VII.

PUBLIC HEALTH ASPECTS OF MATERNITY NURSING

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We know little about obstetrics among the primitive races, but are able from careful study of customs to learn something of the ancient's obstetrical practice.

Childbirth in primitive times was a relatively simple process. The mother retired to a place apart from the tribe and there gave birth to her child without great difficulty. We wonder why these women, alone and without conveniences or care, had easy labours. This interesting fact can be explained in that there were relatively few intertribal marriages which helped to prevent disproportion between head and pelvis, as we see it to-day. Living in a natural enviornment, and under conditions that allow perfect freedom of action, with their physical powers unhampered by civilizing influences women gave birth with comparative ease, and labour not lasting more than one or two hours. In addition a weeding out process existed for when difficult labour was encountered the child and often the mother died, thus only the physically fit survived.

It is told by Dr. Faulkner who lived among the Sioux Indians, of a pregnant squaw who left her hut in the dead of winter for the purpose of packing wood and while she was gone she not only accomplished her task but gave birth to a baby and carried it back safely together with the wood.

With advancing history labour becomes more prolonged and difficult. It is said that the half-breed Indian squaw gives birth to children with larger heads with the result

that her labour is prolonged to perhaps twice that of a pure-blood Indian.

Many curious customs surround the child-bearing mother. Her husband, in an effort to relieve her pain, supported the sacrum, others supplied weight around the waist and tried to pull down in order to help the woman expel the child, and some resorted to beating, some bouncing the woman on a blanket with hopes of shaking the child out while others believed that jingling of coins would entice the baby. It is said that Marco Polo observed in the mountainous regions of China, 600 years ago, that it wasn't the mother who remained in a lying-in-state, but the father receiving congratulations for one or two weeks.

As years advanced we have the history of man holding his wife on his lap as an aid in delivery. From this posture developed the use of the birth stool for the woman's support, which was used throughout Europe until the early part of the 18th century when it was replaced by the couch.

For thousands of years obstetrics was exclusively in the hands of midwives who were mostly women of low caste, ignorant and were selected from the unemployed old women. This, however, was not true in Egypt where a much higher type of obstetrics was practiced employing physicians at time of delivery. This was because of the priesthood interest.

About the time of 1000 A.D. several women of dignity and culture became interested in obstetrics and care of the sick. Aspasia, mistress of Pericles was noted for her knowledge of maternity and diseases of women. Tortula, an

educated woman of Salerno became noted for her work and writings on maternity and for her work on "Diseases of Women Before, During and After Delivery". The earliest records of education of midwives was given in a book for midwives written by Soranus of Ephesus, 100 A.D., wherein was given the qualifications of a good midwife. Later, advise was given by Dr. Percival Willoughby of London informing midwives of the cardinal virtue of patience which is so essential in obstetric practice.

For 200 years there was great struggle between the midwives and the physicians. Women were employed largely because they were women. The exposure of a woman in labour was considered indecent at that time. It was because of this mock-modesty that obstetric art was retarded. A physician was little more than an assistant to the midwife even in the 16th century. The prejudice against male physicians was so great that Dr. Wertt of Hamburg was burned alive because he dressed as a woman and attended a case for the purpose of study. In America prejudices against men in midwifery were carried over from Europe and as late as 1957 a demonstration before the graduating class at Buffalo roused such a storm of criticism that the American Medical Association had to intervene. Their judgment was that any physician who could not conduct labor by touch alone should not undertake midwifery.

Going back to the Renaissance period we find there were many advances for the progress of obstetrics. Among them Leonardo da Vinci who made the first accurate sketches of the fetus in utero.

Many famous obstetricians became known in the 17th century. Mauriceau of Paris was the first man to refer to epidemic puerperal fever. His description of the qualities of an obstetrician is both interesting and amusing. He states:

"He must be healthful, strong, and robust; because this is the most laborious of all operations; he must have no rings on his fingers and his nails well pared, for fear of hurting the womb; he ought to be neat in his clothes as in his person, that the poor women who have need of him be not offrightened at him. Some are of the opinion that a Practitioner of this art on the contrary to be slovenly, at least very careless, wearing a beard to prevent the occasion of the husband's jealousy that sends for him. Above all he must be sober, no Tipler, that he may at all times have his wits about him".[1]

As times passed the term accoucheur replaced that of midman and midwife. Obstetrical forceps were invented probably about 1580 by Peter Chamberlain, but were kept a secret until about 1813 when they were presented to the profession.

The 18th century was marked by a succession of famous men chief among them being the Hunters, Smellie and Baudelacque who invented the pelvimeter and named and described positions and presentations.

The greatest step forward in the history of obstetrics is credited to Oliver Wendell Holmes of Harvard and Ignaz Phillips Semmelweiss of Vienna in 1843 and 1855, in their effort to reduce the tremendous death rate among puerperal women. During the 17th, 18th and 19th centuries puerperal fever became a pestilence, at times wiping out whole communities of puerperal women. The mortality rates varied in the best European Clinics at Paris and Vienna from 10 to 20 per cent. The origin and spread of the disease was little understood or studied. Obstetricians wasted futile hours on a

1. Louise Zabriskie, R.N., Nurses Handbook of Obstetrics, 5th edition, pp 622

study of minor alterations in instruments or technique and ignored the vast loss of life from puerperal fever.

Oliver Wendell Holmes presented his views in 1885 in a monograph on Puerperal Fever as a Private Pestilence. His statements aroused great controversy in America and received a great deal of abuse and criticism. He was the first man to conceive the idea that a physician attending obstetrical cases should never take active part in postmortem examination of cases of puerperal fever. Also that if a physician is present at such autopsies he should change every article of dress and allow 24 hours or more to elapse before attending to any case of midwifery; also similar precautions should be observed in cases of erysipelas.

Semmelweiss, an assistant in the viennese Clinic for women also concluded that the disease was transmitted from the contact from the physicians and students, who often went directly from the post-mortem room to deliveries. Accordingly, he immediately instituted, and enforced a ruling which made it obligatory that all physicians and students wash their hands in a solution of chloride of lime after attending autopsies and before examining or delivering mothers. In seven months he had reduced the mortality rate from 12 to 3 percent. He also observed that puerperal sepsis could be transmitted from patient to patient by contact of contaminated material, or attendants as well as from the post-mortem room. In 1861 he published his immortal work on Cause, Concept and Prophalaxis of Puerperal Fever. His work was not appreciated and he was not only laughed at but persecuted and forced to leave Vienna and go to Budapest where he died a disappointed

man in 1865 from a brain abscess. His works lived on and a few years later placed on a scientific basis by Pasteur; by the discovery of the streptococcus as the common germ of puerperal sepsis.

The fetal heart tones were not discovered until 1650 by Legout; William Harvey worked out the theory of fetal circulation. van Deventer, 1701 studied various forms of contracted pelvis and the mechanics of labor. Cesarean Section, the removal of the child through the abdomen was done by the early Egyptians and Jews after the death of the mother, in hopes of saving the child. As far as is known the first abdominal deliveries done on the living mother was done by the Jews, in 140 B.C. Several were done between 1300 A.D. and 1610. In these first operations, the uterus was not closed, thus affording hemorrhage and infection and high mortality. The uterus was first sutured by Lebas in 1799. Osiander in 1806 did a low cervical operation instead of cutting through the body of the uterus. This was revived in 1906 by Frank and popularised later by De Lee.

The 19th and 20th centuries were largely notable for their utilization of drugs to alleviate the pains of child-birth. The use of ether as an anesthetic was first utilized by Simpson in Great Britain. Nitrous oxide was used in 1880 and continued to be popular. More recently ethylene and cyclopropane have been used in various clinics. Local anesthesia is becoming more popular because of its advant-ages in toxemia and cardiac patients. The combination of morphine and scopolomine as an obstetrical analgesia supple-mented by colonic anesthesia is probably the best method

available at the present time.

At the present time the latest development in obstetrics is that of the antepartum and post-partum clinics.

PREPARATION & QUALIFICATIONS OF A PUBLIC HEALTH NURSE IN OBSTETRICS

Theoretically every nurse should know obstetrical nursing when she leaves the school of nursing education. Unfortunately few do. For some unknown reason obstetrics is not well taught. Most students see the maternity patient for the first time when she enters the hospital in labor, care for her from 10 to 14 days, and do not see her again after she leaves the hospital. Consequently the nurse gets very little idea of the need of continuous supervision over a ten-month period of antepartal and postpartal care.

This situation can be remedied to a great extent by schools of nursing using the teaching possibilities of antepartal and postpartal clinics, or by affiliation with some local visiting nurse public health agency. Until this can be done, however, those administering maternity services must devise ways to make up for this lack of knowledge on the part of graduate nurses. Post graduate education in obstetrical training and experience must be made available to nurses to provide good maternal care in all parts of the country. This can only be done over a period of many years. It is possible however, for those directing a generalized public health program to arrange regular periodic conferences between regional consultants in the maternal and child health field with the various groups of staff nurses, or with nurses working alone in a county.

Qualifications of a public health nurse doing obstetrical work includes, besides her hospital experience in obstetrics, added study in the following:--

1. Prenatal care
   a. Early examination and diagnosis
   b. Medical supervision and what it includes
   c. Methods:--home, clincs, hospitals and classes
   d. Principles of care:--diet, rest, hygiene, etc.
2. Nutrition:
   a. Reasons for the consideration of nutrition during this period
   b. Fundamentals and special requirements in diet during pregnancy
   c. Balanced diet--what it includes
   d. Method of planning meals
   e. Importance of fluids
   f. Explanation of cravings
3. Methods of teaching:
   a. Home visits--means of approach
   b. Patient's home--a background for understanding the patient.
   c. Classes
   d. Contacts with patients in clinic while waiting for doctor's examination.
   e. Demonstrations and supervising preparations--delivery and after care--hospital or home
4. Preparations for the baby
   a. Proper kinds of garments
   b. Equipment (improvised)
5. Social aspects of obstetrical nursing
   a. Functions of the social service department
   b. Follow-up visits
   c. Arranging for further care in cases of tuberculosis, cardiac, etc.
   d. Agencies in the community
6. Community facilities for obstetrical care
   a. Hospitals, home delivery service
   b. Private physicians, dependent upon patient's economic status.
7. Mental hygiene of pregnancy
   a. Physical symptoms affecting mental attitudes
   b. Preventive care--hygiene and diversion
   c. Superstitions and fears and their effects
   d. Relation of economic and financial strain involving worry, loss of rest and sleep and inadequate nutrition.
8. Home Delivery
   a. Preparations for mother, baby, doctor and nurse
   b. How patient may be taught to prepare and arrange equipment for delivery
   c. Emergency delivery by the nurse.
9. Care of the baby
   a. Normal growth and development
   b. Importance of daily routine schedule
   c. Consideration of the baby as an individual

SIGNIFICANCE OF THE CARE OF MOTHER & NEW-BORN

Everywhere today attention is being directed to the unnecessary deaths of mothers from childbirth. The prospect for health and safety of mothers and babies grows steadily brighter however, provided they have adequate care.

It is a source of great satisfaction to the expectant mother to realize that the outstanding causes of maternal death and injury are known to be preventable. Also that she, herself plays an important part in safeguarding her own and her baby's life and health. In fact, without the mother's cooperation the efforts of even the most skillful and painstaking obstetrician maybe without avail.

Effective cooperation makes necessary a certain amount of instruction or education of the expectant parents. This should include the understanding of the simple facts upon which the best obstetrical practice is based; theory substituting many doubts, fears, eroneous beliefs, a clear understanding and reasons for directions given by the physician--the reasons for watchfulness, the regular examinations, and attention to small matters of daily hygiene which constitute the foundation for healthy motherhood and infancy.

The care of the future infant rightfully begins before conception takes place. Physical examination of both parents before marriage, or at least before pregnancy is undertaken, with treatment instituted, if necessary, will in many instances, prevent their offspring being born with poor health, disease, malformation and low mentality. Such a child is a burden both to his family and to society. A child who has

a poor heredity cannot be normal and healthy in every respect and the repitition of such a child in several generations causes a lowering to a marked degree of the qualities of the race. Therefore, it is of the utmost importance to assure proper care of the child after birth, since not only the child, but many people share in the results.

A normal healthy and happy child is an assest to society but in order to have this desirable individual we must also have a happy and healthy mother and father. The health of the baby means much to the parents and may have much to do with the convalesence and health of the mother. An unhealthy child is a great handicap, both financially and socially to the family. The parents owe it to themselves and to the community to do all in their power to create healthy offspring and to develop them into healthy honorable citizens. To accomplish this result the baby must receive good prenatal and neonatal care with good mental and physical enviornment during infancy and childhood.

MATERNAL MORTALITY

That each year one mother in approximately every one hundred and fifty women giving birth to a live baby sacrifices her life for the maintenance of the race, or that one in every eighteen of all deaths among women between the ages of 15 and 45 years is a maternal death are facts that cannot be taken easily. The 12,544 mothers who died as a result of conditions of pregnancy and childbirth in 1935 do not represent the whole of the loss from childbearing. In the past it seems clear that the size and scope of the problem has been underestimated, for there were more than 60,000 babies who died within two weeks after birth; there were 77,199 recorded still births. In other words, there occur in the country each year more than 150,000 deaths, 60 percent of which are due to the mismanagement of the childbearing function.

"By "maternal mortality rate" is meant the number of deaths from puerperal causes per 1000 live births during a given period of time in a given place."[1]

Since the Statistical Bulletin of December 1933 showing the very high maternal mortality rate in the United States there have been intimations that the high figure for American mothers arises primarily from statistical practices peculiar to this country. This report of 1933 became substantiated when Dr. Elizabeth C. Tandy of the Children's Bureau made a careful study of the variations in statistical practice effecting the maternal mortality rates of the various countries. Dr. Tandy found that only two (Chile and Northern Ireland)

1. Mustard, Harry S.,M.D.,An Introduction to Public Health

showed rates in excess of those deaths under puerperal causes than did the United States. The relative rank of the American mortality rate was then computed on thebasis of classification procedure used in various countries, only to find that differences in method of assignment are insufficient to explain the high maternal mortality rate in the United States as compared with other countries. For every 1000 babies born alive more than 5.9 women lose their lives in the United States. It is significant that on this new basis of calculation the American maternal mortality rate is still substantially double, or more than double that of Denmark, France, Italy, the Netherlands,Norway, and Sweden; more than fifty percent higher than in Esthonia and New Zealand; and considerably above the figures for Australia, Canada, Czechoslovakia, and the Irish Free State. The death rate is lowest among the Russians and Italians, and highest among the Irish, English, Canadian, Hungarian and German.

That our maternal death rate is too high is also indicated by the fact that it has not improved to any great degree in the country as a whole in the last twenty years, although at the same time, the general death rate has decreased. The rates for the U.S. in 1917 showed 6.6; 1918 9.1; 1925 6.4; 1930 6.8; 1931 6.7 and 1932 6.4.

The colored maternal mortality rate is consistently higher than the white. In the United States Registration Area in 1932 the white rate was 6.4 deaths per 1000, the colored nearly 10. This is thought to be due to the prevelance of rachitic pelvis, poor general condition and lack of adequate obstetrical care.

In general, the maternal mortality rate is higher in cities than in rural areas, as shown by "the following figures for the registration area for births 1932, cities of 10,000 and over 7.4; smaller cities and areas 6.4".[1]

While the maternal mortality is of grave concern, death is not the only risk these mothers are taking, for all the abnormal cases do not end fatally--many are left permanent invalids or with continued ill-health. It is also true that in the wake of these maternal deaths, the children in motherless homes are less well cared for, delinquency more prevelant and criminal tendencies more apparent.

It is well to understand definitely the meaning of a puerperal death. "A puerperal death is one which is brought about by the hazards of pregnancy, labor, or the postpartum period. The usage of puerperal is more inclusive that the clinical usage of the word which means it is the period after the birth of the child and continues until the mother is recovered or about one month".[2].

"The major causes of puerperal deaths and their relative frequencies are:--

Puerperal sepsis--causes about 38 % of all puerperal deaths
Toxemias--about 25%
Accidents of pregnancy and labor, about 22%
Hemorrhage in pregnancy and labor about 10%
Miscellaneous causes about 5%

Miscellaneous includes phlebitis, puerperal diseases of the breasts, and cases reported by physicians under the term " after childbirth".[3].

1.Mustard Harry S.,M.D.,An Introduction to Public Health
2.Ibid.
3.Ibid.

A comparison of the number of women dying from puerperal causes with the number of deaths from the more common acute communicable diseases shows the seriousness of childbearing as a hazard. "The following comparative figures were recorded during one year:

Puerperal deaths	13,293
Diptheria	5,418
Measles	9,941
Poliomyelitis	828
Meningococcus meningitis	1,677
Scarlet fever	2,577
Typhoid fever	4,363
Whooping cough	5,364"[1].

"In making this comparison it should be borne in mind that puerperal deaths occur in only one sex, and in that sex only in the childbearing period:--ages 15-45.

In the age period 20-29 a smaller proportion of women die from puerperal causes than in the period 30-39 and there is a smaller proportion of puerperal deaths in the latter group than in women over 40. Of women under 20 a higher proportion die than in the 20-29 age group. There is some reason to believe that one factor concerned in the under 20 group is that in this age-period illegitimate pregnancies, with attempted abortion, are more frequent than in older women." [2].

The hazards of childbearing vary also with the health or disease of the individual. Especially unfavorable is the presence of any of the following: tuberculosis, nephritis, diseases of the heart and arteries, diseases of the liver, pelvic deformities and mental instability.

1. Mustard, Harry S., M.D., An Introduction to Public Health
2. Ibid.

Tuberculosis, latent before and apparently latent during pregnancy, may manifest itself by rapid extension after delivery.

Nephritis tends to become worse in pregnancy.

The strain of labor is serious in damaged hearts and thinned or brittle arteries.

Unusual burden is placed upon the liver during pregnancy and a diseased organ withstands this increased strain but poorly.

Pelvic deformities act as definite mechanical obstacles to normal delivery.

Syphilis in childbearing usually does not destroy the mother's life, but is one of the greatest hazards to the infant while the mother is carrying it. Active syphilis in the mother usually results in abortion or miscarriage. Subactive syphilis usually produces a stillbirth. No pregnant woman, regardless of who she may be, should be considered so free from the possibility of syphilis as to justify omission of the Wasserman test as routine. Syphilis discovered and treated early in pregnancy can be so controlled that the woman goes to term with every probability of being delivered of a non-syphilitic baby. Such babies, however should not be considered to have escaped congenital infection except after rigid serological tests and observations.

PREVENTIVE DEATHS

It is frequently asserted that one-half to two-thirds of the maternal deaths are due to causes which are preventable. The assertion undoubtedly is real, but prevention by what means? The maternal mortality statistics stated in the above paragraphs relate the recorded causes of death, but do not indicate some fundamental factors responsible for maternal deaths.

The factors involved in prevention of maternal deaths can be divided into the following: (1) the attending physician. (2) the patient (3) inaccessibility to medical care (4) Interrupted pregnancies through intentional abortion.

The medical attendant is the dominating figure in the situation. So often the laity has pictured the physician as standing between the paturient woman and death, valiantly struggling with the "grim reaper" that, when death does win out, the full blame for the disaster is resentfully cast upon him. It was found in the New York study (1930-1932) that of the 2041 maternal deaths, 820 of the 1343 preventable deaths (61.1 per cent) were "ascribed to physicians. In the Philadelphia study, the percentage of preventable deaths ascribed to physicians was 56.5 per cent. The term "ascribed" was not used as the equivalent to blame and it was not so employed in the report.

Included among the 820 deaths ascribed to physicians by the New York City study are 369 in which the death of

the patient resulted from errors of judgment; 382 deaths were charged to errors in technique. It is perfectly clear that as long as the practice of medicine calls for the exercise of judgment, the choice of one procedure out of a number, and as long as human beings still fall short of being infallible, errors of judgment must occur. Experience and innate competance naturally influence the frequency of occurrence and seriousness of the error.

Errors in technique, however, belong to a different category. Of the 1343 preventable deaths studied, 382 were chargeable to this. Here is found a remediable fault of the first magnitude and one to the correction of which the medical profession can and must apply its united efforts. The medical student should be informed that his training does not qualify him to practice as a specialist in obstetrics, but enables him to conduct normal labors and to be able to recognize and evaluate the abnormalities requiring the services of a specially qualified obstetrician. Medical schools should offer courses to the practitioner. If courses are offered and specialists are to be developed, there must be some way in which the public can inform itself as to the status of any given physician. Obstetrical societies or other qualified groups could prepare such lists, admitting candidates who had satisfactorily demonstrated their qualifications by examination. These lists should be made available to the public at request and the knowledge of their availability widely distributed. To quote a current slogan, "When better maternal care is rendered to

pregnant women, physicians will have to render it". The medical profession is not able, alone, to resolve the problem of maternal welfare, but is the key factor in the solution.

The second underlying factor concerns the patient; the economic and social status of the patient, and the ignorance and indifference of the patient that skilled care is necessary.

It is well known that the largest families are found among the "lowest" social and economic groups. Of the more than two million births each year it is estimated that approximately eight hundred forty thousand or more than 1/3 occur in families which are on relief or have total incomes (including home produce) of less than $750 a year. Even within individual states the highest birth rates generally prevail in areas where economic conditions are least favorable. Because the doctor's bill for a preceding childbirth or illness may not have been paid, there frequently is great reluctance on the part of the underprivileged woman to report to a physician for care early in pregnancy, especially in the rural districts and in those cities where prenatal clinics and free hospital services are not available. Moreover, unless they are entirely destitute and desperate they shrink from going to the welfare office for aid because of the stigma surrounding an application for public relief.

Many hospitals serving rural areas and small cities report that their maternity facilities are not used to capac-

ity because of inability of families to pay for such. A quarter of a million women were delivered in 1936 without the advantage of a physician's care, more than 15,000 had no care except that of the family and neighbors For the great majority of the one million births attended in the homes by a physician there is no nurse to aid in caring for the mother and child.

In the cities of New York and Philadelphia studies revealed that approximately one-third of all maternal deaths were attributable to ignorance or lack of cooperation on the part of the patient. A recent report made by the Children's Bureau shows that 51 percent of the women dying from puerperal causes had had no prenatal supervision and 10 percent had not seen a physician or the doctor was called for the first time when the patient was dying. Only 12 per cent had prenatal supervision which might be considered adequate. Perhaps one reason for this lack of cooperation is the fact that for many women pregnancy is of such frequent occurrence that they cannot regard it as a condition meriting any special consideration. Returning to the New York city study, analyzing those cases in which mortality was charged to the patient it was found that they fell into two general groups. In the first group were those patients who from ignorance or neglect failed to obtain proper care during the antepartum period, or did not call a doctor at the onset of labor or when strikingly abnormal symptoms developed. In the second group were included those patients who failed to cooperate and their attendants by neglecting

or refusing to follow the advice given for the proper regimen during pregnancy for the treatment of abnormalities, or the management of delivery or the puerperium. Failure to obtain suitable care accounted for 60 % of the preventable deaths and lack of cooperation accounted for the other 40 %.

A third factor in the prevention of maternal deaths is the inaccessibility of the rural mother to medical assistance. In many communities facilities for hospital care are still lacking or are at a minimum. About two hundred thousand births occur each year to families which live thirty miles from a hospital, frequently under transportation conditions which make it impracticle to take the mothers to the hospital in emergency. In urban areas in 1936, 72 percent of the births occured in hospitals; in rural areas in the same year, 14 percent of the births occurred in hospitals.

A fourth factor is the interrupted pregnancies through intentional abortion. The White House Conference on Child Health and Protection reported conservatively "a minimum ration of one abortion to two and a half confinements in the cities and a ration of one abortion to five confinements in the country districts".[1] Other studies indicate that the abortion index between 1918 and 1932 increased more rapidly than the birth index. Of approximately 3,000 pregnancies in New York City 30 percent terminated in abortions, three-fourths being illegally induced abortions. The amazing fact is that approximately one-fourth of all maternal deaths follow interrupted pregnancies. These figures are appalling but they represent only the known

1. Farran, Thomas, Jr.,M.D., Impediments to Maternal Health, Public Health Nursing June 1937

cases, and constitute only a small fraction of the total number.

PLACE OF DELIVERY

It is questionable whether from the statistical data available any very conclusive deductions can be drawn regarding the general comparative merits of home versus hospital as the place of delivery. The difficulty lies in the fact that not all hospitals are alike, and of course cases to be delivered differ in the nature of problems present.

The New York Obstetrical Society is of the opinion "that delivery in a well-organized and well equipped hospital is safer than home delivery"[1]. The opinion does not carry very far, however, for such hospitals, as well organized and well-equipped are definitely in the minority. Futhermore the New York Obstetrical Society dictates that the unorganized, badly equipped hospital is a menace to its patients. The good hospital is and will remain the only proper enviornment for the care and management of the abnormalities of pregnancy, labor and delivery. In view of the fact, however, that the great increase in hospitalization of women in normal labor has not reduced puerperal morbidity and mortality as much as was hoped, the matter of home confinements deserves reconsideration.

Maternal Deaths--

1. Galdston, Iago, M.D., The Ways to Prevention, The Commonwealth Fund, New York 1937 Pr 44

Much has been made of the difference in the maternal death rates for home and for hospital delivery. The New York City study showed that the relative death rate per 1000 live births for deliveries at home was 1.9 and for hospital deliveries 4.5. The contrast gives an erroneous impression as in most instances difficult and complicated cases sooner or later "get to the hospital", and the hospital's record is substantially affected thereby. Still, this does not account for all the difference; one suggestive item is the greater frequency of operative interference in hospital deliveries. The temptation apparently is greater, because the facilities are available for artificial termination of labor in the hospitals than in the home.

A statistical investigation by Robinson, member of the graduating class of the Columbia University College of Physicians and Surgeons shows "that the proportion of deaths from puerperal sepsis in relation to the total deaths is highest in the states in which the largest number of births takes place in hospitals and that it is lowest in the states in which there is a larger percentage of home deliveries".[1].

On the other hand"deaths from accidents of labor are lowest in the states with the highest percentage of hospitalization and highest in the states with the highest percentage of home deliveries."[2].

1. Practical Measures in the Prevention and Treatment of Puerperal Sepsis, Journel of the Am.Med.Assoc, 103:1745,Dec 8, 1934

To the intelligent laity the word hospital has but one meaning--an institution where one receives scientific, skillful, and scrupulous care. Since not all hospitals live-up to this meaning, the American Medical Association and the American College of Surgeons have established the essential requirements of an efficient obstetrical department which must be met if a hospital is to be listed as approved by the Association and by the College of Surgeons. These are:

1. "Segregation of obstetric patients from all others in the institution;
2. Special facilities available for immediate segregation and isolation of all cases of infection, temperature, or other conditions inimical to the safety and welfare of patients within the department;
3. Adequately trained personnel, the entire nursing staff to be choosen especially for work in this department;
4. Readily available, adequate laboratories and special treatment facilities under competent supervision.
5. Accurate and complete clinical records on all obstetrical patients;
6. Frequent consultations encouraged on obstetrical procedure may be indicated.
7. Thorough analysis and review of the clinical work of the department each month by the medical staff with particular consideration to deaths, infection, complications, or such conditions as are not conducive to the best end-results;
8. Adequate theoretical instruction and practical experience for student nurses in prenatal, parturient, and post partum care of the patient as well as the care of the new born."

The patient should make sure that the hospital she selects is listed among the hospitals approved for obstetrical care by the American College of Surgeons, or the American Medical Association.

1. Galdston, Iago, M.D., Maternal Deaths--The Ways to Prevention, The Commonwealth Fund, New York 1937, pp47

OPERATIVE VERSUS SPONTANEOUS DELIVERY

Dr. Galdston, Secretary Medical information Bureau of the New York Academy of medicine states that delivery by operative means, be it by forceps or other method, unless instituted for compelling indications and performed according to sound surgical tenets, must inevitably lead tograve danger and frequently to disaster for the mother, the baby, or both. More than 45 percent of the maternal deaths (exclusive of abortion and ectopic pregnancy) studied in the New York City report on maternal mortality,followed operative deliveries. The death rate for operative deliveries was five times that of spontaneous deliveries.

The New York City report shows that of all the deaths among women who were delivered 64.2 percent were judged avoidable, but those following operative delivery 76.8 were so judged, and of those associated with normal delivery only 48.0 were deemed preventable. Unwarranted operative deliveries not only endanger the mother but also adversely affect the child.

The findings of the Philadelphia study tells us that the risk of injury to the baby in operative delivery is great as indicated by the figures on birth injury deaths by the Bureau of Census. "In 1920 the rate of death of infants from birth injuries in Philadelphia was 2.9, in 1929 it was 4.7 per 1000 live births, an increase of 6.2 percent in 10 years."[1.]

1. Galdston, Iago, M.D. Maternal Deaths--The Ways to Prevention, The Commonwealth Fund, New York 1937, pp52

It is then very evident that a normal spontaneous delivery is in all respects safer for mother and baby than a hastened instrumental delivery. Too many unwarranted operative deliveries are performed. This results in a large number of preventable deaths of both mothers and infants. Hence a reduction of the mortality rate can be achieved through a reduction in operative interference.

MIDWIVES

In this country, the bulk of midwife practice is with the foreign born and children of foreign born, negroes, and poorer classes who feel they cannot afford a physician. A considerable number of rural women, when no physicians are available, employ midwives. Most states recognize midwives, either directly or by implication. In some they must be "licenced", in others "registered", but the requirements for this licensing or registration are most casual. They may not sign deathc ertificates, must report births and instill prophlactic in eyes of new born. Nearly all health departments exercise some supervision over midwives and attempt to teach them the principles of asepsis, when to call a doctor and warn them of things they may not do..

ANTEPARTUM CARE

"Pregnancy is a physiologic condition, but there is no condition which so quickly may become pathological".[1].

In consequence, adequate antepartum care and effective supervision must provide safeguards against the emergencies of pregnancy.

The objectives of antepartum care, as defined by the U.S. Children's Bureau with the aid of an advisory committee consisting of leading gynecologists and obstetricians, are the complete supervision of the pregnant woman in order to preserve the happinness, health, and life of the mother and child.

Patient and doctor must cooperate to the fullest extent to achieve these objectives.

It is important for every woman to secure medical attention as soon as she has cause to believe that she is pregnant. "All pregnant women should be under medical supervision during their entire pregnancy, for it is only by careful routine prenatal care that pregnancy and labor can be made safe".[2]. It is up to the patient to seek information. The essentials of the physiology and hygiene of pregnancy are not so complicated but that the average woman can grasp them. Instruction can be secured from the attending physician, the antepartum clinic, or from books written by obstetrical experts, and authoritative publications issued by local, state and national government and publications issued by Metropolitan and

1. Standards of Prenatal Care, An Outline for the Use of Physicians, U.S. Children's Bureau Publication, No.153, 194 P4
2. Ibid.,pp1

John Hancock Insurance Company. The public health nurse has the ideal opportunity to teach the pregnant mothers under her supervision, during her visits, because home conditions and atmosphere can give her a more complete picture of her patient's particular problem. The instruction should include the following, with demonstration and inspection by the nurse when warranted.

1. Diet
2. Exercise, rest, sleep and recreation
3. Clothing, including shoes
4. Baths and care of the skin
5. Care of the bowels
6. " " " kidneys
7. " " " teeth
8. " " " breasts
9. Intercourse during pregnancy
10. Hygiene of the home and preparation for home delivery.
12. Mental hygiene

The patient should be given explicit instructions from her physician and follow these scrupulously. She should be told the principal signs and symptoms of possible complications and particularly should report as promptly as possible the appearance of any of the following symptoms:

1. Obstinate constipation
2. Shortness of breath
3. Acute illnesses, especially colds, sore throat, and persistent cough
4. Persistent or recurring headache
5. Recurring nausea or vomiting
6. Disturbances of vision
7. Dizziness
8. Pain in the pit of the stomach
9. Swellings, especially of face, hands, and ankles
10. Severe pain in lower abdomen
11. Vaginal bleeding, even the slightest.

The patient should have a complete and thorough examination, including a detailed history of previous illnesses, surgical experiences, pregnancies, and the like, on her first visit to the doctor. She should be examined by her physician at least once a month during the first six months of pregnancy, then every two weeks or oftener as indicated, and preferably once every week in the last four weeks.

Supervision of the pregnant woman, once she has placed herself under her doctors' care, naturally rests upon him.

Following these inquiries a complete record should be made of the present pregnancy. In this should be included the date of the last menstruation, the record of the onset of the early symptoms of pregnancy and of the quickening. The physical examination of the patient should be complete and should include a record of blood pressure, pulse and weight. A careful vaginal examination (except during the last month of pregnancy, during which time vaginal examinations, save under the most aseptic precautions, are not advisable), is desirable in order to determine the existence of pregnancy, the position of the uterus, the possible presence of pelvic tumors, and the possible presence of venereal disease. A complete set of pelvic measurements is essential. A Wasserman test is fundamental even though no previous history of venereal infection is given. A urinalysis

is also an essential part of the first and of all subsequent medical examinations of the pregnant woman.

The psychological and emotional attitude of the patient to her pregnancy and to the prospects of labor should be studied by the physician and, when there is unwarranted anxiety, an effort should be made to reassure her. In a large measure this may be accomplished by enlightening her as to the nature of the physiology of pregnacy.

WHAT CAN BE DONE?

The task of what can be done to reduce maternal deaths requires individual, group and community cooperation. Primarily, men and women must learn to know what constitutes good antepartum and good obstetrical service, and they must be persuaded to demand it. As they do so, their very demand will create the supply.

To start the attack on maternal mortality men and women should first become interested in the problem and then informed about it. They must find out from the medical profession the basic principles of maternity hygiene which are of importance, to them as individuals, and apply this knowledge to themselves and within their immediate sphere of influence to their family, their friends, and their community.

Thus they must know what has already been stressed in the preceding paragraphs: "That the pregnant woman should have adequate antepartum care; she should be under competent medical supervision during the entire period of her pregnancy, careful watch should be kept for untoward symptoms of possible complications, and there should be repeated physical examinations and laboratory tests."

"That it is important to select a dependable obstetrical attendant; a physician who has had special training and experience in obstetrics or who is associated with the obstetricaldepartment of an accredited hospital or is a member of a recognized obstetrical so-

ciety."

"That if the patient is to be delivered in a hospital, the hospital choosen should fulfil the requirements for safe and effective obstetrical service set by the American College of Surgeons and the American Medical Association."

That operative delivery undertaken merely to alleviate pain or shorten labor involves increased risk for both mother and baby."[1].

When these matters become common knowledge to all men and women they will then recognize their importance for themselves and for the community.

Women's clubs can make the problem of maternal welfare the subject of one or more meetings. To such meetings may be invited the Health Officer, director of a hospital, a representative of the local medical society and others. From these speakers the women can learn the elements of the problem, and how they can cooperate to help improve conditions. Men have similar opportunities in their clubs and fraternal organizations as the problem of adequate maternity care is far from belonging exclusively to women. The discussion of these matters may lead to the forming of a local maternal welfare committee. An important preliminary to thew ork of the committee is a survey of local conditions. Such

1.
Galdstone, Iago, M.D., Maternal Deaths--The Ways to Prevention, The Commonwealth Fund, New York, 1937

a survey should include the local maternal mortality rates and should include an analysis of the deaths according to causes. It should also assemble facts with regard to the hospitals of the community and their standards of obstetrical service and should make known what various agencies in the community offers for part-payment and free maternity care. From these data the deficiencies of the situation can be determined and upon these defects remedial efforts can be concentrated. Naturally such a survey requires technically trained personnel, and should be undertaken under the auspices of the local medical organization and the state and local official health departments. Assistance, financial and otherwise, in making the survey can frequently be obtained from local voluntary health organizations, such as the Red Cross and the Tuberculosis associations.

The survey will inevitably reveal to the public the need to know what kind of care a woman should have in pregnancy and childbirth and how she can get it, and those interested must bend their efforts to make this information available to all whose welfare is most immediately affected. This must mean cooperation with the schools, hospitals, health department clinics, and private physicians. The survey will make clear the extent and social implications of the problem and will indicate ways of meeting it. The local committee on maternal welfare must take advantage of the interest roused by the survey to enlist the support of the whole

community to obtain better care. Through the pressure of its influence responsible authorities may be persuaded to take a more active concern in the matter and the efforts of the medical profession will be re-enforced by enlightened public opinion.

It is easy for the local maternal welfare committee to gather a corps of speakers, recruited from among the physicians, public health officials, and nurses of the community, and to arrange for lectures before suitable audiences, such as high school groups, church groups, clubs, Y.M.C.A., Y.W.C.A., and industrial groups. Suitable literature can be prepared and distributed. Exhibits, consisting of graphs, charts, and slogans, can be placed in schools, libraries, and store windows to stimulate public interest. The radio and press offer splendid opportunity for education.

In the effort to arouse interest in the general public all available community resources should be utilized. It is better to use the local voluntary and official organizations than to attempt the creation of new ones. Reason for the voluntary health organizations to be concerned with maternal welfare is found in the fact that their respective interests are affected by maternity. This is clear, for example, in organizations dealing with tuberculosis and heart disease. It is to be remembered that every Community Chest is called on to support many health and social services, the need for which is rooted in homes broken, children orphaned by preventable maternal deaths.

In the education of the public on maternal welfare, the schools, secondary and collegiate, have a unique opportunity. Theirs is truly an obligation, for of the many subjects taught, expecially under the headings of biology, health, civics, there are few items more deserving of inclusion than maternal welfare. Unfortunately the subject has been approached by embarrassed adult consciousness and catalogued under sex education. Would it not be more consistent to advance from reproduction to sex, rather than in the reverse order. The physiology and psychology of sex should more conveniently fit into that of reproduction.

It is not only desirable but possible to have instruction on the physiology of reproduction and maternal welfare given to seniors in high schools and to young men and young women college students. The curriculum for such courses could be formulated jointly by educators and physicians. Let the latter indicate what essential points are to be included in these courses and the educators formulate the method of instruction. It would be essential that such courses of instruction have the approval of representative groups in the community, such as parent's organizations, church groups, parents' organizations and women's clubs.

Effective use can be made of graphs, charts and illustrations on the subject of reproduction. Preserved

specimens of the lower forms of mammalians and not human specimens should be shown in the high school. A discussion of such diseases as syphilis, tuberculosis, diabetes, nephritis and heart disease that have a bearing on maternal welfare can be appropriately introduced. Care must be exercised to fit the curriculum in constant and psychological approach to the capacities and interests of the group in question. In this matter high school curriculum differ from the college. More challenging and more stimulating to the sympathy of the high school student would be such elementary facts as the increase in the number of cells from the fertilized ovum to the mature fetus, the phenomenal changes witnessed in embryology, and the functions of the placenta. It would be wiser not to load instruction given to high school students with too much anatomical description, pathology and practical precepts.

In the case of the college students there is more of an obligation to tell the whole story. A course on parenthood, to include sex hygiene, maternal welfare, and child care and child psychology are desired. The college student should at least have a basic knowledge of the physiology of pregnancy, the common signs of untoward developments and the importance of antepartum care. Conference method should be arranged as class instruction does not always answer all questions in the students minds. This is important as from college groups are derived many of those men and women who later are leaders in the community.

According to Dr. Galdstone, what the medical profession can do to resolve the problem of maternal welfare is considered the key factor in the solution. Better teaching of obstetrics to the undergraduate medical student is the significant starting point. With this there should be developped in the student a definite warning that the training which he receives does not qualify him to practice as a specialist in obstetrics. His training is to qualify him to conduct normal labors and to enable him to recognize and to evaluate those abnormalities that call for the expert. He should be made to realize that until he has had special training and experience in handling abnormal pregnancies and labors his obligation to his patient demands that he refer every abnormal case to the best qualified physician available in the community.

The facilities at the service of the physician who operates and of the woman to be delivered are of course second in importance only to the skill and competence of the physician. Hospital facilities therefore must be brought up to at least the minimum standards of safety and effectiveness. It has been listed in previous paragraphs the standards which have been formulated by the American Medical Association and the American College of Surgeons.

The solution of the private hospital problem may lie in the direction of licensure and supervision by governmental authorities, with the cooperation possibly of a representative number of obstetrical experts.

The official hospitals, and voluntary ones can add to the instruction of the public through their maternity clinics.

The state, county and city departments of health are the official guardians of public health. As the first step in a maternity welfare program the department of health should undertake, with the aid of other organizations in the community, a survey of the quality and adequacy of the facilities available and their administration. Then a community effort is made to correct the discovered defects and to supply the needed services. Best of all, through their numerous facilities, their clinics, hospitals, baby welfare clinics, health officers and public health nurses, the official departments of health are equipped to teach the public the essentials of maternal welfare.

An especially effective teaching group are the public health nurses who enter many homes in the performance of their routine duties. One of their functions is to teach the pregnant woman the fundamentals of maternity hygiene and particularly the value of antepartum care. It is not only the nurses opportunity but her duty to urge those who can afford private medical care to go to their family doctor as soon as they are pregnant and the rest to attend public clinics. The purposes of the public health nurses' visits to the patients home are:--

"1. To ensure continuing contact between patient and physician.
2. To ensure that the patient understands and carries out physician's directions.
3. To report to the physician the patient's general condition and in particular, any dangerous findings noted.
4. To provide the patient with general information as to diet, personal hygiene, rest, etc.
5. To assist the patient in making arrangements and providing supplies for delivery and for the infant.

6. To instruct the mother in fundamentals of care of the newborn.
7. To persuade the mother of the need of good mouth hygiene and visits to the dentist.
8. To assist in every possible way in maintaining patient's morale and equanimity." [1].

"The purposes of a postpartum visit are:--
1. To check upon condition of patient and report to physician.
2. To teach home attendant, by domonstration, how to care for the mother during this period.
3. To teach the mother the elements of infant care.
4. To get the mother, in future, to keep the infant under regular medical supervision.
5. To get the mother to report back to her physician for final post-partum examination." [2].

Most women, except the more informed and intelligent are inclined to look upon a physician as someone to be called upon for aid in confinement, or in pregnancy only if some rather alarming symptoms arise. Or, if the woman is paying for her service, she considers each visit as one more expense. This is where the public health nurse occupies an important connecting link between the doctor and patient. She can in many ways assist the patient in carrying out the physician's directions by: "(1) interpretation and explanation; in the excitement of the doctor's office or clinic, the patient is quite likely to obtain only a hazy idea of just what instructions have been given. (2) by adaptation of general instructions to the particular conditions in the patient's home. (4) by demonstration, to some member of the family, of any particular measures which an attendant must carry out in the care of the patient." [2].

It has been suggested by Dr. Galdstone, that any program for maternalw elfare in a community which aims to utilize and integrate all available resources should have a

1. Galdstone, Iago, M.D., Maternal Deaths,--The Ways to Prevention, The Commonwealth Fund, New York, 1937 p87
2. Ibid p 87

commission or body of an advisory nature to aid it in dealing with the problems of maternal mortality and maternal welfare. Such a plan calls for clear plans, assignment of responsibilities and the exercise of vigilant supervision and a body of persons devoted to their accomplishment. Possibly such an advisory body should be associated with the official health organization. In the commission may be included "representatives of the official medical societies and specialty groups, obstetrical, gynocological, surgical; representatives of the various hospital groups, official, voluntary, proprietary, health organizations, especially the maternity organization; tuberculosis associations, Red Cross; representatives of the private and public nursing societies; representatives of the service clubs and of women's organizations.

It seems that an advisory board of this kind should be in a position to solve at least some of the problems which underlie the high mortality rate associated with childbearing in the particular community.

In the New York Herald-Tribune March 8th 1934, Dr. George W. Kosmak suggested, in summarizing the scope and powers of a proposed board that it should develop the following activities.

> "1. Standards for obstetrical practice as applied to hospitals and practitioners.
> 2. Regular inspection of all obstetrical facilities in hospitals of every type.
> 3. Revision of antepartum care methods.
> 4. A survey of midwife practice followed up by annual registration, enforcement of attendance at refresher cources, definite control of activities with competent inspection of work.
> 5. Cooperation between medical, nursing, and lay group in programs of instruction of the public.

Dr. Galdstone tells us that of the many interdependent factors two stand out prominently in the problem of maternal mortality. Behind much of bad obstetrics are bad economics, conditions, affecting physician and patient alike; and better instruction is needed by various groups and most emphatically by the public.

It is popular these days to stress economic factors and to blame them for a multitude of evils. In spite of the exaggerated emphasis placed upon "economics" there can be no doubt that as one author says " poverty and unemployment, poor housing and malnutrition, are a complex of conditions unfavorable to childbearing. The present insecurity of a large proportion of our people is prejudicial to healthy motherhood".[1].

Despite the given economic order a very marked reduction in maternal mortality may be reached by making more effective use of our knowledge and of our resources. The public should be taught the physiological meaning of motherhood; the need for and the standards of good antepartum care; the common abnormalities and possible untoward devolopments of pregnancy and how to recognize their development, as well as what to do; the value of conservative obstetrics, with especial regard to anesthesia and instrumental deliveries. The public should know of the evil of abortion. The public should know how to find responsible, competent obstetricians, with official and voluntary antepartum clinics, and with hospital maternity services. Through community organization and in

1.C.E.Heaton, Modern Motherhood,New York,Farrar & Rinehart, 1935 p 241

cooperation with the medical profession this information can be made accessible to the public. Knowledge based on facts must be put into practice.

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