



Research to achieve a reduction in the global rate of preterm birth needs attention: Preface to the special issue by the preterm Birth International Collaborative (PREBIC)



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Preterm birth (PTB) (birth before 37 completed weeks of gestation) is the major cause of neonatal mortality and morbidity worldwide, accounting for over 13 million births annually. Though the final end common pathway may be the same, the etiology of PTB is multifactorial. Currently, screening methods to identify pregnancies at high risk of PTB, or interventions to prevent or delay delivery of women in spontaneous preterm labor have not reduced the rate of PTB. In addition, heterogeneity in causative pathophysiologic pathways, biomolecular markers, and clinical presentations, present numerous challenges to our understanding of the etiology of PTB. *Inter alia*, these gaps need to be identified and resolved, prior to designing better strategies for screening and intervention. In light of these needs, 40 research scientists and clinicians gathered in Denmark in 2004, including the first and last authors of this Commentary and initiated an effort to address various clinical and basic science issues related to PTB. In 2005, this gathering of scientists and clinicians became PREBIC (the **PRE**term Birth International Collaborative). PREBIC is currently a not-for-profit research and education organization based in the United States with members from around the globe (www.prebicglobal.org). The current collection of papers in this Special Issue is a result of a recent meeting of PREBIC held in Foshan, China in the spring of 2018.

PREBIC's first gathering raised three critical questions about idiopathic PTB: i) what do we know; ii) what do we want to know, and iii) how will we know it? PREBIC's global mission and operational strategies were formulated around these questions. To achieve these objectives, PREBIC has generated basic and clinical translational research agendas, and built multidisciplinary research teams around the world. So far, these agendas have been set, and goals achieved, through workshops of international experts actively involved in basic and translational research. Additional educational activities of PREBIC promote research into PTB and have been held at major International Congresses in Reproductive and Perinatal Medicine.

The World Health Organization recognized the values of PREBIC's vision and provided a platform for discussions from 2006 to 2014.

Through these meetings and other activities, PREBIC has been instrumental in identifying two major issues challenging PTB research: i) the proper definition of PTB and ii) defining the global rate of PTB. PREBIC is active in bringing these issues to the forefront through its various forums resulting in an awareness that definition is a key consideration when conducting PTB research and designing clinical interventions. The lack of awareness of the global burden of PTB generated a Report published by WHO in its Bulletin [1] and subsequently led to the “Born Too Soon” report of 2011 released by the United Nations. This report provided data on individual geographic rates, and called for action to be implemented by all nations to reduce the impact of PTB. PREBIC has also published several Systematic Reviews to reveal knowledge gaps in various areas of PTB. Identification of knowledge gaps has facilitated development of the research agenda and has resulted in establishing multi-disciplinary research teams across worldwide. Research partnerships and networks have blossomed through PREBIC workshops and educational seminars leading to Grants funding support, and a number of publications. The PREBIC systematic reviews on biomarkers predictive of PTB have helped to reshape PTB biomarker discovery research landscape. PREBIC working groups have systematically reviewed four decades of literature to identify biomarkers that might be useful in predicting high-risk pregnancies [2]. These reports did not identify any useful predictive markers. However, they identified several research areas that require additional attention and made recommendations for future research. These included highlighting the need to establish biobanks in countries where PTB rates are high, providing guidelines for minimal and optimal data sets needed along with sample collections, and providing guidelines and methods for appropriate sample collection and storage that together have substantially helped the field in establishing biobanks around the world and advance PTB biomarker discovery research. Many biobanking and other studies proposed by PREBIC investigators are currently funded by major funding and philanthropic agencies that are expected to advance biomarker research. Accordingly, PREBIC workshops and educational

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activities have not only identified key areas of research needs, but have successfully campaigned to promote specific areas of research in the field.

The PREBIC community of scientists have decided to enhance PREBIC's mission by establishing PREBIC branches on every continent and organize more workshops and other educational activities. All branches will initiate their activities in 2019 and each branch will engage additional researchers from their region to launch research and educational activities with the intent of addressing specific local and regional needs. Although these workshops and scientific meetings have been highly successful and effective in building research collaborative networks, the number of PTB researchers is still limited. As a result, the PREBIC 2017 annual workshop held in Galveston, Texas, USA suggested starting a PTB Journal to address this issue. It was argued that a journal dedicated to PTB is needed, since mainstream obstetrics journals are limited in their capacity to publish issues exclusive to PTB. Practical and financial reasons have hindered development of a Journal by PREBIC dedicated to PTB. However, efforts are in place to make this Journal a reality. In the meantime, the PREBIC annual workshop held at Foshan in China (April 2018) decided to partner with Trophoblast Research to publish annual Workshop Reports and Reviews based on key presentations as a part of promoting PREBIC'S PTB agenda. Dr. Gendie Lash, Editor of Trophoblast Research, generously agreed to dedicate a special issue of the journal for PREBIC Annual Workshop activities. With this partnership, we will publish at least one Special Issue per annum of reviews on PTB related research until a permanent home for a PREBIC PTB Journal is found. This Special Issue represents

the inauguration of the PREBIC publication era and contain articles on various topics related to PTB that will include, but are not limited to, epidemiologic risk factors, mechanistic, functional and biomarker studies, and clinical interventions. In addition, the founding President of PREBIC, Dr. Calvin J Hobel et al. have provided an article documenting PREBIC's development and history. Articles included in this issue are based on selected presentations at PREBIC annual workshop at Foshan, China and peer reviewed by experts. Articles do not necessarily reflect workshop proceedings.

We hope that researchers around the globe will have an opportunity to review PREBIC's activities and PREBIC community's scientific contributions in its efforts to reduce PTB. We also encourage more researchers to join PREBIC's mission and join our efforts to reduce the global healthcare burden on society induced by spontaneous PTB.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.placenta.2019.01.008>.

References

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