

# A psycho-biological revival of the ‘three Ps’ in an integrated antenatal education model

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Achieving two main objectives of antenatal education, namely optimising normal birth outcomes for low risk pregnant women and improving the quality of birth experience for all new mothers (Ogden et al., 1997/2014), is linked with a cascade of health benefits indicated in research converging on the concept of ‘primal health’ (see [www.primalhealth.org](http://www.primalhealth.org)). Mothers’ mental wellbeing is paramount to thriving families and lightens the burden and cost of health care in the short, medium and long terms (Brixval et al., 2014; Gamble et al., 2002).

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There was an old obstetric mantra taught to trainee obstetricians that the factors governing successful vaginal birth were related to ‘power, passage and passenger’. Power related to the forces propelling the baby through the birth canal; passage coupled to the dimensions of the pelvis, and passenger associated with the size and presentation of the baby. The biomedical model of childbirth is rather technical and concerned with preventing illness or death; yet, even with antenatal education being devolved to midwives and childbirth educators, these ‘three Ps’ are still acknowledged in many traditions that we can learn from to enhance wellness, disperse fear and facilitate the transformation into motherhood with all it entails. If we add a psychobiological dimension, the ‘three Ps’ together set a foundation for the much needed, science-based revival of an integrated antenatal education that both improves birth fitness and nurtures the mother-baby bond from pregnancy (Ob-Gyne Student Guide LSUHSC).

## Integrated antenatal education can nurture the mother-baby bond from pregnancy

‘Power’ needs to be expanded to include female empowerment in a psychosomatic sense. While ‘empowerment’ is a hackneyed term that has been so over-used as to become meaningless, restoring the body-mind connection it implies is crucial for defusing women’s rising anxiety associated with pregnancy and childbirth. In the last decade, an increasing number of clinical trials –some

rigorous enough to enter into a Cochrane review - have shown some positive effects of body-mind techniques (Marc et al., 2011) with a prevalence of yoga (Hong Gong et al., 2015; Bershadsky, et al., 2014; Field et al., 2013) and relaxation (Tragea et al., 2014) for increasing women’s confidence in preparation for childbirth. Birth education has been shown to promote pregnant women’s wellbeing (Miquelutti et al., 2013).

The second ‘P’, the ‘passage’, not only includes the bony pelvis but also the soft tissues, which we know are affected by psychobiological factors. Recent research on the web of fascia, that is particularly dense and replete with receptors for neurotransmitters orchestrating hormone production between birthing muscles and hypothalamus-pituitary glands, throws light on the importance of targeted muscle relaxation. Paradoxically, the current priority on ‘tight’ pelvic floor muscles in female fitness often results in over-toning that is counter-productive both to giving birth easily and to postnatal pelvic tone recovery (Harvey, 2003). Gaining awareness of birthing muscles and their intrinsic elasticity requires time but this has been shown to translate into more effective ‘pushing’ in shorter second stages of labour. While there are many variants of perineal massage, this learnt practice, common to many world traditions, could contribute to reduce the incidence of perineal tears that discredit vaginal deliveries in the eyes of many obstetricians and of women with traumatic first birth experiences (Beckmann & Garrett, 2006). ‘Active labour’ is positively encouraged by the World Health Organisation and the UK Royal College of Midwives: women with an active first stage of labour ‘off the bed’ fare better and are more likely to adopt a birthing position of their choice. For millennia, parturient women have been aided by culturally transmitted dances, pelvic movements

and supported upright birth positions that facilitate the baby's journey through the female pelvis. Our sedentary life-style, coupled with a 'gym culture', needs to be complemented with a retrieval of these basic moves that we have dismissed in the name of modernity for only a few short centuries (see [www.birthlight.com](http://www.birthlight.com)).

## Awareness of birthing muscles helps pushing in 2nd stage

One of the main proven benefits of all antenatal education, irrespective of its format and content, has been 'the group effect'. Creating a social cohort of peers, a 'circle' of pregnant women, is the main vehicle of cultural transmission of birth-related matters in traditional societies (Hogg et al., 2015). Since father or partner attendance in childbirth has become a cultural norm in the UK and in many parts of the world, involving 'pregnant couples' in antenatal education also becomes mandatory. Learning about the 'passage' can give birth partners a more concrete understanding of the lived progression they will attend to during labour and a basis for being better involved in the birth process.

Last but not least in the 'three Ps', the 'passenger' has been revealed to be far more sentient, responsive and endowed with agency than in textbooks of the twentieth century. Fetal positioning is certainly linked with pelvic anatomy - the 'passage'- and mothers-to-be can be helped to act upon it with the empirical knowledge at our disposal (Sutton & Scott, 1999). However, the many ways in which maternal behaviours and emotions impact on the fetus through pregnancy, and in which scans and fetal assessment trigger maternal responses, require a tactful and well informed antenatal education. The increasing visibility of fetal development, as beneficial as it is in medical terms, can produce extreme maternal stress that remains unattended to. It is an additional remit of integrated antenatal education to complement both fetal medicine and the monitoring of maternal behaviours that put fetuses at risk, with a nurturing of the 'power' of pregnant women through love and acceptance of their babies' needs rather than through lists of do's and don'ts (Chan, 2014). If the empowered woman and her 'passenger' have progressively 'bonded' through facilitating practices such as mindful breathing, singing, visualisation and relaxation, their affective communication will also become an asset during labour, whether it is physiologically initiated by the mature fetus or has to be induced. Throughout pregnancy, the placenta plays an important role in supporting mother-fetus communication, the setting of fetal hormonal levels, particularly cortisol levels, and the cumulative release of oxytocin are set in response to maternal levels with long ranging

implications (Bai et al., 2013). Epigenetics is shedding new light on processes that antenatal education can optimise through the instilment of positive feedback loops; the successful initiation of breastfeeding, the integration of birth memories and attitudes to infants rest on layers of maternal experience activated long before birth. Finally, the passenger's arrival to his or her destination - the world - whether spontaneous or mercifully facilitated by modern obstetrics, is not the end of the journey. The 'fourth trimester' that completes pregnancy is an intrinsic part of birth education-cum-care that midwives and wise women have been traditionally in charge of worldwide, and that our global hospital-based maternity services have fragmented into postnatal care and paediatric care. New research and practices on the microbiome invite new protocols (Dominguez-Bello et al., 2016). How to fit the 'fourth trimester' into an integrated antenatal education is not clear, but research evidence on the continuity of care through the whole process of transition to motherhood points to addressing this challenge as a priority for maternal-infant wellness.

## Epigenetics is shedding new light on the integration of birth memories

As fathers routinely carry prints of fetal scans in their wallets, antenatal education needs to change in response to new understandings of the transition to parenthood: the uterus is not so much a 'bump' as a space of intricate communication and early memories that shape brain development and lay the foundations for long term health of families (Svensson et al., 2008).

In an information-saturated world, informed decisions at all stages of the reproductive process are increasingly complex and pressurised. Antenatal education, in tandem with or as part of maternity services, seems as important today as the introduction of antenatal care was exactly one century ago during the crisis of the First World War.

Today, the challenge is not so much to reduce maternal and infant mortality as to address the rampant low level morbidity caused by high and rising levels of maternal and infant mental illness (Downe et al., 2010). Research showing the efficacy of mind-body practices warrants the allocation of budgets to prevention. Within the fundamental 1001 days (The 1001 Critical Days Manifesto, 2013), integrated antenatal support may well be the element that shapes the next generations.

### YOGA DANCE

For more information about Birthlight yoga dance, please visit:

<https://www.youtube.com/watch?v=gwZLETfu3PU>  
<https://www.youtube.com/watch?v=qTmUhocrx1M>

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