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FACTORS AND CAUSES OF FETAL, NEWLY BORN, AND MATERNAL MORBIDITY AND MORTALITY*

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THE Report herewith presented includes a total of 25 reports which analyze and discuss a large number of different factors and causes of fetal, newly born, and maternal morbidity and mortality.

The appended list of authors, and titles of their contributions, clearly indicates the great variety of factors investigated by men believed to be specially equipped by experience and personal interest to handle their respective problems, but this list fails to convey any adequate idea of the impressive amount of reliable information and of valuable suggestions offered.

Of necessity this report is limited to a brief presentation or even only mere mention of particularly important views and conclusions in regard to causes for the present maternal, fetal and neonatal mortality and morbidity, and to their possible elimination.

A tremendous loss of life occurs during the first few months of intrauterine existence. The mortality during the six months preceding viability apparently surpasses the total mortality from that time to the age of sixteen years. Available statistics establish for all the civilized world a continuously rising incidence of abortions as the direct result of a steady increase of willful interruptions of pregnancies. Useful statistics, however, in regard to either spontaneous or intentional abortions, or of maternal mortality and morbidity connected with them are not obtainable.

All attempts to enforce systematic reports of abortions to health officers have failed. Similar concealment and falsification exist in reporting the deaths of mothers due to abortion. This probably is the inevitable result of the fact that induced abortion is not only considered immoral by the community but is punishable as crime. In modern Russia both these factors have been eliminated by legalization of abortion under certain conditions, and from this viewpoint recent Russian statistics prove of interest and value. In the Ukraine district alone, the number of recorded abortions amounted in 1925 to approximately 89,000, but within the next two years they rose to 150,000 and 242,000 respectively. They were legally and thus expertly performed, according to the claim of the Russian authorities, with a maternal mortality of practically zero. With reasonable accuracy a similar, remarkable increase of abortions has been established as well in

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history-of-obgyn.com

Germany, the ratio between abortions and term births in 1927 being calculated to amount to approximately 1:1.

No data concerning abortion incidence are available for the United States, as recently stated by the Children's Bureau. Investigations made by this Bureau for the years 1927 and 1928, however, among others revealed the important facts, that about 25 per cent of all maternal puerperal deaths followed abortions, and that such deaths after illegal abortion were caused by septicemia in 91 per cent of the cases. The Children's Bureau estimates that of all abortions in this country 50 per cent are criminally induced, 37 per cent spontaneous, and the remaining 13 per cent therapeutic. One familiar with existing conditions will admit that a considerable number of the so-called therapeutic and very many of the spontaneous abortions actually belong in the group of criminal abortions.

Efforts to reduce this appalling waste in early fetal life are bound to meet with serious obstacles. Prenatal care has helped, and will help more if better and earlier care is sought by expectant mothers. Church and state for a very long time have been vainly fighting against criminal abortion. Among the causes which today induce so many women to interfere with an existing pregnancy there can be recognized at least two which cannot be eliminated, namely, a reduced infant mortality and changes in social-economic conditions. Whether perfection of contraceptive means and their wider usage will actually decrease the number of induced abortions seems debatable, if not actually doubtful.

Much, however, can and must be done to reduce the present high maternal mortality and morbidity connected with abortions. Routine hospitalization of all these patients would greatly facilitate their adequate medical management and eliminate dire consequences in many instances.

Next to abortion as cause of maternal, fetal and neonatal mortality and morbidity rank diseases which either precede impregnation or appear as complications in the course of pregnancy. Special investigations and studies made by members of this committee deal with the following diseases more commonly observed among pregnant women: Syphilis; tuberculosis; cancer; anomalies of kidneys, heart, certain endocrine glands, blood and teeth; the acute infectious diseases; parasitic infections; toxemia. On account of its close relation to conditions belonging in this group, in this connection mention is made of an investigation concerning the effect of pelvic, therapeutic irradiation on subsequent offspring. As far as possible the manifold interrelations between pregnancy and such diseases were systematically discussed from the following viewpoints: How is pregnancy likely to affect the usual course of the disease and the prognosis as to life and future health of the mother? What effect can the disease be

history-of-obgyn.com

expected to exert on continuation of the pregnancy to term, on the fetus, the newborn, or the child later in life? How shall the complicating disease be treated, how labor, delivery and the puerperium managed? How can the development of such diseases in the course of pregnancy be prevented? In cases of disease already existing, when is a warning against marriage desirable, under which conditions is it advisable to prevent temporarily or permanently an impregnation, and when justifiable to interrupt a pregnancy?

A few of the facts developed in these studies deserve specific quotation.

The responsibility of discovering syphilis in pregnant women largely rests with the general practitioner. The fact that a negative Wassermann does not exclude the presence of this disease should be more generally known. It is probable that a cross-section of the incidence of syphilis among pregnant women in the United States amounts to about 10 per cent, but is much higher among negroes. Syphilis does not increase the immediate maternal hazard. Proper treatment, instituted early, will practically in every instance prevent the baby from having the disease.

There is now a definitely growing opinion, particularly among experts in tuberculosis, that the heretofore rather general claim of a deleterious effect of an intervening pregnancy on an existing pulmonary tuberculosis is not based on acceptable facts. Indeed, marked improvement of the disease becomes the rule, when the pregnant woman receives proper treatment during pregnancy, labor, the puerperium, and for a considerable time afterward. Therefore, any routine or even frequent interruption of the pregnancy for the assumed benefit of the mother is not any longer justifiable.

The satisfactory solution of the important problem of efficient dealing with tuberculous, pregnant women thus rests mainly with a sufficient supply of hospital beds for such patients. A recent investigation showed that in this country the situation in this respect is quite far from being satisfactory; that in the United States a tuberculous woman unjustly is penalized for having become pregnant; that improvement of such regrettable conditions depends less upon an increase of beds or special equipment than upon a change in the viewpoint of the directors of such institutions. There might be required a better and wider distribution of such hospitals and centers, or a more carefully supervised transfer of delivered women to such places. Surely the tuberculous pregnant woman should not be left to the haphazard and inadequate care she has all too frequently received in the past.

The most important single factor in the tuberculosis problem is the recognition of the lesion very early in pregnancy. Prenatal clinics fully appreciate this fact, general practitioners and the patients them-

history-of-obgyn.com

selves, however, only to a very limited degree. Women with signs of active tuberculosis should be warned against pregnancy and if they nevertheless conceive should immediately receive adequate treatment for their disease, preferably in a sanitarium or its equivalent.

Cancer is one of the rarer complications of pregnancy. If in a state where cure seems possible the disease should be treated without any consideration of the pregnancy. When the malignancy is advanced, efforts must be directed concerning a possible saving of the child. A patient, seemingly cured of a malignant disease, should not be permitted to go through a pregnancy.

It is regrettable that so far no uniformity of nomenclature has been established for the various types of renal disease encountered in pregnant women. It is evident that each patient presents a specific problem and that frequently it is impossible to determine the character and extent of kidney involvement until several weeks or months after delivery.

Acute nephritis occurs, but only rarely it can be differentiated from the more common acute pregnancy toxemia, variously designated as preeclampsia or eclampsia. Also only rarely it is possible to differentiate clinically between the various forms of chronic nephritis.

Of serious import is the relative frequency of chronic nephritis following eclampsia, preeclamptic toxemia and the so-called albuminuria of pregnancy.

When the kidneys already are damaged, or become so during pregnancy, the added strain of gestation in many cases lowers the kidney reserve to such a degree that the patient's welfare becomes seriously jeopardized. In instances of chronic nephritis, pregnancy should be prohibited and in many cases the interruption of pregnancy becomes necessary. All cases of toxemia must be carefully observed for at least one year after delivery before another pregnancy could be allowed.

In patients who had previously one kidney removed the remaining kidney must be subjected to a careful study before a pregnancy could be permitted.

Disturbances of pregnancy to which the general title of toxemia is commonly applied are about as far as ever from final solution with respect to incidence, etiology and treatment. Recent researches in regard to causation have been largely along chemical lines. The most satisfactory scheme of treatment, in general, represents adherence to symptomatic, conservative as contrasted with radical, operative measures except under certain conditions. Earlier recognition of premonitory symptoms under proper prenatal care beyond any doubt has resulted in the reduced incidence of eclampsia.

Like the kidney also the heart during pregnancy is called upon to augment its function. Physiologic alterations in the circulatory sys-

history-of-obgyn.com

tem during gestation at times make it difficult to draw an exact line between them and truly pathologic changes. The already damaged heart stands less chance to respond efficiently to the additional demands made upon it by pregnancy and particularly during the second stage of labor. The chief objects of management of cardiac patients are early recognition, and prevention of a circulatory breakdown. This usually can be accomplished but of the one per cent of pregnancies ending fatally about one-fifth is caused by heart disease.

No attempt at delivery should be made while the patient is acutely decompensated. A thorough trial with medical treatment must precede any surgical action. The effect of such treatment as a rule is as satisfactory in the pregnant as in the nonpregnant woman.

If a cardiac woman during pregnancy exhibits the signs of circulatory failure, a decline in cardiac efficiency as the result of childbearing is to be expected. In a subsequent pregnancy an exaggerated insufficiency is likely to prove fatal. A heart that has broken down once should never again be exposed to the strain of pregnancy. Cases with prompt and complete restoration of circulatory balance have a better prognosis.

Delivery always should be made as short and effortless as possible.

Premature expulsion of uterine contents occurs in a high percentage of cases. A short second stage of labor seems of great advantage not only to the mother but as well to the baby.

A factor to be reckoned with is the effect on the cardiac patient of the burden of an enlarged family. This factor alone in some instances might make permanent sterilization desirable.

With present methods of dealing with functional anomalies of the thyroid gland interruption of pregnancy becomes but rarely necessary. Hypothyroidism can be effectively managed with the administration of thyroid extracts. In some of the hyperthyroid patients compound solutions of iodine might prove not entirely sufficient and then a partial thyroidectomy has to be done. Under these conditions the pregnant woman as a rule is enabled to carry through pregnancy with reasonable expectancy of health and of a normal living child born at term.

There is no evidence that children of hyperthyroid mothers have abnormal thyroids; it seems, however, that children of untreated hypothyroid mothers show a higher incidence of colloid goiters in infancy.

In the presence of hyperthyroidism medical advice must be strongly against pregnancy.

With the introduction of insulin in the treatment of diabetes a remarkable change to the better has come in the heretofore grave prognosis for both mother and fetus. Successful treatment of diabetes, whether patient is pregnant or not, depends upon meticulous con-

history-of-obgyn.com

trol of insulin administration, diet, activity, etc., and for this reason the advice to be given to a diabetic woman in regard to a pregnancy in its last analysis really is determined by external conditions. When, however, in a preceding pregnancy in spite of adequate treatment the outcome was unfavorable, it seems logical to forego any further attempts.

Exhaustion during labor should be guarded against in these patients and to that end operative delivery with the patient in good condition is probably preferable to a long-drawn-out labor.

As far as the pregnant woman is concerned only the chronic myeloid leucemia holds any practical interest. Many women suffering from this disease have been known to pass through two and even more labors. Nevertheless, these women must be strongly warned against pregnancy. The customary treatment with irradiation has its definite drawbacks in view of the probable harmful effect on the fetus. Interruption cannot be expected to prove useful since any operation on a leucemic patient admittedly implies considerable risks.

Slight anemias are relatively common especially in the later months of pregnancy; severe anemias, due to various causes, on the other hand, are infrequent. The maternal mortality in cases of pernicious-like anemias is exceedingly high. Severely progressive anemias are apt to be accompanied by fetal death or premature labor.

Patients suffering from severe anemias must be warned against pregnancy, at least until blood examination shows a return to normal. Every patient of this kind should know the particular danger of closely repeated pregnancies. The wisdom or necessity of artificial interruption of pregnancy in far advanced cases of anemia may well be questioned.

Splenectomy may be a life-saving procedure in cases of acute purpura hemorrhagica at any state of gestation and in some rare instances of hemolytic jaundice, though these latter patients usually stand pregnancy fairly well. Splenectomy during pregnancy is usually followed by an undisturbed labor and puerperium.

All the known infectious diseases might accidentally complicate a pregnancy. Most of them under these conditions are prone to run a more serious course; to carry a larger mortality, and to interfere with the progress of pregnancy when associated with marked toxemia or high elevation of temperature. Some of them distinctly increase the chances of puerperal infection. Interesting in this connection is the possibility of a passive, usually only transitory, immunization of the fetus as the result of transition of antibodies through the placenta. Such transmission of antibodies also occurs by way of the mother's milk.

history-of-obgyn.com

thesia, must be accorded first place among efficient prophylactic measures in the protection of the child.

The intimate relation of the injury of the child in birth to his immediate or early death, and to a later physical or mental deficiency at present is generally appreciated. Intracranial damage as the most frequent type of such injury naturally plays the most important rôle in the causation of stillbirth, neonatal mortality and infant morbidity. Concentration of medical interest on this one type of injury in the minds of many has made the general term "birth injury" almost synonymous with the term "intracranial injury." Thus the significant fact becomes obscured that birth injuries, sustained more often in artificial deliveries but not by any means rarely in normal spontaneous labors, comprise outside of cranial and intracranial damage also fractures of the vertebral column, clavicle, jaw, upper and lower extremities; palsies of the brachial plexus or facial nerve; more or less severe eye injuries including complete avulsion of the eyeball, include severe injuries to abdominal organs particularly in the course of brusque manipulation during resuscitation, and many other forms of possible traumatic lesions.

Parallel with an increase of our knowledge concerning immediate and late effects of such injuries runs a corresponding decrease in the number of diseases and anomalies of infants, commonly termed as congenital. Many of them we find to have been actually acquired in birth.

Responsibility for any of these injuries does not necessarily rest with the obstetrician but their occurrence certainly to a considerable extent is influenced by his judgment and skill. This is particularly true in respect to all artificial and operative deliveries. Even when done by experts under most favorable conditions they augment the risk to the mother and with the sole exception of cesarean section as well as to the baby.

Advocates of more radical obstetrics seem to disregard or to minimize the inevitable dangers of such practice. It seems unthinkable that the conscientious obstetrician would increase maternal risks in the hope of compensation by an entirely problematic improvement of future chances for the baby.

Artificial delivery is becoming increasingly frequent, especially in hospital practice, chiefly as the result of four factors: (1) A sense of safety, often false; (2) the almost universal use of anesthetics in response to the demands of the patients; (3) an exaggerated idea of the value of the infant's life and of the value of operative delivery in conserving this life; and (4) the often false idea that artificial delivery is easier on the mother, incidentally an idea which complies with the present demand of women for a short labor.

Cesarean section is the safest form of delivery as far as the child is

history-of-obgyn.com

concerned but experience shows that women once subjected to this operation almost invariably resort extensively to contraceptive measures. Thus efforts to save babies under exceptional indications by means of this operation as a matter of fact in the end result in a reduction of their number.

As far as the use of the forceps in general practice and especially in the home of the patient is concerned, objection hardly could be raised to the assertion that a reduction of the present high incidence of damage to mother and child can be secured only by a limitation of the number of forceps extractions.

Pain relief of the parturient is desirable, but the problem is essentially different from anesthesia necessary for all operations. Relief given to women in labor must be absolutely free of all possible harm to either mother or child. Of the various drugs, for this purpose administered by mouth, rectum or subcutaneously, the overwhelming majority interfere with uterine activity and many pass into fetal circulation. Among the various types of inhalation anesthesia, nitrous oxide with oxygen probably is the safest and most satisfactory, with ethylene and oxygen ranking next. The latter also proves valuable for deeper anesthesia required for operative deliveries but under certain conditions can be advantageously replaced by block or local anesthesia. With every type of analgesia or anesthesia during labor the fetal heart must be carefully observed. In this respect inhalation anesthesia in contrast to drug anesthesia offers the great advantage of allowing prompt cessation of administration in the interest of the fetus, when alterations in the fetal pulse rate suggest beginning distress.

Asphyxia of the newborn, that is, any immediately noticeable anomaly of respiration, in a very large number of instances is due to some damage of the respiratory center. Every seemingly asphyxiated infant, therefore, for its best advantage should be regarded as one presumably intracranially damaged. All resuscitation efforts must be gentle. Brusque manipulations not only tend to aggravate already existing lesions but by themselves are responsible for various types of often serious traumatization. Whenever an intracranial injury is suspected 20 c.c. of parental blood should be injected hypodermatically as a useful prophylactic measure.

If definite conditions justify the artificial start of labor, the artificial rupture of membranes particularly when preceded by the administration of castor oil and quinine, according to a recent investigation reported to this committee, represents the safest and most satisfactory procedure at present known. However, stress must be laid in this connection on the many evident dangers to the infant resulting from premature birth.

An investigation made through questionnaires by a member of the

history-of-obgyn.com

committee showed that some entirely satisfactory standard technic in dealing with the newborn baby is in force in every larger maternity of this country.

In my own opinion, however, every hospital and private record of labor and delivery should not only describe with sufficient detail all phases of the process but should as well contain exact references to any anomalies in the condition and immediate behavior of the baby. With increased frequency now the attending obstetrician is asked for such precise information by pediatricians, neurologists and orthopedists, years later consulted concerning certain diseases or defects possibly the result of birth injuries.

If it is true that in this country abortions account for 25 per cent of the entire puerperal mortality, and septicemia for 91 per cent of all criminal abortion deaths, then septic infection following full-term labor certainly does not play as important a rôle in puerperal maternal mortality as we generally are led to believe.

Better prenatal, intranatal and postnatal care nevertheless would hold out promise for further reduction of this mortality and beyond doubt would eliminate a great part of puerperal morbidity.

There is no agreement as to what constitutes puerperal morbidity and even the standards based upon certain temperature levels leave out many cases in which the temperature never reaches 100° F. but nevertheless are morbid as evidenced by a thrombotic process or subinvolution. A decided step forward would be made by general acceptance of a precise definition of the term "puerperal morbidity." Such a definition, however, would have to include such details as the manner (mouth, rectum or axilla), time and interval for ascertaining the temperature.

Puerperal morbidity statistics as now offered from various sources are incomparable with each other and of limited practical value. An investigation made by means of questionnaires revealed that large maternities in this country, even with standards approximately the same, report figures for this morbidity which vary anywhere between 7.6 per cent (the lowest reported) and approximately 30 per cent. The actual puerperal morbidity in the whole country thus cannot even be estimated.

It seems superfluous to enter here into a discussion of well-known local sources of infection and fever. Among extragenital causes of fever, first place apparently is held by respiratory infections, followed next by uncomplicated pyelitis. The figure for breast infections in obtained reports probably is relatively too small on account of the frequent start of this trouble after the tenth postpartum day. Of various surgical complications, usually representing acuter exacerbations of old processes near the genital sphere, can be mentioned salpingitis, parametritis, bartholinic gland abscesses, appendicitis, tonsillary abscesses

history-of-obgyn.com

and cholecystitis. Appendicitis in this connection is of particular importance. Whenever a definite diagnosis of appendicitis can be made during pregnancy, it is best to remove the organ. Any of the medical conditions causing fever might occur during the puerperium. All cases of fever during the puerperium should have the advantage of careful physical examination by an internist.

The incidence of infections of the genital tract is increased by all vaginal manipulations, and particularly, by all types of operative delivery. It seems possible that all the advances in medical knowledge have been almost lost to the parturient woman through too great a recourse to instrumental delivery. The average woman in this country at present seems less concerned with the dangers incident to operative interference than with the desire to pass through labor as quickly and comfortably as possible.

Hospitalization of parturient women is constantly increasing all over this country and in the ten largest cities now ranges between 56 and 85 per cent of all live births. This has many decided advantages but as well such disadvantages as exposure to cross infection, and, as already mentioned, the often false feeling of security of the operating room. This latter factor undeniably has led to much unnecessary operating with its resulting trauma and increased morbidity and mortality. The operative rate for confinements amounts to 15 per cent in Scandinavian countries and England, in this country to between 65 and 80 per cent according to 20 answered questionnaires.

Allowing doctors in the community to care for their own patients in the hospitals, provided that they rigidly adhere to the established technic, in general has proved advantageous. More and better equipped maternities with a better trained personnel, reduction in operative deliveries, prevention of abuse of analgesia and anesthesia, better education of mothers in respect to the advantages of good antenatal care and the inevitable dangers of satisfying their desire for painless and short labor represent the best prophylactic measures now available for reduction of the present maternal mortality and morbidity from inadequate intranatal care, trauma and infection.

True morbidity in the puerperium not necessarily manifests itself by fever. Retained parts of secundinae may cause hemorrhages, at times of a serious nature, and will favor infection and subinvolution. Unattended damage to soft parts becomes responsible for various troublesome affections. Breast infections can be avoided by proper care. By means of a questionnaire a clear view was obtained in regard to prevailing opinion as to what constitutes proper postpartum care. The bladder should never be allowed to become overdistended. An increasing number of obstetricians in this country are dispensing with the

history-of-obgyn.com

tight abdominal binder. Certain exercises during the lying-in period are advantageous. More than one local examination should be made after labor.

This particular report concludes with the statement that for the best interest of the patient another conception should not take place at least within the next six months and that, therefore, at the time of the last postpartum examination advice should be offered for its prevention.

It seems convenient to summarize at this point opinions freely expressed in many of the reports in regard to the advisability or necessity of preventing pregnancy when the woman's health is impaired.

No objection seems possible to the assertion that young women suffering from certain forms of cardiac, renal, endocrine, infectious, malignant or mental diseases should be advised against marriage. If the patient seeking medical advice is married, the warning against pregnancy and particularly a definite decision in favor of temporary or permanent prevention of impregnation will in each individual case depend upon the character and extent of the disease and inevitably, at least in part, upon careful consideration of other conditions among which the patient's social-economic status will carry considerable weight.

Expressed views concur in the belief that earlier and wider use of prenatal examination, better understanding of the complex effects of pregnancy and disease on each other, advance in delivery methods and technic among other factors have steadily decreased the number of diseases and of individual cases in which interruption of pregnancy can be done with any justified hope of thereby materially improving the patient's chances for life or later health. This thorough modification in time-honored opinions is best illustrated in regard to pulmonary tuberculosis.

Such a change toward conservatism when it comes to choosing between two serious dangers to the mother, continuation of pregnancy to term or immediate interruption, only emphasizes the importance and necessity of an effective prophylaxis against pregnancy. In certain instances the advantage of permanent sterilization will be easily recognized and, indeed, in several states this procedure is legally required even for conditions which in the opinion of authorities not always justify the operation. There remains another, fairly large group of women whose physical condition leaves no doubt in the mind of the consulted physician that its further deterioration could be reasonably or definitely expected from impregnation within a given time. It seems logical that he should suggest and, on request, should give to them information in regard to known contraceptive methods but always with the warning that no method is known to the medical profession which is fully dependable. From this viewpoint contraception must be regarded as an item of great importance in the desirable elimination of factors which admittedly play an important rôle in maternal mortality and morbidity.

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In a country with so large a population of Negroes, Indians and Chinese it seemed possible that certain racial superstitions and customs in connection with pregnancy and labor might tend to increase mortality and morbidity of mother and child. Three investigations made along these lines furnished no significant support for such an assumption. The undeniably higher maternal, fetal and infant mortality and morbidity among Negroes is determined to the largest extent by the relative frequency of contracted pelves and the notoriously high incidence of venereal infections, and in part as well by lack of cleanliness and utter ignorance concerning the first principles of hygiene or the advantages of good natal care and of adequate nourishment of the infant. Their many superstitious procedures as a whole are fairly harmless. Satisfactory or full information in regard to various Indian tribes was hard to obtain. In general, conditions in the various reservations are not by any means bad and health nurses occasionally praise the skill of some of the older, absolutely untrained native midwives. One of the reporting physicians ventures the opinion that in relation to obstetrics the "medicine man" of the tribe probably does no more harm than the faddist in the city. The younger generation of Indian women readily accept the advantage of better maternity care whenever offered to them. The same holds true for the Chinese in San Francisco, where a thorough and competent survey showed that mortality and morbidity for both mothers and babies compare most favorably with those reported by the Health Department for the entire city.

In the course of these investigations it became evident that the statistics as at present published by the Bureau of Census, by state and city health departments, and from other sources fail to offer any really clear and satisfactory insight into the actual and immediate causes of the death of either mother or newborn infant. A special study, therefore, was made of this specific problem.

Since establishment of the Birth Registration Area, with some degree of accuracy rates are computed between infant and maternal mortality based upon the total number of live births. These rates are useful for certain observations and deductions but are not comparable with similar rates of foreign countries and not even with rates of various parts of the United States. Considerable progress will be made in this respect by general adoption of the International Classification of Causes of Deaths and of Joint Causes.

It is, however, particularly desirable that a general agreement be reached as to what items should appear on the standard certificates of birth and death, especially as related to maternal and early infant mortality.

It might reasonably be expected that through certain changes in these certificates as now used, and through enforcement of exact answer to

history-of-obgyn.com

each question on them, specific and detailed information will be obtained which is indispensable for any systematic effort on the part of obstetricians to reduce or eliminate factors and causes which today contribute to mortality and morbidity of mother and infant in connection with pregnancy and labor.

The following recommendations are made:

1. Efforts must be increased to provide better prenatal care to more women. In general, only early diagnosis allows adequate treatment of a disease which complicates pregnancy and is likely to harm mother or baby.

2. A warning should be disseminated that compliance with the insistent demand of women for shorter and more comfortable labors inevitably implies risks both for mother and baby.

3. Interference with pregnancy or labor should be limited to well-defined indications.

4. In view of the fact that abortions are responsible for a large part of maternal mortality and particularly for later maternal morbidity, at least all febrile cases of abortion should be hospitalized.

5. Appropriate changes should be made in official Birth and Death Certificates so that more and preciser information can be obtained concerning the actual causes of death of either mother or infant in connection with pregnancy and birth.

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