

CONTINUOUS MEDICAL EDUCATION

Global case studies/reports are really useful for learning Global Health?

Sudip Bhattacharya¹, Amarjeet Singh²¹Senior Resident, Department of Community Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh; ²Professor, Department of Community Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh

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Corresponding Author

Address for Correspondence: Dr Sudip Bhattacharya, Senior Resident, Department of Community Medicine, Postgraduate Institute of Medical Education and Research, Chandigarh
 E Mail ID: docsudip84@gmail.com



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Across the globe people live in diverse circumstances. Their lifestyle, culture, health care scenario is different. Case studies/reports(CS/CR) can effectively illustrate these differences through description of experiences pertaining to a specific case. In medical sciences, it is a complete description of an individual patient starting from diagnosis of a disease to follow-up. It may or may not include a patient's complete profile, but generally depicts an uncommon or novel manifestation. CRs are basically professional chronicles that offer an important feedback on treatment guiding principle and offer an outline for early indicators of usefulness, unnatural events and cost-effectiveness. These findings are usually disseminated for scientific or educational purposes. (1)

Most clinical case reports are based on these topics:

An unusual relation between diseases or signs, event during the treatment of a patient, results that highlights shed new light on a new mechanism of disease pathogenesis. It may be an antagonistic effect of drugs, uncommon findings of a common disease, exceptional healing approaches or an anatomical variation of human structures.

It is a type of an anecdotal evidence. (2) Due to their inherent methodological limitations, case reports

are placed at the bottom of the hierarchy of the grading system of clinical evidence ([Table-1](#)). (3,4) Yet, case reports do have genuinely valuable roles in clinical research and evidence-based medicine. In precise, they have helped to recognize of emerging new diseases i.e. Ebola, Zika etc. Adverse event of treatments is also recognized by case reports. (For example, recognition of the link between thalidomide and phocomelia). (5)

It also helps us to understand the medical spectrum of uncommon diseases, as well as atypical presentations of typical diseases.

They can formulate study hypotheses in medical sciences, including possible mechanism of pathogenesis of a disease. Case reports may also play a vital role in personalized treatment of patients.

Due to high sensitivity, CRs and CSs can be used detecting novelty of any disease occurrence. Therefore, it remains as one of the important foundations of advancement in medical science. It also provide many new thoughts in clinical medicine. (6)

Randomized clinical trials (RCT) usually inspect limited variables. It rarely considers the full clinical spectrum of a complex medical scenario. Different aspects of the patient like-patient history, physical examination, diagnosis, psychosocial aspects,

cultural aspects and follow up can be better highlighted by case reports.(7) CRs, considering as scientific document/evidence suffers from publication bias. Some CRs also compile a review of literature of a particular topic, then it is termed as a "case report and review of the literature". It seems to be promising in the case of continuing medical education.

An attractive aspect about case report is- it publishes quickly. It is like a rapid short communication between scientists and clinicians who are very busy and less likely unable to conduct large scale research. (3) Clinical trial is much lengthier and resource consuming than a CR, so it is now gaining popularity among clinical researchers. In fact, there is a definite need to further popularize the concept of CR.

With the consonance of CRs, in clinical trials the concept of sample size calculation is rapidly changing. Such trials are labeled as "n-of-1 or single subject clinical trials." In these trials, the researcher considers an individual patient as the sole unit of observation in a study. The side effects are considered for a single patient. The final goal of this trial is to determine the optimal intervention for an individual patient by using objective driven criteria. Such trials can influence study design and statistical techniques associated with conventional clinical trials. Which includes randomization, washout and crossover periods, as well as placebo controls. Despite their clear appeal and extensive use in educational settings, n-of-1 trials have been used sparingly in medical settings. This is because that n-of-1 trials demand serious attention among the health research and clinical care communities and it is focused on individualized medicine.

Example- These days instead of the concept of universal dose formulation for a patient has given way to individual prescriptions. Where in future for each patient dose will decide specifically. (8)

It is fairly imaginable that "n-of-1" trials may be the future of RCTs. As a corollary will be definitely in demand. For external validity this approach uses the "inductive reasoning."

All the same case reports will continue to have some inherent limitations which can be ameliorated/rectified by strict quality control.

Global case reports- Over a period of time global case reports (GCR) have also evolved as an effective mean to highlight issues related to global health.

Superior quality global case reports of (BMJ, NEJM etc.) and content can easily capture the local knowledge of programmes and services.

It exemplifies the developments and consequences, that is not possible through other ways. This is what makes CRs valuable. Global case reports (GCRs) with structured guidelines (e.g. BMJ case reports) and format are very easy to assess. Public health researchers are benefitted from global case reports. As they often describe complex interventions, implementation and different contexts across the globe. (9)

GCRs allow scholars to engage them with the real public health situations, and to anticipate the decision-making and actions of the management team. However, in addition to the focus on public health issues, GCR can be used to stimulate scholars in considering the wider social, cultural, political, and economic issues. The consequences of which may lead to an impact on the individual health status. This can then be used as a lens to consider issues more broadly.

Effectively working with other sectors is an essential skill for all public health experts. Inter-professional learning using GCR may contribute to and foster knowledge sharing and development of the required competencies. So that public health professionals can successfully collaborate with peers. Due to increased emphasis being given internationally to inter-professional education for public health students, GCRs can offer a learning opportunity and be a useful approach to enhance inter-professional learning activities.

In addition, sharing practices through GCR, it provides a means to actively involve scholars and through insight into the use of public health frameworks/strategies. It also encourages them to consider issues around frameworks/strategies based practice. Just like any teaching and learning activity, there is a need for skilled assistance to actively involve scholars to enable them to get the best from appealing with the GCRs.(10)

Currently we are living in a complex health environment. The patients are also seen within these environments. All public health professionals need to be active lifelong learners. For this reason, they are in a place to underpin their practice with the most recent evidence; yet, often conversion of evidence into practice can be fraught with hitches. Global case reports offer a lens in which to view single episodes of care. It is often used to facilitate

the understanding of a larger body of evidence. Under the guidance of a skilled facilitator GCR offer a rich and in-depth learning experience in and outside the class room for learning and practicing global health. (10)

The readers horizon of thinking and understanding about health care scenarios in other part of the world will be widened more through global case reports in future.

Authors Contribution

Both authors have contributed equally in this study.

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Tables

TABLE 1 LEVELS OF EVIDENCE AND GRADES OF RECOMMENDATIONS

| Grade of recommendation | Level of evidence | Interventions |
|-------------------------|-------------------|---|
| A | 1a | Systemic review of randomized controlled trials |
| | 1b | Individual randomized controlled trial |
| B | 2a | Systemic review of cohort studies |
| | 2b | Individual cohort study |
| | 3a | Systemic review of case control studies |
| | 3b | Individual case control study |
| C | 4 | Case series and case reports |
| D | 5 | Expert opinion without explicit critical appraisal or based on physiology or bench research |