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## DISCUSSION

# Writing for publication: The basics

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### KEYWORDS

Scientific writing;  
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### Summary

*Problem:* Most midwives and nurses do not write for publication. Previous authors on this topic have focussed on the processes of writing and getting published. Although definitive English usage style guides exist, they are infrequently consulted by new midwifery authors.

*Purpose:* To enable new writers to confidently apply the basic skills of scientific writing when preparing a paper for publication.

*Overview:* The basic skills needed for scientific writing are the focus of this paper. The importance of careful word choices is discussed first. Next, the skills of writing sentences are presented. Finally, the skills of writing paragraphs are discussed. Examples of poor and better writing are given in relation to each of these basic elements.

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## Background

The basics of good writing are not well known in the world of midwifery or nursing. Sometimes postgraduate students, when asked to write a literature review, will complain "writing has nothing to do with us learning to be good midwives". How wrong that belief is! The limits of short-term memory mean that we have to write in order to engage in any form of extended critical thinking. Clear thinking and the development of logical, coherent argument are the keystones of all scientific endeavours. A midwife cannot argue effectively for evidence-informed practice unless she has critical thinking and logical arguing skills. Thus, I am arguing that good writing is essential to the practice and development of midwifery as a discipline.

A review of midwifery and nursing journal articles, published in the last five years, was conducted. The review

showed that a large number of articles have been written with the apparent, shared, aim of attracting new authors to write for publication. These papers focus mostly on the process of writing and publication process.<sup>1–9</sup> Some give advice about how to learn the skills of writing for publication: join writing groups and work with a mentor.<sup>9</sup> In *Midwifery* the most cited paper is by Anne Thompson.<sup>10</sup> Her paper presents guidelines on how to write for the 'Midwifery' journal that she edited. Thompson's paper focuses on how to structure a quantitative research report; a goal that is well met. Basic writing skills, however, are dismissed in a single paragraph of her paper; essentially she states that it is the authors' responsibility to ensure that their paper is well written. Here is the problem; the assumption that author already knows, or should know, how to write good scientific English. Overall, the major limitation of existing nursing and midwifery articles is that they assume that the potential writer already has basic English writing skills. That has not been my experience neither as reader of journals, nor as a postgraduate teacher, nor as a journal reviewer/editor.

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The notion of what constitutes good scientific writing is complicated because there are both similarities and differences between creative and scientific writing. For example, the similarities include the use of correct grammar and punctuation. What is considered a good sentence, however, may be different in creative and scientific writing. In creative writing sentences that are long and convoluted may be considered excellent English; try some of Charles Dickens' or Virginia Wolf's to see what I mean. Good scientific writing, in contrast, uses sentences that are short, clear and direct.<sup>14</sup> A paragraph in creative writing may slowly build to its main idea as the final sentence. A good paragraph, in scientific writing, has its main idea, the topic sentence, as the first sentence. Paragraphs in creative writing may be sprinkled liberally with commas, semi-colons and colons; which of course are necessary if the sentences are long and convoluted. In scientific writing punctuation is much less used because sentences are short and clear.

There are also differences in the way we speak and the way we write. Writing involves work and editing; it does not flow naturally from the brain to the keyboard. Indeed, we tend to speak in a chain-of-consciousness way; often ending our sentences with the main idea. For example: recently I said to a friend, "did you see that man with the white shirt and the dogs; he had hundreds of flies on his back"? The main idea (implied) was that summer is coming and flies are proliferating; yet the main idea came last. The manner in which I worked my way up to the main idea in the sentence is typical of how we think and speak; we often put the subject ('flies' in this example) last. Good scientific writing is much more formal and carefully structured. In scientific writing the subject of the sentence comes first. The spoken sentence (above) could be re-written as "Flies seem to be proliferating; that man had hundreds on his back".

Surely, I hear you say, there are plenty of books on how to write well; so why write an article on this topic at all? True, many texts have been written on academic writing.<sup>11–17</sup> Excellent reference books also exist including the definitive Fowler's English Usage, now in its 3rd edition—the original was written in 1906.<sup>18,19</sup> In psychology and many health sciences, the American Psychological Association's Publication Manual is a chief reference on writing style.<sup>20</sup> For the majority of potential writers, however, these books remain unread: perhaps because they use the language of grammar and syntax that further undermines the potential writer's confidence. Perhaps style guides remain unread by midwives because they are not well focussed on scientific writing. Perhaps they remain unread because the examples given do not resonate with busy practitioners who just want a quick, directly relevant answer; not a long English lesson. For whatever reasons, busy midwives, who are potential writers, mostly do not read and refer to basic writing texts. Indeed telling a potential new author to refer to Fowler's English Usage is enough to cause them to throw their draft paper in a drawer and never look at it again.

I hope potential midwifery authors will read and refer to this article when writing. In order to entice them I have made the language simple. I have been highly selective so as to focus on what midwifery authors, in my opinion, are most likely to want to know (or confirm). I have chosen to focus on the basics elements of writing that I have found are common problems for Masters and Research Higher Degree students:

the very people who are the next generation of potential authors. I have used examples that are directly relevant to writing about midwifery. I acknowledge that in being selective I have had to leave out a lot of information. If more detail is required, I invite the interested reader to follow up some of the texts I have mentioned above. My chief sources are Zeigler's *Essentials of Writing Biomedical Research Papers*<sup>14</sup> and, for punctuation, Truss' *Eats Shoots and Leaves* is both wonderful and funny.<sup>22</sup>

## The basics of scientific writing

The basic elements of scientific writing are presented below in the following order. Careful word choices, which aid clarity, simplicity, and accuracy, are discussed first. Next, the skills of writing sentences are described. The aim is to write sentences that are clear, direct and brief. This involves placing the subject early in the sentence and using active voice. Finally, the skills of writing paragraphs, i.e. unity, coherence, and development, are discussed. Examples of poor and better writing are given in relation to each of the basic elements.

### Careful word choices

The elements of careful word choices are clarity, simplicity, accuracy.<sup>14</sup> These three elements relate together as the foundation stones of good writing.

Clarity means choosing the simplest and most accurate word to express each idea. Achieving clarity makes your intended meaning easy to understand. We often use longer words out of habit, or because we notice that other writers do. Many of us were trained to use long words; they were symbols of our more highly educated status. I remember senior nurse educators crossing out my use of words like 'get' and 'use' and replacing them with 'acquire' and 'utilize'. The expert opinion is that it is pretentious and confusing to readers to use a complex word when a short, simple and appropriate alternative word exists. See [Box 1](#) for examples of how to choose simple, short words.

Clarity is also improved if your word choice is accurate. Accuracy means choosing the precise word to express what you mean. Your paper will have some key terms; define them in the introduction to your paper. Clarity is improved if, once

### Box 1. Simplicity and clarity

Poor word choice	Better word choice
Acquire	Get
Utilize	Use
Attempted	Tried
Ascertain	Make sure
Subsequent	Next
Voluminous	Big, large, full
Purchase	Buy
Remainder	Rest

having chosen the precise word, you use the same word consistently throughout; do not substitute synonyms.<sup>14</sup> For example if you want to write about 'perinatal mortality' first define that term and then use the same term, 'perinatal mortality' throughout the paper. Do not carelessly use synonyms (e.g. perinatal deaths, baby deaths, stillbirths, newborn deaths) as this confuses the reader and distracts from your message. In summary, to improve the clarity of your

writing; be sure that your chosen words are accurate, and as simple as possible. Then, be consistent; use the same word each time you write about the same idea.

## Sentences

A sentence is a group of words about a single idea. A sentence contains at least one subject and at least one verb.<sup>14</sup> The

### Box 2. Accuracy and clarity

Definition	Example
<i>Incidence</i> : number of cases developing per unit of population per unit of time	The incidence of maternal mortality in Trajanistan is 180 cases per 100,000 births per year
<i>Prevalence</i> : number of cases existing per of population at a given time.	The prevalence of HIV in Trajanistan in June 2007 was 1 case per 150,000 people
<i>Practice</i> : (noun) "the usual or normal action or proceeding ... repetition or exercise of an activity in order to achieve mastery" <sup>21</sup>	Midwifery Practice. The practice of midwifery. She is in practice
<i>Practise</i> : (verb) "to do or cause to do repeatedly in order to gain skill" <sup>21</sup>	She is practising midwifery. She is authorised to practise midwifery
<i>Mucus</i> : noun	" <i>mucus</i> is a viscous secretion of the <i>mucous</i> membranes" <sup>14</sup>
<i>Mucous</i> : the adjective	
<i>Can</i> : "Denotes the power, or ability to do something"	Most women <i>can</i> birth spontaneously if they have a midwife as their primary maternity carer
<i>May</i> : "Refers to the possibility or to permission" <sup>14</sup>	Most obstetricians have decided that women <i>may</i> not have a midwife as their primary carer
<i>Its</i> (possessive pronoun). Other possessive pronouns are hers and his. None of these possessive pronouns have apostrophes.	"Nursing has <i>its</i> problems but usually <i>it's</i> (it is) wonderful to care for patients" <sup>13</sup>
<i>It's</i> is a contraction of 'it is'. Contractions are best avoided in scientific writing <sup>14</sup>	
<i>Affect</i> (verb) "to act upon or influence" <sup>21</sup>	The clinical environment negatively <i>affected</i> the wellbeing of the woman
<i>Effect</i> (noun) a result, something that is produced by a cause <sup>21</sup>	Failure to progress in labour is frequently an <i>effect</i> of epidural anesthetic
<i>Less</i> (adjective) refers to size, extent or degree of something	Women who fasted in labour passed <i>less</i> urine.
<i>Fewer</i> (adjective) refers to number/s of something <sup>21</sup>	Women who experienced non-medicated labour had <i>fewer</i> surgical interventions in birth.
<i>Compare with</i> : refers to comparisons in the same class <sup>17</sup>	Customers with <i>fewer</i> than 12 items please use the express checkout <sup>22</sup>
<i>Compare to</i> : refers to comparisons to something in a different class <sup>17</sup>	"Labouring women preferred water immersion <i>compared with</i> other non-drug options"
<i>That</i> (pronoun) always refers to specific members of a class of which it is a member. The sentence example limits and defines a specific member of the class of multivitamins to the ones "that she took"	Women, who laboured in water, had lower rates of medical interventions <i>compared to</i> a matched cohort of women who had standard care
<i>Which</i> (pronoun) does not limit or define a specific member of general class. In the example sentence "which are prescribed for pregnant women" could be removed from the sentence and it would still make sense	The multivitamins <i>that</i> she took did not have enough folic acid
Note, a comma normally precedes the use of 'which' but not 'that' <sup>17</sup>	Multivitamins, <i>which</i> are often prescribed for pregnant women, are often started too late in pregnancy

subject of the sentence is the person, or thing, that is the focus of the sentence. For example: "Midwives form partnerships with women". The subject of this sentence is a noun, "midwives." Verbs are 'action' or 'doing' words.<sup>14</sup> In the example: "Midwives form partnerships with women." the verb is "form"<sup>14,17</sup> (Box 2).

### 1.1. Use active voice

In scientific writing 'active' rather than 'passive voice' is generally preferred. In the active voice the subject names the actor.<sup>17</sup> For example: 'The *dog* chewed the bone' is correct because the dog (subject) is the actor, i.e. the one who chewed (verb). By comparison: 'The *bone* was chewed by the dog' is in the passive voice; the subject is now the 'bone'; the verb has been modified by the addition of 'was'; and verb 'chew' has been changed into the past tense 'chewed'. Many scientific sentences have more than one possible subject and more than one verb. The writer must be clear, in her own mind, about which noun in any given sentence is the 'real' subject of the sentence. The subject should appear early in the sentence. Putting the subject early in each sentence assists you to write sentences that are simple, active, and brief.<sup>14</sup>

In previous years scientific writers wrote in the passive voice because they had been trained to appear to be detached and objective in writing. The first person words 'I' or 'We' were banished from journals, dissertations and academic texts. This injunction has changed in a specific way: scientific writers are now encouraged to use the first person whenever writing about subjective matters of opinion or judgement.<sup>13,14,20</sup> See examples of the use of active and passive voice in Box 3.

### Passive voice

Passive voice, because it omits or de-emphasises the actor in a sentence, often deprives writing of its vigour. Further, passive voice may create unnecessary vagueness.<sup>17</sup> Passive voice, however, is acceptable when you want to focus on the recipient of the action rather than on the actor.<sup>20</sup> For example "The *student midwife* examined the woman" is correctly written in the active voice as the focus is on the student midwife. By comparison "The *woman* was examined and found to be healthy" is correctly in the passive voice as the focus is kept, appropriately, on the woman.

### Paragraphs

A paragraph is a group of sentences related to each other by the exploration and development of one idea. The elements of good paragraphs are:

1. **Unity:** Each sentence in the paragraph is on the topic of the paragraph
2. **Coherence:** The relationship between the sentences is clear and logical
3. **Development:** The main idea of the paragraph is well supported with specific evidence, examples and details.<sup>17</sup>

A paragraph tells a story that the reader should be able to follow and understand. The general approach to writing a paragraph is to first, give an overview in a topic sentence; the rest of the paragraph gives full expression to the ideas supporting the topic. The ideas need to be structured logically so that it is easy for the reader to follow.<sup>14</sup> Transition expressions are used to make relationships between sentences clear. Transition expressions link sentences together to achieve reading flow. Examples of transition expressions include: therefore; likewise; for example; notwithstanding;

### Box 3. Use active voice

#### Example 1: What is wrong with this sentence?

(1) A *decrease* in maternal blood pressure *occurred*.

#### Improved

(2) Maternal blood pressure *decreased*.

#### How Improved?

The subject of the sentence (maternal blood pressure) now names the actor in the sentence. The verb 'decreased' no longer needs the modifier 'occurred'. The sentence is shorter and more direct.<sup>14</sup>

#### Example 2: What is wrong with this sentence?

(1) When *tobacco smoke* is inhaled it takes 10-20 seconds for nicotine to *be delivered* to the central nervous system via arterial circulation.

#### Improved

(2) *Nicotine* takes 10–20 s to *reach* the brain after inhalation.

#### How Improved?

The subject (*nicotine*) is first in sentence and is the actor. By contrast, in the first sentence '*tobacco smoke*' was the subject whereas the actor was 'nicotine'. The verb *reach* is active in the second sentence whereas *be delivered* is passive.

#### Example 3: What is wrong with this sentence?

(1) *Participants* under aged 16, who *did not get* parental consent, *were not recruited*.

#### Improved

(2) *I* *decided* not to recruit participants under the age of 16 unless they also got parental consent.

#### How Improved?

The message of the sentence concerns a judgment about who to recruit and why. Using active voice makes the actor and the reason more clear. In active voice, version the '*I*' is now the subject (not the participants). The verb '*decided*' is active and places the action on the verb that is most appropriate; '*decided*' rather than '*recruited*' as in the passive first sentence.

#### Example 4: What is wrong with this sentence?

(1) *It was concluded* that delaying induction of labour until 41 completed weeks is safe and results in less inductions.

#### Improved

(2) *We concluded* that delaying induction of labour until 41 completed weeks is safe and results in fewer inductions.

#### How Improved?

The use of the first person 'we' and the active verb '*concluded*' make it clear who made the conclusion.<sup>14</sup>

## Box 4. Paragraph unity, coherence and development

### Example 1: What is wrong with this paragraph?

Breastfeeding is more difficult to establish following caesarean. Babies born by caesarean are more likely to suffer respiratory distress and be admitted to neonatal nursery. Failure to progress is a major reason given for performing a caesarean. Women who had a caesarean are more likely to experience postnatal depression. Caesarean section is associated with increased maternal and neonatal complications when compared to normal birth. Stillbirth rates in subsequent pregnancies are doubled for women who have had a caesarean. Maternal-newborn bonding is delayed or more difficult following caesarean. The rate of uterine rupture is dramatically increased in subsequent pregnancies. Postpartum haemorrhage is also more prevalent in this and all subsequent births.

### Problems

Topic sentence is in the middle of the paragraph (4th sentence)

The third sentence, about failure to progress, is not related to the topic; complications of caesareans

The relationship between sentences is not clear

The paragraph lacks logical development

### Improved

In comparison to a normal birth, maternal and neonatal complications are increased following a caesarean. The rates of postpartum haemorrhage, embolism and infection are all increased for women who had caesareans. The babies who are born by caesarean are more likely to suffer respiratory distress and be admitted to neonatal nursery. The rates of postnatal depression, following caesarean, are increased. An increased rate of postnatal depression is associated with the separation of mother and baby and difficulties with early attachment. Breastfeeding is also more difficult to establish; partly because of enforced separation of mother and baby and partly because the stress and pain of surgery interferes with prolactin and oxytocin release. Some complications following caesarean are long-term. In subsequent pregnancies stillbirth rates are doubled for women who have had a caesarean—the mechanism is not understood. In subsequent pregnancies the rates of uterine rupture and postpartum haemorrhage are dramatically increased, this is related to the existence of a uterine scar.

### How improved?

Topic sentence is first and gives overview Ideas are developed logically using chronological order

Coherence around one idea—the complications of caesareans

Transition words and phrases are used to show logical relationships between ideas

sentences a paragraph may have; brevity, however, is valued in scientific writing<sup>14,17</sup> (Box 4).

## 1.2. Brevity

Brevity means using the fewest words possible; too many words only confuse the reader. Achieving brevity is the result of disciplined and consistent self-editing. We tend to write as we think and speak, but that is often long-winded and convoluted. If we write as we speak what we write will be dull, confusing and difficult to read; in short, nobody will want to read your paper. After you write a first draft you will need to simplify what you have written by removing unnecessary words, sentences and even unnecessary paragraphs. Then you need to re-write many of your original sentences and paragraphs to achieve clarity and brevity. Always assume at least three drafts will be written before your paper is ready for submission. I often write 10 or more drafts in order to refine my paper; in the process I clarify my meaning and develop and support my arguments fully.

## Conclusion

The reason that you should pay attention to the basics of writing scientific English is because, as a writer you want to make it as easy as possible for the educated, but non-expert, reader to understand what you are saying. I have reviewed some of the basics of writing for scientific publication with the emphasis on helping you make your ideas clear and your arguments easy to follow. The most common reason for unclear writing is unclear thinking. Unclear writing indicates that your ideas are not yet well developed. The answer to clear thinking and clear writing is the same; engage in the process of writing and critically reading your own work; it is the best way to clarify what you really mean. You want your reader to know what you are saying so they can be convinced of the merit of your ideas. Alternatively, if the reader is going to disagree with you, at least it is not because you failed to express your ideas clearly or to structure your ideas logically.

## References

1. Black J. Writing for publication: advice to potential authors. *Plast Surg Nurs* 1996;16(2):90–3.
2. Burnard P. Education. Where do I begin? Writing for publication. *Accid Emerg Nurs* 1997;5(4):226–9.
3. Duff D. Writing for publication. *AXON/L'AXONE* 2001;22(4):36–9.
4. Happell B. Disseminating nursing knowledge—a guide to writing for publication. *Int J Psychiatric Nurs Res* 2005;10(3):1147–1155.
5. Jackson K, Sheldon L. Writing for publication. *Nurse Res* 2000;7(4):68–74.
6. Plawecki H, Plawecki J. Writing of publication: understanding the process. *J Holistic Nurs* 1998;16(1):23–32.
7. Rassool G. Moving in the right direction: first step in writing for publication in nursing. *Revista Latino-Am Enfermagem* 2005;13(6):1035–8.
8. Robinson J. Editorial. writing for publication in a peer-reviewed journal. *J Adv Nurs* 2000;31(5):991–992.
9. Taylor J, Lyon P, Harris J. Writing for publication: a new skill for nurses? *Nurse Educ Pract* 2005;5(2):91–6.

our approach was; the evidence was not strong; and; on the contrary.<sup>14,17</sup> In order to achieve unity, coherence and logical development paragraphs must have at least three and, frequently, more sentences. There is no upper limit to how many

10. Thompson DR. Writing for publication. *Eur J Cardiovasc Nurs* 2002;1(4):221–2.
11. Murray R, Metheny N. Writing for publication: the transition from course assignments and presentations to journal publication. *Missouri Nurse* 2002:18–21.
12. Murray R, Moore S. *The handbook of academic writing: a fresh approach*. Maidenhead, England: Open University Press; 2006.
13. Zilm G, Entwistle C. *The smart way: an introduction to writing for nurses*. 2nd ed. Toronto: Elsevier; 2002.
14. Zeiger M. *Essentials of writing biomedical research papers*. 2nd ed. New York: McGraw-Hill; 2000.
15. Bailey S. *Academic writing: a practical guide for students*. Cheltenham, UK: Nelson Thornes; 2003.
16. Gimenez J. *Writing for nursing and midwifery students*. London: Palgrave; 2007.
17. Fowler HR, Aaron JE. *The Little Brown handbook*. New York: HarperCollins; 1989.
18. Administration DoFa. *Style manual for authors, editors and printers*. 6th ed. Melbourne: Wiley and Sons; 2002.
19. Birchfield RW. *The New Fowler's modern English usage*. 3rd ed. Oxford: Oxford University Press; 1998.
20. Association AP. *Publication manual*. 5th ed. American Psychological Association; 2001.
21. Hanks P. *The Collins English dictionary*. 2nd ed. Sydney: Collins; 1979.
22. Truss L. *Eats shoots and leaves*. London: Profile Books; 2003.