



Research results presented at scientific meetings: to publish or not?

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BACKGROUND: *Much of research presented at international meetings never appears in print. Underreporting of completed research is a problem that affects medical practice and is thought to be highly unethical. We estimated the publication rate of research presented by Serbian authors at two Balkan oncology meetings, and the reasons for failure to publish subsequently.*

METHODS: *In March 2001 a questionnaire was sent to Serbian authors (n=98) whose research was presented as abstract in Abstract book of the 1st and 2nd Congress of the Balkan Union of Oncology (1996 and 1998, respectively). Authors were asked to cite the published work and, if they fail to publish, to cite the reason for doing so.*

RESULTS: *Forty-five authors returned the questionnaire (participation rate 46%). Sixty-seven percent of respondents had published their work in extenso in scientific journals, and 33% had never submitted the manuscripts for publication. Half of the latter group explained this failure by the lack of time; the others expressed either nonmotivation or pessimism regarding the chances to publish.*

CONCLUSION: *Two thirds of respondents, who had undergone the review process for scientific meetings, published their research in extenso in the international scientific journals. One third of respondents feel nonmotivated and do not make any attempts to publish their research in due course.*

KEY WORDS: *Publishing; Research; Congresses; Science Ethics, Professional; Medical Oncology*

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INTRODUCTION

The research is not finished until the results of the research are published and thus made accessible to large scientific community. Moreover, underpublishing is an unethical issue, since it prevents both scientific and patient populations to use the results of an investigation in practice.

Although these statements are undeniable, a considerable part of research presented at scientific meetings never appears in print. Several investigations addressed the problem of underreporting of research (1,2); to our knowledge, no such investigation was undertaken in our scientific community.

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The objective of this scientometric study was to estimate the rate of full publication of the results of oncological studies initially presented at two international scientific meetings (the First and the Second Balkan Congress of Oncology) and reasons for failure to publish in fully the results of investigations.

MATERIALS AND METHODS

Data source. All abstracts from Abstract books of the 1st (1996) (3) and 2nd (1998) (4) Balkan Congress of Oncology were reviewed, and Serbian authors (n=98) who presented results of their studies, either orally or by poster, on these oncological meetings were chosen as a sample.

Data extraction. In March 2001, the first authors of each abstract were contacted by a letter and asked to complete and return the questionnaire to the Department for Epidemiology and Prevention of the Institute for Oncology and Radiology of Serbia.

The questionnaire asked whether the study had been published, and, if so, to provide the citation. For unpublished research,

authors were asked whether they submitted manuscripts to a journal and, if not, to select a reason why the manuscripts had not been prepared.

The author's reply to the questionnaire was used to calculate response (participation) rate. Research was considered unpublished if the responding author confirmed that the study was not published (publication rate).

Statistical analysis. Statistical analysis of data (odds ratio (OR) and 95% Confident Interval (CI)) was done using Epi Info, Version 6.

RESULTS

The authors, who presented their investigations in 1996 at the First, and in 1998 at the Second Balkan Congress of Oncology, are affiliated to 11 Serbian institutions. From 98 authors who submitted 100 abstracts at these scientific meetings, 45 authors of 63 abstracts responded to the questionnaire; therefore, overall response rate was 46% (Table 1).

Table 1. Researchers' affiliation and response to scientometric questionnaire

Institutions	N°	Participation Rate (%)
Institute for Oncology and Radiology of Serbia, Belgrade	37	24 (65%)
Institute for Oncology Sremska Kamenica	18	5 (28%)
Clinic of Oncology, Niš	15	4 (27%)
University Clinical Center of Serbia, Belgrade	9	2 (22%)
Military Medical Academy, Belgrade	6	2 (33%)
Institute for Epidemiology, University of Belgrade	4	3 (75%)
Medical Center "Bežanijska Kosa", Belgrade	4	1 (25%)
Clinical Center, Novi Sad	2	2 (100%)
Clinic of Lung Diseases and Tuberculosis, Niš	1	1 (100%)
Clinic of Maxillofacial Surgery, Belgrade	1	1 (100%)
Regional Institute of Oncology, Kladovo	1	0 (0%)
Total	98	45 (46%)

Of the 63 studies presented at these meetings, 42 (67%) were published *in extenso* subsequently, and 21 (33%) have never been submitted to any scientific journal (Table 2).

Table 2. Publication rate of research presented at meetings

Type of presentation	n	Published in full N° (%)	Never submitted N° (%)
Oral	23	16 (70)	7 (30)
Poster	40	26 (65)	14 (35)
Total	63	42 (67)	21 (33)

Authors who had presented their research orally were slightly more likely to submit full manuscripts to a journal than those whose results had been presented by poster, but this difference was not significant (OR:1.23, 95%CI: 0.36-4.27). All studies were pursued for publishing in following one of four calendar years (1996-2000) after the oncological scientific meetings. Most work was published *in extenso* in the *Journal of BUON* (30/42) and a minority (8/42) in national scientific journals - *Archive of Oncology* and *Srpski Arhiv*. Full articles of four authors were published in journals that are covered by important indexing periodicals such as *Current Contents (Neoplasma, Acta Oncologica, Journal of Experimental and Clinical Cancer Research, Journal of*

Chemotherapy).

Among researchers who have never submitted a full manuscript to a journal, the most common reason was lack of time (Table 3). Two authors thought that the journals would not accept their manuscript. One stated that he did not submit a manuscript because the statistical analysis was not positive. Six authors selected other reasons for failure to submit a manuscript to a journal: problem in study design, sample size, financial difficulties, etc.

Table 3. Reasons for failure to publish

Reasons for failure to publish	N° choosing responses
Not enough time	10
Thought journals unlikely to accept	2
Results not important enough	1
Other papers with similar findings	1
Too much trouble with co-authors	1
Other reasons	6
Total	21

DISCUSSION

We have chosen to analyze two Balkan congresses because we estimated that these two international scientific meetings were the most acceptable to Serbian researchers in that time. Indeed, a considerable number of the Serbian scientists had attended these meetings, thus giving a remarkable contribution.

Our study population consisted of 98 scientists that had all undergone the review process for these meetings; we were interested in the fate of their research, i.e., whether these authors had published, or made any attempt to publish, the research initially presented in the abstract form.

The participation rate was only a moderate one: less than half of invited authors responded to our questionnaire. The main body of respondents consisted of the scientists affiliated to three institutions -Institute for Oncology and Radiology of Serbia, Institute for Oncology Sremska Kamenica and Clinic of Oncology Niš - (65%, 28% and 27%, respectively), which also had the greater number of participants at the congresses. In this regard, the most prominent was the first institution, in which this study had been initiated. Interestingly, very high response rate was obtained from the academic staff of several smaller centers.

The publication rate (67% of research previously presented in abstract form) seems to be the definite one, since three to five years interval is sufficient to allow ample time for publication or, at least, for efforts to do so. Therefore, one third of research presented at professional meetings have never appeared in print.

Whatever happened to abstracts of nonrespondents? We do not know; but if we had assumed the nonrespondents as authors who had failed to publish, the publication rate would have been even lower (42%).

Previous studies (1,2) give similar results: irrespective the country or medical specialty, approx. one half of all studies initially pre-

sented in abstract form are subsequently published as full-length reports. In our study, the type of presentation did not influence significantly to the publication rate, indicating that both oral and poster presenters make equal efforts to publish their research; they prefer the international journals for doing so.

Why the authors fail to publish? About half of participants chose the option "not enough time", thus confirming that medical staff is overworking people (5) who takes the publishing as "off duty" work (6). Two authors expressed their skepticism regarding the acceptance of the manuscript by the journals. Other responses such as "too much trouble with co-authors" or "no financial support" also indicate the lack of motivation in a number of investigators.

Underreporting of completed research affects medical practice and is highly unethical (7-9). Since the research is time-consuming, highly competitive and costly, the local authorities should stimulate the publication of completed research. This is the core of good scientific practice - ethical codex of science (10,11).

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