

‘INTERVENTION MANAGEMENT’ THE NEW NORMAL?

Throughout my training as a student midwife I struggled to understand why there was such a paradox between our theoretical university education and the practical outworking of it in the hospital setting. Towards the end of my training we were asked to ‘define and analyse ‘intervention management’ of labour and birth and it’s subsequent impact on maternal morbidity’. This was quiet a task, but what follows is the slow unfolding of what I learnt about how the paradox occurred. At university we are taught to practices from a midwifery philosophy, although at the hospital, procedures, protocols and practices have been subtly influenced by a medical philosophy and, as staff, we are expected to practice under that.

This essay aims to define and analyse ‘intervention management’ of labour and birth, followed by the subsequent impact of intervention management on maternal morbidity. The definition of Intervention management will be derived from literature surrounding the concepts of obstetric fear, perception of risk, the medicalisation of childbirth and definitions of ‘normal’ and ‘abnormal’ labour and birth which stem from biomedical philosophy. Research has found that 43% of women experience some kind of morbidity beyond what would be normally expected in childbirth¹. Maternal morbidity will be defined in terms of a mothers ‘illness or abnormal condition’² relating to labour and birth and not specifically as a statistical measure of illness or abnormality. The focus of this analysis is on iatrogenic maternal morbidity relating to intervention management in labour and not morbidity associated with pre-existing poor maternal health. It is proposed that intervention management produces iatrogenic effects which compound as a result of the ‘cascade of intervention’ and thus produces an increase in avoidable maternal morbidity.

The concept of risk is used by modern society to make decisions about and to come to terms with the possibility of outcomes which may entail loss, damage or death³. During childbirth there is always the possibility that a woman or her baby may be disabled or die. Since illness and death are considered the domain of medicine it is the obstetric argument that childbirth is risky and dangerous⁴. Obstetrics argues that its perception of birth is authoritative and that intervention is the most certain way to avoid death. By presenting childbirth alongside

¹ Danel S., Berg T., Johnson K. & Antrash S. (2003). The magnitude of maternal morbidity during labour and delivery in the USA between 1993-1997. *American Journal of Public Health*, 27(3): 28.

² Harris P., Nagy S. & Vardaxis N. (2006). *Mosby’s dictionary of medicine nursing and health professionals*. Elsevier, NSW.p.1127.

³ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaopolis.p.12.

⁴ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaopolis. p.22.

the discourse of risk, modern obstetrics has created and marketed a need for itself and thus persuaded society to accept their perception of birth, therefore securing birth as their domain⁵. The idea of risk is that the probability of a certain event occurring can be calculated and quantified. Because the complications of labour and birth consistently escape the systems of risk perception and calculation, there is an obstetric tendency to define every aspect of labour and birth in terms of risk in an attempt to explain and predict all possible eventualities⁶. In this sense the labouring female body has become risk laden as the possibilities for something ‘going wrong’ proliferate.

The use of risk discourse in association with birthing creates fear around the events of labour and childbirth. If an event is perceived as risky, then it is also perceived as scary. By the use of risk discourse, obstetrics has perpetuated the myth that childbirth is to be feared and thus convinced mothers to conform to obstetric management to avoid something ‘going wrong’⁷. Murphy- Lawless states that, ‘the general drive towards intervention, gathered its credibility from the notion of identifiable risk factors and the hope that obstetrics could prevent death by responding to risk factors’ (p.172). Thus the discourse of risk and the resultant fear surrounding childbirth paved the way and provided justification for interventions during labour and childbirth, under the guise that they would prevent death and avoid something going wrong. The obstetric fear of birth combined with the discourse of risk, have led to the assumption of pathology for each labour and birth. Thus, as a matter of biomedical philosophy, birth can only be judged as normal in retrospect because it is always potentially pathological, therefore labour is managed to keep it within the bounds of the medically defined ‘normal’ to make it less risky⁸.

The use of risk discourse has paved the way for obstetric intervention in childbirth which allowed for the process of medicalisation. The term ‘Medicalisation’ applies when a problem is created or taken over by the apparatus of medicine and gives definition to the ways in which medicine has extended its jurisdiction over normal life events⁹. The theme of medicalisation implies the extension of medical authority beyond a legitimate social boundary¹⁰ whereby social

⁵ Johanson R., Newburn M. & Macfarlane A. (2002). Has the Medicalisation of childbirth gone to far?. *British Medical Journal*, 324(7342): 893; Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis. p.10.

⁶ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis.p.21

⁷ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis.p.18

⁸ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis.p.198.

⁹ Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):228.

¹⁰ Rose N. (2007). Beyond Medicalisation. *The Lancet*, 369(9562): 700 & 702.

phenomena come to be defined and treated as disease¹¹. Ballard & Elston (2005, p.229) state that, 'Medicalisation should be understood as a manifesting and ongoing shift in social control processes in modern societies'. Medicalisation occurs when the medical profession uses power gained through their knowledge and expertise to define and control what constitutes health and illness¹². The process of medicalisation allows practitioners to demonstrate their control by redefining what is considered 'normal' and 'abnormal'¹³. Through the process of defining what is 'normal', medicine can define what is considered 'abnormal' or pathological¹⁴. By developing a conceptual difference between abnormal and normal the medical profession have secured a large and growing market for their services in perpetuity by the creation of false needs and then catering to these newly perceived needs¹⁵.

By the social process of 'problematizing' or medicalising birth, modern obstetrics can justify 'managing' labour and birth by 'intervening' to make each individual labour and birth conform to the obstetric definition of normal. Thus, by defining what is constituted as a normal birth, obstetricians have monopolised control over events which occur outside the norm under the guise of risk management. Under the guise of knowledge and expertise, medicine has proceeded to define all aspects of labour, in particular, the parameter of time. The use of medically defined times for labour and birth have justified the use of intervention to ensure each labour fits into the 'normal' time a labour should take according to doctors. If a labour is too long it is described as 'failure to progress' which is 'abnormal' and requires 'treatment'¹⁶. A combination of strict timing criteria for 'normal' birth and the perception that childbirth is potentially pathological have encouraged the use of intervention which speeds up the process of birth. This leads to the use of manipulative interventions such as induction, augmentation, forceps, vacuum extraction and rupturing membranes¹⁷.

Based on the above stated discussion, the approach of 'intervention management' for labour and birth will be defined as, 'a method of labour and birth care which assumes childbirth is pathological, thus requiring treatment. Using an intervention management approach, birth is

¹¹ Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):228; McLellan F. (2007). Medicalisation: a medical nemesis. *The Lancet*, 369(9562): 627.

¹² Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):230.

¹³ Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):228; Rose N. (2007). Beyond Medicalisation. *The Lancet*, 369(9562): 701

¹⁴ Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):228; Rose N. (2007). Beyond Medicalisation. *The Lancet*, 369(9562): 701

¹⁵ Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):230.

¹⁶ Maher J.M. (2003). Rethinking women's birth experience: medical frameworks and personal narratives. *Hecate*, 29(2): 145.

¹⁷ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianapolis.p.200.

controlled by a series of interventions, including pharmacological, instrumental and mechanical to ensure that labour and birth remain within the medically defined boundaries of normal. It is thought that these interventions reduce the risk of childbirth and thus prevent maternal and foetal mortality'. The remainder of this analysis aims to discover and discuss the subsequent impact that 'intervention management' has on maternal morbidity.

The use of intervention management to control labour has resulted in increased development and use of technological aids during childbirth which help to monitor birth to identify deviance and risk. Each intervention has iatrogenic side effects which often require management with an additional form of intervention; this sets up a process which is defined as the 'cascade of intervention'. The cascade begins with the first intervention and can roll on to the end point of an instrumental or operative delivery¹⁸. Inch employed the term 'cascade of intervention', to produce a diagrammatic account of possible outcomes, beginning with artificial rupture of membranes which can lead to other routine interventions. She built up a picture of how labour goes wrong for women because obstetrics cuts across a woman's labour in order to prevent a possible outcome which may never arise¹⁹. This analysis proposes that intervention management produces iatrogenic effects which compound as a result of the cascade of intervention and thus produce an increase in avoidable maternal morbidity.

When a mother loses control over her birth experience due to intervention management, this can produce emotional and psychological effects of which can be long lasting and affect parenting and future pregnancy and birthing decisions. It is supported in the literature that obstetric intervention during birth produces negative reactions from mothers and can be associated with long term psychological morbidity²⁰. Operative and instrumental delivery including caesarean delivery, forceps and vacuum extraction is linked with considerable psychological maternal morbidity including, disappointment, anger, depression, guilt, regret, loss of self esteem, grief reactions, feelings of violation and dissatisfaction with care²¹. In Oakleys 'Transition to motherhood' study, she compiled a technology score based on fifteen different forms of intervention that were accepted obstetric practices and found that an outcome of depression in the women who formed her study group strongly correlated with medium to high

¹⁸ Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):19.

¹⁹ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaopolis.p.204

²⁰ De Costa C.M. & Robson S. (2004). Throwing out the baby with the spa water?. *Medical Journal of Australia*, 181(8): 438.

²¹ Smith R., Lumley J., Donohue L., Potter A. & Waldenstrom U. (2000). Randomised controlled trial of midwife led debriefing to reduce maternal depression after operative childbirth. *British Medical Journal*, 312(7268): 1043.

technology scores, which included the combination of induction, epidural and forceps²². Similarly, Porter et al (2003) comment that many women report having more marital adjustment problems, have more problems bonding with their babies and difficulty establishing breastfeeding after caesarean compared to women who have vaginal deliveries. They also found that having a caesarean discourages women from having further children; women who had caesareans were afraid of further deliveries and as a result had fewer children.

The medicalisation of childbirth requires women to be cared for within the hospital setting. Thus, the first in the chain of the 'cascade of intervention' is, going to hospital to experience labour and birth²³. It is understood that stress and clinical procedures intervene with the physiological process of labour and the stress of transferring to hospital during labour can slow labour and thus create pathology²⁴. Sheilds et al (2007) found that women presenting to hospital in the latent stage of labour undergo an increased number of obstetric interventions and that avoiding early admission for women not in active labour reduces the risk of receiving augmentation of labour or an epidural by more than half²⁵.

A management approach which often accompanies presentation to hospital is an admission CTG. This intervention is often performed routinely on all women presenting in labour and allows the staff to determine how to best manage the labour and what interventions are to be employed during the labour to reduce risk²⁶. Impey et al performed a randomised control trial to assess the neonatal and maternal outcomes in a CTG group and an intermittent auscultation group. They hypothesised that there would be a 50% reduction in neonatal morbidity for the CTG group, but instead found that there was no difference between the groups for either maternal or fetal outcomes. They concluded that 'admission cardiotocography, at the start of a labor in a pregnancy judged to be normal, cannot be justified' (p.470). In a similar study by Mires et al, it was found that while admission CTG did not improve fetal outcomes it did increase medical intervention with increases in both instrumental deliveries and caesarean section in a low risk population and made a similar conclusion to Impey et al²⁷.

²² Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis.p.204

²³ De Costa C.M. & Robson S. (2004). Throwing out the baby with the spa water?. *Medical Journal of Australia*, 181(8):438.

²⁴ Maher J.M. (2003). Rethinking women's birth experience: medical frameworks and personal narratives. *Hecate*, 29(2): 141

²⁵ Sheilds S.G., Ratcliffe S.D., Fontaine P. & Leeman L. (2007). Dystocia in nulliparous women. *American Family Physician*, 75(11):1673.

²⁶ Impey L., Reynolds M., MacQuillan K. & Gates S. (2003). Admission cardiotocography. *The Lancet*, 361(9356):465.

²⁷ Mires G., Williams F., Howie P. & Goldbeck-Wood S. (2001). Randomised controlled trial of cardiotocography verses Doppler auscultation of fetal heart at admission in labour in low risk obstetric population. *British Medical Journal*, 322(7300):1461.

Within the approach of intervention management, interventions are employed to ensure that the length of labour remains within the 'normal' limit. To assist with this, the intervention of artificially rupturing the membranes (amniotomy) is often employed as it is thought speed up the progress of labour²⁸. Murphy-Lawless quotes Nihell who states that 'the deliberate premature discharge of waters was a very blameable practice, one that all capable midwives reprove and forbid, as it is robbing the part of the most natural and necessary lubrication for facilitating the launch in due course of the foetus'²⁹. Although amniotomy is considered a simple procedure within the intervention management model, it does carry risks. It can cause an increase in variable heart rate decelerations in the baby because of cord compression, cord prolapsed and worsen the pain of contractions³⁰. While amniotomy doesn't directly cause maternal morbidity, it is a link in the chain of the cascade of intervention and can lead to continuous CTG. Immediately after amniotomy it is considered good practice to listen to the fetal heart³¹. If decelerations in the heart rate are heard, continuous CTG is warranted as the fetus may be compromised. Thus, if amniotomy leads to the intervention of continuous CTG, it puts a further time limit on labour as doctors will argue that the longer decelerations are present, the more the fetus may be compromised and become distressed which may be an indication for assisted delivery³². The above stated chain of events may give some insight as to why amniotomy is associated with higher rates of caesarean and instrumental delivery than if membranes spontaneously rupture³³. Thus, the intervention of amniotomy can indirectly contribute to maternal morbidity due to resultant intervention management to remedy the iatrogenic effects of previous intervention.

If fetal distress is diagnosed resulting in continuous CTG, the mother will often be advised not to take any oral fluid or eat. Restricting oral food and fluid intake of women in active labour in hospitals is a strongly held obstetric tradition based on the historical concern related to risks of gastric content regurgitation and aspiration into lungs during general anaesthesia. Thus the thought is that if the baby is distressed, the mother may require a caesarean delivery and if she

²⁸ Smyth R., Alldred S.K. & Markham C. (2007). Amniotomy for shortening spontaneous labour. *The Cochrane Collaboration, issue 4*, art no.: CD006167.

²⁹ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianapolis.p.201

³⁰ Sheilds S.G., Ratcliffe S.D., Fontaine P. & Leeman L. (2007). Dystocia in nulliparous women. *American Family Physician, 75*(11):1672; Smyth R., Alldred S.K. & Markham C. (2007). Amniotomy for shortening spontaneous labour. *The Cochrane Collaboration, issue 4*, art no.: CD006167.

³¹ Smyth R., Alldred S.K. & Markham C. (2007). Amniotomy for shortening spontaneous labour. *The Cochrane Collaboration, issue 4*, art no.: CD006167.

³² Gabay M. & Wolfe S.M. (1997). Nurse-midwifery: the beneficial alternative. *Public health reports, 112*(5):387.

³³ Sheilds S.G., Ratcliffe S.D., Fontaine P. & Leeman L. (2007). Dystocia in nulliparous women. *American Family Physician, 75*(11):1672.

did, then she may need a general anaesthetic (GA) and if she did then there is a risk of Mendelson's syndrome which is a result of aspirating stomach contents during GA³⁴. Thus, the medical philosophy behind intervention management dictates labour management and perpetuates and compounds risk as each intervention is performed. Restricting food and fluid during labour is not only unsubstantiated and unnecessary according to recent literature but predisposes women to dehydration, ketoacidosis, slowed labour (dystocia) and increased maternal stress. Intravenous therapy instead of oral hydration has become common practice, but this has been shown to predispose women to immobilisation and doesn't ensure adequate fluid and nutrient demands for labour³⁵. It is evident then that the use of CTG can be combined with the use of intravenous fluid administration (in response to fluid and food restriction), which can both have the side effect of reduced maternal movement and mobilisation during labour and predisposes women to a semi-recumbent position. Women who adopt an upright or lateral position have reduced duration of second stage and incidence of instrumental birth compared with supine or lithotomy positions³⁶, highlighting the importance of mobilisation and freedom of movement during labour. Not only do the above stated interventions rob the mother of the freedom to move and control over her labour but they are also associated with the perception or experience of increased pain. Restricted movement means that mothers will often lie or sit on the bed which can result in a reduction in the mother's ability to manage labour pain and use pain relief methods such as a shower, bath and massage. This can result in mothers requesting an epidural to cope with labour pain.

'Current pain-relief methods pose a dilemma for obstetrics because they entail sequelae to which it must respond with further techniques that also up the odds of something going awry'³⁷. The use of epidural anaesthesia to deal with labour pain is associated with additional intervention due to the effect it has on the maternal mechanisms of labour and alteration of the pelvic floor. The lower body muscle weakness resulting from an epidural inhibits normal fetal rotation which increases the incidence of fetal malpresentations among women who receive epidural anaesthesia³⁸. The use of epidural analgesia early in labour contributes to the creation of fetal malpresentation by relaxing the pelvic floor before the presenting part is flexed and in a

³⁴ Singata M. & Tranmer J.E. (2002). Restricting oral fluid and food intake during labour. *The Cochrane Collaboration, issue 4*. Art no.: CD003930

³⁵ Singata M. & Tranmer J.E. (2002). Restricting oral fluid and food intake during labour. *The Cochrane Collaboration, issue 4*. Art no.: CD003930

³⁶ Homer C. & Dahlen H. (2007). Obstetric induced incontinence: a black hole of preventable morbidity? An 'alternative' option. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(unknown): 88.

³⁷ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaapolis.p.58.

³⁸ Cammann W. (2005). Pain relief during labour. *The New England Journal of Medicine*, 352(7):719.

favourable position for rotation and descent³⁹. In addition to fetal malpresentation, epidural anaesthesia has a tendency to prolong the second stage of labour due to reduced maternal ability to push and malrotation of the baby. 'Strong evidence from 11 trials involving 3280 women shows the association between epidural use and longer second stage'⁴⁰. These factors increase the incidence of instrumental deliveries⁴¹. Homer & Dahlen (2007) found 17 trials involving 6162 women which showed that the risk of an instrumental delivery was increased with the use of epidurals. Instrumental birth leads to overall increase in pelvis floor morbidity with increased perineal trauma⁴².

A study by Klein et al (2001), shows the connection between epidural use and the subsequent cascade of intervention which ultimately results in higher rates of maternal morbidity. The objective of the study was to determine if family physicians overall approach to maternity care, as measured by average use of epidural analgesia, was associated with maternal and fetal outcomes. The results showed that low versus high epidural users were admitted at a later state of cervical dilation, received less CTG monitoring and oxytocin augmentation, sustained fewer fetal malpresentations and had fewer caesarean deliveries. They concluded that high use epidural analgesia is a marker for a style of practice characterised by fetal malpresentations leading to dysfunctional labours and higher intervention rates, leading in turn to excess maternal morbidity⁴³. The authors of the above study hypothesised that those physicians who used epidural analgesia often might be creating iatrogenic conditions that lead to a cascade of interventions culminating in caesarean and concluded that high epidural use appears to be a marker for a style of practice characterised by higher intervention rates and excess maternal morbidity⁴⁴.

In addition to the cascade of events associated with epidural use during labour, the epidural itself poses a risk to the mother and is a cause of maternal morbidity including a dangerous drop in blood pressure which can have ramifications for organ perfusion and fetal

³⁹ Klein M.C., Grzybowski S., Liston R., Spence A., Le G., Brummendorf D., Kim S. & Kaczorowski J. (2001). Epidural analgesia use as a marker for physician approach to birth: implications for maternal and newborn outcomes. *BIRTH*, 28(4):245.

⁴⁰ Homer C. & Dahlen H. (2007). Obstetric induced incontinence: a black hole of preventable morbidity? An 'alternative' option. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(unknown): 88.

⁴¹ Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaopolis. p.41

⁴² Homer C. & Dahlen H. (2007). Obstetric induced incontinence: a black hole of preventable morbidity? An 'alternative' option. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(unknown): 88.

⁴³ Klein M.C., Grzybowski S., Liston R., Spence A., Le G., Brummendorf D., Kim S. & Kaczorowski J. (2001). Epidural analgesia use as a marker for physician approach to birth: implications for maternal and newborn outcomes. *BIRTH*, 28(4):243

⁴⁴ Klein M.C., Grzybowski S., Liston R., Spence A., Le G., Brummendorf D., Kim S. & Kaczorowski J. (2001). Epidural analgesia use as a marker for physician approach to birth: implications for maternal and newborn outcomes. *BIRTH*, 28(4):244

health and may lead to emergency interventions and infection of the epidural site⁴⁵. In addition to the above stated complications, Klein et al observed that epidural use resulted in the need for labour augmentation⁴⁶. Due to an epidurals effect on contractions, augmentation is often required to strengthen contraction and remedy the prolonged first and second stage of labour⁴⁷. Thus in summary 'Women receiving epidurals are more likely to require oxytocin augmentation in the first stage of labour, have longer second stages, have persistent Occipito Posterior fetal malpresentation and undergo operative vaginal delivery'⁴⁸. Therefore epidural use serves as a link in the cascade of intervention resulting in interventions which increase maternal morbidity.

Women who undergo instrumental vaginal deliveries are more likely to report sexual problems including painful intercourse and perineal pain compared to women who had unassisted deliveries⁴⁹. Furthermore, urinary and anal incontinence can be a consequence of instrumental deliveries as a result of damage to surrounding tissues⁵⁰. The morbidity relating to instrumental deliveries can be associated with the use of episiotomy when performing these deliveries. Episiotomies contribute more to anal sphincter disruption and severe perineal trauma than unassisted deliveries; therefore there is an increased risk of incontinence of faeces and flatus⁵¹.

The culmination of the cascade of intervention and the ultimate management of birth is the complete detour of the birthing passage by surgical extraction of an infant through the abdomen of it's mother. It has been estimated that serious maternal morbidity occurs in 9-15% of women delivered by caesarean⁵². The morbidities associated with caesarean at the time of surgery can include hysterectomy, anaesthetic complications, accidental extension of incision and haemorrhage requiring transfusion⁵³. The short term morbidities include wound, uterine and urinary infections, severe abdominal pain and local trauma to bladder, ureters and bowels⁵⁴. More

⁴⁵ Britt R. (2002). Epidural analgesia during labour. *Nursing*, 32(6):78.

⁴⁶ Klein M.C., Grzybowski S., Liston R., Spence A., Le G., Brummendorf D., Kim S. & Kaczorowski J. (2001). Epidural analgesia use as a marker for physician approach to birth: implications for maternal and newborn outcomes. *BIRTH*, 28(4):245

⁴⁷ Decca L., Daldoss C., Fratelli N. & Lojaco A. (2004). Labor course and delivery in epidural analgesia: a case-control study. *Journal of Maternal and Neonatal Medicine*, 16(2):119.

⁴⁸ Shields S.G., Ratcliffe S.D., Fontaine P. & Leeman L. (2007). Dystocia in nulliparous women. *American Family Physician*, 75(11):1673

⁴⁹ Thompson J.F., Roberts C.L., Currie M. & Ellwood D.A. (2002). Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *BIRTH*, 29(2): 88.

⁵⁰ Johanson R., Newburn M. & Macfarlane A. (2002). Has the Medicalisation of childbirth gone to far?. *British Medical Journal*, 324(7342): 893.

⁵¹ Homer C. & Dahlen H. (2007). Obstetric induced incontinence: a black hole of preventable morbidity? An 'alternative' option. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(unknown): 87.

⁵² Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):11.

⁵³ Armson A. (2007). Is planned caesarean childbirth a safe alternative?. *Canadian Medical Association Journal*, 176(4): 475.

⁵⁴ Grobman W. (2002). Broad based conversion to elective caesarean delivery is not justified. *Female Patient*, 27(5): 20; Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):11.

serious short term morbidity associated with abdominal surgery in general includes thromboembolic complications and paralytic ileus⁵⁵. It is estimated that 20% of women develop fever after caesarean due to iatrogenic infections⁵⁶. Furthermore, thromboembolic disease is approximately 5 times more common after caesarean than a vaginal delivery and can lead to anticoagulant associated major morbidity including post-thrombotic chronic pain syndrome and recurrent thromboembolic disease⁵⁷. A 14 year study by Armson, found the overall risk of severe maternal morbidity associated with planned caesarean was 3 times higher than vaginal delivery. This included the risk of postpartum cardiac arrest, wound haematoma, hysterectomy, major puerperal infection, anaesthetic complications, venous thromboembolism, haemorrhage requiring hysterectomy or transfusion, uterine rupture, intensive care admission, postpartum readmission to hospital, problems with subsequent births including reduced fertility, ectopic pregnancy, miscarriage and placenta previa, complications of repeat caesarean birth and increased cumulative costs⁵⁸. Thompson found that, compared with women having unassisted vaginal births, women who had caesareans were significantly more likely to report exhaustion or extreme tiredness and at 24 weeks postpartum and were more likely to report urinary problems when women having unassisted vaginal deliveries⁵⁹.

In the longer term, caesarean delivery is thought to cause an increase in morbidity rates relating to, miscarriage, ectopic pregnancy, sub fertility, infertility, abdominal adhesions causing intestinal obstruction, placenta abruption, placenta previa, placenta accreta and antepartum haemorrhage⁶⁰. Thus it is obvious that the risks and morbidity of an initial caesarean are not limited to the immediate post operative period but continue to accrue during future pregnancies (Grobman, 2002, p.21).

⁵⁵ Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):11.

⁵⁶ Wagner M. (2000). Choosing caesarean section. *The Lancet*, 356(9342): 1678.

⁵⁷ Grobman W. (2002). Broad based conversion to elective caesarean delivery is not justified. *Female Patient*, 27(5): 20; Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):20.

⁵⁸ Armson A. (2007). Is planned caesarean childbirth a safe alternative?. *Canadian Medical Association Journal*, 176(4): 476; Thompson J.F., Roberts C.L., Currie M. & Ellwood D.A. (2002). Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *BIRTH*, 29(2): 88.

⁵⁹ Thompson J.F., Roberts C.L., Currie M. & Ellwood D.A. (2002). Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *BIRTH*, 29(2): 88.

⁶⁰ Abu-Heija A.T., El-Jallad F. & Ziadeh S. (1999). Placenta previa: effect of age, gravidity, parity and previous caesarean section. *Gynaecologic & Obstetric Investigation*, 47(unknown):7; Grobman W. (2002). Broad based conversion to elective caesarean delivery is not justified. *Female Patient*, 27(5): 20; Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):21; Murphy D.J., Stirrat G.M., Heron J & ALSPAC study team. (2002). The relationship between caesarean section and subfertility in a population-based sample of 14 541 pregnancies. *Human Reproduction*, 17(7):1914; Porter M., Bhattacharya S., Tjiltingen E.V. & Templeton A. (2003). Does caesarean section cause infertility?. *Human Reproduction*, 18(10): 1983; Wagner M. (2000). Choosing caesarean section. *The Lancet*, 356(9342): 1678.

In conclusion, Intervention management has led to the majority of women birthing their babies in hospital where they are under the control of medical staff who promise reduced risk during child birth. Risk is reduced by intervening to ensure labour and birth remain within the medically defined bounds of normal. These interventions produce a cascade of other interventions in an attempt to manage the risk of the previous intervention. Each intervention carries risks and side effects which compound the possibility of maternal morbidity and increase the likely hood of further intervention. The cascade culminates at instrumental or caesarean delivery which carry a substantially higher risk of maternal morbidity then spontaneous vaginal delivery. Therefore, intervention management of labour and birth has the subsequent impact of increasing maternal morbidity in the short and long term. These morbidities are both physical and psychological.

- Abu-Heija A.T., El-Jallad F. & Ziadeh S. (1999). Placenta previa: effect of age, gravidity, parity and previous caesarean section. *Gynaecologic & Obstetric Investigation*, 47(unknown):6-8.
- Armson A. (2007). Is planned caesarean childbirth a safe alternative?. *Canadian Medical Association Journal*, 176(4): 475-477.
- Ballard K. & Elston M.A. (2005). Medicalisation: a multi-dimensional concept. *Social Theory & Health*, 3(3):228-236.
- Britt R. (2002). Epidural analgsia during labour. *Nursing*, 32(6):78-79.
- Cammann W. (2005). Pain relief during labour. *The New England Journal of Medicine*, 352(7):718-721.
- Danel S., Berg T., Johnson K. & Antrash S. (2003). The magnitude of maternal morbidity during labour and delivery in the USA between 1993-1997. *American Journal of Public Health*, 27(3): 28.
- Decca L., Daldoss C., Fratelli N. & Lojacono A. (2004). Labor course and delivery in epidural analgesia: a case-control study. *Journal of Maternal and Neonatal Medicine*, 16(2):115-119.
- De Costa C.M. & Robson S. (2004). Throwing out the baby with the spa water?. *Medical Journal of Australia*, 181(8): 438- 442.
- Gabay M. & Wolfe S.M. (1997). Nurse-midwifery: the beneficial alternative. *Public health reports*, 112(5):386-395.
- Grobman W. (2002). Broad based conversion to elective caesarean delivery is not justified. *Female Patient*, 27(5): 19-23.
- Harris P., Nagy S. & Vardaxis N. (2006). *Mosby's dictionary of medicine nursing and health professionals*. Elsevier, NSW.
- Homer C. & Dahlen H. (2007). Obstetric induced incontinence: a black hole of preventable morbidity? An 'alternative' option. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47(unknown): 86-90.
- Impey L., Reynolds M., MacQuillan K. & Gates S. (2003). Admission cardiotocography. *The Lancet*, 361(9356):465-471.
- Inglis S. (2002). Accessing a debriefing service following birth. *British Journal of Midwifery*, 10(6):368-372.
- Johanson R., Newburn M. & Macfarlane A. (2002). Has the Medicalisation of childbirth gone too far?. *British Medical Journal*, 324(7342): 892-896.
- Klein M.C., Grzybowski S., Liston R., Spence A., Le G., Brummendorf D., Kim S. & Kaczorowski J. (2001). Epidural analgesia use as a marker for physician approach to birth: implications for maternal and newborn outcomes. *BIRTH*, 28(4):243-249.
- Maher J.M. (2003). Rethinking women's birth experience: medical frameworks and personal narratives. *Hecate*, 29(2): 140-153.

- McLellan F. (2007). Medicalisation: a medical nemesis. *The Lancet*, 369(9562): 627-629.
- Mires G., Williams F., Howie P. & Goldbeck-Wood S. (2001). Randomised controlled trial of cardiotocography versus Doppler auscultation of fetal heart at admission in labour in low risk obstetric population. *British Medical Journal*, 322(7300):1457-1463.
- Murphy-Lawless J. (1998). *Reading birth and death: a history of obstetric thinking*. Indiana University Press, Indianaopolis.
- Murphy D.J., Stirrat G.M., Heron J & ALSPAC study team. (2002). The relationship between caesarean section and subfertility in a population-based sample of 14 541 pregnancies. *Human Reproduction*, 17(7):1914-1917.
- Porter M., Bhattacharya S., Tjiltingen E.V. & Templeton A. (2003). Does caesarean section cause infertility?. *Human Reproduction*, 18(10): 1983-1986.
- Rose N. (2007). Beyond Medicalisation. *The Lancet*, 369(9562): 700-703.
- Sheilds S.G., Ratcliffe S.D., Fontaine P. & Leeman L. (2007). Dystocia in nulliparous women. *American Family Physician*, 75(11):1671-1679.
- Singata M. & Tranmer J.E. (2002). Restricting oral fluid and food intake during labour. *The Cochrane Collaboration*, issue 4. Art no.: CD003930.
- Smith R., Lumley J., Donohue L., Potter A. & Waldenstrom U. (2000). Randomised controlled trial of midwife led debriefing to reduce maternal depression after operative childbirth. *British Medical Journal*, 312(7268): 1043-1048.
- Smyth R., Alldred S.K. & Markham C. (2007). Amniotomy for shortening spontaneous labour. *The Cochrane Collaboration*, issue 4, art no.: CD006167.
- Thompson J.F., Roberts C.L., Currie M. & Ellwood D.A. (2002). Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *BIRTH*, 29(2): 83-94.
- Wagner M. (2000). Choosing caesarean section. *The Lancet*, 356(9342): 1677-1681.
- Weaver J. (2004). Caesarean section and maternal choices. *Fetal and Maternal Medicine Review*, 15(1):1-25.