Module 2 Taking Responsibility for the Unborn Child

Introduction

This module will introduce issues surrounding parental, corporate and government responsibilities with regards to alcohol consumption and will explain the key criteria for diagnosing Foetal Alcohol Syndrome (FAS).

Learning Outcome

At the end of this module:

The learner will:

Explain parental responsibility and the diagnosis of FASD.

The learner can:

2.1 Discuss the issues of parental responsibility and accountability with regard to mothers and their unborn children

2.2 Comment on the effectiveness of alcohol labelling in providing relevant information to pregnant women and other adults

2.3 Evaluate alcohol support websites based on their advice concerning the risks of alcohol in pregnancy

2.4 Summarise the key issues associated with the law and government intervention in tackling alcohol consumption during pregnancy

2.5 Write about local alcohol treatment services that are available to alcoholics and describe their services.

2.6 Explain the four key criteria required for a full FAS Diagnosis and detail how each is evidenced

"All intending parents should remember that they carry in their bodies the most precious of all earthy things, germ cells: and they should protect these from all evil influences - traumatic, toxic, toxinic, microbic - as they would their own lives, for by doing so they can give a great gift (none greater) to future generations. That in the act they are also benefiting themselves is surely an additional incentive to the less imaginative ones among them to whom posterity seems to matter little and race welfare to be an irrelevant consequence".

Ballantyne, JW, Alcohol and Antenatal Child Welfare, 1910

In 1996, in Wisconsin, USA, a woman called Deborah Zimmerman was taken to the Emergency Room with her blood alcohol level over three times the legal limit. She was also nine months pregnant. Following a Caesarean, Deborah's baby was born that night, weighing only four pounds and six ounces and with a blood alcohol level of nearly two times the limit. The baby also had facial abnormalities consistent with FAS. Three months later Deborah was charged with attempted murder and reckless endangerment, the latter stemming from the diagnosis of FAS when the baby was born. She was one of the first women to face such a charge based on drinking rather than illegal drug use. It was ruled in 1999 that she could not be charged with attempted murder because the state law did not recognise a foetus as a human being.

Alcohol is dangerous during pregnancy, and women should clearly be responsible for their unborn children - these facts are undisputed, but it is extremely difficult to hold such women accountable. There is no law against drinking during pregnancy, and yet women who do drink when pregnant are openly reproached by those close to them as well as total strangers.

The Deborah Zimmerman case changed the perception of taking risks and responsibility. By diagnosing FAS and bringing charges against her, the previous concept that mother and baby were essentially a single entity had to change. The woman and her foetus became seen as two separate entities, two individuals. Once the woman and foetus are seen as separate, so it becomes possible to hold the mother responsible for harm to "another".

Advances in foetal medicine in recent years have also caused the foetus to become an individual in its own right. Ultrasound enabled us to see for the first time that the unborn child and mother were two distinct individuals, and more recently the ability to film the unborn child, complete with eyebrows and fingernails, has given us the opportunity to see these tiny individuals as "real" people. Prenatal technology now makes the pregnant woman a "transparent mother" - she is all but invisible when looking at the unborn child.

We know that FASD is closely connected with socio-economic factors such as poverty, malnutrition and smoking, each of which magnifies the problem. Equally, we know that, even amongst women who are alcoholic, only a relatively small number of babies are affected.

There is deep uncertainty about the way in which FASD as a social disorder can be treated. FASD is the consequence of deliberate human behaviour. The social problem of drinking is not something that can be resolved by a physician—it is not a matter of prescribing a tablet. Heavy drinking and a lack of responsibility during pregnancy is a social disorder, yet FASD is a physiological disorder. One cannot be treated without the other, and yet it is beyond the training of most clinicians to treat both the physical and social bodies of the woman.

Government and Health Department policies define all pregnant women as being equally at risk and assume that the solution to FASD is to advise all pregnant women not to drink. These policies, unsurprisingly, do not work because they fail to address the social contexts in which FASD occurs.

Historically, the social desire to control pregnant women stems from the belief that pregnancy is not simply a physiological state, but that it is a complete set of social relationships. Whilst pregnancy may stem from an intimate relationship between one man and one woman, it involves many more people. It creates a new generation and future generations beyond. It creates families. It links society to the mother and child. Because we see pregnancy as having consequences for society as well as for individuals, we have an inherent social desire to take control of pregnant women, attempting to ensure these women take responsibility for the future of society.

Whilst medical knowledge may dictate the way in which pregnant women should behave, drinking during pregnancy is shaped by socio-economic issues and depends on a voluntary adherence to social responsibilities. Government guidelines are simply not enough.

Candace Thorp v Jim Beam

America's first lawsuit on behalf of children suffering from FASD went to trial during 1989. In the suit, two parents who admitted they were alcoholics said that a distiller's failure to warn of the link between moderate or heavy whisky consumption and birth defects was the cause of their child's deformities and impairments. The suit alleged that liquor manufacturers have a duty to warn consumers that drinking during pregnancy can lead to birth defects. Lawyers for the distiller argued that because most people already know of the dangers of drinking, the company had no duty to warn of specific health hazards.

The distiller, James Beam, faced a legal dilemma similar to that of tobacco companies in past lawsuits. In court documents and depositions, it had refused to admit that drinking during pregnancy can cause birth defects, while at the same time arguing that there was enough general knowledge of those very health hazards to warrant caution. "We've always felt that warning labels were unnecessary," said Janet Flynn, a spokeswoman for the Distilled Spirits Council, a trade association. "Our position is that education is the answer."

The suit was filed in November 1987 on behalf of a child born in 1984 with facial deformities and mental retardation. The boy has been diagnosed by several doctors as suffering from FAS. In the case, the boy's mother, Candace Thorp, said that she was a recovering alcoholic who drank about one-half of a fifth of Jim Beam bourbon virtually every day before giving birth to Michael in 1984.

In a deposition, Barry M. Berish, the chief executive officer of Jim Beam, said no amount of warning would have kept Mrs. Thorp from drinking. Referring to any pregnant woman who is an "excessive drinker," he said, "you could put a skull and crossbones on the bottle, and she will continue to consume alcohol."

In late 1989, the jury found for the defendants, Jim Beam. They concluded that Candace Thorp had been warned against drinking during pregnancy, citing newspaper articles and television advertisements/programmes. She was seen as a bad mother who wanted to blame alcohol manufacturers for her drinking.

Activity 5 relates to the above

FASD from Diagnosis to Current Day

FAS has travelled a somewhat rocky road since 1973. It has led to legislation requiring warning labels on bottles of alcohol, and has become seen as substance abuse. The Jim Beam case built its momentum as a public health crusade, but following the heavy publicity of this landmark case, FASD became labelled as an "abuse excuse". It was seen as a convenient excuse for evading responsibility, and was used in claims of diminished responsibility in criminal trials.

FASD has re-defined itself over and over again. Books, journals and websites will, on the one hand, describe FASD as a birth defect and on the other hand claim it is a social disease, and in some cases they will deny the evidence altogether. However, if women are viewed separately from their unborn children and the foetuses are seen to be "real" future human beings, as foetal technology evidences, then those foetuses have rights that may conflict with those of their alcohol-abusing mothers. In turn, if drinking is seen as a social disease because it is a personal failing on the part of the mother, then the woman must both acknowledge her problem and overcome it.

Later articles written by medical specialists in professional journals tended to cite heavily the original articles by Smith and Jones. In general, articles described FASD as a public health problem, a cause of mental retardation or a cause of birth defects. The locus of risk shifted, however, from the chronic alcoholics of Smith and Jones' articles to alcohol users, including social drinkers. This, of course, increased the potential number of women being targeted several-fold.

Activities 6 and 7 relate to the above

The Difficulties of Diagnosing FASD

Until recently, clinicians have failed to recognise and diagnose FASD. Some may remain ignorant of the syndrome or how to diagnose it. Also, many clinicians will group FASD other forms of mental retardation or attention deficit disorder, failing to appreciate the subtleties of alcohol-affected individuals. As a result, victims and their families fail to receive the help and support they need. Only the accurate diagnosis of FASD can enable this support to be provided. When individuals are not diagnosed, it is not possible to demonstrate the benefits of diagnosis to the child or the parent, nor can surveillance be done accurately enough to monitor the success of prevention efforts.

Diagnostic Criteria

A new, comprehensive, case-defined method for diagnosing FASD called the 4-Digit Diagnostic Code was established by the University of Washington FASD Clinic in the USA. This new diagnostic system measures the four key components of the syndrome on separate 4-point scales:

1. Growth impairment

2. The FAS facial phenotype

3. Evidence of brain damage

4. Prenatal alcohol exposure

Rank 1 represents normal. Rank 4 represents the most severe expression of the feature. Generally speaking, a diagnosis of FASD requires ranks of 3 or 4 in all four categories.

One of the many benefits of the 4-Digit Diagnostic Code is that it clearly differentiates patients with organic brain damage and prenatal alcohol exposure. With the implementation of the 4-Digit Diagnostic Code, the diagnostic criteria are expanded to include all children who receive a diagnosis of permanent brain damage (4-Digit brain ranks of 3 or 4) and confirmed prenatal alcohol exposure (4-Digit alcohol ranks of 3 or 4), with or without the FAS facial phenotype or growth deficiency.

To obtain a 4-Digit brain rank of 3 or 4, a patient must present with microcephaly (small head circumference and brain size), a seizure disorder, an abnormal computed tomography or magnetic resonance imaging scan, a full-scale intelligence quotient (IQ) of less than 60, or performance below the norm across three or more of the following domains in a psychometric assessment battery (intelligence, achievement, adaptation, neuropsychology and language).

Growth Impairment

The criteria for FAS are intrauterine growth retardation - growth deficiency in the foetus and newborn in all parameters - head circumference, weight, height all being less than 10th percentile.

The FAS Facial Phenotype

Facial characteristics may not be as apparent immediately after birth or during adolescence or adulthood as they are between the ages of two and ten. Facial characteristics may not be present at all if the mother did not drink during the brief period that the midface was forming - around the 20th day of pregnancy. However, facial features particularly characteristic of a child with FAS are:

- small eyelid openings
- widely spaced eyes
- a sunken nasal bridge
- a flat midface
- an exceptionally thin upper lip
- a short, upturned nose
- a smooth skin surface between the nose and upper lip
- small teeth with faulty enamel

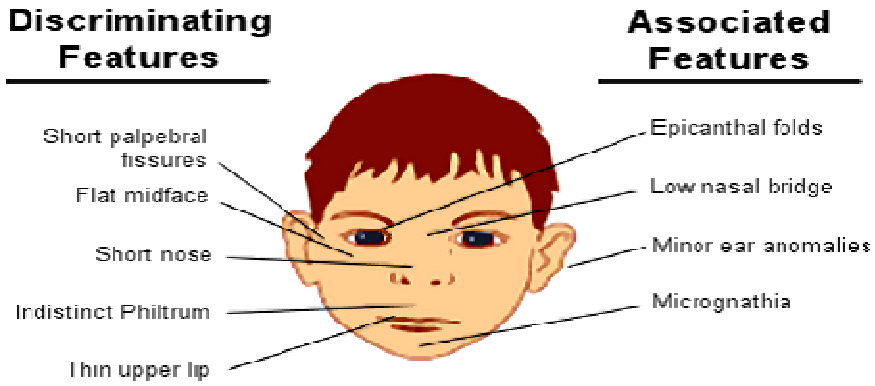


Diagram courtesy of: Streissguth, A.P., and Little, R. E. 1994. Alcohol, Pregnancy and the Fetal Alcohol Syndrome, 2nd edition, Unit 5 of "Alcohol Use and its Medical Consequences" from Milner Fenwick, Inc. 2125 Greenspring Drive, Timonium, MD 21093

Evidence of Brain Damage

Alcohol is toxic to the developing brain of the foetus. Damage can occur in various regions of the brain. The areas that might be affected by alcohol exposure depend on which areas are developing at the time the alcohol is consumed. Since the brain and the central nervous system are developing throughout the entire pregnancy, the baby's brain is always vulnerable to damage from alcohol exposure.

During the first trimester, alcohol interferes with the migration and organisation of brain cells (Journal of Paediatrics, 92(1)). Heavy drinking during the second trimester, particularly from the 10th to 20th week after conception, seems to cause more clinical features of FAS than at other times during pregnancy (Early-Human-Development; 1983 Jul Vol. 8). during the third trimester, the hippocampus is greatly affected, which leads to problems with encoding visual and auditory information (reading and maths) (Neurotoxicology and Teratology, 1991)

Alcohol exposure appears to damage some parts of the brain, while leaving other parts unaffected. Some children exposed to alcohol will have neurological problems in just a few brain areas. Other exposed children may have problems in several brain areas. The brain dysfunction is expressed in the form of inappropriate behaviours which may include all or any of the following:

- socially inappropriate behaviour, as if inebriated
- inability to figure out solutions spontaneously
- inability to control sexual impulses, esp. in social situations
- inability to apply consequences from past actions
- difficulty with abstract concepts of time and money
- difficulty processing information
- difficulty storing and/or retrieving information
- needs frequent cues, requires policing by others
- needs to talk to self out loud, needs feedback
- fine motor skills more affected than gross motor
- moody roller-coaster emotions, exaggerated
- apparent lack of remorse, need external motivators
- inability to weigh pros and cons when making decisions

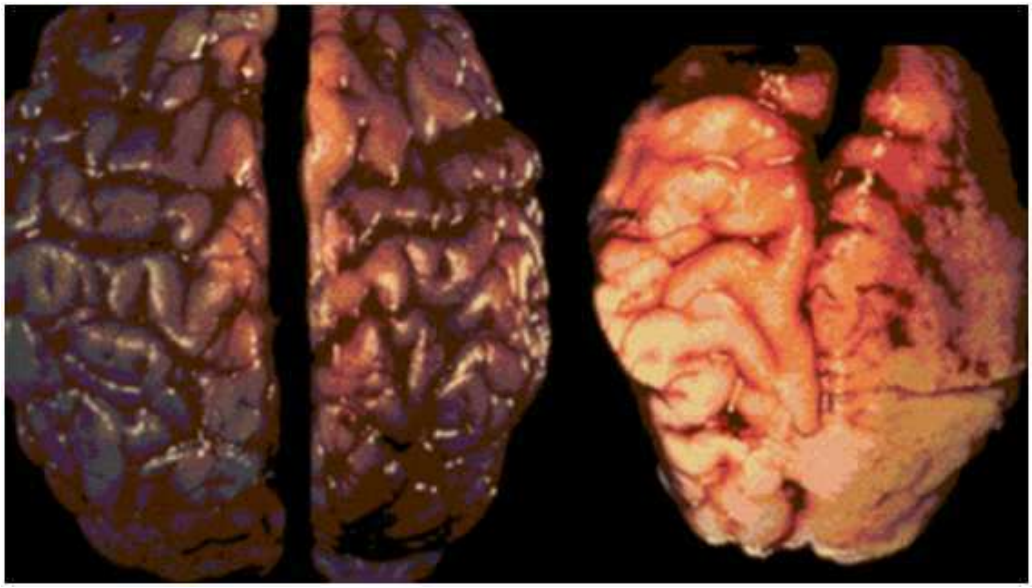
Activity 8 relates to the above

Prenatal Alcohol Exposure

As many as 50% of affected children also exhibit identifiable facial anomalies, such as facial distortions, cleft palate, and micrognathia, which is a underdeveloped lower jaw that can lead to dental problems later in life. Heart defects, kidney problems, bone defects, hemangiomas (birth marks or skin discolouration) and eye or ear abnormalities (unusual skin growths or discolourations) are also common.

In the following picture, the brain on the left belongs to a baby who has not been exposed to alcohol. The brain on the right belongs to a baby who has been heavily exposed to alcohol during pregnancy:

Photo courtesy of Sterling Clarren, MD



Alcohol actually induces severe cell loss in the brain and decreases the number of cells in the brain by 30%, which can be seen in the differing brain sizes on the previous page. As a result, the following are areas of the brain affected and typical associated problems (Notle, J. (1993). The Human Brain (3rd Ed)):

1. Parietal Lobe (centre of the brain) – responsible for tactile and stimuli processing, language comprehension and spatial orientation and perception. Behavioural effects include: sensory, poor body awareness, gross/fine motor coordination problems, decreased receptive language skills and decreased awareness of self in relation to others/social boundaries

2. Frontal Lobe (front of the brain) - responsible for judgement, inhibition, concentration, self-control, conscience, personality, cognition, speech and motor skills. Behavioural effects include: difficulty with transitions, distractibility, sequencing problems, poor problem solving skills, temper tantrums, poor motor planning, problems generalizing, concrete thinking (maths problems), trouble interpreting social cues from peers, difficulty regulating response to sensation, difficulty understanding and following directions and poor understanding of cause and effect.

3. Temporal Lobe (underside of the brain) - functions include auditory functions, learning, and memory and emotional tone and motivation. Behavioural effects include: impulsively, hyperactivity, memory problems, temper tantrums, decreased coping skills, difficulty regulating state, and poor sense of time and lack of motivation.

4. Central Nervous System - other regions of the brain are susceptible to the effects of alcohol. Specifically, the central nervous system (CNS) has been shown to be especially impacted. These regions of the brain are the basal ganglia, corpus callosum and cerebellum. Behavioural effects include: Basal ganglia – problem areas with planning, verbal fluency, cognition, abstract thinking, working memory, response inhibition and selective inhibition. Corpus Callosum - psychosocial functioning and social abilities. Cerebellum – poor balance and coordination, decreased muscle tone, poor motor planning and decreased fine and gross motor abilities.

In recent years, the ability to recognise structural malformations, particularly in terms of brain development, has been enhanced by the availability of techniques such as magnetic resonance imaging (MRI). It may therefore be that alcohol induced structural brain malformations have been underestimated in the past.

Studies of foetal behaviour patterns have been extended to the influence of maternal alcohol consumption on spontaneous movements, startle reaction and habituation of the foetus at 18, 27 and 36 weeks of gestation. Especially in late pregnancy, spontaneous and provoked foetal activity was reduced and the effects were also seen in faster habituation patterns in infants at 5 months of age.

Habituation allows the nervous system to optimise sensory-motor processing by eliminating unnecessary responses. It allows us to adapt to the familiar in order to preserve our ability to react rapidly and appropriately to the new.

Activity 9 and 10 relate to the above