Skeena-International Journal on Medical sciences

From Science to Practicing Medicine -A Criticizing Review

Mini Review
Volume 2 Issue 1- 2024

Author Details

Ozan Batigün *
QA Executive Consultancy, Turkey

*Corresponding author

Ozan Batigün, QA Executive Consultancy, Turkey ORCID ID: 0000-0002-6123-3823

Article History

Received: 14 January 2024 Accepted: 23 January 2024 Published: 25 January 2024

Abstract

Science is nothing without evidence. It is the responsibility of the practicing physician not only to treat the patients according to established guidelines but also to share his real-world experience with colleagues worldwide. The responsibilities of healthcare professionals increased due to legal and ethical requirements and patient rights. Developing technology, landmark regulations of the Food & Drug Administration (FDA) and European Medical Agency (EMA), and contributions of the pharmaceutical industry, medical associations, and non-governmental organizations (NGOs) raised the bar of practicing medicine. However, on the physician and investigator side, something is missing about this issue. The extensive knowledge accumulation is not transferred to all healthcare professionals in rational equity.

The Pharma industry differs from all other sectors in targeting and segmentation. The decision maker is the government, the payer is a social security institution, the customer is a doctor, and the end-user is a patient. Last but not least, pharmacies and wholesalers are additional shareholders. Medical writing, article writing, clinical protocol preparation, and good clinical practice (GCP) training are usually omitted during medical education. Briefly, a great deal of process improvement lies beneath the physician side. Access to healthcare is a universal requirement and should be allocated to each individual in society without any discrimination. Authorities, pharma companies, and service providers have clear-cut standards and operating procedures. However, the knowledge and perspective of the physicians remain underdeveloped in many geographies over the globe.

Keywords: Clinical trial; Publication; Guideline; Pharmaceutical industry, Health care Professional

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Science is nothing without evidence. It is the responsibility of the practicing physician not only to treat the patients according to established guidelines but also to share his real-world experience with colleagues worldwide. The world's first clinical trial is revealed in the "Book of Daniel" in the Bible, conducted not by a medical professional but by King Nebuchadnezzar. Dr James Lind, a naval surgeon, is revered as the first physician to conduct a systematic randomized controlled clinical trial on soldiers with Scurvy diseases in 1753 [1]. He organized two battleships and crew to perform randomization and controlled the environment. Thanks to developing technology, we do not need battleships to conduct clinical trials.

However, the responsibilities of healthcare professionals increased due to legal and ethical requirements and patient rights. Placebo was introduced only in 1863 by a United States physician, Austin Flint, who planned the first clinical study comparing a dummy remedy to an active treatment. The UK Medical Research Council's (MRC) patulin trial for the common cold 1943 was the first double-blind controlled trial. This paved the way for the first randomized control trial of streptomycin in pulmonary tuberculosis, carried out in 1946. This land-

mark trial was a model of meticulousness in design and implementation, with systematic enrolment criteria and data collection compared with the ad hoc nature of other contemporary research [2].

Developing technology, landmark regulations of the Food & Drug Administration (FDA) and European Medical Agency (EMA), and contributions of the pharmaceutical industry, medical associations, and non-governmental organizations (NGOs) raised the bar of practicing medicine [3]. However, on the physician and investigator side, something is missing about this issue. The extensive knowledge accumulation is not transferred to all healthcare professionals in rational equity. The clinical or promotional regulations are not distributed to physicians; thus, most have no idea about clinical trial documentation or promotional codes of conduct. As commercial entities, pharmaceutical companies naturally prefer to invest in key opinion leaders or high-prescription potential customers. On the other hand, the pharma industry differs from all other sectors in terms of targeting and segmentation [4]. The decision maker is the government, the payer is a social security institution, the customer is a doctor, and the end-user is a patient. Last but not least, pharmacies and wholesalers are additional shareholders [5].

In the aforementioned environment with many delicate dynamics, the objective is to achieve the best possible patient care and disease control with limited resources. Hence, the recent guidelines of the last two decades have focused on patient-centric treatment approaches [6]. At this stage, a new terminology called 'my clinical experience' annihilates all scientific evidence. Some physicians examine numerous patients daily and spare no time to review scientific literature. Hence, they try to compensate for this with the clinical experience phase. However, clinical experience should be based on extensive literature follow-up and compliance with guidelines rather than subjective assumptions. The receptor selectivity and potency are essential in many diseases and targeted molecule therapies; however, one might hear 'we treat patients, not receptors' from colleagues. Drugs are produced in different formulations for several scientific reasons: film-coated tablets are minimally affected by gastric acidity, and notched tablets comprise equal active ingredients on both sides to be taken in sequential intervals [7]. To achieve an optimal area under the curve (AUC), some drugs should be given 1x2 rather than 2x1, but what is the percentage of colleagues briefing patients on this subject?

Publications are another topic over the counter. A majority of healthcare professionals prefer retrospective research and descriptive statistics due to the ease of performing a trial. However, the level of evidence is not satisfactory in most cases, excluding national and biological registries [8]. Due to financial obligations, many clinicians create hypotheses related to disease attributes rather than drug comparisons. This causes a huge amount of junk articles with repeated topics and titles. A SCI journal expects the submitted manuscript to have a novel hypothesis under five years old. Medical writing, article writing, clinical protocol preparation, and good clinical practice (GCP) training are usually omitted during medical education. Briefly, a great deal of process improvement lies beneath the physician side [9].

Access to healthcare is a universal requirement and should be allocated to each individual in society without any discrimination. Authorities, pharma companies, and service providers have clear-cut standards and operating procedures. However, the knowledge and perspective of the physicians remain underdeveloped in many geographies over the globe [10].

Acknowledgments

Funding

There is no specific funding related to this research.

Editorial Support

QA Executive Consultancy, Ozan Batigun MD, MBA in 2023, has conducted the editorial support of this article. www.QAexeutiveconsultancy.com

Competing interests

The authors declare that they have no competing interests.

Consent for Publication

The original article is not under consideration by another publication. It has not been published previously and will only be published elsewhere.

Data Availability

The data supporting this study's findings are available on request from the corresponding author.

Ethical Declaration

No ethical approval was granted as this was a review article.

References

1. Bartholomew M (2002) James Lind's Treatise of the Scurvy (1753). Postgrad Med J 78(925): 695-696.
2. Bhatt A (2010) Evolution of clinical research: A history before and beyond jameslind. Perspectives in Clinical Research 1(1): 6-10.
3. Thor S, Vetter T, Marcal, Kweder S (2023) EMA-FDA Parallel Scientific Advice: Optimizing Development of Medicines in the Global Age. Ther Innov Regul Sci 57(4): 656-661.
4. Schuhmacher A, Hinder M, Von Stegmann und Stein A, Hartl D, Gassmann O (2023) Analysis of pharma R&D productivity -a new perspective needed. Drug Discovery Today 28(10): 103726.
5. (2023) The Pharmaceutical Industry in Figures. European Federation of Pharmaceutical Industries and Associations.
6. Gonzalez Sepulveda JM, Johnson FR, Reed SD, Muiruri C, Hutyra CA, et al. (2023) Patient-Preference Diagnostics: Adapting Stated-Preference Methods to Inform Effective Shared Decision Making. Med Decis Making 43(2): 214-226.
7. Sarkar M, Wang Y, Ekpenyong O, Liang D, Xie H (2022) Pharmacokinetic behaviors of soft nanoparticulate formulations of chemotherapeutics. Wiley Interdiscip Rev Nanomed Nanobiotechnol 15(2): e1846.
8. Kwee RM, Kwee TC (2023) Retracted Publications in Medical Imaging Literature: an Analysis Using the Retraction Watch Database. Acad Radiol 30(6): 1148-1152.
9. Lavercombe M (2023) Recommendations from the Medical Education Editor. Respirology 28(7): 589-591.
10. Baumann A, Shelton RC, Shiriki Kumanyika, Haire-Joshu D (2023) Advancing healthcare equity through dissemination and implementation science. Health Serv Res 58(3): 327-344.