

## **Quality of References Transcription of Theses at the Faculty of Medicine of Setif - Algeria**

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### **ABSTRACT**

A fundamental principle of the scientific approach is to justify the main precise facts, stated during the writing of the thesis by scientific, professional and popularization documents. Aim is to contribute to the improvement of the quality of the scientific medical writing of the theses Faculty of Medicine of Setif, in particular the references transcription. Its a comparative study "before – after" a training session on the quality of the scientific medical writing of 120 theses at the faculty of medicine during the two academic years 2014 - 2015 et 2015 -2016. The references transcription was more correct for the pharmacy department. Transcription anomalies were significantly less frequent and the proportion of theses with a correct chapter title was significantly for times greater (OR = 4.0; 95% CI = 1.4–11.2). The same result for titer was observed for the second year (OR = 10.5; 95% CI = 3.4–32.1), but with no significant difference for the number of transcription abnormalities. The insufficient level of knowledge of techniques of scientific medical writing show that the usefulness of training sessions is indisputable for improving the quality of scientific texts and promoting publications.

*Keywords: Medical writing, References, Thesis, Transcription*

### **1. INTRODUCTION \***

In order to promote the articulation between the achievements of training and professional experience, very many training paths include in their program the production of a thesis which is essential for the Graduation. It is an original work that does not consist of copying randomly compiled information from the literature, but of learning methods of reasoning in clinical medicine and simple methods of writing well. Learning that will be useful throughout the career [1-3].

The thesis is a personal work. It generally constitutes the student's first contact with medical writing. It permits to evaluate much more scientific capacities than clinical ones of a contribution to the improvement of knowledge [4]. It is a tool of methodology, writing and learning to analyze literature, the writing and development of which must be similar to research work, and must satisfy the fundamental requirement of an appropriate methodology [1].

Like any scientific work, the writing of the thesis is based on scientific, professional and popular documents which will be used in their entirety or an extract of which will be quoted or paraphrased [5,6] to justify the main precise facts stated, which is a fundamental principle of the scientific approach [7]. The citation of referenced documents provides the reality of the facts cited and allows the reader to have access to the original description of the facts, to

identify the different documents (books, journals, websites, etc.) used for writing a work and to deepen or complete the research work on the subject treated [1,5].

Precise references must imperatively be provided [7]. They must be presented in a standardized way, containing rigorous data and arranged in a determined order with precise punctuation [5].

Any publication should be written in a correct form for quick comprehension and critical reading [7-9]. The interest in reading depends not only on its scientific content, but also on the quality of its writing. The evaluation of manuscripts still remains focused much more on the content to ensure the accuracy, importance and originality of the published texts and their interest for the reader [10], while the editorial aspect and the form are more or less ignored.

Since the reintroduction of the production of a thesis in the cycle of graduation studies for obtaining the diploma of Doctor of Pharmacy and Doctor of Dentistry [11, 12], what about the quality of the scientific writing of this type of production at the local level?

Aim of our work was to contribute to the improvement of the quality of the scientific medical writing of theses at the Faculty of Medicine of Setif, particularly the references transcription, by an evaluative study, an action of initiation to the techniques of medical writing with an evaluation of its impact.

## 2. MATERIAL AND METHODS

It is a comparative study of the “before – after” type [13] on the quality of the scientific medical writing of theses before and after a training session on the subject.

The study population is all theses produced in the two departments of dentistry and pharmacy of the Faculty of Medicine of Setif, during the academic years 2014 - 2015, for the first stage before to training; and 2015 – 2016, for the second stage, after training. It is an exhaustive study carried out on 120 theses (Table 1).

Table1: Distribution of theses by department and academic year

Department/ Academic year	Dentistry		Pharmacy		Total	
	Number	%	Number	%	Number	%
2014 – 2015	17	36,2	30	63,8	47	100,0
2015 – 2016	17	23,3	56	76,7	73	100,0
Total	34	28,3	86	71,7	120	100,0

The training falling within the framework of the sixth-year graduate training course for obtaining the diploma of Doctor of Pharmacy and Dentistry [11,12] aims to introduce the rules of medical writing as well as an apprenticeship in the methodology of clinical research and the production of the manuscript.

Studied variables relating to the references are the mention of the title of the list as well as the quality of their transcription in the text and in the list.

For the judgment criteria, a title mentioned by the term “references” was considered correct, unlike the terms “bibliography” or “bibliographic references” [14]. For transcription, these criteria are based on the recommendations of the International Committee of Medical Journal Editors (ICMJE) [15-17].

The statistical methods used are:

- Descriptive statistics techniques [18,19]:

- Tabular presentation.
- Graphic presentation.
- Reduction parameters (mean and standard deviation ).
- Parametric tests of statistical comparison [20-22]:
- Reduced-deviation test for comparing proportions and means.
- Chi-square test for comparing proportions.
- Statistical comparison tests for small samples [21,22]:
- Fisher's exact test for comparing proportions and distributions.
- Student test for the comparison of means.
- Crude and stratified epidemiological association measures with 95% confidence interval (CI) by the exact method, in particular the odds-ratio (OR) and the etiologic risk fraction (FER) [13, 18,23].
- Techniques of stratified analysis for case-control study with measures of statistical and epidemiological association : the chi-square and the odds-ratio of Mantel and Haenszel (OR M-H). [13,18,23].

### 3. RESULTS AND DISCUSSION

Qualitatively, the type of anomalies identified were the incorrect mention of the title of the list (Bibliography or bibliographical references); the absence of references in the text; no adoption of the precise reference system; the adoption of both systems at the same time (particularly the "author-date" system with another system); erroneous transcriptions in the text (multiple references each placed in brackets or parentheses, multiple references cited without any order, all successive references cited, use of dashes instead of commas to separate non-successive references); no respect the order of transcription in the text for the numerical sequential system; no respect the alphabetical order in the transcription in the list for the "author – date" system; transcription in the text without brackets or parentheses; omission and lack of references; transcription errors in the list (transcription without conformity to recommendations, use of two or more recommendations at the same time); and finally, references appearing in the text but not at the level of the list ("author-date" system).

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For the quantitative aspect the title of the chapter of the references was correct only for the third of the studied theses. The number of transcription anomalies in the text varied between 0 and 165, mean was 16 +/- 24 anomalies.

In the list, this number varied between 0 and 94 anomalies with a mean of 25 +/- 22 anomalies.

The comparison by department has shown a better quality of transcription in the department of pharmacy. The proportion of theses with a correct chapter title was significantly three times higher for the pharmacy department, 40.7% against 14.7% for the dentistry department (OR = 4.0, 95% CI = 1,4 – 11,2). The number of transcription anomalies was also significantly lower for the pharmacy department (Table 2).

Table 2: Comparative study of the references transcription by department. .

Variable	Department		p
	Dentistry, n <sub>1</sub> = 34	Pharmacy n <sub>2</sub> = 86	
<b>Number of transcription anomalies in the text (n<sub>1</sub> = 32 ; n<sub>2</sub> = 86)</b>			
0 – 10	10 (31,3)	61 (70,9)	
10 – 20	4 (12,5)	15 (17,4)	< 1 p. 1 000
≥ 20	18 (56,3)	10 (11,6)	
<i>Mean</i>	31,0	10,0	
<i>Standard-deviation</i>	36,2	14,3	< 1 p. 1 000
<i>Min - Max</i>	0 - 165	0 - 67	
<b>Number of transcription anomalies in the list</b>			
0 – 10	8 (23,5)	26 (30,2)	
10 – 20	4 (11,8)	22 (25,6)	DNS
≥ 20	22 (64,7)	38 (44,2)	
<i>Mean</i>	37,0	21,0	
<i>Standard-deviation</i>	28,4	16,8	< 1 p. 1 000
<i>Min - Max</i>	1 - 94	0 - 86	

DNS: Statistical difference no significant.

The comparison by academic year showed a significant increase of the number of theses having a correct chapter title, which increased from four to 36 theses. Respective proportions was 8.5% and 43.9% (OR = 10.5; 95% CI = 3.4 – 32.1). For the number of transcription anomalies, there was no statistically significant difference either in the text or in the list (Table 3).

The stratified analysis with adjustment on the department showed a significant increase in having a correct title of the chapter, for the second year (OR M-H = 10.2; CI 95% = 3.2 – 32.4).

The proportion of the correct title of the references chapter is relatively close to that of a Tunisian study (60.5%) [24], an improvement can be attributed to the training session got it the significant increase in the proportions corresponding to the second year, particularly after adjusting for the department.

We have observed a number of transcription anomalies greater than or equal to 20 for 23.7% of the theses in the text, and for the half of the theses in the list. The standards for the presentation of references were much less respected compared to the Moroccan study where the corresponding proportion was 86.9% of theses [25].

Table 3: Comparative study of the references transcription by academic year.

Variable	Academic year	p
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	2014 – 2015 n <sub>1</sub> = 47	2015 – 2016 n <sub>2</sub> = 73	
<b>Number of transcription anomalies in the text (n<sub>1</sub> = 46 ; n<sub>2</sub> = 72)</b>			
0 – 10	26 (56,5)	45 (62,5)	
10 – 20	9 (19,6)	10 (13,9)	DNS
≥ 20	11 (23,9)	17 (23,6)	
<i>Mean</i>	20,0	13,0	
<i>Standard-deviation</i>	33,0	16,0	DNS
<i>Min - Max</i>	0 – 165	0 – 64	
<b>Number of transcription anomalies in the list</b>			
0 – 10	13 (27,7)	21 (28,8)	
10 – 20	9 (19,1)	17 (23,3)	DNS
≥ 20	25 (53,2)	35 (47,9)	
<i>Mean</i>	27,0	24,0	
<i>Standard-deviation</i>	23,0	21,2	DNS
<i>Min - Max</i>	1 – 94	0 – 86	

*DNS: Statistical difference no significant.*

Transcription anomalies were relatively frequent, whether in the text or in the list particularly for the dentistry department, where both proportions and significantly higher mean values were observed. A higher number of teaching supervisors of masterly rank, authors of a doctoral thesis, the greater practice and therefore a richer experience could explain the better quality of the transcription at the department of pharmacy.

It is clear at the end of this work, an insufficient level of knowledge of the techniques of scientific medical writing, which must constitute a valorization tool of work for health sciences. The training session's utility is indisputable. The results of a national study [26] have concluded an important increase in the number of articles indexed on Medline and having an Algerian first author, after a training action in the Algerian universities on bibliographic research and the writing of scientific articles; data processing and analysis techniques as well as the programming of public health projects. An improvement in the quality of scientific publications was also observed by a Croatian study for Nurse Association, after the introduction of a Master of Science in a nursing training course [27].

#### **4. CONCLUSION**

It therefore turns out that the integration of training programs in both cycles, graduate and postgraduate, is a necessity. It would constitute a learning means useful for the whole career, for the students; and a means of development for professionals and teachers. It would certainly contribute to improving the quality of scientific texts, doctoral theses, communications and publications, and consequently, to the promotion of scientific production.

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