



The First Thousand Days and the Failure to Thrive

"A child's health is most vulnerable during the first 1 000 days of its life. This period, from conception until a child's 2nd birthday, offers a unique window of opportunity to shape healthier and more prosperous futures".

Western Cape Government

1. Introduction¹

From the moment of conception the developing child is vulnerable to the effects of substance abuse; to poor maternal nutrition; and to poverty and inter-personal violence. Fortunately, these intersecting risk factors can largely be avoided with appropriate psycho-social and public health interventions.

There is a growing understanding of the vital importance of the first 1000 days of a child's life, that is, from conception to the age of two, as predictive of positive future development and the capacity to thrive and thus realize his/her full potential. "A critical factor for understanding negative health outcomes is acknowledging the synergistic quality that clusters of health problems create. An important step in addressing clusters of health problems involves gaining an awareness of the contextual factors that connect them".² Both the Departments of Social Development and of Health have prioritized the first 1000 days of a child's life in their policy frameworks. The focus of this paper is on issues which compromise the well-being of the developing child during this period, which contribute to the failure to thrive, and which are preventable. Disability and conditions which are hereditary or congenital are not discussed.

2. Substance Abuse During Pregnancy

Substance abuse during pregnancy is a critical public health concern as it can result in irreversible damage to the developing child.³

While the consequences of substance abuse are often tragic, any efforts to address the issue must adopt a non-judgemental attitude. The harm done is not intentional, and effective interventions must take the psycho-social and socio-economic context into account. Moreover, it is important to note that substance abuse during pregnancy is not confined to any particular country, race or socio-economic group.

While much of the focus on substance abuse during pregnancy focuses on alcohol consumption, the use of illicit drugs and tobacco can also result in lasting damage including "multiple health and social problems for both mother and child, including miscarriage, stillbirth, low birth weight, prematurity, physical malformations and neurological damage".⁴

Dr Leana Olivier, of the Foundation for Alcohol Related Research (FARR), points out that as many as 70% of pregnancies in South Africa are unplanned.⁵ Furthermore, teenage pregnancy is common and there is a high incidence of non-marital births. As a result, many women abuse substances, or simply continue smoking and moderate drinking of alcohol, without knowing that they are pregnant and without intending to become pregnant.

2.1 Tobacco

Smoking while pregnant is the most common form of use of a dangerous substance during pregnancy. Nicotine (the addictive substance in cigarettes), carbon monoxide and numerous other

poisons inhaled from a cigarette are carried through the bloodstream and go directly to developing baby. This lowers the amount of oxygen available to both the mother and the growing baby, which may in turn increase the baby's heart rate and increase the chances of miscarriage. It may also cause premature birth and low-weight births, and increases the likelihood of respiratory problems and the risk of birth defects.⁶ Furthermore, research shows that "cigarette smoke can damage the placenta, which in turn, reduces the supply of oxygen and the level of nutrition being passed onto the foetus in the womb."⁷

At present about 22% of South African adults smoke. Anti-smoking legislation was introduced in 2000 and has contributed to a decline in smoking.⁸ A number of adolescents smoke, but the percentage is difficult to gauge as tobacco products cannot be sold to people under the age of 18.⁹ Both the Mowbray Maternity Hospital in Cape Town and other Western Cape regional hospitals, including Worcester and George, report that tobacco is the number one maternal substance use.¹⁰ Some women do choose to stop smoking while pregnant but start smoking again after the birth of the baby. This means that the nursing child can be exposed to the harmful effects of smoke.

The importance of the role played by second hand smoke should not be underestimated. Second hand smoking is generally understood as the inhaling of the smoke of those smoking in the physical space of the pregnant woman or neonate. Although it is not a matter of substance abuse, the role played by fossil fuel pollution in informal settlements and many low-income residential areas should not be overlooked. It results in the constant inhalation of noxious substances during pregnancy and compounds respiratory conditions in babies and young children. This is a socio-economic issue which greater access to electricity would obviate considerably.

2.2 Alcohol

According to the World Health Organization's (WHO) average *per capita* alcohol consumption data, South Africa is ranked 30th out of 195 countries. However, the country scores higher when it comes to average alcohol consumption among those who drink – jumping to the 11th highest where heavy episodic binge drinking is common.¹¹ Alcohol consumption lowers inhibitions which may result in risky sexual

behaviour which can result in an unplanned pregnancy.

Foetal Alcohol Syndrome (FAS) and Foetal Alcohol Spectrum Disorder (FASD) are the most common manifestations of alcohol abuse during pregnancy. "The term FASD is used to include the range of permanent conditions that result from alcohol exposure of the foetus *in utero*, with Foetal Alcohol Syndrome (FAS) being the most severe condition."¹² According to a 2008 FASD report compiled by the Medical Research Council, the Universities of Cape Town and Pretoria, and the United Nations Children's Fund, "prenatal alcohol exposure... is the leading cause of intellectual impairment in the world."¹³ It is 30 to 50 times more common than Down's syndrome. "Typical impairments that characterise a child with FAS are related to neurocognitive damage, resulting in low intelligence, behavioural impairments, poor social judgement, and general difficulty performing everyday tasks."¹⁴ These children may have facial differences such as small eyes, flattened cheeks, a short nose and a smooth philtrum above a thin upper lip. Furthermore, "mothers who drank after childbirth, and breast-fed, were 6.4 times more likely to have a child with FASD than breast-feeding mothers who abstained from alcohol."¹⁵

The Foundation for Alcohol Related Research (FARR) recently concluded a three-year study in the Saldanha Bay Municipality, which includes five small seaside towns on the West Coast. They found that the prevalence rate of FAS in South Africa is several times higher than elsewhere in the world. It is estimated that between 70 and 80 per 1000 babies born in the Western Cape have the syndrome.¹⁶

Alcohol abuse tends to take place during the weekend period and takes the form of 'binge' drinking. This pattern of drinking has its roots in the '*dop* system' where white farmers paid farmworkers in the Western Cape liquor as part of their wage, a practice that has continued long after it was made illegal.¹⁷ Today, the Western Cape has the highest incidence of Foetal Alcohol Syndrome in the world. The problem is systemic and has an intergenerational element. "The *dop* system of primarily male farm labourers has created a generation of disadvantaged youths and abused women due to the alcohol dependency that can be accredited to [it]".¹⁸ Excessive consumption of alcohol has become normalized, and the *dop* system, which was used as a cynical means to retain and control farm labour, now traps farm

workers in poverty; many are regarded as heavy drinkers beyond help. Furthermore, the past few years have seen many farm evictions in the Western Cape, resulting in many farm labourers and their families living in informal settlements and surviving as seasonal workers. This has led to increasing impoverishment and marginalization and, in the absence of other recreational opportunities, a tendency to seek solace in alcohol and the companionship of the taverns.

While media attention around FAS has focused largely on high prevalence rates in the Western and Northern Cape provinces, the Nutrition Information Centre at the University of Stellenbosch cites previous research showing prevalence rates of almost four percent among children surveyed in areas of Johannesburg such as Soweto, Lenasia and Westbury.¹⁹ Similarly, while a study in the Northern Cape's capital, Kimberley, found a prevalence rate of six percent (60 per 1 000) among Grade 1 learners, in the Eastern Cape's Nelson Mandela Bay, the rate is 13% (130 per 1 000) among learners from a mixed socio-economic urban population.²⁰

This indicates that the scourge of alcohol abuse while pregnant is no longer only a rural issue but is an emerging urban issue too. There is drinking sub-culture which is very difficult to penetrate. One mother recounts that she gave her children alcohol to drink, as "when we drank together we were just that happy family... we were just *lekker* when we had alcohol in our bodies. We understood each other 100% because mommy and daddy and the kiddies were all drinking out of the same bottle."²¹

Regarding the connection between the *dop* system and FAS, Dr Olivier points out that,

"the idea that we have a FAS problem only because of the *dop* system in rural areas is incorrect. If there was a linear link there should have been a decrease after the *dop* system was outlawed, but this isn't the case. In all the studies we've done, we've asked participants if they've been exposed to the *dop* system, and the answer is no. It doesn't explain what's happening in the cities, what's happening in more traditional areas".²²

Research conducted by Dr Liezelle Jacobs indicates the psycho-social and intergenerational nature of FASD. "These terms refer to a woman who was exposed to alcohol *in utero*, who had life

exposure to an environment of excessive alcohol use...Such a person is therefore at a higher risk for early alcohol abuse and unplanned pregnancies, with the higher risk of having a child with FASD."²³ However, if a woman with FAS/FASD becomes pregnant and does not drink during the pregnancy, she will not pass the condition on to her baby. This speaks to the importance of public health education and support programmes that emphasize the preventable and irreversible consequences of the use of alcohol while pregnant.

Both unsafe sex and interpersonal violence are influenced by alcohol consumption. Alcohol use among pregnant women attending shebeens and taverns is alarmingly high. Moreover, alcohol use appears to be an important factor in understanding the relationship between domestic violence and pregnancy. "Intensive, targeted, and effective interventions for both men and women are urgently needed to address high rates of drinking alcohol among pregnant women who attend drinking establishments."²⁴

While much of the research reflected in this paper suggests that women seldom drink alone, this is not always the case.²⁵ Dr Jacobs draws attention to the issue of 'secret' drinking by women, which may continue during pregnancy.²⁶ This is difficult to measure and, due to its hidden nature and the stigma associated with it, difficult to address. It is reported that there is proposed legislation in the Gauteng legislature which seeks to make it a criminal offence to drink while pregnant. Such a judgemental attitude would militate against women seeking help and discourage attendance at clinics during the pregnancy. It displays a very narrow understanding of the reasons why pregnant women drink and the very complex psycho-social and socio-economic roles that alcohol plays in the lives of young girls and women. For example, as a teenage girl in Rondevlei commented, "I think the women drink because they've got problems at home. Their husbands hit them and their lives are full of stress."²⁷

2.3 Drug addiction

The Western-Cape provincial Department of Health has found that "more pregnant women are abusing drugs and alcohol, with the incidence of substance use at Mowbray Maternity Hospital increasing almost threefold over the past five years."²⁸ The drug of choice for expecting mothers at this hospital is 'tik'.²⁹ Babies are born with

severe withdrawal symptoms after birth, often making them tremble, cry incessantly, and have difficulty with breathing, sucking and swallowing. Breastfeeding is not possible in these tragic circumstances.

Cocaine and heroin are more 'up-market' addictive substances. Heroin is highly addictive and if used while pregnant there is an increased risk of miscarriage, stillbirth, premature birth, low birth weight or Sudden Infant Death Syndrome (SIDS). As with 'tik', the baby will go through heroin withdrawal and need treatment after birth.³⁰

Some studies indicate that while there may be some success in the reduction of substance abuse during pregnancy, it is offset by the dramatic rise in substance use from 6 to 12 months postpartum.³¹ Furthermore, continued "dependence on alcohol and other drugs can also severely impair an individual's functioning as a parent, spouse or partner, and instigate and trigger gender-based and domestic violence, thus significantly affecting the physical, mental and emotional development of children."³²

3. Maternal Nutrition and Health

Professor Lisanne du Plessis emphasises that the nutritional status of the mother, prior to the pregnancy, at the time of conception, and during pregnancy, impacts on healthy growth in the womb.³³ Preterm labour, low birth weight and anaemia are more common in undernourished pregnant women, and their infants are more likely to have birth defects and chronic health problems. Maternal under-nutrition accounts for about 20% of stunting in children.³⁴ Under-nutrition also affects the quality of breast milk and, in turn, contributes to the under-nutrition of the child. Food security is not a given in South Africa and many children are born into households which are heavily dependent on the Child Support Grant and the Old Age Grant for an income.³⁵ This paucity of income also limits the kinds of foodstuffs purchased by a household. And the recent increase in VAT will impact most on the poor.

Proper nutrition during pregnancy cannot be overemphasised, as

"the foetal nervous system from which the brain and spinal cord progress is one of the first systems to develop. Its foundations are

laid down during the very first days of pregnancy. At the end of pregnancy, the brain has grown exponentially and is capable of learning and forming memories. It is actually not very hard to imagine that to lay a good foundation for the brain it is of utmost importance to receive the best building blocks through proper nutrition of the mother".³⁶

It is also in the first thousand days that the child attains 50% of adult height; and it is a critical period for the development of fat. Professor du Plessis stresses that the "deficits and excesses established during this time period are hard to overcome".³⁷ The child cannot reach his or her full cognitive potential, which impacts on schooling achievement, and later on, educational and employment opportunities.

Maternal obesity is emerging as a public health problem with adverse pregnancy outcomes in mother and child.³⁸ It can lead to higher rates of miscarriage, still-birth and congenital anomalies.³⁹ "Among the socio-demographic associations, maternal obesity was found to be higher in older, multiparous women⁴⁰ and among urban settlements in Africa, but not associated with wealth. Obesity was previously seen as a disease of the affluent in developing settings, but recent evidence shows increasing obesity among both poor and rich."⁴¹ It is indicative of a diet rich in starch and sugar, and insufficient in protein. Obesity has reached alarming proportions in South Africa and has prompted the government to introduce a tax on fizzy drinks which have a high sugar content and little that is nutritious. At present it is cheaper to buy a litre of Coca-Cola than it is to buy a litre of milk.

The Mowbray Maternity Hospital in Cape Town, which is the largest dedicated maternity hospital in South Africa, reports that more women with "complicated pregnancies, and other health conditions, including hypertension (high blood pressure), tuberculosis (TB) and HIV/Aids, have been referred to the facility."⁴²

Regrettably, while maternal health was one of the 2015 Millennium Development Goals, it was the one with the least degree of success. This failure has serious implications for the health of a child during the first 1000 days as it impacts on the quality of parenting. Indeed, early maternal death casts a long shadow over the life of a child, well beyond the age of two.

4. Conclusion

The provincial departments of Health and Social Development recently launched the 'First 1 000 Days Project', which focuses on raising awareness about the crucial early stages of a child's life. These programmes are primarily aimed at women, but effective measures require the support of all stakeholders. As Jay Naidoo, former trade unionist, ex-Cabinet minister and human rights

activist commented recently, "the first 1000 days from conception to two years is a window of opportunity and the only period in which we can address both the physical and mental development of a child. We miss that gap and, no matter what we do beyond that, that child is permanently damaged."⁴³

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¹ On the 28th February 2018 the Catholic Parliamentary Liaison Office hosted a Roundtable Discussion on 'The First 1000 Days and the Failure to Thrive'. The Roundtable was addressed by Prof Lisanne du Plessis from the Division for Human Nutrition at the University of Stellenbosch; Dr Liezille Jacobs from the Department of Psychology, at Rhodes University and Dr Leana Olivier from the Foundation for Alcohol Related Research. This Briefing Paper owes much to the Presentations given at this Roundtable and the discussion which followed.

² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3572769/>

³ Addiction can be understood as the persistent, compulsive dependence on a particular substance; activity or behaviour which compromises the well-being of the individual and impacts negatively on their families and communities. The focus of this Briefing Paper is the impact it has on children

⁴ http://www.who.int/substance_abuse/activities/pregnancy_substance_use/en/

⁵ Presentation by Dr Leana Olivier at the CPLO Roundtable on 'The First 1000 Days and the Failure to Thrive,

⁶ <https://www.webmd.com/baby/smoking-during-pregnancy#1>

⁷ <http://www.irishhealth.com/article.html?con=79>

⁸ <https://www.iol.co.za/news/south-africa/stricter-warnings-on-packaging-1339139>

⁹ According to a new study published in the American Journal of Preventative Medicine, graphic warnings on cigarette packs are more likely to get smokers thinking about the health risks associated with their habit than packs with only text warnings.

¹⁰ <https://www.iol.co.za/news/crime-courts/spike-in-pregnant-moms-abusing-drugs-2047114>

¹¹ <https://africacheck.org/reports/south-africans-not-worlds-biggest-alcohol-consumers/>

¹² https://www.unicef.org/southafrica/SAF_resources_fetalalcohol.pdf

¹³ https://www.unicef.org/southafrica/SAF_resources_fetalalcohol.pdf

¹⁴ https://www.unicef.org/southafrica/SAF_resources_fetalalcohol.pdf

¹⁵ <https://www.iol.co.za/capetimes/news/dangers-of-booze-breast-feeding-2>

¹⁶ <https://www.iol.co.za/lifestyle/parenting/high-rates-of-fas-in-saldanha-study>

¹⁷ This form of payment was abolished in the 1960s

¹⁸ <http://www.sahistory.org.za/article/ramifications-south-africa%E2%80%99s-dop-system-alexandra-larkin>

¹⁹ <https://www.health24.com/Parenting/Pregnancy/Foetal-alcohol-syndrome-is-not-just-a-Cape-problem-20150213>

²⁰ <https://www.news24.com/SouthAfrica/News/foetal-alcohol-syndrome-highest-in-sa-report-20160528>

²¹ <http://bhekisisa.org/article/2015-04-30-i-gave-my-children-booze-and-now-i-fear-fo>

²² See 20 above

²³ <https://www.iol.co.za/news/crime-courts/spike-in-pregnant-moms-abusing-drugs-2047114>

²⁴ PubMed Commons <https://www.ncbi.nlm.nih.gov/pubmed/21744297>

²⁵ <https://www.news24.com/SouthAfrica/News/foetal-alcohol-syndrome-highest-in-sa-report-20160528>

²⁶ Presentation by Dr Liezelle Jacobs at the CPLO Roundtable on 'The First 1000 Days and the Failure to Thrive', 28th February 2018

²⁷ <http://bhekisisa.org/article/2015-04-30-i-gave-my-children-booze-and-now-i-fear-fo>

²⁸ <https://www.iol.co.za/news/crime-courts/spike-in-pregnant-moms-abusing-drugs-2047114>

²⁹ 'Tik' is the South African street name for crystal methamphetamine. It is highly addictive, cheap and easily available.

³⁰ <http://www.drugs.ie/drugtypes/drug/heroin>

³¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4870985/> This study showed "relapse in 58% of abstinent smokers, 51% of abstinent women who used alcohol, 41% of abstinent women who used marijuana and 27% of

abstinent women who used cocaine in the 3 months following delivery. Thus, while the levels of abstinence in pregnancy may be high, the impact of this is diminished due to the high rates of relapse postpartum”.

³² http://www.who.int/substance_abuse/activities/pregnancy_substance_use/en/

³³ Professor du Plessis stresses the importance of maternal height, weight and micronutrient status prior to pregnancy

³⁴ Presentation by Professor Du Plessis at the CPLO Roundtable on ‘The First 1000 Days and the Failure to Thrive’ 28th February 2018

³⁵ Professor du Plessis dismisses as an urban legend the claim that young girls and women fall pregnant in order to access the Child Support Grant

³⁶ <https://blog.oup.com/2016/07/nutrition-pregnancy-prenatal-brain-development/>

³⁷ See 25 above

³⁸ Maternal obesity has recently been highlighted together with maternal under-nutrition as a ‘double burden’, especially in African countries undergoing social and economic transition.

³⁹ <https://www.thesouthafrican.com/shock-rise-in-obesity-urban-africa>

⁴⁰ That is women who have had at least one birth

⁴¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5072166/>

⁴² <https://www.iol.co.za/news/crime-courts/spike-in-pregnant-moms-abusing>

⁴³ <https://www.dailymaverick.co.za/article/2018-04-08-health-e-news>

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