

Reporting quality of submissions to the National Conferences on Electronic Learning in Medical Education: implications from Iranian research performance

Background: Reporting quality of research on medical education has come under scrutiny in recent years in wake of empirical evidence. Poor reporting quality of published abstracts may distract readers from careful reading of research evidence or in a worst case mislead scientists. Main objective of this study was to evaluate the extent and quality of the submitted abstracts to the 3rd and 4th National Conference on Electronic Learning in Medical Education which were held in Mashad (2010) and Tabriz (2011), Iran.

Methods: A stratified random sample of abstracts (n=188) representing quantitative and review studies were selected among a total of 366 accepted submissions. Their quality was assessed independently by authors based on the criteria explained by Reed et al and also the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline.

Results: Findings from primary studies were described in 60.1%, narrative reviews in 39.4% and a systematic review in only 0.5% of abstracts. Sampling methods were reported amongst 58.4% and participation rate in 25.7% of abstracts from primary studies. Main aim among those abstracts that representing findings of narrative reviews was provided in 14.9%.

Conclusions: Varied reporting quality of submitted abstracts may reflect the gaps we suffer to have a more robust national research performance in the field of medical education. They also may reflect pitfalls in our research methodology educational efforts but embrace national level challenges we face to ensure evidence based research outcome. To improve our national research productivity we recommend working on infrastructural prerequisites.

Keywords: electronic learning; education; medical; research performance; reporting quality; Iran.

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الطوب تدوين المقالات المرسله الى مؤتمرات «التعلم الإلكتروني في تعليم العلوم الطبيه»

التمهيد و الهدف: تدنى مستوى المقالات المرتبطة بالابحاث التي تفتنى بتعليم العلوم الطبيه في السنوات الاخيره الذي تسبب في ضياع عدد من الباحثين. هذا الامر سبب في التوجه الى هذا المجال. إن هذه الدراره تمنى بتحليل كيفيه تدوين المقالات التي تم ارسالها الى المؤتمر الثالث والرابع بشأن التعليم الإلكتروني في مجال الطب في سنوات ١٣٨٨ و ١٣٨٩.

الاطلوب: لقد تم اختيار ١٨٨ مقاله من بين ٣٦٦ تم قبولها و تم تحليلها بواسطة معايير «ريد و معاونوه» و قوانين المرتبطة به اعطا التقارير المروده به شكل مستقل بواسطة كتابها.

النتائج: الابحاث الاصيله في ٦٠/١%. النتائج التي تم الحصول عليها من خلال الدرارات المروريه التقليديه في ٣٩/٤% و النتائج التي تم الحصول عليها من خلال الدرارات المروريه المنبعثه من اس و مصادر علميه فقط في ٥/٥%. ٥٨/٤% من المقالات كانت مرتبطة بالعينات البينتيه على الابحاث الاصيله و في ٢٥/٧% تم توضيح مستوى مشاركه الافراد في الدراره. لقد تم تبين الهدف الاساسي في ١٤/٩% من المقالات.

الاستنتاج: ان عدم وجود توحيد في كيفيه تدوين المقالات و وجود فراغات في مجال وجود ابحاث تكون لائقه في حوزة التعليم الطبي بدل على وجود حلقات مفقوده في الجرمود المبذوله في مجال تعليم طرق البحث. و من طرف آخر وجود ثغرات لم تضمن ايجاد ابحاث على اس علميه في البلد.

الكلمات الرئيسييه: التعلم الإلكتروني. التعليم. الطب. الاداء. في مجال الابحاث. كيفيه التدوين. ايران.

ملك میں منعقدہ کانفرنسوں کے لئے بھیجے گئے علمی مقالوں کی خلاصہ نویسی اور طب میں الکترونیک ذریعے سے تعلیم۔ ایران میں تحقیقاتی روشوں کے نتائج

پیک گراؤنڈ: گذشتہ برسوں میں طبی علوم کے تحقیقاتی مقالوں کا نیچا معیار بہت سے محققین کے گمراہ ہونے کا سبب بنا ہے اسے بنا پرماہرین نے اس امر کا جائزہ لیتے ہوئے اس پر توجہ کی ضرورت پر تاکید کی ہے۔ اس تحقیق میں میڈیکل تعلیم میں الکترونیک میڈیا کے کردار پر منعقدہ تیسری اور چوتھی کانفرنس کو بھیجے گئے مقالات کے معیار کی جانچ کی گئی ہے۔ یہ کانفرنسین مشہدمقدس میں دوہزار دس اور دوہزار گیارہ میں منعقد ہوئی تھیں۔

روش: معینہ مقدار کے مقالے جن کی تعداد ایک سو اٹھاسی تک پہنچتی ہے تین سو چھیاسٹھ مقالوں میں سے منتخب کئے گئے۔ مقالوں کے معیار کو ریڈ اٹ ال اور مینا اینالائٹس کے ذریعے معین کرنے کی کوشش کی گئی۔

نتیجے: ان مقالوں کی ابتدائی تحقیقات سے پتہ چلا کہ کلاسیکل لحاظ سے صرف پانچ فیصد مقالوں کا جائزہ لیا گیا تھا اور انہوں اعشاریہ چار فیصد مقالوں کو تحقیق کی حقیقی روشوں سے چیک کیا گیا تھا۔

سفارشات: مقالات کی خلاصہ نویسی کے مختلف طریقوں اور ان کے مختلف معیارات کی بنا پر یہ تاکید کی جاتی ہے کہ طبی تعلیم اور طبی تحقیقاتی روشوں میں بہت سی کمیوں ہیں جنہیں پورا کرنا ضروری ہے۔ ان کمیوں کو دور کرنے سے ہمارے سامنے جو علمی اور سائنسی چیلنج ہیں انہیں آسانی سے سرکيا جاسکتا ہے اور اس سے ملک میں انجام دی جانے والی تحقیقات کے علمی معیار کی ضمانت دی جاسکتی ہے۔

سفارشات: طبی مقالوں کی تدوین کے معیاروں کا مختلف ہونا اور طبی میدان میں ایک قابل قبول معیار بنانے کی ضرورت کے پیش نظر یہ کہا جاسکتا ہے کہ ایران کو اس سلسلے میں درپیش چیلنجوں کا سامنا کرنا ہوگا اور اپنے مقالات کے علمی اور سائنسی معیار کی ضمانت دینا ہوگا۔

کلیدی الفاظ: الکترونیک تعلیم، طب، تحقیقاتی کارکردگی، خلاصہ۔

کیفیت تدوین خلاصہ مقالات ارسال شدہ به کنفرانسهای کشوری یادگیری الکترونیکی در آموزش علوم پزشکی: یافته های مبتنی بر عملکردهای پژوهشی در ایران

زمینه و هدف: در سالهای اخیر کیفیت تدوین مقالات مرتبط با پژوهشهای حوزه آموزش علوم پزشکی به دلیل تاثیر کیفیت پایین آنها در گمراه شدن سایر پژوهشگران مورد توجه قرار گرفته است. در مطالعه حاضر کیفیت تدوین خلاصه مقالات ارسال شده به سومین و چهارمین همایش کشوری یادگیری الکترونیکی در آموزش علوم پزشکی است که در سال ۱۳۸۸ و ۱۳۸۹ در شهرهای مشهد و تبریز برگزار گردید بررسی شده اند.

روش: با استفاده از روش نمونه برداری سهمیه ای ۱۸۸ خلاصه مقاله مرتبط با مطالعات مروری و کمی از بین ۳۶۶ خلاصه مقاله پذیرفته شده انتخاب شدند. کیفیت خلاصه مقالات با استفاده از معیارهای توضیح داده شده توسط رید و همکاران و دستورالعمل مربوط به گزارش دهی مطالعات مروری نظام مند بطور مستقل توسط نویسندگان مورد تحلیل و توافق قرار گرفت.

یافته ها: پژوهشهای اصیل در ۶۰/۱٪، یافته های بدست آمده از مطالعات مروری سنتی در ۳۹/۴٪ و یافته های حاصل از مرور نظام مند منابع علمی تنها در ۵/۵٪ از خلاصه مقالات گزارش شده بودند. در ۵۸/۴٪ از خلاصه مقالات مربوط به پژوهشهای اصیل روش نمونه برداری و در ۲۵/۷٪ از آنها میزان مشارکت افراد در مطالعه توضیح داده شده بودند. در ۱۴/۹٪ از خلاصه مقالات مربوط به مطالعات مروری هدف اصلی بیان شده بود.

نتیجه گیری: کیفیت متفاوت نحوه تدوین خلاصه مقالات و خلاء های موجود برای داشتن یک عملکرد پژوهشی قابل قبول در حوزه آموزش علوم پزشکی می تواند نشان دهنده حلقه های مفقوده در تلاشهای مربوط به آموزش روش پژوهش و از طرف دیگر چالشهایی باشد که برای تضمین برون دادهای پژوهشی مبتنی بر مستندات علمی در سطح کشور وجود دارند.

واژه های کلیدی: یادگیری الکترونیکی، آموزش، پزشکی، عملکرد پژوهشی، کیفیت تدوین، ایران.

INTRODUCTION

Reporting quality of research on medical education has come under scrutiny in recent years in wake of evidence obtained from relevant studies (1-4). Main concern has been raised is the insufficiency of provided details for unbiased judgment of the readers to critically appraise the scientific literature. Abstracts are windows into their corresponding scientific processes and must be written in ways that attract interested readers' attention to learn more about the study and its results. But poor reporting quality of published abstracts may distract readers from careful reading of research evidence or in a worst case may mislead scientists. Despite development and administration of standard research reporting guidelines (5-7) we are still witnessing suboptimal research reports in our academia (8, 9) internationally. Main objective of this study was to evaluate the extent and quality of the submitted abstracts to the 3rd and 4th National Conference on Electronic Learning in Medical Education which were held on 17-18 February 2010 in Mashad and 15-17 February 2011 in Tabriz, Iran. Our special focus was on the accuracy of reporting quality as well as the validity of conclusions.

METHODS

A stratified random sample of abstracts (n= 188) representing quantitative and review (narrative and systematic) studies (excluding qualitative studies) were selected among a total of 366 accepted submissions to the 3rd (N= 181) and 4th (N= 185) National Conference on E-learning in Medical Education in Iran. We assessed the quality of the selected abstracts based on the criteria explained by Reed et al (9) to determine the quality of experimental, quasi-experimental, and observational studies. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (6) were also considered to assess abstracts from systematic review studies. External validity criteria were checked for abstracts from primary studies based on the reported sampling method, sample size and response rate to dispose probability of sampling bias and hence generalisibility of a study finding to the wider population. Internal validity criteria were also verified based on the provided numeric results of the studied outcome variables with their precision to endorse reliability of the study results. Explanation of the main aim of study, name of databases searched, study selection criteria, quality assessment procedures in the retrieved studies, providing summary results and also giving conclusion were also criteria to assess the abstracts from review studies. Authors independently examined the abstracts for all these quality criteria and any disagreement was resolved by discussion until final consensus was reached.

RESULTS

A total of 113 (60.1%) abstracts described findings from primary studies, 74 (39.4%) summarised findings of narrative reviews and only one abstract (0.5%) stated to show results of a systematic review. Among the abstracts from primary studies (113) those which met the studied quality criteria were indicated in Table 1.

Table 1. Abstracts from primary studies that met quality criteria among submissions to the 3rd and 4th National Conference on E-learning in Medical Education, Iran (n= 113)

| Assessed quality criteria | Frequency | Percent |
|--|-----------|---------|
| Aim of the study | 104 | 92.0 |
| Sampling method | 66 | 58.4 |
| Sample size | 83 | 73.5 |
| Statistical analysis method | 89 | 78.8 |
| Outcome variable | 72 | 63.7 |
| Participation rate | 29 | 25.7 |
| Numeric description of outcome variables | 63 | 55.8 |
| Precision of outcome variables | 12 | 10.6 |

Name of the statistical software to analyse data was given in the 47 abstracts (42.0%) from primary studies but in 5 abstracts (20.8%) it was given without explaining the statistical analysis method.

Amongst abstracts representing findings of narrative reviews (n=74) in 11 cases (14.9%) main aim of the review was not mentioned as indicated in Table 2.

Table 2. Abstracts of narrative reviews that met quality criteria among submissions to the 3rd and 4th National Conference on E-learning in Medical Education, Iran (n=74)

| Assessed quality criteria | Frequency | Percent |
|---|-----------|---------|
| Aim of the study | 63 | 85.1 |
| Name of databases searched | 12 | 16.2 |
| Search strategy | 24 | 34.4 |
| Study selection criteria | 4 | 5.4 |
| Quality assessment of retrieved studies | 1 | 1.4 |
| Summary results | 59 | 79.7 |
| Conclusion | 67 | 90.5 |

Among the abstracts from narrative reviews 12 abstract (17.9%) provided conclusion without explaining the study results. In the only one abstract which summarised findings of a systematic review name of databases searched, search strategy, studies selection criteria and their quality assessment procedures were not mentioned.

DISCUSSION

This study results revealed that 74.3% of abstracts from primary studies and 99.0% of abstracts from review studies lack all essential elements for informative reporting. Amongst the reviewed abstracts important information necessary to make judgment about their accuracy were absent frequently and this severely limits referees to critically appraise the submitted abstracts. Our study indicated varied reporting quality of submitted abstracts and the gaps we suffer to have a more robust national research performance in the field of medical education. About 40%

of submitted abstracts reported to introduce findings of narrative reviews but current debates (10-13) around their credibility in the hierarchy of research evidence merits revision in the current flow of decisions on submitted abstracts in the national conferences' scientific committees. In the absence of internationally agreed standards to report study findings (14-18) reliance on less rigorous research reports can be embarrassing.

To the best of our knowledge this is the first study in Iran which focuses on the quality issue of the submitted abstracts to the national medical education conferences. To understand the rationale behind the study procedures and conclusions in the reviewed abstracts it would be highly appealing for us to have access to the full text of corresponding studies, thereby to enhance our judgment about the quality of research evidence. A number of abstracts were written in a prospective way to indicate what will be done by author(s) in future. They should not be accepted as it is purely because their title is astonishing. Nonetheless, the title of a sizable number of abstracts were repetitive such as studies on learners satisfaction after applying blended educational methods in medical education instead of traditional teaching methods or investigations on acquisition of knowledge and skills immediately after implementation of a educational programme on E-learning. Such a quality pattern among the submitted abstract to a scientific event is not unique for Iran and almost similar insufficiencies were also reported in other national and international conferences (19-22). We have not assessed the title of reviewed abstracts for multiple presentations but it has been shown that it is not unfamiliar in other countries (23-28). Overall quality of a research report will not be judged only upon its reporting quality but also based on its contribution to the scientific world. So to

improve our national research productivity we recommend working on infrastructural prerequisites needed for prevention of research misconducts in this field. Although we have selected a representative sample of abstracts submitted to only two national conferences and hence the findings may not be assumed to extend beyond these conferences and to all performed research in this field and also other medical fields, but these findings may reflect pitfalls in our research methodology educational efforts and embrace national level challenges we face to ensure evidence based research outcome. Such a conclusion is inline with the constraints were reported for countries across the whole Asian continent (29).

Due to the impact findings of a good quality research on different aspects of medical teaching-learning processes may have on the attainment of graduates from academic institutions and therefore on the enhancement of health care quality (30), our national research performance in the field of medical education merit further investigation and highly recommended.

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