

## Fetal Education: A Lesson from the Past

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**Abstract:** None available.

**Full Text:** Headnote ABSTRACT: During the 1960's, abdominal decompression during pregnancy was thought, on the basis of poorly controlled studies, to confer exceptional intelligence on the fetus. A carefully controlled study subsequently showed that this was not the case. Mothers who had received decompression treatment tended to give manifestly unrealistic accounts of their children's abilities, and their children differed temperamentally from the control group. The routine use of new techniques before they have been properly validated is not unwise, but makes it difficult subsequently to distinguish between the effects of the technique and those created by the expectations of the parents. INTRODUCTION The widespread concern for early childhood education has in recent years extended to the prenatal period. Attempts to promote exceptional mental development have included provision of auditory educational material to the fetus as well as attempts to optimize the labor and birth experience. This arena is, however, fraught with problems and complexities, several of which are aptly illustrated by the experiences of one of the earlier attempts to promote fetal mental development. Abdominal decompression In the late 1950's, the technique of abdominal decompression was developed in an attempt to promote more efficient labor (Heyns 1959). The pressure about the pregnant woman's abdomen was intermittently reduced by applying suction to an airtight suit held away from the abdomen by a rigid frame. Physiological studies suggested that the technique also improved the blood flow to the placenta and therefore fetal oxygen supply. Studies of the use of abdominal decompression in pregnancies complicated by poor placental function, though not conclusive, suggested that the technique may be of benefit (Hofmeyr 1989, 1990). Attention was then turned to attempts to boost placental function in pregnancies which were essentially normal. In a nonrandomized comparative study, intelligence scores at 2 years of age were significantly higher for babies whose mothers had received decompression treatment than for untreated "controls" (Heyns 1962). These findings were considered of such importance that an impartial evaluation of the technique by the South African National Institute for Personnel Research was commissioned by the Minister of Health. In a careful, prospectively randomized study, no significant difference in intelligence scores was found between babies whose mothers had been randomly allocated to receive decompression treatment, and the control group (Liddicoate, 1968). An interesting unexpected observation was that significantly more of the decompression babies were noted at the time of testing to be undisciplined or aggressive, while more of the control babies displayed shy, overdependent behavior. There was also a tendency for mothers in the decompression group to give manifestly unrealistic accounts of their children's abilities. Recent analysis of the original birth records has shown no difference in birthweight or condition at birth between the two groups (Hofmeyr et al. 1990). Several important lessons can be drawn from this episode, which have particular relevance today. 1. Misleading information from poorly controlled studies The study of Heyns (1962) is an example of the misleading information which can result when comparative studies are not properly controlled. There are likely to be many differences between the decompression and "control" groups, such as self-selection of more intelligent and informed mothers to participate in the decompression program, which may account for the differences between the decompression and "control" babies. Evaluation of babies with the knowledge of the group to which they belong may also bias assessments. Only by preselecting a group of women prepared to participate in such a study, allocating them entirely at random to a decompression and a control group, and evaluating the babies without knowledge of the group to which they belong, as was done in the study of Liddicoate (1968), can one hope for an unbiased assessment of the effects of the treatment. Unfortunately such

studies are difficult and often impossible to mount, and many methods of attempting to promote fetal development are coming into use without having been properly evaluated. 2. Attempts to improve on normality It is of interest that when applied to pregnancies complicated by poor placental function, such evidence as we have suggests that abdominal decompression may be of value. However, attempts to further improve placental function in pregnancies which were essentially normal were unsuccessful. As a general principle, it would seem sensible to direct efforts towards correcting abnormalities and creating optimal conditions for normal development, rather than attempting to improve on normal development. 3. The impact of parental expectations The observation of differences in behavior characteristics between the two groups in the study of Liddicoate (1968) is particularly interesting. At the time of the study, there had been considerable media coverage of decompression treatment, which was believed to confer superior intelligence on the offspring. It is likely that the interaction of the parents in the decompression group with their babies would have been influenced by the belief that their children were "special," and this is the most likely explanation for the temperamental differences between the groups. There is good evidence that the caregiving environment can have a powerful effect on early childhood development (Zeskind and Ramey, 1978). Once any technique in this field is believed to be effective, no matter how erroneously, it becomes almost impossible to distinguish between the effects of the technique and those resulting from environmental differences which arise when the parents have specific expectations of their children. While such influences might in fact be favorable, there is the risk that unrealistically high parental expectations may in the long term be harmful. This is perhaps the most worrying of the possible consequences of the proliferation of techniques aimed to promote exceptional fetal development.

**CONCLUSIONS** The field of prenatal psychology and education is an exciting one, but one which is still in its infancy. It is important that the complexity of the subject should not be underestimated; that any new technique should be carefully researched, and not recommended for general use before there is good evidence that it is effective and more likely to do good than harm; and that particular care should be taken to avoid creating in parents expectations of their children which are unrealistic.

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