

**Required Question: Please identify and briefly describe the significant physical and physiological changes that occur in infancy.**

The significant physical and psychological changes that occur in infancy change drastically as the child grows. With physical development such as being able to lift and turn their heads or flexing their arms, stepping and walking, better eye-muscle control, being able to sit alone, and more. As the infant develops physical changes, infants develop physiological changes as well. There psychological changes are changes such as discovering laughing, smiling, sadness, fear, and more. These changes continue to change as the child grows, such as exhibiting “stranger anxiety”, or not wanting to be picked up, or not wanting to play, and displaying discomfort.

**Explain the relationship between genes, chromosomes, and DNA. Also indicate how these entities function in reproduction.**

Genes, chromosomes, and DNA are all connected and all have important functions in reproduction. DNA is a complex molecule shaped into a spiral staircase. DNA makes up both genes and chromosomes, containing genetic information. Chromosomes are larger and typically are able to be seen microscopically. Chromosomes are thread-like structures made out of DNA and are found in the nucleus of each human cell. Genes however, who live on the chromosomes are also made up of DNA. Genes act as a “basic unit of inheritance” which means they contain important information needed that makes up our physical and biological characteristics. In terms of reproduction, genes are found on DNA and DNA uses its spiral staircase to form

chromosomes. With reproduction, DNA is passed on by parents to offspring. This tells cells to create the necessary proteins and plan to create an organism.

**Explain what an infertile couple can do to have a baby.**

Infertility is defined as not being able to get pregnant after one year or more of unprotected sex. Being fertile, or being able to conceive a child, is known to decline as women age. Typically, it starts around women who are 35 years old and older. However, there are many reasons that could cause infertility. Women need healthy and functionable ovaries, fallopian, and a uterus to get pregnant. Anything that affects these organs could be the reason leading to infertility for that person. For example, PCOS (Polycystic Ovary Syndrome) is extremely common during the average woman's age of pregnancy. PCOS makes it so that you do not ovulate, causing missed or irregular menstrual cycles. There are both biological and environmental factors that cause infertility. These environmental factors such as chemical or radiation exposure, or smoking and drinking alcohol or using other extreme drugs such as heroin, cocaine, marijuana, and fentanyl can all cause infertility or severe permanent organ damage to the fetus. An infertile couple who wish to have a baby who cannot convince on their own, are able to go through different processes to start a family. These various methods include vitro fertilization, gamete intra fallopian transfer, intracytoplasmic sperm injection & artificial insemination which all have their risks. There are times these methods don't work, which can make a couple resort to finding a potential surrogate or adoption.

**Discuss the pros and cons of breast- versus bottle-feeding.**

There are both pros and cons regarding both breast and bottle feeding. With breastfeeding, it's been proven extremely beneficial surrounding the baby's health growing up. For example, breastfeeding is known to reduce the risk of obesity for both the mom and the baby. Breastfeeding is known to also reduce the risk of SIDS and create a low chance of infections such as gastrointestinal infections and respiratory tract infections. Due to all the important nutrients given from the mother through breastfeeding, this is known to "provide defenses for fighting off diseases", reducing a risk of fevers. According to outside resources, some cons from breastfeeding include excessive feeding duties due to newborns waking up every 2-3 hours. Another con resulting from breastfeeding is sore nipples on the mother's end. This can cause breast infections and painful cracks. Bottlefeeding on the other hand also has its pros and cons. For example, being able to share the job of feeding. Waking up every so often for parents is difficult, making this an ideal method and an easier route. Another pro surrounding bottle feeding is convenience and being able to feed a baby at any time making many parents feel more comfortable. A huge disadvantage with bottle feeding is cost. Formula tends to be expensive making it an "average of \$400-\$800 a month".

**Explain what we know about the ability of infants to hear.**

Newborns immediately start learning and grasping starting in the womb. Being extremely sensitive to sounds. There have been many experiments done in order to learn more about the ability of infants to hear. Being sensitive to sounds, many newborns will turn to the sound of whoever is near them or talking to them, especially someone who the newborn is familiar with. It's been known that infants can not hear sounds as adults do but as the infant ages, closer to 3 months, the infant's ability to hear improves drastically and can take up to 10 years for the highest peak of hearing.

**Do infants feel pain? In answering, also indicate evidence that challenges the traditional practice of not administering anesthetics to infants having operations.**

Newborns respond fairly well to touch in general. We know infants respond to pain by crying. Research has shown that infants don't respond well to pain simply by crying. For example, sometimes an infant getting pricked by a needle will cause the baby to cry, showing us the infant responded to the pain caused by the needle. Many years ago, doctors would perform surgery on infants without the use of anesthesia. In 1987, the American Academy of Pediatrics "declared it unethical to operate on newborns with anesthetics". Many years ago, doctors had been convinced that infants don't feel pain from not responding to being pricked. Now we know that infants sometimes experience pain more intensely than older children and adults. This time and age however is much different as we advanced greatly in technology and

medicine making anesthesia for infants very safe and effective without the risks it once had on them.

**Compare and contrast fathers' and mothers' ability to care for infants, and each parent's typical caregiving practices.**

Every parent has their own way and routines of taking care of their infants. It's common for mothers to play the leading role or the one in control when it comes to the child such as health, activity, important dates, and more. A mother has a tendency to learn and ask for help or advice on what to do or how to do it. Meanwhile, fathers tend to follow their instincts and go with what feels right for them or what looks right for their child. Many times there is a stereotype when it comes to fathers being stricter than mothers which isn't the case at all with many fathers. Mothers are less physical when it comes to handling babies while fathers are rougher in a safe way. Mothers tend to handle a child softly and gently and fathers are known to throw them in the air, safely. This will always differ as there are times a parent is on their own without a mother making either the mother or the father play the 2 person job on their own.

**If you were a parent who could choose whether to stay home with your children or place them in day care, what factors would you consider in making this decision?**

If I was a parent with the choice of staying home with my children or placing them in day care, I would choose staying home with my children. I would not mind placing them in day care on days where I'm working or busy or whatever circumstance it may be. However, I think I

would be the type of parent that would rather spend as much time as I possibly can with them. Although I would always encourage my children to play with other children and explore and learn on their own and it may give me a break once in a while, I think I would feel the most comfortable spending more time with them at a younger age. Socializing with other kids is a huge factor I would take into consideration as I want to be able to teach my children social skills at a young age as I feel it's important to do so especially in the world we live in today. As I am not a parent yet, I have played a parental role many times even towards adults. I think being able to spend quality time with those you're in care of is super important but I do believe there should be a limit and space for growth and learning.

**Most information was used from chapters in the textbook but I did use some outside sources!**

**References used:**

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