Gravidity and parity definitions (Implications in risk assessment)

The shorthand system of describing gravidity and parity has evolved based on local obstetric traditions; it may vary slightly between different communities and this can cause confusion.

What is gravidity and parity? (Definitions)

In the UK:

Gravidity is defined as the number of times that a woman has been pregnant.

Parity is defined as the number of times that she has given birth to a fetus with a gestational age of 24 weeks or more, regardless of whether this resulted in stillbirth or a live birth.

For example, a woman who is described as 'gravida 2, para 2' (sometimes abbreviated to G2 P2) has had two pregnancies and two deliveries after 24 weeks, and a woman who is described as 'gravida 2, para 0' (G2 P0) has had two pregnancies, neither of which survived to a gestational age of 24 weeks.

If they are both currently pregnant again, these women would have the obstetric history of G3 P2 and G3 P0 respectively. Sometimes a suffix is added to indicate the number of miscarriages or terminations a woman has had. So if the second woman had had two miscarriages, it could be annotated G3 P0+2.

- A **nulliparous woman (nullip)** has not given birth previously.
- A **primagravida** is in her first pregnancy.

- A **primiparous woman** has given birth once. The term 'primip' is often used interchangeably with primagravida, although technically incorrect, as a woman does not become primiparous until she has delivered her baby.
- A **multigravida** has been pregnant more than once.
- A **multiparous woman (multip)** has given birth more than once.
- A **grand multipara** is a woman who has already delivered five or more infants who have achieved a gestational age of 24 weeks or more, and such women are traditionally considered to be at higher risk than average in subsequent pregnancies.
- A **grand multigravida** has been pregnant five times or more.
- A **great grand multipara** has delivered seven or more infants beyond 24 weeks gestation.

Multiple pregnancies can present a problem relating to nomenclature: a multiple gestation counts as a single event and a multiple birth should be interpreted as a single parous event, although this remains contentious. In a recent survey, only 16% of Welsh midwives and obstetricians recognised a twin delivery as a single parous event - G1 P1 rather than G1 P2, revealing the potential lack of standardisation in our documentation.[1]

A more elaborate coding system used elsewhere, including America, is GTPAL (G = gravidity, T = term deliveries, P = preterm deliveries, A = abortions or miscarriages, L = live births).

Relationship of gravidity and parity to risk in pregnancy

Obstetric histories should always record parity, gravidity and outcomes of all previous pregnancies because:

- Outcomes of previous pregnancies give some indication of the likely outcome and degree of risk in relation to the current pregnancy.

- What is considered normal labour varies according to parity:
    - Normal labour in a primagravida is significantly different to normal labour in multiparous women, as physiologically the uterus is a less efficient organ, contractions may be poorly coordinated or hypotonic. The average first stage in a primagravida is significantly slower than in a multiparous woman (primarily due to the rate of cervical dilation). Therefore, progress is expected to be slower but delay longer than expected should prompt augmentation in managed labour.
    - Interestingly, grand multips have a longer latent phase of labour than either nulliparous or lower-parity multiparous women but then begin to dilate more rapidly. After 6 cm dilation, partogram curves for lower parity multips and grand multips are indistinguishable.

Risks associated with nulliparity/primagravidae

- Higher risk of developing pre-eclampsia (relative risk 2.1 with confidence interval 1.9-2.4).[2]
- Delayed first stage of labour, although this could be considered normal in a primagravida.
- Dystocia (or difficult labour) was diagnosed in 37% of primagravidae in one Danish study.[3] Maternal age is an independent risk factor for dystocia, regardless of parity.[4]

Risks associated with grand multiparity

- Abnormal fetal presentation.
- Preterm delivery, although higher age is more significant.[5] [6]
- Uterine atony.
- Placenta praevia.
- Uterine rupture.
- Amniotic fluid embolism.
- Maternal anaemia.

- Postpartum haemorrhage.
- Stress incontinence and urinary urgency symptoms.[7]

What is a high-risk pregnancy?
Risk equates to factors that increase likelihood of harm to mother or baby. A high risk pregnancy is defined by the National Institute for Health and Care Excellence (NICE) as one where the likelihood of an adverse outcome for the woman or the baby is greater than that of the 'normal population'. However, antenatal 'risk' screening cannot identify every pregnancy/labour that will run into complications. Usually risk factors are combined and weighted to match an appropriate level of medical care and intervention to more risky pregnancies to reduce the chances of harm to the mother or baby. The majority of grand multigravidae pregnancies will be high risk.

Confounding variables[8]
Increased parity is often associated with:

- Increasing maternal age - particularly with levator ani dysfunction.[9]
- Lower socio-economic and educational status.
- Poorer prenatal care (more likely to be late bookers and poor attenders at antenatal appointments).
- Smoking and alcohol consumption.
- Higher body mass index (BMI).
- Higher rates of antenatal hypertensive disease and gestational diabetes.

It is not always possible to disassociate the various risk factors attributable to each factor.

Management

Primigravidae
Provide:

- Good antenatal care with particular vigilance to early warning signs of pre-eclamptic toxaemia (PET). NICE recommends nullips with uncomplicated pregnancies should have 10 routine antenatal appointments (versus 7 in parous women).[10]
- Good antenatal, parenting and infant feeding education, support during labour and pain control (if desired) are especially important in a first pregnancy

Where there is delay in the first stage of labour in a primagravida, active management is with artificial rupture of membranes and/or oxytocin to augment labour.

The second stage of labour can be allowed to continue for longer than the traditional time associated with multips, as long as fetal monitoring is satisfactory and there is ongoing fetal descent.

Grand multigravidae

It is usually appropriate to book for delivery in a specialised unit. Consider:

- Iron prophylaxis.
- Vigilance for abnormal fetal presentations from 36 weeks onwards.
- Planning for possible rapid labour and delivery.
- Close monitoring of strength of contractions and fetal presentation during delivery.
- The possibility of postpartum haemorrhage.
- Good physiotherapy and postnatal follow-up for possible urogynaecological complications.

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