

THE LONG TERM CONSEQUENCES OF HOW WE ARE BORN

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INTRODUCTION

If I were asked to explain what the terms “crisis” and “critical period” mean, I would take birth as an example. The period surrounding birth represents a short period of time when our capacities to adapt are more suddenly and intensely challenged than ever. It appears “critical” for many reasons. We’ll focus on two perspectives: (1) With birth, the gas exchange by the placenta is replaced by the gas exchange via the lungs. In other words, babies must breathe and rely on their lungs. These changes lead to an increase of roughly ten-fold in the blood flow of the pulmonary arteries and a corresponding decrease in the vascular resistance of the lungs. The transient lack of oxygen may be longer among some babies than others. (2) Data from multiple scientific perspectives confirm that the period surrounding birth is important for the development of the capacity to love--data offered by ethologists, scientists who study the behavioral effects of hormones involved in childbirth, and scientists who study the redistribution of brain receptors, etc. For many cultural and medical reasons, there is a great diversity of situations regarding the first contact between the mother and baby. All cultures do not disturb this first contact in the same way and to the same degree.

If we keep in mind these two aspects of birth as a crisis, one can anticipate two types of long term consequences of how we are born. This anticipation is confirmed by an overview of the Primal Health research data bank.

ADAPTABILITY TO OXYGEN DEPRIVATION

This issue, from a primal health research perspective is represented in our data bank by one important study.

A team of Swiss researchers reviewed the records of all children admitted to the neonatal-care unit of the Lausanne University Hospital for Children between 1972 and 1979.¹ They identified 15 subjects born near term who had been in a persistent state of hypoxemia (low level of oxygen in the blood) even during ventilation with oxygen. This was interpreted as a sign of pulmonary hypertension during the first week of life. Ten of them (three women and seven men) agreed to participate in a

study when they were in their twenties (mean age 21). They were compared with ten healthy young volunteers (four women and six men) who were part of the same age-group born in Lausanne, and who had experienced no complications at birth.

Some weeks after a “baseline examination” at an altitude of 580 meters (atmospheric pressure of 710 mm Hg), the participants ascended in groups of two to four from an altitude of 1130 m to an altitude of 4559 m (atmospheric pressure of 440 mg Hg) within a period of 22 hours. They were then transported by cable car to an altitude of 3200 m and climbed for an hour and a half to an altitude of 3611 m where they stayed overnight. On the next day, they climbed four and a half hours to the high-altitude research laboratory at Capanna Regina Margherita.

The laboratory tests clearly demonstrated that the mean increase in pulmonary-artery pressure at high altitude was significantly greater ($P=0.01$) in the participants who had had pulmonary hypertension during the week following their birth. These findings suggest that a transient insult to the pulmonary circulation leaves a persistent imprint which, when activated in adult life, predisposes to a pathological response.

CAPACITY TO LOVE, FROM A PRIMAL HEALTH RESEARCH PERSPECTIVE

From an overview of our data bank, it appears that when researchers explored the background of people who have expressed some sort of impaired capacity to love--either love of oneself or love of others--they always detected risk factors in the period surrounding birth. Furthermore, when such correlations have been highlighted, it was always related to an important current sociological concern.

Violent Criminality

Juvenile violent criminality is undoubtedly topical. It can be regarded as a form of an impaired capacity to love others. Adrian Raine and his team from the University of California in Los Angeles followed 4,269 male subjects born in the same hospital in Copenhagen.² They found that the main risk factor for being a violent criminal at age 18 was the association of birth complications, together with early birth separation from or rejection by the mother. Early maternal separation-rejection by itself was not a risk factor.

Self-Destructive Behaviors

Teenage suicide (previously almost unknown) is another important issue specific to our time. Lee Salk and colleagues, researched the backgrounds of 52 adolescent suicide victims who died before their 20th birthday, and compared them with 104 controls.³ They found that one of the main risk factors for committing suicide during

adolescence was resuscitation at birth. Bertil Jacobson of Sweden studied in particular how people commit suicide. In his first study, he looked at birth record data gathered for 412 forensic cases comprising suicide victims and compared them with 2,901 controls.⁴ He found that suicides involving asphyxiation were closely associated with asphyxiation at birth; suicides by violent mechanical means were associated with mechanical birth trauma. In his last study, Jacobson confirmed that men (but not women) who had traumatic births are five times more at risk of committing suicide by violent means than others.⁵ Jacobson explored the background of 242 adults who committed suicide by using a firearm or by jumping from a height, or by jumping in front of a train, or by hanging, or by laceration, etc. comparing them with 403 siblings born during the same period and at the same group of hospitals. Many possible confounding factors were considered. The differences between men and women disappeared if their mothers had used pain killers of the opiate family when in labor. It seems that the long term side effects of pain killers such as morphine or different sorts of synthetic morphine are different. They include drug addiction.

Jacobson also studied drug addiction. He and Karin Nyberg looked at the background of 200 opiate addicts born in Stockholm from 1945 to 1966 and took non-addicted siblings as controls.⁶ They found that if a mother had been given certain painkillers during labor, her child was statistically at an increased risk of becoming drug-addicted in adolescence.

Autism and other aspects of the “autistic spectrum” can also be presented as the expression of an impaired capacity to love. Autistic children and autistic adults do not socialize. As teenagers, they cannot manage dating. As adults they do not have children. My interest in autism started in 1982 when I met Niko Tinbergen, one of the founders of ethology, who shared the Nobel prize with Konrad Lorenz and Karl Von Frisch in 1973. As an ethologist familiar with the observation of animal behavior, he studied in particular the non-verbal behavior of autistic children. As a “field ethologist” he studied the children in their home environment. Not only could he offer detailed descriptions of his observations, but at the same time, he listed factors which predispose to autism or which can exaggerate the symptoms.

Tinbergen found certain factors evident in the period surrounding birth: “deep forceps” deliver, birth under anesthesia, resuscitation at birth and induction of labor. When I met him, he was exploring possible links between difficulty in establishing eye-to-eye contact and the absence of eye-to-eye contact between mother and baby at birth. His data were not presented in statistical language and he had no control groups. However, the work of Tinbergen (and his wife) represents the first attempt to explore autism from a Primal Health research perspective.

It is probably because I met Niko Tinbergen that I read with special attention, in June 1991, a report by Ryoko Hattori, a psychiatrist from Kumamoto, Japan.⁷ Mrs. Hattori

evaluated the risks of becoming autistic according to the place of birth. She found that children born in a certain hospital were significantly more at risk of becoming autistic. In that particular hospital, the routine was to induce labor a week before the expected date of delivery and to use a complex mixture of sedatives, anesthesia agents and analgesics during labor.

Interest in such studies is enhanced at a time when we know more about the hormonal profile of autistic children and the particularities of their brain structures. Oxytocin, in particular, appears to be a promising avenue of research. Let us recall once more that oxytocin--which is instrumental in contracting the uterus for the birth of the baby and the delivery of the placenta--is also an altruistic hormone, a “hormone of love”. It seems that the oxytocin levels are comparatively low in autistic children,⁸ and there have been attempts to treat some of them with oxytocin. I assume that one day the way autistic children release oxytocin will be explored. It seems that oxytocin is more effective when released rhythmically with a fast succession of pulsations. It is not utopic any more to measure the rhythmicity--the pulsatility--of oxytocin release.

CONCLUSIONS

The results of the main studies which have detected links between how people are born and different forms of an impaired capacity to love, have been published in very authoritative medical journals. However, they are comparatively unknown and are not taken into account in most subsequent articles. This is a common characteristic between them. For example, a large review article in the *British Medical Journal* about autism did not mention any of these studies exploring correlations with the primal period.⁹ One can also wonder why most of these studies are not repeated by a greater number of researchers. Can research be politically incorrect?

The period surrounding birth appears “critical” for many other reasons. It is also the time when the germ free fetus enters the world of microbes, when the baby must suddenly adapt to differences of temperatures and the time when the young human being starts experiencing gravity. This indicates what further research should be done.

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