

**THE EFFECTS OF HIGH PARITY ON PREGNANCY AND
LABOUR AND THE IMMEDIATE POST
PARTUM PERIOD**

A THESIS

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INTRODUCTION

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Definition

Solomons (1934) drew attention to what he called "the dangerous Multipara " as he found that mortality among those women was higher than among primiparae. However, Burns and Feeny (1953) restricted the term to women carrying their eighth pregnancy or over; Schram (1954) considered any patient who had been delivered seven or more viable children as a grand Multipara. Oxorn, (1955) defined the Grand Multipara as an obese, hypertensive woman with poor muscle tone and a tendency towards anaemia.

Nowadays, high parity is usually applied to cases which have had five or more previous viable deliveries, (Donald, 1969).

Hazards of High parity:-

High parity is considered to be one of the most important problems in our community, and has its effect on mother, child and community. As regards the hazards of high parity, we find that the mother is liable to a series of complications as haemorrhage of all varieties (before, during and after deliveries), rupture uterus and abortion, D.M., hypertension, Toxaemia and high incidence of maternal mortality. There is also increased incidence of foetal morbidity and mortality. Sociological factors play a very important role; for the

majority of these patients are poor, over worked and tired, many of them have never fully regained a good blood picture, and anaemia may affect them from one pregnancy to the next, they tend to feed their numerous children at the expense of their own nutrition, so that they are consequently very short of vitamins and first class protein, as a result of rapid succession of pregnancies and periods of lactation. They are likely to become seriously depleted of calcium and phosphorous, (Donald, 1969). As regards the community there is disimprovement of the standard of the community services which prevent the economic development. Birth control and family planning should be introduced before it is too late to prevent the adverse consequence of high parity (Radovic, 1966).

Factors which increase the hazards of high parity:

- I. Repeated pregnancies, labours and periods of lactation; as parity increases it brings with it certain changes that gradually increase the risk of child birth namely calcium and phosphorous depletion and loss of muscle tone and tendency to haemorrhage, (Robinson, 1930).

a- Calcium Depletion:

Is set up by excessive parity rendering the muscle painful and flabby and enhancing the effects due to loss of muscle tone. In advanced cases this loss of calcium may affect the bones and may lead to osteomalacia and may set up decalcification of pelvic bones

and cause shrinkage in bony birth canal that may react on the mechanism of labour. This is more liable to occur if calcium depletion is combined with poverty, over work and under feeding.

b- Loss of muscle tone:

Loss of tone in the uterine muscle is responsible for inertia, prolonged labour, post-partum haemorrhage; also produces a flaccidity of the wall of the uterus that destroys and distorts the shape of this organ. This loss of shape permit malpresentations and pendulous belly due to loss of support of tone of anterior abdominal wall.

2. Haemorrhage: as parity increases, tendency to post - partum haemorrhage is also increased. This may be due to impaired action of myometrium due to scarring and exhaustion, (Oxorn, 1955). Repeated pregnancy and lactation lead also to loss of Ca. resulting in impaired clotting mechanism and muscle contractility.

3. Effect of age:

Pregnancy is a strain and repeated child bearing leaves its marks (Oxorn 1955). Advancing age causes tissue atrophy or physiological wear and tear that reduces the activity of the organs of the body and absorbs their reserve powers and make the grand multipara less

fit to meet these extra demands of parturition.

(Robinson, 1934). In particular, the cardiovascular system becomes less resilient so that hypertensive diseases is more manifest.

4. Obesity:

Obesity is often gross in these cases, increasing the danger of child bearing as a result of difficulty of making an accurate examination, (Donald, 1969).

5. Pendulous abdomen:

This abnormality is common in grand multiparae leading to occipitoposterior and brow presentations as the foetus is lying in an incorrect axis; also to rupture uterus from thinning of the lower segment, (Solomons, 1934).

6. False Security:

There may be a feeling of false security all too prevalent in both patient and Doctor, (Oxoren, 1955). There is a tendency for the patient who has had previous successful deliveries to have too much confidence and in consequence complications arise, they come to hospital too late, (Radovic, 1966).

Causes of High parity:

1. Some women consider high parity as a link to the husband.

2. A sign of Femininity.
3. Some women consider contraception against their religious believes.
4. Most methods of contraception are not reliable 100% as there is some percentage of failure in every method.

COMPLICATIONS DURING PREGNANCY

Anaemia:

Anaemia is so common in multiparous women that it should always be looked for and treated energetically. It is usually of iron deficiency type, but megaloblastic anaemia may supervene very rapidly because folic acid reserves are often low before the next pregnancy starts. Every effort should be made to correct the patient's HB to at least 80% before she approaches term. Iron should be administered orally or parenterally or in those with urgent need by transfusion of packed cell, (Donald, 1969).

Anaemia is a serious problem in multiparae, it is usually of the nutritional iron deficiency type, Daily oral iron, folic acid and vitamins are recommended to all patients from early pregnancy and HB level should not be less than 75% of normal, (Osullivan, 1963).

As noted it is usually of iron deficiency type but megaloblastic anaemia must not be overlooked especially if it does not respond to iron. A statistically significant increase in the incidence of anaemia occurred among grand multiparae as compared to mothers para I to V, Ziel, (1962).

Feeny (1953) reported that 75% of his patients had HB of less than 70%. Israel and Wauters (1963) found

that there is increasing incidence of anaemia, such nutritional deficiency anaemia may be one of the aetiological factors accounting for the greater number of premature deliveries. Anaemia occurs among grand multiparae more than twice as often than among women of lesser parity; iron deficiency is the etiological factor and this in turn is directly related to high parity, (Israel and Blazar, 1965).

A daily dietary intake of 10 to 20 mg of iron is required to supply the daily need of iron, there is an adequate reserve of iron in body stores, so that the full demands of pregnancy can be met with; but repeated pregnancy and labour with only short intervals inbetween will deplete the reserve of iron.

Effects of anaemia on pregnant women and foetus :

In sever cases of anaemia when HB concentration falls to 4 or 5 gm per 100 ml, a high output cardiac failure may develop as the total blood volume falls and there is no adequate compensation for the very low HB concentration. At a higher level of HB concentration, complications such as infection or preeclampsia may take place.

Anaemic patient can not withstand the effect of rapid blood loss as prepheral oxygenation is impaired with. The development of shock especilly in grand multipara who is already exnusted.

An association between sever anaemia and preeclamptic toxemia has been noted and Chaudhuri (1970) found that the incidence of toxemia was reduced if iron and vitamins supplement was given.

Sever anaemia also predisposes to maternal puerperal infection as anaemia is an index of the nutritional state and there is reduction of antibodies formation and diminished phagocytic activity which will interfere with the body defence mechanism (Gherally 1969).

The need of iron as well as folic acid is six times greater for a women in last trimester of pregnancy than for non pregnant women. Poor nutrition resulting from inadequate intake of both protein and iron is the cause of anaemia in developing country, worm infestation is also added to the causes.

In the study of maternal mortality in Bombay, anaemia was the single most important factor contributing to death, the death rate from anaemia-related deaths among grand multipara was almost twice that of primipara.

Quinlivan (1964) pointed out that antepartum anaemia is due to dietary deficiencies of iron, protein and folic acid caused by foetal demands and dietary neglect by the mother while caring for several children.

Hypertensive Vascular Disease:

Hypertensive vascular disorders increase with high parity. The incidence of essential hypertension occurring as a complication of pregnancy was significantly higher among grand multipara, (Ziel, 1965). Oxorn (1955) , stated that the presence of advanced hypertensive disease in grand multiparae may be attributed to the insults that pregnancy after pregnancy has added to her arterial tree which was already diseased to a greater or lesser extent.

Heart disease as a complication of pregnancy occurred significantly more often among grand multiparae, (Ziel, 1962). Although calkins (1949) in his series found that hypertensive vascular disease was greatly increased for both primipara and multipara in older age groups. A study was made by Nelson and Sandmeyer (1958) reviewing the records of 812 g.m patient delivered at the district of columbia general Hospital from 1951 - through 1955, (a grand Multipara women is defined as having eight or more viable gestations). Hypertensive vascular disease occurred in 174 cases, an incidence of 22.1%, compared with cases out of 19,214 patient in general Clinic group, a percentage of 12.8%. They concluded that preexisting hypertensive disease commonly occurs with grand multiparity.

The etiology of hypertensive vascular disease and preeclamptic toxemia is obscure and the metabolic changes

occurring in repeated pregnancies may play a part in their causation, (Quinllivan, 1964).

Israel and Blazar (1965) suggested that increasing age plays a definite, though not exclusive, role in the occurrence of chronic hypertension, although Oxorn (1955) and Petry (1955), contributed nulliparity alone and not the age to the increased occurrence of hypertensive cardiovascular disease.

Diabetes mellitus:

Although diabetes mellitus as a complication of pregnancy was significantly higher among grand multiparae, the majority of this increase occurred among para 7 to para 10, (Ziel HA, 1962). This high incidence of diabetes mellitus in grand multiparae may be explained by the diabetogenic effect of repeated pregnancies, (Pyke, 1956, Walker and Brown, 1964). This effect is shown by the fact that pregnancy manifests prediabetics into temporary diabetics and the latter into frank diabetics, pregnancy also aggravates the established diabetic state.

Middleton and Caird, (1968) noted that the incidence of diabetes in women over 40 increases with increasing parity. On the other hand, Florey (1972) and Jackson (1961), while confirming the higher female than male rate of diabetes after age of 40, found no correlation between higher