Poor title – poor manuscript?

BACKGROUND The title of a scientific article is important for several reasons. Does the title of a manuscript submitted for publication in a medical journal reflect the quality of the manuscript itself?

MATERIAL AND METHOD We prepared criteria for poor, fair and good titles and tested them in pilot studies. All manuscripts submitted to the *Journal of the Norwegian Medical Association* during the period 1 September 2009–31 August 2011 as original articles (n = 211) or review articles (n = 110) were recorded. The quality of the titles was scored by two former editors. Primary outcome measures were rejection rates and odds ratio for rejection of manuscripts with a poor title compared to those with a good title.

RESULTS For original articles, the rejection rate for manuscripts with a poor, fair or good title amounted to 88 %, 73 % and 61 % (p = 0.002) respectively, and for review articles 83 %, 56 % and 38 % (p < 0.001). The odds ratio for rejection of manuscripts with a poor title compared to those with a good title was 4.6 (95 % CI: 1.7–12.3) for original articles and 8.2 (95 % CI: 2.6–26.4) for review articles. In a logistic regression model, the quality of the title explained 14 % and 27 % of the variance in outcome for original articles and review articles respectively.

INTERPRETATION In this study, a poor manuscript title was significantly associated with manuscript rejection. This indicates that the quality of the title often reflects the quality of the manuscript itself.

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MAIN MESSAGE

The title of a scientific article should adequately reflect its content and arouse the interest of potential readers.

The importance of titles has not been widely studied, and to date, such research has been restricted to published articles.

Scientific manuscripts submitted to the *Journal of the Norwegian Medical Association* with a title that was deemed to be poor were rejected significantly more often than manuscripts that had a good title.

The quality of the title of a manuscript often reflects the quality of the manuscript itself.

The title – the headline – of a scientific article is important for several reasons, including for attracting attention and arousing the interest of potential readers (1–4). All manuscripts that are submitted to a scientific journal for publication will first be assessed by the editors before they are sent out for external peer review. This assessment will be based mainly on the title and the abstract. The title of a submitted manuscript should adequately reflect the content, be correctly written, not too long or complicated and comply with the journal's guidelines for authors.

Does the quality of the title reflect the quality of the manuscript itself? As long-serving editors of the *Journal of the Norwegian Medical Association* (in Norwegian: Tidsskrift for Den norske legeforening) we noticed that submitted manuscripts that we deemed to have a poor title often tended to be rejected after a thorough editorial and scientific assessment. We therefore set out to test this hypothesis scientifically: Submitted manuscripts with a poor title run a higher risk of rejection than manuscripts with a good title.

Material and method

The *Journal of the Norwegian Medical Association*, hereafter referred to as Tidsskriftet, is a general medical journal that publishes original articles and review articles, as well as case reports, feature articles, commentaries, news and editorials in Norwegian. Some articles are also made available in English. Tidsskriftet is published in 23 issues annually with a circulation of approximately 25,000, and is sent to all members of the Norwegian Medical Association and to subscribers. It is available at no charge in a full-text online version.

We prepared criteria for poor, fair and good titles (Box 1) on the basis of 2–19 years of experience as editors and the guidelines and practice of the journal. The criteria were tested, improved and revised through several pilot studies, in which manuscript titles that would not be included in the study were assessed by all four authors independently. With the aid of the final quality criteria, satisfactory correlation could be achieved in the scoring performed by the two authors who would score the manuscripts to be included in the study (Spearman's rho = 0.71).

We then recorded the titles of all manuscripts submitted to Tidsskriftet from 1 September 2009 to 31 August 2011 for publication as original articles (n = 211) or review articles (n = 110). The quality of the titles was assessed and scored by two former editors (PGu, MN) separately, without any information as to whether the manuscripts had been accepted or not. Wherever they disagreed on a score, they discussed it until a consensus could be reached.

The primary outcome measures were rejection rates for manuscripts with a poor, fair and good title, and odds ratio for rejection of manuscripts with a poor title compared to those with a good title. The secondary effect measures were the length of titles in rejected and accepted manuscripts. The data were analysed using chi-square tests to iden-

BOX 1

Criteria for good, fair and poor titles

Good title:
Suitably long, arouses the reader's interest, assumed to adequately reflect the content, adapted to the type of article, written correctly and in conformity with the journal's formal requirements. Key terms should (preferably) come early in the title. Unknown abbreviations and unnecessarily long and complicated terms are impermissible. Can be printed with no changes.

Fair title:
The title is good, but needs some minor changes, for example due to orthographic errors, use of subtitles, unknown abbreviations, quotes, exclamation marks, inappropriately placed words or a conclusive statement.

Poor title:
Poorly formulated, linguistically inappropriate or incorrect, hard to understand, polemical and/or conclusive, uses clichés, buzzwords or long and unnecessarily complicated terms, ambiguous, much too long.

tify differences between groups. We used univariate logistic regression to find the odds ratio (with a 95 % confidence interval) and to estimate the explained variance. The analyses were undertaken using SPSS version 15.0. Initial analyses showed that the titles of manuscripts for original and review articles were of different quality, with unequal dispersion. Further analyses were therefore undertaken for each type of article separately.

Results

The proportion of manuscripts with titles that were deemed to be poor, fair and good amounted to 27 %, 51 % and 22 % respectively for original articles and 27 %, 39 % and 34 % for review articles (Table 1). The rejection rate was higher for manuscripts with a poor title than for those with a fair or good title, both for original articles (88 %, 73 % and 61 %; $p = 0.002$) and for review articles (83 %, 56 % and 38 %; $p < 0.001$) (Table 1).

The odds ratio for rejection of manuscripts with a poor title compared to those with a good title was 4.6 (95 % CI: 1.7–12.3) for original articles and 8.2 (95 % CI: 2.6–26.4) for review articles (Table 1). In a logistic regression model of manuscripts with a poor or a good title, the quality of the title explained 14 % and 27 % of the variance in outcome (rejection or acceptance) for original and review articles respectively.

For original articles, the length of the title of manuscripts that were rejected did not differ significantly from that of manuscripts that were accepted (on average 77.1 characters, compared to 80.4 characters; $p = 0.49$). For review articles, the titles of manuscripts that were rejected were on average longer than the titles of manuscripts that were accepted (62.5 characters compared to 50.5 characters; $p = 0.016$). Before publication, most of the titles of accepted manuscripts were shortened to an average of 55.1 characters for original articles and 42.5 characters for review articles.

Discussion

In this study, a poor title of submitted manuscripts was significantly associated with rejection. For review articles, but not for original articles, the titles were longer on average in manuscripts that were rejected than in those that were accepted.

In large bodies of material, significant findings can be made even when a single explanatory variable has little importance. In the analysis of title quality and rejection, the explained variance amounted to 27 % for review articles, which is high for a single variable. This indicates that there is a strong association between the quality of the title and the quality of the manuscript, assuming that the quality of the manuscript is decisive for the outcome. For original articles, this association was somewhat weaker.

As far as we know, this is the first study to investigate the quality of the title as a predictor for rejection of a manuscript submitted for publication in a scientific medical journal. Lee *et al* found that high methodological quality, information on sources of funding and a high number of study objects were associated with approval of manuscripts in leading biomedical journals (5). Another study revealed that language problems were not a major reason for rejection of manuscripts from authors whose native language is not English in the American radiology journal *AJR American Journal of Roentgenology* (6).

Studies of titles of published articles have mainly investigated the association between the length or type of title and the number of times the article has later been cited by other authors (2, 7–11). Some authors have claimed that many editors prefer short rather than long titles (2, 3). In our study, most of the titles were shortened during the editorial process, a finding that supports this assumption. Other studies of titles include a study on the use of active verbs as a marker of a declarative title, i.e. a title that reflects the conclusion or main findings of the study (12). Other authors have studied the use of literary terms and phrases (13, 14), the colon (15), the word «the» (16) and humour (17) in titles.

Our study has several limitations. The scoring system is a rough measure of quality, and the assessment of titles is a subjective matter. However, even though editors and journals (as well as authors and readers) may differ in their opinions of what constitutes a good title, we believe that most of them will agree with many of our criteria for a poor title and our classification of poor titles. The criteria for good and poor titles must be assumed to be more consistent within one and the same journal, and by establishing criteria for good, fair and poor titles in accordance with the practices and internal rules for our journal, we achieved satisfactory inter-rater reliability in our pilot studies. In the main study, we nevertheless chose to rely on consensus scores from the two individuals who were no longer employed as editors, in order to reduce bias caused by possible familiarity with the manuscripts.

Table 1 Rejection rates and odds ratio for rejection of manuscripts with a poor, fair and good title

Article type	Title quality	Number	(%)	Rejection rate[1]	Odds ratio	(95 % CI)
Original articles		211	(100)	74 %		
	Poor	57	(27)	88 %	4.6	(1.7–12.3)
	Fair	108	(51)	73 %	1.8	(0.8–3.6)
	Good	46	(22)	61 %	1	(reference)
Review articles		110	(100)	57 %		
	Poor	30	(27)	83 %	8.2	(2.6–26.4)
	Fair	43	(39)	56 %	2.1	(0.8–5.1)
	Good	37	(34)	38 %	1	(reference)

[1] Includes some manuscripts that were revised for publication as commentaries or feature articles, or not revised.

According to Tim Albert, a veteran editor and lecturer on medical writing, a good title is what the editor of the journal in question thinks is a good title (18). Others have defined a good title as one that describes the content of the article adequately, using as few words as possible (19). Indexation and selection of abstracts for particular target audiences depend on good, precise and informative titles. The same applies to systematic literature searches for articles about a specific topic (19). We agree with Fiona Moss, who is affiliated with the *BMJ* (formerly the *British Medical Journal*) in saying that a good title must be concise and precise, informative and descriptive, specific, not misleading, suitable for classification and able to arouse interest (3). In most medical journals, however, including our own, the guidelines for authors have little or no information on the design of titles (1).

It is uncertain whether the quality of the title is as important in specialised and basic-science journals as it is in a general medical journal. Personal feedback from editors of international journals nevertheless indicates that the association between the quality of the title and the quality of the manuscript is a well-known phenomenon even for them. One editor put it like this: «People who can't think up a decent title are less likely to have written a decent paper» (Tony Delamothe, personal communication).

The rejection rates for manuscripts submitted to Tidsskriftet as original or review articles have increased over the last few years. Therefore the number of such articles in each issue is lower than previously. This is an intended development, for reasons that include raising the quality of the articles that go to print and allocating limited editorial resources for the best manuscripts (20).

Editorial decisions in scientific journals are based on an assessment of the quality of the manuscript, including its originality and relevance for the journal's readership. A manuscript will never be rejected because of a poor title, but the quality of the title will often reflect the quality of the manuscript, as shown by our study. When we as editors or external peer reviewers see that the manuscript has a poor title, we may be justified in suspecting that the manuscript itself is also weak. Authors should devote a lot of effort to the title and comply with the guidelines, practices and traditions for titles in the journal to which they submit their manuscript.

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