

Factors Which Influence Development in Babies

Source: Tassoni, P 2004, Diploma in Pre-School Practice, Oxford, Heinemann
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Factors that influence babies' development

It is important to understand the different factors that can affect babies' development because this can influence the way in which we can meet their needs. Having said this, we also need to observe each child's individual strengths, interests and progress because there is a danger of stereotyping or labelling children.

There are four broad factors that might affect a baby's development:

- ▶ pre-conceptual
- ▶ antenatal
- ▶ perinatal
- ▶ postnatal.

Pre-conceptual care

It is now known that babies' development is influenced even before the mother becomes pregnant; the state of the mother's overall health appears quite crucial. Pre-conceptual care is therefore regarded as important. Women are advised before pregnancy to be aware of their nutrition, alcohol intake and use of drugs, and to be reasonably fit for at least three months before conception. Fathers are also targeted because the quality of sperm can affect the baby's outcomes. A good example of this is smoking: some research findings are that fathers who smoked at the time of conception had children who were more likely to smoke in later life.

Antenatal factors

The term '**antenatal**' describes the time from conception to birth. Many possible influences can affect a child's development during this time; however, this is an area of ongoing research.

Genetics play a part

At the moment of conception, when one sperm fuses with an egg, information that will affect the baby's development comes together. This information is known as DNA (deoxyribonucleic acid) and contains a code that determines the structure and function of the baby's cells. Amazingly, DNA contains information that will influence our physical appearance, our pre-disposition to illness and, according to some scientists, aspects of our temperament.

At the moment of conception, there are occasionally problems with this information that can result in a child being born with a developmental difficulty. One example is Down's syndrome, which is not an inherited condition but is caused by the way in which the parents' DNA is put together. In addition, children may inherit information from one or both parents that will affect their development. Physical features such as our eye colour or hair type are the result of inherited information. Certain diseases or pre-dispositions to illness can also be inherited, for example, epilepsy and conditions such as colour blindness.

The health of the mother

During pregnancy, the woman acts as the baby's life-support machine. This means that the health of the mother is crucial. Fortunately, most women have healthy and non-eventful pregnancies. However, some women are not so lucky and their health affects their developing child.

Lifestyle

Women who smoke may not realise that they limit the amount of oxygen that their developing baby receives. This can result in lighter and sometimes pre-term babies. Furthermore, it is known that the first 12 weeks of gestation are pivotal, although some women may not realise that they are pregnant. Alcohol and drugs, even prescription medication, can affect the baby's later development.

Diet

A woman's diet during pregnancy also plays an important role because women who are poorly nourished will not pass sufficient nutrients to the developing baby. This can result in babies with a low birth weight and who are less responsive. In addition, it is now known that folic acid needs to be present in a woman's diet in the first few weeks of pregnancy because it helps to prevent spina bifida. While folic acid can easily be taken as a dietary supplement or gained by eating additional green vegetables, many women may not know that they are pregnant at the time that this vitamin is required.

Infection and illness

Maternal infections can also affect the developing baby, especially in the first 12 weeks of gestation. Food poisoning and childhood diseases, such as measles and rubella, can have significant effects on the baby's growth and well-being.

Perinatal factors

Perinatal factors are difficulties that occur during the birthing process. Today, because of advances in medicine, especially antenatal care and monitoring during labour, most pregnancies carry a very low risk for both baby and mother. This was not always the case: previously, many women died during childbirth. However, even in the modern world, the risks of childbirth have not been completely eliminated and some babies may be injured during the birthing process.

Anoxia – lack of oxygen

The supply of oxygen to the baby is essential because a lack of oxygen can cause brain damage. During labour, the oxygen supply to the baby might be

interrupted for several reasons, including the umbilical cord becoming entangled or the baby being slow to breathe at birth.

Low birth weight

Birth weight is significant because babies who are born light are vulnerable to infection and their internal organs may not be as mature. Common causes of low birth weight in babies include premature delivery, multiple births, poor maternal nutrition and smoking before and during pregnancy.

Premature babies

Some women go into labour early or are induced early because of a serious condition, for example, pre-eclampsia. This means that some babies are born premature. While babies who are born after 37 weeks' gestation are not likely to have any developmental delay (normal gestation is 40 weeks), babies who are born earlier are less physically mature and will therefore continue the maturation process outside of the womb. This is why height and growth charts for babies are plotted according to the gestation week in which the baby was born. In terms of physical and other areas of development, babies who are premature are likely to reach 'milestones' more in line with their expected date of delivery rather than their actual birth date.

Postnatal factors

Postnatal factors (see the diagram opposite) are those that affect the child from the birth onwards. These factors are largely environmental ones; they include where the baby grows up, diet, and the care and love that he or she receives. We also know that some children are genetically predisposed to certain illnesses and that the environment may trigger a condition. A good example of this is asthma: there is a strong genetic link with asthma but it may be triggered in a baby in response to, for example, living in a damp environment.

Recognising the parent–baby bond

In Core Units 1 and 3, we looked at attachment theories and the importance of babies having emotional security (pages 29–33). In terms of our practice with



APPLYING THEORY TO YOUR PRACTICE

One way in which we can help babies feel comfortable is to develop some personal play routine with them. The idea is that every time the baby arrives, the practitioner plays a little game with him or her, depending on his or her age.

Choose one of the following games and play one of them at odd times with a baby you are working with. Aim to play the game on arrival. See how long it takes before the baby appears to recognise the games.

- ▶ Peek-a-boo
- ▶ Pat-a-cake
- ▶ Round and round the garden like a teddy bear
- ▶ Peep-po, using a finger puppet