical competence that is obvious in their performance. For example, they used the plural first person pronoun we mainly and intentionally with the carrier Vs, as in the following examples extracted from these two groups:

1. We recorded both tracts alternated with one or the other shaft, and observed no bias….
2. We performed analyses of single PNs with Spike2 ….
3. We found different response latencies across different odor stimulations ….

Or to get rid of the non-personal pronoun (the empty ) it especially with V like hypotheses in the passive form sentences ( It was hypothesized that … )

- We hypothesized that the broadly tuned 1-APT delivers … timing of an odor.

Also they have used an inanimate S instead of an animate personal S as the agent, as in:

- The study hypothesized that ….
- It estimates the absolute latency of the input data by merging ….

Passive voice and Grammatical Errors

The excess use of the passive voice specifically in groups A, B, and E made a recognizable number of grammatical erroneous sentences since this construction requires tracing precisely the grammatical rules mentioned above in (1.1) to form well-grammatical and meaningful sentences. Table (4) below shows the ratios of the occurrences of correct and erroneous passive sentences in the five groups of the sample.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct Sentences</td>
<td>79%</td>
<td>85%</td>
<td>99%</td>
<td>98.5%</td>
<td>88%</td>
</tr>
<tr>
<td>Erroneous sentences</td>
<td>21%</td>
<td>15%</td>
<td>1%</td>
<td>1.5%</td>
<td>12%</td>
</tr>
</tbody>
</table>

The ratios of the erroneous passive sentences in groups A, B, and E were (21%, 15%, and 12%) respectively and they are, generally, attributed to the deficiency in these groups researchers’ competence of the grammar of English language though the medical specialists or researchers have somewhat better English language proficiency than others from various scientific fields. The found out errors fall into three categories:

1. Misuse of the auxiliary Vs, as in:
   a. The 85% of the population were considered dependent. (should be 'was considered')
2. Loss of the auxiliary Vs, as in:
   a. The average gestational age and the expected fetal weight estimated (should be 'were estimated')
3. Mis - inflection of the P.P., as in:
   a. No movement was notice during the whole …. (should be 'noticed')
   b. Two doses of the GHI9 were gived to the patients of …. (should be 'given')
A clear decrease from the above result appeared the other two groups, C, and D that had (1%, and 1.5%) respectively of the erroneous passive sentences. The specified errors may be just typewriting mistakes so the researcher excluded them from this discussion.

**CONCLUSIONS**

According to the found out results of the analysis in this study, the researcher set up the following conclusions about the prevalence of passivization that depended on certain important points in medical articles:

a. This construction appeared excessively in the articles of groups A (81%), E (80%), and B (72%) that were written by authors who are non-native speakers of English and published in the journals that make no reference in their instructions for authors to the grammatical styles that should be adopted. These authors were so far of manipulating the active voice because they sought for, according to their viewpoint, what are achieved by passivization, which are: a- the objectivity and probity of their writings and b- the scholarship and sophistication of their owners' personal style through not declaring any identification of the responsible doers. Also, the above high prevalence may be because of unintentional tracing of the old-fashioned writing styles of the scientific writings.

b. On contrary, authors of groups C and D had acceptable and logical ratios (36.5% and 43% respectively). This noticeable decrease of the prevalence of passivization because mainly these authors are native speakers of English and published their articles in journals that have emphasized the use of active voiced and warned against the perils of passivization. They adopted habitually the direct and simple active forms for getting rid of the wordy and impersonality.

c. The adoption of passivization that requires a precise manipulation of the basic rules creates different grammatical errors especially by the non-native speakers – authors of groups A, B, and E that had (21%, 15%, and 12% respectively). The erroneous passive sentences suffered from either loss or misuse of Be auxiliary, which is the corner stone of passivization, or ill-inflected P.P. In the other two groups C, D, the authors' grammatical errors were so low (1% and 1.5% respectively) and they were attributed to typing mistakes and not more

**Recommendations**

There is no doubt that the main purpose of academic or scientific authors is to convey and communicate the knowledge of their specializations in understandable, direct and simple ways. This requires to avoid all things that lead to the reverse and, grammatically, passivization is one of the unneeded constructions, which its ill consequences are more that its merits in this genre of writings. Therefore we recommend those authors to make the active voice the basic and avoid using passivization unnecessarily and in turn getting rid of the potential errors and. Also, all the scientific journals—specifically the Iraqis—have to inform the authors of the privileges of the active and pursuing the updated styles.

**References**


Gottlieb, Margo and Ernst-Slavit, Gisela. (2013). The Academic language: A Centerpiece for Academic Success in English Language Arts. 2 in
Sources from Internet


The New Iraqi Journal of Medicine. publicationethics.org/.../new-iraqi-journal-medicine

