# THE INDUCTION OF ABORTION AND PREMATURE LABOUR IN MENTAL DISORDERS.[1]

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FROM time to time the psychiatrist is consulted as to the desirability of terminating pregnancy. The problems which are put to him, may be classified under three headings: (i) Relief of mental symptoms during pregnancy, (ii) possibility that mental trouble may develop during pregnancy or after parturition, (iii) possibility of hereditary taint in the offspring.

## RELIEF OF MENTAL SYMPTOMS DURING PREGNANCY.

Although many pregnant women display subtle changes in disposition such as emotional instability, irritability and capriciousness, definite alienation is rare. Various authorities have estimated that mental disorders of pregnancy account for not more than 1% of the female admissions to mental hospitals. (Clouston, 1% of 1,530 admissions; Hoche, 1% of 2,404 admissions; Bevan Lewis, 0·6% of 1,814 admissions; New South Wales mental hospitals, 0·4% of 732 admissions.)

Although the figures must vary somewhat according to local circumstances, particularly the provision of reception houses and psychiatric clinics where patients can be treated without certification, nevertheless it is generally agreed that pregnancy is infrequently recorded as a factor in the insanities.

I have collected data concerning the mental disorders associated with child bearing from records in Callan Park Mental Hospital (certified) and Broughton Hall Psychiatric Clinic (voluntary) covering 427 cases. Of these 107 occurred during pregnancy. The data are set out in Tables I and II.

### Confusion During Pregnancy with Recovery.

In the confusional group there were associated physical disorders as follows:

CASE I: A patient, aged thirty-four, suffered from alcoholism with mitral stenosis. She became confused during the latter part of her third pregnancy with aggravation of the heart condition. Pregnancy was allowed to continue until full time after which the heart condition and confusion cleared up.

CASE II: A patient, aged thirty-three, suffered from albuminuria and confusion. She aborted at the fifth month of her third pregnancy. She recovered two weeks later.

CASE III: A patient, aged twenty-seven, suffered from albuminuria. Full time delivery occurred with recovery from mental symptoms.

CASE IV: A patient, aged nineteen, suffered from glycosuria. Her mental confusion cleared up after full time delivery of her first child.

CASE V: A patient, aged twenty-seven, suffered from chorea with confusion during the seventh month of her third pregnancy. She recovered after giving birth to a still-born child.

CASE VI: A patient, aged thirty-four, had albuminuria during her second pregnancy and aborted at the sixth month; she became confused and recovered two months later.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on May 29, 1930.

TABLE I.

*Showing Particulars of 107 Cases of Mental Disorder occurring during Pregnancy.*

| Observation. | Recovered. | | Died. | Condition Chronic. | |
|---|---|---|---|---|---|
| | Certified. | Voluntary. | Certified. | Certified. | Voluntary. |
| *Age (in Years):* | | | | | |
| Up to 20 | 4 | 1 | — | 1 | 2 |
| 20 to 25 | 6 | 7 | — | 2 | 3 |
| 25 to 20 | 9 | 16 | 2 | 1 | 2 |
| 30 to 35 | 10 | 8 | 4 | 6 | 4 |
| Over 35 | 4 | 3 | 7 | 2 | 3 |
| TOTAL | 33 | 35 | 13 | 12 | 14 |
| *According to Number of Pregnancies.* | | | | | |
| *Number of Pregnancies:* | | | | | |
| 1 | 10 | 5 | 4 | 4 | 4 |
| 2 | 5 | 6 | 3 | 1 | 1 |
| 3 | 11 | 14 | 2 | 4 | 6 |
| 4 | 4 | 6 | — | 1 | 3 |
| Over 4 | 3 | 4 | 4 | 2 | — |
| *Onset of Symptoms Before the Fifth Month.* | | | | | |
| Number | 13 | 16 | 6 | 1 | 7 |
| *Onset of Symptoms After the Fifth Month.* | | | | | |
| Number | 20 | 19 | 7 | 11 | 7 |
| *Previous Attacks in association with Child-bearing.* | | | | | |
| Number | 5 | 10 | 0 | 1 | — |
| *Types of Mental Disorder.* | | | | | |
| *Condition:* | | | | | |
| Confusion | 5 | 1 | 7 | — | — |
| Melancholia | 28 | 14 | 2 | 1 | 3 |
| Mania-Melancholia[1] | — | 1 | — | 1 | — |
| Neurasthenia[2] | — | 15 | — | — | 3 |
| Anxiety state | — | 2 | — | — | 2 |
| Hysteric | — | 2 | — | — | 4 |
| Schizophrenia | — | — | — | 9 | 2 |
| General Paralysis | — | — | 3 | 1 | — |
| Epilepsy | — | — | 1 | — | — |

[1] A case with definite phases both of morbid excitement and of depression during pregnancy.
[2] Many of these cases might well be labelled mild melancholia.

TABLE II.

*Showing Duration of Illness and Recoveries.*

| Date of Recovery. | Onset of Symptoms Before Fifth Month. | | Onset of Symptoms After Fifth Month. | |
|---|---|---|---|---|
| | Certified. | Voluntary. | Certified. | Voluntary. |
| Before full term | 7 | 8 | — | 1 |
| Within four months *post partum* | 3 | 5 | 10 | 10 |
| Four to eight months *post partum* | 3 | 1 | 6 | 3 |
| More than eight months *post partum* | — | 2 | 4 | 5 |

### Insanity of Pregnancy Followed by Death.

I have obtained records of thirteen cases of insanity of pregnancy with a fatal termination.

CASE I: A patient, aged thirty-five, had two children. She suffered from mitral stenosis. She became worried during her third pregnancy and afraid of the consequences. Labour was induced at seven and a half months for

physical reasons. She developed the idea that she had had a criminal abortion, became exhausted and died of bronchopneumonia.

CASE II: A patient, aged thirty-seven, was restless and sleepless during the sixth month of her first pregnancy. She was very apprehensive. She became violent during delivery at full time and died a month later of pneumonia.

CASE III: A patient, aged thirty-three, became restless, agitated, destructive and confused during the seventh month of her first pregnancy. No change occurred after a normal labour. She became more exhausted, pulmonary tuberculosis was diagnosed, of which she died two years later.

CASE IV: A patient, aged thirty-eight, had eight children. She had a miscarriage at the third month of her ninth pregnancy. Sepsis followed. She became excited and confused and died of multiple abscesses.

CASE V: A patient, aged forty-three, had six children. At the seventh month of her seventh pregnancy she became restless and confused and died of pneumonia before delivery.

CASE VI: A patient, aged thirty-four, became depressed, thin and ill at the fifth month of her first pregnancy. She died some weeks after full time labour of acute enteritis.

CASE VII: A patient, aged twenty-six, had three children. She became childish and confused before the fourth pregnancy and became gradually worse. General paralysis of the insane was diagnosed. She died at the seventh month of pregnancy.

CASE VIII: A patient, aged twenty-seven, had two children. Gait and speech became affected before the third pregnancy, transient seizures occurred during pregnancy, a living child was born at full time. The patient died after a succession of seizures twenty-one months later. She suffered from general paralysis of the insane.

CASE IX: A patient, aged thirty-two, had been epileptic since childhood. The fits became more frequent during her first pregnancy; she became noisy and confused at the seventh month and gave birth to a still-born child, collapsed and died.

CASE X: A patient, aged forty-four, had eight children. During the second half of her ninth pregnancy she became weak and tremulous, speech was slurred, she had Argyll-Robertson pupils, a living child was born at full time. She died eight months later in a succession of fits. She suffered from general paralysis of the insane.

CASE XI: A patient, aged thirty-six, had three children. She had suffered from albuminuria during her fourth pregnancy. She became excited and confused at the third month, she did not improve after full time labour and died two years later of bronchopneumonia.

CASE XII: A patient, aged forty, had two children. At the sixth month of her third pregnancy she became confused; birth was premature. The patient died five weeks later of septicæmia.

CASE XIII: A patient, aged thirty-nine, had five children. At the eighth month of her sixth pregnancy she became confused. Full time labour occurred. She died a month later of pneumonia.

### Discussion of Data.

Some points may be noted in the tables.

1. The greater proportion of patients is over thirty years of age. This may be related directly to the number of females of corresponding ages in the general population. On the other hand there is a definite rise in the insanity rate for women (single, married and widows) between the ages of twenty-five and thirty-five.

2. Morbid depression is the most common mental symptom during pregnancy.

3. Mental symptoms developing during the first half of pregnancy tend to clear up before parturition.

4. Among the certified patients symptoms developed more frequently during the later months of pregnancy.

5. In the voluntary (Broughton Hall) series symptoms developed nearly as often in the first as in the second half of pregnancy. This may be explained by the number of neurotics in whom there occurred an exacerbation of symptoms with the first signs of pregnancy. In these such factors as fear of pregnancy and an inability to tolerate discomfort probably play some part. The physical factor of exhaustion is of some importance in the later months and may explain the greater frequency of development of symptoms in the second half of pregnancy, in both recovered and chronic certified persons.

6. Previous attacks appear to be more common in the recovered than in the chronic symptoms. The tendency to recurrence of mental disorder may depend upon the relatively benign manic depressive diathesis.

In the confusional cases there may be noted the frequency of physical conditions.

Amongst the patients who died, five had organic disease which may have been aggravated by pregnancy. Five patients also were *multiparæ,* aged thirty-six or over. Of the thirteen patients who died, six showed mental symptoms before the development of any physical disease, so that exhaustion may have contributed towards the fatal termination. Nevertheless the mental symptoms occurred in the later months of pregnancy, in many cases so near full time that interference would hardly have been justifiable. There was a notable absence of previous attacks in the fatal group.

The chronic cases fall mainly into the deteriorating *dementia præcox* category to which I shall refer later.

One of the most difficult problems is to evaluate the mental symptoms related by the patient and to decide how far the alleged causes for depression are reasonable. The patient may express fears of parturition and possible complications, fears of added responsibilities and economic difficulties, fears connected with illegitimacy and fears regarding the future welfare of the child. One or other of these symptoms may prompt the patient or her relatives to raise the question of interference with pregnancy. My impression is that in most cases we have to deal with fears and worries which are symptomatic of the depression and that interference is rarely, if ever, justified on mental grounds alone. Not infrequently abortion is followed by intensification of symptoms.

A patient, aged forty, had five children. She had an abortion induced at the fourth month, as she feared the added responsibility. She became very worried and remorseful after, she considered that she had done a very serious thing, she became deeply depressed and retarded in speech and action. She recovered some months later.

A patient, aged thirty-six, had four children. She took pills to produce abortion with success, as she feared she could not look after another child and that all her family

would suffer. She became more worried and attempted to drown herself. She recovered about eighteen months after the miscarriage.

The mental condition of two patients who had abortion induced, became chronic.

A *primipara*, aged twenty-four, had induction at eight months on account of deep depression. She was better for two weeks, then attempted suicide by taking lysol, became frenzied, then dull and demented. Her condition was unchanged four years later.

A patient, aged thirty-three, had hyperemesis early in her second pregnancy. Then she starved herself and became cataleptic. Induction was performed at six months without improvement. She became demented and showed no change seven years later.

The neurotic woman, perhaps from childhood full of anxieties and given to hysterical display, may meet the burden of pregnancy with an exacerbation of her usual complaints.

One patient as a child was frail, self-conscious and always "misunderstood." At twenty-one she was depressed and brooding for three years after breaking off an engagement. She married later, but was unhappy—both she and her husband have tempers and get on each other's nerves. Two pregnancies occurred uneventfully. During the third pregnancy, at the age of thirty-four, she became more "nervy" and restless. She was worse after parturition, when she developed an hysterical paralysis of the right arm. Ever since then the right arm becomes weak when she feels excited. She has been in several hospitals with improvement, but relapses on returning home.

Particularly in the neurotics we should be alive to the possibility that interference may be sought ostensibly on medical, but actually on personal and economic grounds. This raises a question which is not strictly related to the present discussion, but which merits some notice. In a joint discussion by the Section of Obstetrics of the Royal Society of Medicine and the Medico-Legal Society, London, in 1927 (reported in *The British Medical Journal* of January 29, 1927), one legal authority agreed that "induction was not only justifiable, but a duty when pregnancy indicated grave danger to the mother's health, whether the result was likely to be permanent or not." Another legal authority went so far as to suggest a view which apparently is accepted in Germany, that "the fœtus is not yet an independent human being and that every woman by virtue of the right over her own body is entitled to decide whether it should become one." Obviously the introduction of any but purely medical considerations is fraught with undesirable and dangerous consequences, dangerous not only from a legal standpoint, but also ethically and socially.

To return to the insanities of pregnancy. The melancholic conditions with deep depression, apprehension, fears, remorse perhaps even with delusions, provided that they are of a definitely depressive nature, have a good prognosis, so long as nutrition and sleep are attended to and suicidal risks eliminated by careful observation. I see no grounds for interference in such cases. Confusional conditions are frequently associated with some physical condition. In fact the development of the confusion may be an indication of the severity of the primary physical, especially toxic, disorder. In such cases, should there be definite evidence that the patient is losing ground physically (loss of weight, rise in temperature and pulse rate, fall in blood pressure, increasing weakness), interference might be considered, provided that the operation, especially in the middle third of pregnancy, will not in itself introduce an additional stress. The question must be settled on physical rather than on mental grounds.

As regards chronicity of mental symptoms, I am unable from my records to point to any special predisposing factors. Although my numbers are small in the chronic group (twenty-six), it is, I think, significant that previous attacks are infrequent amongst those who fail to recover after a mental disorder of pregnancy. Moreover, the certified patients with conditions which become chronic, appear to develop their symptoms more in the second half of pregnancy when one would be less inclined to interfere.

### Epidemic Encephalitis and Pregnancy.

Although not coming strictly within his practice, epidemic encephalitis and its sequelæ, on account of neurasthenic and depressive symptoms, occasionally come before the psychiatrist who may be asked whether the symptoms and signs are likely to be aggravated by the continuance of pregnancy. After a consideration of some two hundred cases and records Roques[1] concludes that women attacked by encephalitis during pregnancy are more likely to develop the Parkinsonian symptoms and that Parkinsonism is frequently aggravated by pregnancy. The pregnancy, on the other hand, pursues a normal course and the child is healthy. My own experience is limited to the following observations:

CASE I: A patient, aged twenty-four, a *primipara*, had acute encephalitis at the seventh month. Labour was induced, but the child was still-born. She was worse after induction and was "unconscious" for three months. The Parkinsonian syndrome gradually developed out of the acute stage.

CASE II: A patient, aged twenty-nine, a *primipara*, had acute febrile illness with diplopia at the age of twenty-five followed by weakness and fatigability. She became pregnant at the age of twenty-nine, weakness increased together with tremor and stiffness. Labour was normal and she suckled the child for six months. The Parkinsonian symptoms gradually became more intense.

CASE III: A *multipara*, aged thirty-nine, had acute encephalitis during the fifth pregnancy. Normal labour was followed by gradually increasing Parkinsonism. The child was healthy.

CASE IV: A *primipara*, aged twenty-two, had acute encephalitis at seventeen. Movements were already becoming slow when she married at twenty-one. Parkinsonism became much worse since the birth of a child.

CASE V: A *multipara*, aged twenty-four, had acute encephalitis at sixteen. About four months after the birth of her third child, when the patient was aged twenty-three, she developed the Parkinsonian symptoms. The symptoms have become much worse since her husband deserted her.

Having regard to the usual evolution of this disease and the frequency with which sequelæ may develop, there would appear to be little justification for interference in these cases, especially in *primiparæ*, unless physical exhaustion is severe and life is endangered. It is certainly unwise for a woman who has had encephalitis, to become married.

### General Paralysis and Pregnancy.

Three of the fatal cases in my series occurred in general paralytics, one patient died during pregnancy, the others eight and twenty-one months after confinement. In all three symptoms had appeared before pregnancy. Another patient became worse during her third pregnancy, but lived for at least three years afterwards. In a disease which tends to follow a downward course, it is difficult to prove that pregnancy has much influence.

### Possibility that Mental Disease may Develop Late in Pregnancy or After Parturition.

Interference may be suggested on account of a bad family history or because of a previous mental breakdown, either before or in association with pregnancy. As regards heredity, we lack any reliable evidence in deciding upon whom the taint is likely to fall. When a woman has been stable, even with a history of mental disorder in the family, one need not be apprehensive that pregnancy will precipitate an attack of mental disorder. Patients with a previous attack of mental disorder call for further consideration.

Among twenty-four patients with more than one attack of mental disorder, six gave a history of insanity in the family; eight had had attacks before the first pregnancy; eight had had attacks independent of child-bearing; and ten had had more than one attack associated with child-bearing.

In the consideration of the possibility of a recurrence of mental disorder we should discriminate between those cases in which a previous attack of insanity at the puerperium was associated with severe physical stress, such as hæmorrhage and sepsis, and those in which the physical condition was relatively healthy. Bourne[2] in a review of sixty-one cases of puerperal insanity concluded that if a patient has had previous attacks or has a collateral history of insanity, another pregnancy is liable to precipitate a recurrence of mental disorder, but should the insanity have been associated with such conditions as puerperal sepsis or eclampsia, the insanity is not likely to recur. In my own records there is no special reference to physical morbidity in earlier attacks of mental disorder, indicating that we have to deal with a diathesis which is relatively little influenced by external factors. Nevertheless there should be a fair interval before a patient recovered from insanity of child-bearing becomes pregnant again. She should at least have regained good physical health.

The data in connexion with 320 cases of insanity occurring during the puerperium are set out in Table III. My figures do not offer much assistance in estimating the probability of the development of a psychosis in association with child-bearing. Nevertheless I venture to suggest some factors which might be taken into consideration. In the first place I regard heredity as of minor importance. The personal history includes the circumstances and nature of any previous mental disorder and of any gradual change in disposition such as frequently occurs in paranoid states (*dementia præcox*, paraphrenia and paranoia), seclusiveness, moodiness, suspiciousness, irritability and emotional instability would naturally induce one to guard the patient from any undue stress, whether physical or psychological. It must be admitted that *dementia præcox* not infrequently appears to develop in association with child-bearing, but as yet our knowledge of morbid traits in the personality of such patients before the occurrence of definite insanity is too scanty to guide us in preventive measures.

TABLE III.

*Showing Particulars of 320 Cases of Mental Disorder occurring in the Puerperium and in the Lactational Period.*

| Observation. | Recovered. | | Died. | Condition Chronic. | |
|---|---|---|---|---|---|
| | Certified. | Voluntary. | Certified. | Certified. | Voluntary. |
| *Age (in Years):* | | | | | |
| Up to 20 | 10 | 1 | — | 2 | — |
| 20 to 25 | 32 | 9 | 3 | 6 | 5 |
| 25 to 30 | 44 | 16 | 14 | 9 | 7 |
| 30 to 35 | 32 | 16 | 16 | 14 | 5 |
| 35 to 40 | 22 | 19 | 10 | 13 | 3 |
| Over 40 | 5 | 3 | — | 4 | — |
| TOTAL | 145 | 64 | 43 | 48 | 20 |
| *According to Number of Pregnancies.* | | | | | |
| *Number of Pregnancies:* | | | | | |
| 1 | 52 | 14 | 10 | 8 | 7 |
| 2 | 26 | 18 | 7 | 11 | 5 |
| 3 | 21 | 14 | 9 | 5 | 3 |
| 4 | 16 | 8 | 4 | 7 | 3 |
| Over 4 | 30 | 10 | 13 | 17 | 2 |
| *Previous Attacks independent of Child-bearing.* | | | | | |
| Number | 4 | 7 | 2 | 2 | 2 |
| *Previous Attacks in association with Child-bearing.* | | | | | |
| Number | 9 | 11 | 5 | 10 | 2 |
| *Types of Mental Disorder.* | | | | | |
| *Condition:* | | | | | |
| Confusion | 57 | 6 | 30 | — | 1 |
| Melancholia | 62 | 31 | 10 | 3 | 1 |
| Mania | 18 | — | 3 | 2 | — |
| Melancholia-Mania | 8 | 4 | — | 1 | — |
| Neurasthenia | — | 16 | — | — | 5 |
| Anxiety state | — | 1 | — | — | — |
| Hysteria | — | 6 | — | — | 4 |
| Schizophrenia[1] | — | — | — | 42 | 7 |

[1] This diagnosis is applied to the dementing patients.

The following case illustrates the gradual development of psychosis (*dementia præcox*).

The patient was married at twenty-four. Two years later she began to quarrel with her neighbours, one of whom threatened damages for libel. Her first child was born without any definite change in her mental condition. Later she became more suspicious of friends and neighbours. At the age of thirty-two she became definitely worse, neglecting her house and making extravagant demands. Her second pregnancy occurred at the age of thirty-five and three months after parturition she was admitted to a mental hospital, restless, incoherent, expressing a number of disconnected delusions. Mental deterioration progressed for at least four years.

In this case pregnancy was obviously undesirable, yet in all probability did not influence the cause of the psychosis.

Although in the chronic certified cases in my series ten out of fifty-eight had a history of previous attacks in association with child-bearing, in many of these the case records indicate exacerbations in a slowly developing psychosis of a dementing type rather than attacks with recovery. The following history is an example.

Following the birth of her first child, a woman, aged twenty-three, had an attack of excitement. At the age of twenty-five she had another attack of puerperal mania. At twenty-seven she was readmitted to the mental hospital "deluded and hallucinated"; this attack or exacerbation was independent of child-bearing. She improved enough to be discharged. At the age of twenty-nine, when seven months pregnant with her third child, she was readmitted in a state of excitement. There was some improvement after parturition at full time. Relapses occurred at the ages of thirty-one and thirty-four, independently of child-bearing. The records indicate a gradual increase in the severity of her mental symptoms, particularly the delusional element. After the lapse of over three years she has not yet improved sufficiently to be discharged.

When the history suggests that previous attacks have been clear-cut depressions and excitements, that is, that the patient is manic depressive, the chances are that they will recur with or independently of child-bearing, with recovery.

One type of patient who appears to involve a mental risk, is the multiparous woman nearing the age of forty who has had a previous attack. Yet even here, unless physical exhaustion is severe, one would hesitate to advise interference.

### THE CHANCES OF HEREDITARY TAINT.

There is perhaps no more debatable subject in psychiatry than the inheritance of mental disorders. While there is a general agreement that an hereditary factor is present in many cases of insanity and mental deficiency, we are unable to form the vaguest estimate of the degree of probability that any one of the offspring will suffer a mental breakdown. While the heredity factor is strongest in the manic depressive psychosis, even here the taint does not affect all members of the younger generation in a family with a so-called "bad" heredity. Incidentally the swing of the pendulum is away from heredity and towards environmental factors and greater attention is being paid to parental example than to the transmission of morbid genes. Though I am not prepared to back my opinion by statistics, I maintain that interference with pregnancy is justifiable only in the rarest instances on any hereditary or eugenic grounds. Tredgold[3] reports that of fourteen children born of mothers who were insane during gestation and in whom there appeared to be no hereditary predisposition, ten were physically and mentally well for periods up to fifteen years of age, while of twenty-four children born of mothers insane during gestation and with hereditary psychopathic history, only three remained alive and well within a similar period, while the rest had died in infancy. The influence of an insane father is probably similar.

Only where both parents are mentally defective is there almost a certainty that all the offspring will be defective; otherwise mental deficiency tends to be sporadic and may be transmitted through individuals who are only slightly, if at all, subnormal. A special variety of mental deficiency, mongolism, is quite irregular in its familial incidence, but tends to occur when the mother of a large family is nearing the end of the reproductive period. In such cases later pregnancies which are unlikely to occur, will probably result in defective children.

From the hereditary and eugenic point of view, if there is any interference with reproduction, it should be through contraception, segregation or sterilization rather than through abortion. This is admittedly controversial and I make the suggestion more in a provocative than in a constructive spirit.

The induction of abortion may be considered in the paretic woman on eugenic grounds. I have not been able to obtain any information as to the progress of children born after the mother has developed signs of general paralysis. Kraepelin[4] states that about 45% of children born within ten years before either parent has become paretic display such conditions as imbecility, neurosis and organic nervous disease. In most instances Nature settles the matter by refusing to allow the paretic woman to produce a living child or by terminating its existence in infancy.

### CONCLUSION.

There is a significant omission of any mention of interference with pregnancy for mental reasons in English text books on psychiatry. Kraepelin[4] writes:

Parturition in itself as a rule exerts no favourable influence upon the course of mental disorder. In the same connexion I have never been able to substantiate a recovery after the induction of abortion or of premature labour in the few cases which have come before my notice.

Kraepelin also observed that parturition and still more abortion appear more often as precipitants of mental disorder rather than alleviants.

In a discussion in the Section of Obstetrics and Gynæcology of the British Medical Association at Nottingham in 1926 Eden[5] suggested recovery from a previous attack of puerperal insanity or "borderline" symptoms in a patient with a bad family history as indications for interference. Cole,[6] speaking for the psychiatrists, said:

We doctors have no right to end a pregnancy before the child is viable, except for few reasons which I believe still to be limited to the ill health of the mother jeopardizing her life.

The president of the Medico-Psychologist Association of Great Britain, Dr. J. R. Lord,[7] suggested that the grounds for inducing abortion in mental disorders are: (i) To preserve life, (ii) to alleviate or cure serious physical or mental illness or (iii) to prevent serious ill health, physical or mental, whether permanent or temporary.

After the discussion on his paper he said:

If the views on this subject expressed by various speakers are representative of the views of the association, I think it might go forth that in the opinion of the association the weight of evidence told definitely against the growing practice of inducing abortion for the prevention (*id est* occurrence or recurrence) of mental disorders.

At a combined meeting of the American Medical Association Singer[8] concluded that interference with pregnancy is rarely, if ever, justifiable on mental grounds alone. In the manic depressive psychosis and in *dementia præcox* and paranoid states he had never had occasion to advise or consider termination.

May I suggest that the sections represented here this evening give forth an authoritative opinion on this subject?

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REFERENCES.

(1) F. Roques: "Epidemic Encephalitis in Association with Pregnancy, Labour, and Puerperium: Review and Report of 21 Cases," *Journal of Obstetrics and Gynæcology of the British Empire*, Volume XXXV, 1928, page 1.
(2) A. W. Bourne: "Ætiology and Prognosis of Puerperal Insanity," *Journal of Obstetrics and Gynæcology of the British Empire*, New Series XXXI, 1924, page 251.
(3) A. F. Tredgold: "Mental Deficiency," 1929.
(4) Kraepelin: "Psychiatrie," 1920.
(5) T. W. Eden: "The Indications for Induction of Abortion," *The British Medical Journal*, Volume II, August 7, 1926, page 237.
(6) R. H. Cole: "The Indications for Induction of Abortion," *The British Medical Journal*, Volume II, August 7, 1926, page 244.
(7) J. R. Lord: "Induction of Abortion in Treatment and Prophylaxis of Mental Disorder," *Journal of Mental Science*, Volume LXXIII, July, 1927, page 390.
(8) H. D. Singer: "Mental Disease and Induction of Abortion," *Journal of the American Medical Association*, Volume XCI, December 29, 1928, page 2042.

## BREAST FEEDING.[1]

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HEALTH, before and after the infant's birth, is essential for natural feeding; and any consideration of this subject must deal with both these periods.

### PRENATAL CARE OF THE MOTHER.

Several basic factors determine the health of the mother during pregnancy.

#### Diet.

For food requirements to be met, both the quality and the quantity of the diet must be adequate. As regards quality the same principles of balancing the proteins, fats, carbohydrates, salts, vitamins and water apply as in other conditions of health. Much recent work has been done in relation to vitamins and a few points may be mentioned. An admirable description will be found in "Food, Health and Vitamins," 1929 edition, by Plimmer. Vitamin *B* is most likely to be deficient in present day dietaries. It occurs mainly in cereal germs and in yeast and to a less extent in nuts and eggs. Experiments have shown that for proper lactation in rats three to five times the usual amount is required. Vitamin *F* has a similar distribution and is also in lean meat. Vitamin *A* is present in animal fats, if the animals have been naturally fed, and especially fish oils, and in eggs, butter and green vegetables to a less extent. Spinach is the best vegetable. Vitamin *D* has the same distribution in foodstuffs as vitamin *A*, except that it is not present in green vegetables. It can be made artificially by irradiating ergosterol. Increased amounts of both vitamin *A* and vitamin *D* have been shown to be necessary for lactation in experimental animals. Vitamin *C* is most plentiful in citrus fruits and to a less extent is present in raw greens and fruit. It is destroyed by heating in contact with air and particularly so if alkali is added, as is usually done in cooking vegetables.

The other qualitative factors mentioned are, of course, of equal importance. The increased requirements of calcium, iron and iodine during pregnancy should not be overlooked. In the latter months the protein intake may need decreasing.

The quantity of food necessary to meet caloric demands varies considerably with different individuals and each case requires separate consideration. Though general underfeeding may occur for economic reasons, overfeeding, especially with starchy foods, is not uncommon. As a rule three meals daily are sufficient. When not acting naturally, the bowels should be regulated, if not by attention to diet and exercise, then with suitable laxatives.

#### General Hygiene.

The happy mean between sufficient exercise and rest must be adjusted to each individual. Daily walks, without causing over-fatigue, are advisable. Regularity is the keynote. In addition, sunlight and fresh, moving air are essential, not only for their general tonic effect, but in maintaining freedom from infections throughout pregnancy. The mental hygiene of the expectant mother is of equal importance. Over-anxiety and worry produce ill health. Previous unsuccessful pregnancies or failure to feed naturally or similar experiences on the part of the patient's own mother or friends may unjustifiably cause a lack of confidence and this becomes the prime factor in subsequent failure to feed at the breast. Helpful cooperation and a healthy mental outlook will be more readily achieved if at some time before the confinement the prospective mother has been educated in the essential details of mothercraft and natural feeding.

[1] The second of a series of post-graduate lectures arranged by the Victorian Branch of the British Medical Association and delivered on May 22, 1930.