Arch Argent Pediatr. 2026;124(4):e202510963

John William Ballantyne: A pioneer who forged the future of maternal, fetal and child health

Stefan Kutzsche[1], *Sivalingam Nalliah*[2]

ABSTRACT

At the beginning of the 20th century, childbirth was attended to naturally without the aid of a hospital or a midwife and the responsibility of delivering the child fell to the eldest in the family. Key figures like Sir James Young Simpson (1811-1870) and John William Ballantyne (1861-1923) in Edinburgh during the first quarter of the 20th century played crucial roles in advancing maternal and perinatal care. Ballantyne took a particular interest in both the physiology and pathology of pregnancy. His interest extended from prematernity care to beyond intrauterine life to matters related to the newborn and diseases of the child.

Keywords: *perinatology; maternal health; infant newborn diseases; history of medicine.*

doi: http://dx.doi.org/10.5546/aap.2025-10963.eng

To cite: Kutzche S, Nalliah S. John William Ballantyne: A pioneer who forged the future of maternal, fetal and child health. *Arch Argent Pediatr.* 2026;124(4):e202510963.

[1]*Centre for Education, IMU University, Kuala Lumpur, Malaysia;* [2] *Department of Obstetrics and Gynaecology, IMU University, Kuala Lumpur, Malaysia.*

Correspondence to *Stefan Kutzsche: drignana@gmail.com*

Funding: *None.*

Conflict of interest: *None.*

Received: *11-18-2025*
Accepted: *1-12-2026*

This is an open access article under the Creative Commons Attribution–Noncommercial–Noderivatives license 4.0 International. Attribution - Allows reusers to copy and distribute the material in any medium or format so long as attribution is given to the creator. Noncommercial – Only noncommercial uses of the work are permitted. Noderivatives - No derivatives or adaptations of the work are permitted.

INTRODUCTION

At the end of the 19th century special care devoted to pregnant women and expectant mothers was uncommon and often inadequate. Traditionally, childbirth in Europe was attended by untrained personnel till the early 20th century, when visionary physicians like Sir James Young Simpson (1811-1870) and John William Ballantyne (1861-1923) *(Figure 1)* laid the foundation for maternal and perinatal care.

Today, the World Health Organization (WHO) emphasises interprofessional collaboration to improve the quality of maternal and newborn care, and reduce maternal, perinatal and neonatal morbidity and mortality. Thus, its guidelines emphasise a holistic view of pregnancy and childbirth, aiming for a positive experience that encompasses psychosocial and emotional well-being, which requires a broad understanding of physiology and pathology.

In the 19th century, obstetricians were often the physicians managing the newborn. However, Ballantyne lamented this aspect of neonatal care, particularly for ill infants with medical problems. In his letter to the British Medical Journal in 1923, he argued against this practice.

TRANSFORMING OBSTETRIC CARE

Maternal mortality in the England and Wales was high (450/100 000 live births) in the early 20th century, as there was no antenatal care or birthing facilities.[1] John William Ballantyne (1861-1923) faced considerable resistance from his colleagues to establish an obstetric unit in his hospital for deserving pregnant women until 1901, when he was allowed a single bed at the Royal Maternity Hospital to care for illnesses in unmarried pregnant women.[2] Although this was a small step, it led to the establishment of antenatal care and the subsequent concept of dedicated healthcare facilities to prevent pregnancy associated illnesses. His vigilant observations and dedication to the care of the mother and the foetus were pivotal in identifying the risks of prolonged pregnancy and the postmature infant.[3]

A founding figure in perinatal medicine

John William Ballantyne was born in Scotland in 1861, the son of a nursery gardener and his Dutch mother, who died when he was one year old. He learned Latin and Greek in Edinburgh and also spoke Dutch and German. He matriculated in the Edinburgh Medical School in 1877, qualifying

Figure 1. John William Ballantyne

Internet. JW Ballantyne photograph by A. Swan Watson. Available at: https://wellcomecollection.org/works/jc833npw

as Bachelor in Medicine and Surgery (MBChB), CM with distinction, in 1883. His M.D. thesis, ''Some Anatomical and Pathological Conditions of the Newborn in Relation to Obstetrics'' in 1889 won him a gold medal and the Gunning-Simpson Prize in midwifery.[4,5]

After further training at medical universities in Berlin, Göttingen and Munich, Ballantyne was appointed Assistant Physician to Professor A.R. Simpson, at the Edinburgh Royal Infirmary in 1890. He worked as a resident medical officer at the Royal Maternity Hospital in Edinburgh in 1900 and was appointed chief physician four years later. Ballantyne married Emily Mathew but did not have any children.[4]

Holistic care for mother and child

Ballantyne recognized the importance of antenatal care,[2,5] which is adopted in the WHO guidelines in the provision of comprehensive maternal health guidelines.[6]

In 1915, he organized home visits for complicated pregnancies and facilitated their admission to his newly established Maternal and Infant Welfare Centre. These strategies led to a reduction of adverse maternal and perinatal outcomes.

Two of his books that impacted clinical practice of his time were (i) *Manual of Antenatal Pathology and Hygiene: The Foetus*, published in two volumes, which focused on foetal development and antenatal health,[7] and (ii) *The Diseases and Deformities of the Foetus; an Attempt Toward a Systematic Description of These Abnormalities*. Although rhesus isoimmunization was not discovered, he wrote extensively about the 'triple oedema', where there was universal oedema of the thorax, abdomen, and the placenta of the foetus.

In her book *The Rhetoric of Pregnancy*, Marika Seigel features a chapter specifically dedicated to Ballantyne, which is entitled 'The Father of Prenatal Care: J.W. Ballantyne and System-Constitutive Documentation'.[8]

Drawing on his deep knowledge of the physiology and pathology of pregnancy and the foetus, Ballantyne challenged the prevailing practice of involving physicians only during complicated labour, which often led to poor perinatal outcomes. His radical approach to early identification of pregnancy complications and early intervention formed the basis of modern care of the high risk pregnancy.[9]

The concept of antenatal care

He outlined specific treatment for infectious diseases during pregnancy, and the need for rest during pregnancy in affected cases, apart from attention to general hygiene and nutrition. He suggested early deliveries in mothers who would have bad obstetric outcomes due to macrosomia.[5] He reiterated the importance of accurate diagnosis, and emphasised that obstetrics cannot be left to general physicians, but to personnel trained in midwifery. In 1899, James Ferguson (1862–1934) emphasised the benefits of routine antenatal care and continuous support throughout pregnancy. This advanced the essentials of preventive medicine in obstetrics (Reiss 1999). Ballantyne (1861–1923) built on Ferguson's work, in transforming the medical management of pregnancy in the early 20th century.

The medical records from the LH3 Edinburgh Royal Maternity Hospital and the Simpson Memorial Maternity Pavilion[10] *(Figure 2)* show that a purpose-built hospital for the poor was established from public donations in 1879. Amendments to the Medical Act 1899 were necessary to incorporate midwifery as a compulsory module in the medical curriculum. The alarming occurrence of puerperal sepsis in 1899 compelled the institution of antiseptic measures to ensure the birthing process was safe.

A pioneer in female health professional training

Ballantyne had a vision, which is currently adopted, that research into foetal pathology, education, and specialisation is vital for improved maternal and perinatal health. He advocated effective antenatal care and deliveries be made safe with the assistance of trained professionals. He dedicated 26 years, between 1890-1916, to medical education, teaching at the Edinburgh College of Medicine for Women, and the Edinburgh School of Medicine for Women. He was committed to training male and female students. As a result of the Universities (Scotland) Act 1889 women were formally admitted to the Edinburgh University in 1892. Despite persistent gender biases, full equality in medical education was only practised in 1916. After this, Ballantyne formally integrated women into his teaching programs, moving away from the previous practice of instructing female students separately from their male counterparts.[5]

Figure 2. Simpson Memorial Maternity Hospital

*Internet. Former Simpson Memorial Maternity Hospital, Lauriston Place, Edinburgh. Available at: https://commons.wikimedia.org/wiki/File:Former_Simpson_Memorial_*

Enduring legacy of J.W. Ballantyne

Ballantyne's work culminated in establishment of the first antenatal clinic in Edinburgh in 1915 and a postnatal clinic in 1926. He wrote passionately,

"…the subject of a malady which is known to be transmissible . . . To some extent it may be said that the aetiology of the transmitted foetal diseases is within our knowledge, and their diagnosis not altogether outside our grasp; with perseverance and skill their treatment will yet be hopefully undertaken by the well-informed physician."

This laid the foundation for the development of perinatal medicine, as a distinct branch of pregnancy and child health.

Ballantyne was systematic in categorising diseases of the foetus into embryonic origin, placental disease, and intra-uterine origin. A comprehensive account of foetal disease, congenital abnormalities and factors affecting them appeared in his '*Manual of Antenatal Pathology and Hygiene: The Embryo and Foetus*' (1902-1905). Additionally, there were two other sections in the book, i.e., maternal infections and idiopathic. This treatise is testimony of the meticulous work he performed, based on an understanding of physiology and postmortem studies of stillbirths and congenitally malformed foetuses. The *Mirror Syndrome*, or the Ballantyne's Syndrome, described in 1892, linked maternal oedema to foetal hydrops. This led to further understanding of the impact of maternal disease on perinatal health and illness.

The foundational textbook published in English on the subject of pregnancy and birth, *The Byrth of Mankynde*, impressed him; he shared his findings through the Journal of Obstetrics and Gynaecology of the British Empire between 1906 and 1907.[11] As the Editor of the Edinburgh Obstetric Society, he voiced his views on perinatal pathology, and the importance of prenatal care. His ideas were disseminated to other European countries and the USA. Consequently, in November 1921, the U.S. Congress passed the Sheppard-Towner Maternity and Infancy Protection Act, which provided federal funds to states to establish programs promoting prenatal health and infant welfare. This strategy reduced the high infant mortality.

The National Library of Scotland, Inventory Acc.13189, John William Ballantyne, lists a collection of an autobiography written between 1910-1921, and a diary kept between 1899-1923. They contain volumes of letters, photographs, and memorabilia pasted in. Ballantyne frequently talked about antenatal pathology and foetal diseases, at the Edinburgh Obstetric Society. Often, he discussed various complications of pregnancy that directly concerned the foetus. The case presentations were aimed at enhancing the understanding of the causes of stillbirth, congenital abnormalities, and early childhood diseases through effective antenatal care.

The journey to the formalisation of midwifery training was arduous; credit goes to pioneers like Ballantyne and Simpson. The Central Midwives Board of England was established in 1902; the Simpson Memorial Hospital was recognized as a training centre. Subsequently, the Central Midwives Board of Scotland was established in 1915.

He predicted that specialists in neonatal diseases and nurses extensively trained and skilled in the care of fragile newborns would become commonplace.[5] The goals of the WHO are to ensure that 90% of births are attended by skilled attendants. Worldwide, the proportion of births attended by skilled health personnel has improved by 26 percentage points from 61% in 2000 to 87% in 2024.[6]

Ballantyne left a legacy that reflects on the public health initiatives of the WHO (1996), which include the Mother-Baby Package of Safe Motherhood and Ending Preventable Maternal Mortality strategies. He will be remembered for the adoption of universal access to health care and skilled attendance during birth.

Ballantyne died at the age of 61 after he succumbed to a perforated appendix. ■

REFERENCES

1. Chamberlain G. British maternal mortality in the 19th and early 20th centuries. *J R Soc Med.* 2006;99(11):559-63. doi: 10.1258/jrsm.99.11.559.
2. Dunn PM. Dr John Ballantyne (1861-1923): perinatologist extraordinary of Edinburgh. *Arch Dis Child.* 1993;68(1 Spec No):66-7. doi: 10.1136/adc.68.1_spec_no.66.
3. Philip AG. Historical Perspectives: Perinatal Profiles: John William Ballantyne: Scottish Obstetrician and Prolific Writer. *NeoReviews.* 2008;9(11):e503-5. doi: 10.1542/neo.9-11-e503.
4. Ballantyne JW. Obituary. *Br Med J.* 1923;1:213-6. doi: 10.1136/bmj.1.3240.213.
5. Reiss HE. Historical Insights: John William Ballantyne 1861-1923. *Hum Reprod Update.* 1999;5(4):386-9. doi: 10.1093/humupd/5.4.386.
6. World Health Organization. Ending preventable maternal mortality (EPMM): a renewed focus for improving maternal and newborn health and well-being. Geneva: WHO; 2021. [Accessed on: Jan 19, 2026]. Available at: https://www.who.int/publications/i/item/9789240040519
7. Ballantyne JW. Manual of Antenatal Pathology and Hygiene: The Embryo and The Foetus. Edinburgh: William Green and Sons; 1902.
8. Seigel M. *The Rhetoric of Pregnancy*. Chicago: University of Chicago Press; 2019.
9. Ballantyne JW. An ADDRESS on the PATHOLOGY of ANTENATAL LIFE: Delivered before the Glasgow Obstetrical and Gynaecological Society. *Br Med J.* 1998;11;1(1954):1504-6. doi: 10.1136/bmj.1.1954.1504-a.
10. Lothian Health Services Archive. [Accessed on: Jan 19, 2026]. Available at: https://www.lhsa.lib.ed.ac.uk/
11. Ballantyne JW. The" Byrth of Mankynde"; Its Author and Editions. *Trans Edinb Obstet Soc.* 1906;31:232-70.