

## EVOLUTION OF OBSTETRICS IN WESTERN INDIA

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### *Introduction*

Evolution indeed! When we still see a goodly number of cases of urinary fistulae and rupture uterus, not to mention eclampsias and anaemias.

However, a careful survey does show steady evolution, particularly in large cities, towards organised work in obstetrics. Maternal and neo-natal mortality can be taken as delicate indices of the type of maternity service.

Records obtained from the Director of Public Health (Bombay State) show a reduction of maternal mortality from 7.20 per 1000 in 1921 (earliest record of maternal mortality) to 4.6 in 1957. Records from the Bombay Municipal Corporation show the earliest statement of maternal mortality in 1931 when it was 7.3 per 1000 as against 1 per 1000 in 1956. It may be stated that, registration of births and deaths being still imperfect, the statistics quoted above can only be taken with reserve. A careful statistical inquiry was made under the I.R.F.A. in 1937-38 in the City of Bombay. This gave an incidence of 8.9 per 1000 for purely obstetric causes, but including anaemia and acute yellow atrophy. All the same there is no doubt that maternal mortality has shown a definite decline, having started with a sharp drop in deaths from sepsis after the advent of sulphonamides and anti-

biotics. Records of large institutions show a marked decline in maternal mortality under all heads. A comparison of figures from the N. Wadia Maternity Hospital for 1937-41 with data for 1953-57 gave an incidence of 21.6 per 1000 in the earlier quinquennium as against 4.9 per 1000 in the latter period, a commendable record.

It is difficult to assess neo-natal death rate, as official figures mostly state total infant death rate. The office of the Executive Health Officer, Bombay, has records of infant mortality going back to 1876 when it was 457.3 per 1000 live births. This declined to 211.7 per 1000 in 1937 and to 109.8 in 1957. The figures for neo-natal mortality I could get from the Executive Health Officer date from 1939 when it was 41.6% of infant mortality as against 51.8% in 1957. The actual neo-natal mortality is given as 88.1 per 1000 live births in 1939 and 56.9 per 1000 in 1957. Thus it will be seen that the rising percentage against total infant deaths only illustrates that there is not the proportionate reduction in neo-natal deaths as in total infant mortality. Reports from abroad also reveal that although total infant mortality rate has been considerably lowered, the rate of neo-natal mortality has not appreciably declined. This is a reflection on the obstetric services.

We may now consider the various stages in the supply of maternity services and special personnel, which has helped to evolve a progressive trend.

## Early Days

### Institutions

The earliest institutional provision was made in Bombay in 1849, when at the J. J. Hospital a ward of 20 beds was built on the present site of the Parsee Ward. *Motlibai & Petit Hospitals*, in Bombay, were built in 1892.

The next record comes from the *Sasoon Hospital*, Poona, where provision for maternity beds was made in 1867.

It was in 1883 that a Committee, known as "The Medical Women for India Fund Committee" was formed with the triple object of

1. Having a hospital for women and children to be staffed entirely by women.
2. Bringing out well-qualified medical women to staff the hospital.
3. Arranging for medical education of women in India.

It is due to the efforts of this Committee that the beginning of the *Cama Hospital* was made in 1883 in a rented house with 24 beds, where work was carried on till 1886, when the present building was ready.

*Baroda* can claim to be the next place to start special work for women. The *Dufferin Hospital* at Baroda was opened in 1886.

The credit for the first private enterprise goes to *Dr. (Sir) Temulji Nariman* who, having a large practice among the Parsees, noted high mortality due to puerperal sepsis and

took steps to open the *Parsee Lying-in Hospital*, at first as a temporary measure in a rented house in 1887, shifting to the permanent building in 1895.

The year 1874 saw the earliest advent of *medical missionaries* to Western India. Miss Susan Brown started work at *Surat*, where a dispensary was opened in 1876. Dispensaries were also opened at Rander, Ahmedabad and Borsad between 1881-90. These were all under the *Irish Presbyterian Mission*. The first hospital, under the Mission, was opened at Borsad in 1896. Others followed at Anand and Broach within a few years. The *Salvation Army* also opened a hospital at Anand.

Medical Missionary work at Poona was started in 1887, when Dr. Lettice Bernard started organised work resulting in the establishment of *St. Margaret's Hospital* by 1892, being the first Mission Hospital to be opened in Western India.

*The Victoria Jubilee Hospital* at Ahmedabad was started in 1889 by a Committee of prominent citizens soon to get recognition and grants from Government and Municipality. The realisation of the need for maternity aid also came to the citizens of Surat. A beginning was made in 1895, by opening a dispensary and a ward of 6 beds, which has now developed into a hospital having 22 maternity beds (*The Sheth Morarbhaji Vajbhukandas Hospital*).

Rajkot can claim to be the next in succession. Nawab Rasulkhanji of Junagadh gave the impetus for starting a *Zanana Hospital*, named after him, in 1897. There were 24 beds to start with.

Dr. Bradley, a mission lady, opened a *private maternity home at Mazgaon* in Bombay during the last decade of the nineteenth century. This was popular among all middle class families, as women preferred to be attended to by their own sex. The Home was closed during the First World War.

### Early Medical Training and Early Medical Personnel

*Training of medical men* started with the opening of the *Grant Medical College* in Bombay in 1845. Work at the J.J. and allied hospitals was in the hands of I.M.S. Officers for over 60 years. *Lt. Col. Dimmock* was in charge of the *Motlibai & Petit Hospitals* from the late '80s and it was he who laid the foundation of good obstetric practice and training.

Perhaps the earliest Indian to take up the practice of midwifery seriously was *Sir Temulji Nariman* who started general practice in 1873. He will be remembered best for the first private enterprise in starting organised maternity aid in Bombay (1887). This was for the benefit of one community, but Sir Temulji expressed the hope that other communities would soon take up the idea. Social conditions and customs at that period did not favour mixing of different communities, particularly at confinements.

*Lt. Col. D. N. Parekh* qualified in England during 1872-73 and returned to serve in the I.M.S. He showed a special predilection for midwifery and surgery and was posted twice (1881 and 1888) as *acting Professor of Midwifery & Gynaecology* at the Grant Medical College, he being the first Indian to get this privilege.

A number of general practitioners had started practice in Bombay in these early years; among them *Dr. Atmaram Pandurang* and *Dr. Bhalchandra Bhatvadekar* may be mentioned. These practitioners, however, found it impossible to have access to parturient women in difficulties.

At this time a woman, *Mrs. Rebecca Walker*, who took up special training in midwifery at the Grant Medical College and the J. J. Hospital, qualified in 1876. This was before the days of organised training in nursing and midwifery and even before the college and the University were opened to women. The plight of women in labour and the forbidding of male attendants at confinements incited Mrs. Walker to take up this training. She set up practice in Bombay and was not only popular with the patients but also with the medical practitioners. The latter could depend on her clinical findings and judgment and so aid her with their superior medical knowledge in the management of the case.

*Dr. H. M. Masina* qualified in 1887 and opened his hospital in 1902 near *Byculla* keeping it open to all communities. His enterprise was sponsored by a number of leading citizens (at first mostly by Parsees) and his may be considered, *next to Dr. Bradley's*, one of the first private hospitals in Bombay which has proved a great boon to middle class families. Dr. Masina also conceived the idea of post-graduate training to recently qualified medical men and women by giving them periods of residential opportunities. Within the first two years, 4 men and 2 women had benefited by such training.

*Dr. N. A. Purandare* qualified in 1900 and took up midwifery and gynaecology as his speciality, being the *first Indian in the independent profession to be taken on as Professor* in these subjects. He was at the Gordhandas Sunderdas Medical College from its inception in 1926, having held various posts at the Motlibai and Petit Hospitals. He inculcated sound methods of thought and practice in the minds of students and assistants. His has been an outstanding career of service and research and he is looked up to as the leading Obstetrician of our days. His private nursing home continues to attract women of all communities.

*Dr. F. R. Parekh* took his qualification in England in 1907 and on his return in 1909 started practice of surgery and midwifery, opening his well known *private hospital* in 1910, a hospital which has benefitted different communities.

*Dr. M. V. Mehta* qualified in 1908 and will be especially remembered for the stimulus he gave to progressive maternity work at the *N. W. Maternity Hospital* which he was instrumental in founding, and for the organisation of maternity and child welfare schemes under the *Bombay Presidency Infant Welfare Society* (now the *Bombay Mothers and Children Welfare Society*). He also opened the *Ruxmini Lying-in Hospital* in 1910 to suit the convenience of middle class families.

*Dr. H. DeSa* took his degree in 1909 and worked at different resident and junior posts at the Motlibai and Petit Hospitals. He was the *first Associate Professor of Midwifery and Gynaecology at the Grant Medical College* (1922-26), after which he joined the

Gordhandas Sunderdas Medical College as Associate Professor. His private hospital gave him opportunity of influencing, particularly the Christian population who naturally flocked to him, to take advantage of proper ante-natal care for ensuring safe delivery.

#### *Early Medical Women*

*Dr. Pechey-Phipson*, a pioneer medical woman from England, came out in 1883 to take charge of the *Cama Hospital*. She was the first medical woman to start work in Bombay, in fact the whole of Western India. She was well suited by her personality and social service spirit to influence women to take advantage of modern maternity services. Her successor, *Dr. Benson*, was able to further this work, and one may truly say that real impetus to avail of maternity aid, both among the lower and higher classes (these latter were highly conservative), was given by these two medical women. *Dr. Rukhmabai*, writing of the year 1883, declared: "The strictly purdannahin women patients were then absolutely unapproachable to men doctors but even the average Indian woman did not dream of showing herself to a man doctor for diseases peculiar to women." In the absence of medical women, services of men for maternity cases were only requisitioned in extremis, and even these were often rendered through the then only qualified midwife *Mrs. Rebecca Walker*.

*Dr. Anandibai Joshi*, a young married lady, was the first Indian woman to take up the study of medicine. She went to the United States to study at the *Women's Medical College, Phila-*

delphia, and returned in 1887, but was too ill to take up work.

The *Grant Medical College and the Bombay University* were prevailed on to open their doors to women in 1883. A number of women non-matriculates also took advantage of the *Certificate Course at the College*. One of the first to take the *Certificate Course* among women was a *Mrs. Malbari*. The first woman to qualify at the *University* was *Miss Annie Walke* (later *Mrs. Sharp*) in 1889. She worked as Assistant to *Dr. Pechey-Phipson* at the *Cama Hospital*. The first Indian woman to graduate was *Miss Freny Cama* in 1892. Her work, however, was up in the north of India. *Dr. Cecilia D'Monte* and *Dr. Avانبai M. Mehta* will be remembered for their long services at the *Cama Hospital*, the former from 1898 and the latter from 1901, their presence helping much to popularise the institution.

*Dr. Motibai Kapadia*, having qualified abroad, started her life's work at *Ahmedabad* in charge of the *Victoria Jubilee (Zanana) Hospital* in 1889 and was the only medical woman in that city for nearly 30 years.

*Dr. Rukhmabai* qualified in England in 1894. Her first independent post was at *Surat* where, in 1895, the beginning of the present *Sheth Morarbhai Vijbhukhandas Hospital* for women and children was made by opening a dispensary and a few beds. *Dr. Rukhmabai* had an uphill task for years to get the population to realise the benefits of a well-organised institution. Her early years at *Surat* saw her at the homes of the patients putting on forceps on cow-dung floors with only a flickering lamp giving

light. Her popularity at *Surat* was phenomenal, for even now the general public refer to this hospital as "*Rukhmabaino Hospital*".

*Dr. Wickham* was the first medical officer I/C of the *Rasulkhanji Zanana Hospital* at *Rajkot* opened in 1897, where she worked for nearly 20 years. She was succeeded by *Dr. Rukhmabai* of *Surat* fame. This hospital served most of *Saurashtra* and the surrounding Indian States. It was due to the tact and ability to inspire confidence that *Dr. Wickham* made the hospital popular among the very conservative population. *Dr. Rukhmabai* further enhanced the attraction to the hospital.

*Dr. Gurubai Karmarkar* took her medical course at the *Women's Medical College, Philadelphia*, and returned to *Bombay* in 1893. She started private practice a few years later, but was more interested in mission work. She set up a commendable record of service to women.

*Dr. Krishnabai Kelavkar* qualified in 1901 and took up work at *Kolhapur*, giving a good impetus to maternity service. She was given charge of the *Women's Section* at the *Hospital at Kolhapur*, which post was originally intended to be taken up by *Dr. Anandibai Joshi*, the first woman to take up medicine who, unfortunately, returned ill from U.S.A. and died within a few months (1887).

The first decade of this century saw some of the earliest medical women setting up private practice in *Bombay*. These were *Drs. Nawazbai Mehta* (Sister of *Dr. Avانبai Mehta* of *Cama Hospital*),

*Meherbai Khareghat, Jerbanoo Mistri, Kashibai Nowrange and Hirabai Contractor (Mrs. Gilder)*. Much credit, for inspiring confidence among the general public, goes to these medical women. They were popular with all communities even for home deliveries.

*Dr. Dosibai Dadabhoy* was the first Indian woman to take the M.D. of the London University and one of the first women to take the M.R.C.P. (Lond.). She was the first woman to set up consulting practice in Bombay on her return in 1911. She was also the first Honorary at the *Cama & Albless Hospitals* as also at the *K.E.M. Hospital, Bombay*.

The medical women at *St. Margaret's (Mission) Hospital at Poona* had the full monopoly of maternity work except for cases going to the *Sassoon Hospital*. Mention must be particularly made of *Dr. Rose Greenfield* who came out in 1918 and worked for 28 years. She was a good surgeon and had a winning personality. *Dr. Ara Rankine* worked at the same hospital from 1914 to 1955.

*Dr. Sundrabai Kirtane* is perhaps the first Indian woman to start private practice at *Poona (1913)*.

*Dr. Rose Beals* came out under the *American Marathi Mission to Wai*, in 1908 along with her husband and, having worked in the heart of the town in a rented building, had the *Willis F. Pearce Memorial Hospital* opened in 1913. They served a wide area for nearly 40 years. The *American Marathi Mission* also established hospitals at *Ahmednagar, Satara and Kolhapur*.

The *Z.B.M. Mission* had a hospital opened at *Nasik*, now known as the *Canada Hospital*, in 1903. *Dr. Lee Wilson* was the first medical woman in charge.

*Dr. B. M. Nickey* came out in 1916 under the *Church of the Brethren Mission at Elgin*. She started pioneer work at *Dahanu*, then a sparsely populated semi-rural place, and there developed it into a very attractive and popular medical centre. She spent 36 arduous years in the service of humanity, endearing herself so to all the residents, rich and poor, that she was looked upon as one of the family in many a household.

The *K.E.M. Hospital, Poona*, came into being in 1914 with 8 beds. The first medical officer in charge was *Mrs. Easden*. The present M.O., *Dr. Banoo Coyaji*, has brought this hospital up to a state of high efficiency. There is at present an accommodation for 100 beds, the major number being used for maternity cases.

#### Progress in Provision of Institutions Bombay City

The earliest progress is noted in connection with the *Cama Hospital*, where naturally women went in large numbers to be attended to by their own sex. In 1890 the *Albless Hospital* was built to accommodate maternity cases, the provision at present coming up to nearly 100 beds.

*Motlibai Hospital*, completed in 1892, has grown steadily to give accommodation for 60 beds. *St. George's Hospital*, opened in 1899, was at first only for Europeans and Anglo-Indians but is now open to

all communities, and has a well organised maternity section with 30 beds.

The *Parsee Lying-in Hospital*, built in 1895 through the initiation of Sir Temulji Nariman, now gives accommodation to 50 beds.

The beginning of a wider effort at giving maternity aid in the city was made by *Lady Willingdon* in 1911, when a scheme for *Maternity Homes in congested areas* was launched. This was soon taken up by the Municipality, which now has six Maternity Homes with a total of 164 beds. *Sir Mangaldas V. Mehta*, in the early 20s, got *Sir Ness Wadia* interested in the provision of maternity aid in the industrial area, and thus the *Nowrosji Wadia Maternity Hospital* had its beginning with 6 beds, soon to be increased to 35 in a rented building where work was carried on till 1926, when the present commodious building was ready. This has a provision at present of 150 beds.

*Lady Lloyd*, in 1918, initiated the *Child Welfare Scheme*, which resulted in the formation of the *Bombay Presidency Infant Welfare Society* in 1920. Under this scheme three maternity homes with attached maternity and child welfare clinics (the first comprehensive maternity and child welfare centres) were opened between 1928-32.

*Y. L. Nair Hospital*, at first a private institution and now under the Municipality, and the *Lokamanya Tilak Municipal Hospital*, at Sion, have also well-established maternity departments, and so have the hospitals at *Bandra* and *Kurla*. Municipality has also opened hospitals at *Ghatkopar* and *Mulund*

which have accommodation for maternity beds. *The K.E.M. Hospital*, Parel, which had closed down its maternity section at the opening of the *N. Wadia Maternity Hospital*, has recently started a maternity section, partly to facilitate training of students and partly to meet the growing need. The expected number of beds is 65.

*Balabhai Nanavati Hospital* at *Vile Parle* was opened in 1951 and is a great boon to suburban population. It has 31 maternity beds. Several communal hospitals have been opened within the last 30-40 years, the notable ones being *Parsee General*, *Bhatia Maternity*, *Bhatia General*, *Kanchangauri Maternity*, *Dholkawala Maternity*, *Bhagat Maternity* and *Noor Hospitals*. This period has also seen the establishment of a number of private Nursing and Maternity Homes, the earliest among these being *Dr. Masina's*, *Dr. Parekh's* and *Dr. N. A. Purandare's*. Total number of free maternity beds in Bombay is about 1,230. Over 90% of confinements take place in institutions.

#### Poona

*The Sassoon Hospital*, opened in 1867, was the main centre till 1887 when organised work was started by the Scottish Mission which resulted in the opening of *St. Margaret's Hospital* in 1892. This has 27 maternity beds and attracts a number of poor and middle class families. *The K.E.M. Hospital* was started in 1914 and has made rapid strides within the past 20 years having at present 100 beds.

Several *Municipal Maternity Homes* have also been started

within the last two decades. There are also a good number of private Maternity and Nursing Homes.

#### Ahmedabad

The *Civil Hospital*, recently rebuilt to suit the requirements of the medical college, has been greatly expanded and has a provision of 60 maternity beds. *Sheth Vadilal Sarabhai Hospital*, now a post-graduate institution, was started in 1931 and has 158 maternity beds. *Victoria Jubilee Hospital*, opened in 1889, has accommodation for 70 maternity beds.

Ahmedabad has also a good number of private maternity and nursing homes besides maternity homes under the municipality and attached to a number of mills.

#### Baroda

This is another university centre and has 33 maternity beds (the original Dufferin Hospital) at the *S.S.G. Hospital* which is attached to the Medical College. In addition, the *Jamnabai Maternity Home* caters for a good number of maternity cases. A number of private nursing homes are dotted all over.

#### Rajkot

The *Rasulkhanji Zanana Hospital*, opened in 1897, now has 100 beds catering to a large population. This is even today the main maternity centre in Rajkot and for a good number of years served most of Saurashtra. It has always been under medical women.

#### Bhavnagar

The *V. S. Zanana Hospital* has a special maternity section. There are several private maternity homes.

#### Surat

The *S.M.V. Hospital*, which had modest beginning in 1895, now has 22 maternity beds and is very popular. A number of other hospitals, public and private, have also been opened within the last 20-30 years.

Many another district town has private hospitals in addition to the Civil Hospital. Government has also provided a few maternity beds at taluka centres.

Missionary efforts came rather late to Western India, the earliest being at Surat in 1876 and at Poona in 1887. Other well-known Missionary Medical centres are at Wai 1913, Borsad 1896, Vengurla 1930, Broach 1902, Anand 1904, Nasik 1903 and Dahanu 1916.

The *American Marathi Mission* concentrated its work in the Decan. There are hospitals at Miraj, Satara, Kolhapur, Wai and Ahmednagar.

#### Rural Areas

The earliest efforts at giving organised maternity aid in rural areas were made by the *Bombay Moffussil Maternity & Child Welfare Society* (now the *Bombay Mothers & Children Welfare Society*). This has 3 main maternity and child welfare centres attached to these. A large number of confinements takes place at these and at the maternity homes at some of the sub-centres.

*Kasturba Gandhi Memorial Trust*, started in 1845, has a maternity centre at Ras in Gujerath. Under the Trust, trained midwives are posted to small rural areas.

The project of *M.C.H. Services* by Government in rural areas was launched out in 1946-47, by open-

ing combined Medical & Public Health Units. Since 1955 over 300 primary Health Units have been opened, each serving a population up to 60,000. It is gratifying to note that a number of private practitioners, men and women, have settled down in out-of-the-way places and opened maternity homes.

### Training of Medical Practitioners

The Grant Medical College, the only medical college in these parts during the last century, was started 12 years before the opening of the University. It gave a diploma, G.G.M.C., and a Certificate Course to non-matriculいたes. The College was affiliated to the University in 1861 and the degrees of L.M., L.M. & S. and M.B.B.S. were introduced in succession.

The requirements for the L.M. & S. Course included conducting of 6 deliveries. This was raised to 12 delivery cases per student with the introduction of the M.B.B.S. in 1907. A number of Indian students went to England, in those days, for further studies and thus efforts were made to get our degrees recognised by the General Medical Council of England. The G.M.C. expressed dissatisfaction at the meagre training in midwifery given in Bombay. The Government of Bombay, therefore, appointed Sir Norman Walker and Sir Mangaldas V. Mehta in 1921, to enquire into the facilities existing in the presidency for training in midwifery. It was through the recommendations of this Committee that the University enacted that, to meet the requirements of the G.M.C. of England, every student attend on 20 deliveries during

under-graduate training. Efforts were made to rope in the *municipal maternity homes* for this training. Women students were sent to the *Cama and Allbless Hospitals* for their cases. It was about this time that Sir M. V. Mehta began to conceive the idea of starting a maternity hospital in the industrial area, resulting in the opening of the *N. Wadia Maternity Hospital*.

Ante-natal work was gradually organised at each of the hospitals and maternity homes, this taking a definite shape in the early '30s of this century. The Medical Council of India was formed in 1934 and took up in earnest the organisation of proper under-graduate training to bring it in conformity with the requirements of the G.M.C. of England. The Colleges were required to arrange for a month's intership during the posting for maternity training and to insist on regular attendance at ante-natal clinics. This made for definite improvement in training, the students getting the opportunity of seeing and following a number of abnormal cases while waiting about for their own cases, as also witnessing and even assisting at obstetric operations. A follow-up in the puerperal period was also ensured. The latest advance came with the revised regulations for the M.B.B.S., which require a year's intership after the final examination and before graduation. The introduction of the D.G.O. has attracted many a practitioner to take this ere embarking into practice. There is a tendency for a large number to go up to take the M.D. in Obstetrics & Gynaecology.

Government opened *Medical Schools at Poona and Ahmedabad* in the early 20s to give a *diploma course* of 4 years. This was changed over to L.C.P.S. with the opening of the *College of Physicians and Surgeons*. These schools have now been developed and raised to the *status of medical colleges* affiliated to their respective universities. The *National Medical College* was started in 1921 through the enterprise of prominent medical men and at first gave a *Diploma Course*. This has also been developed into a college affiliated to the *Bombay University*.

*Gordhandas Sunderdas Medical College* was opened in 1925, and thus there are three medical colleges in Bombay giving facilities for training medical personnel. A *medical college* has also been opened at *Baroda*.

### Training of Midwives

The sheet anchor of maternity services is the midwife who is like a family friend and confidante. The village "dai" has been the presiding deity at births for ages. It has been a family profession handed down from mother to daughter or daughter-in-law. Her methods are too well-known to need repetition. The earliest attempts at training of dais in India were made by Miss Hewlett, a missionary, at Amritsar in 1886. Dr. Henderson carried on her well-known work among dais at Nagpur for over 30 years. A special Fund, known as the *Victoria Jubilee Scholarship Fund*, was started under the *Countess of Dufferin Fund Committee* with a view to encourage dais to take up train-

ing, but *Bombay State* did not come under this Scheme. *Lady Wilson*, in 1926, started a *Village Maternity Association* specifically for training and equipping village dais, but this does not seem to have met with much success. *The Bombay Mothers and Children Welfare Society* takes up local women at its rural centres for the *Dai's Training Course* of 6 months and gives them certificates of training. Some of them are employed locally as also at *State M.C.H. Centres*.

There were no trained midwives in these parts in the early '80s, when *Sisters of All Saints* and *British Nursing Sisters* carried on the nursing in hospitals.

*One of the first to practice as a midwife in Bombay was Mrs. Rebecca S. Walker (1876)*, a married woman with children, who was encouraged by her husband, a progressive minded person, to attend the *Certificate Course* at the *Grant Medical Course* and take practical training at the *J.J. Hospital* about 1876 (This was 7 years before women were given formal admission to the courses). She made a great impression among all communities by her tact, resourcefulness and sympathetic manner. She was popular among some leading families and her services were also sought from various other towns and some Indian States. It seems that she improved her knowledge by wide reading and careful observation and thus was able to help many a woman through difficult labour, sometimes doing versions and even removing placentae for p.p.h. Many a local practitioner was friendly and appreciative of her

help when they were not allowed to treat the cases, there being no qualified medical woman at that time. Mrs. Walker had a versatile mind and high sense of social service, organising, in conjunction with her husband, a series of lectures on health and particularly ailments of women.

The first steps towards regularised training of nurses and midwives were taken in 1889 at the J.J. Hospital by the special endowment of a Fund, known as the *Lady Raey Fund for Nurses*, by the Thakoresaheb of Bhavnagar. Municipal and Local Boards were encouraged to send trainees. One of the first Indian women was *Kashibai Ganpat*, sent from Thana Municipality in 1891. The course covered two years, six months of which were devoted to midwifery.

The opening of the *Cama Hospital* has gone a long way towards attracting Indian women to take up training in nursing and midwifery, particularly as parents were reluctant to send their daughters to a hospital run by men. Many a young widow from orthodox families has been trained at the *Cama Hospital* in these early days.

The early years of this century saw the formation of *Nursing Associations* at the leading hospitals. This was responsible for starting organised training. The Bombay Presidency Nursing Association was founded in 1909, with a view to improve standards of training, to raise general standards of nursing and to provide more definite and better remunerated careers for nurses. The requirements for train-

ing in midwifery were 6 months for general trained nurses and 12 months for pure midwives. This has now been raised to 9 and 18 months respectively. The opening of the K.E.M. Hospital and Wadia Maternity Hospital offered further facilities for training. Training was also begun early at *Poona, Ahmedabad, Baroda* and other large district towns, and at some of the Mission hospitals. The Bombay Presidency Nursing Association was replaced in 1935 by an Act to form the *Bombay Nurses, Midwives and Health Visitors' Council*.

*Training of Health Visitors* was started first in Bombay in 1934 by the Bombay Mothers and Children Welfare Society and an allied School was opened at *Poona* in 1936. Mention must be made of *Mr. G. K. Deodhar of Poona*, who, under the auspices of the *Poona Seva Sadan*, arranged for training of Indian women in nursing and midwifery at the *Sassoon Hospital*, and also helped with the organisation of the *Health Visitors' School* at *Poona*. *Dr. K. S. Mhaskar* and *Dr. H. V. Tilak* have been associated with this training of Health Visitors and with the organisation of welfare centres in rural areas. *Dr. Mangaldas V. Mehta* deserves much credit for getting the training of nurses, midwives and health visitors put on a firm footing. The latest modification is in the training of the *Auxiliary Nurse cum midwife* whose services are utilised at *Primary Health Centres* and *Community Health Projects*. The institution of the post of *Superintendent of Nursing Service* under the Government in 1944 has

helped much in better organisation of nursing services in the State.

The Bombay branch of the *Association of Medical Women in India*, has agitated, since the early '30s of this century, directly and through the *Bombay State Women's Council* and the *Bombay Obstetric and Gynaecological Society* for the Bombay Municipality to create a post of Supervisor of Maternity Services and for Government to have a post of Woman Assistant to the Director of Public Health for Maternity & Child Welfare. At long last these posts have been created, that of *Supervising Medical Officer (Maternity)* under the Executive Health Officer, Bombay Municipal Corporation in 1952, *Dr. Miss Kalewar* being selected for it, and a post of *Assistant Director, Public Health (MCH)* under Government in 1955, *Dr. Mrs. Bedekar* being taken for this.

The Bombay branch of the *Association of Medical Women in India* has also agitated for the passing of the *Midwives' Act* on the lines of the *Midwives' Act* in England, so as to gradually do away with the practice of unqualified women and ensure better midwifery service. This was also supported by the *Bombay Obstetric and Gynaecological Society*. The Act passed in 1935 to form the *Bombay Nurses, Midwives and Health Visitors' Council* makes registration compulsory but local authorities have not yet found it possible to organise proper supervisory machinery and thus even in the city of Bombay work by untrained women continues.

### Research in Obstetric and Neo-natal Problems

Perhaps the earliest record of attention drawn to maternal problems is the paper by the late *Sir Temulji Nariman* on the high mortality noticed by him from puerperal sepsis, which led to the opening of the *Parsee Lying-in Hospital* (1887).

Definite progress towards investigations into various problems connected with maternal, foetal and neo-natal states was initiated by the late *Dr. Margaret I. Balfour* in 1926, when she stayed in Bombay to *investigate maternal mortality*. She emphasized the part played by anaemia in this mortality, and arranged for special investigation into this disease (through grants from I.R.F.A.—now I.C.M.R.—and other funds) by *Dr. Lucy Wills*, who carried out detailed studies into the type and the response to various therapies. This investigation into the problem of anaemia was later taken up by various workers, prominent among them being the late *Dr. Dhayagude*. In recent years work has been in progress on intravenous iron therapy in anaemia in pregnancy at the *N. Wadia Maternity Hospital*. The I.R.F.A. took up the problem of maternal mortality in 1935 and instituted statistical inquiries at Calcutta, Bombay and Delhi. The one in Bombay was carried out by *J. Jhirad* during 1937-38, and showed up the high toll taken by puerperal sepsis, anaemia, toxæmia and hæmorrhages, puerperal sepsis accounting for more than a third of the total, and anaemia taking the second

place. A short statistical enquiry into maternal mortality in Bombay was carried out by Miss Gool N. Mody (W.M.H.) in 1951. The Bombay Municipal Corporation, at the suggestion of the Bombay Obstetric & Gynaecological Society, set up a *Pilot Enquiry into Maternal Mortality* by referring each death to a committee of Specialists. This enquiry was carried out for a year and a half between 1952-54. A survey was made by Dr. J. Jhirad in 1958 to note what progress had been made towards reduction of *maternal mortality during the past 20 years*.

### Specific Problems in Obstetrics

#### *Pelvic Disproportion*

Dr. N. A. Purandare has worked steadily at various problems. His outstanding work, which has even received recognition abroad, is on the "Anterior Shoulder". This study has proved invaluable in the follow-up of trial labours. He and Dr. B. N. Purandare worked out a special method for assessing pelvic disproportion. Dr. B. N. Purandare also brought out a report on "Pelvic Outlet Contraction and its Treatment by Pubiotomy and Symphysiotomy".

The late Dr. H. DeSa produced an interesting report on "Investigations into the Female Pelvis among Indians."

Dr. J. Jhirad gave a Survey of Clinical Evaluation of Pelvic Disproportion in 1952. Dr. Juliet DeSa Souza worked on radiological pelvimetry and read a paper on her work at the International Congress of Obstetrics & Gynaecology at Montreal in 1958.

#### *Toxaemias*

Dr. N. A. Purandare undertook research under the I.R.F.A. (now I.C.M.R.) on toxaemias and hormones and on serum albumin and serum globulin.

Dr. B. N. Purandare made a study of plasma protein patterns in normal and toxaemic pregnancy.

Statistical enquiries into the incidence of eclampsia were made by the late Dr. H. DeSa and Dr. Chamnallal M. Mehta.

Dr. O. J. Shah recently read a paper on Additive Action of Two Hypotensive Drugs in Pregnancy Hypertension.

Dr. Chandri Kar wrote a paper on the Control of Hypertension in Pregnancy with Combinations of Veratrum Alkaloids and Rawolfia Alkaloids.

#### *Abortions*

Dr. V. N. Shirodkar's monumental work on the "Incompetent Internal Os" as a cause of repeated abortions and his ingenious method of treatment has won him international fame.

Dr. H. V. Tilak carried out an investigation into the problems of late abortions through a grant from I.C.M.R. in 1955.

#### *Miscellaneous Subjects*

Various papers have been published during the past 20 years, mostly based on statistical enquiries and clinical observations, some of these being: Cardiac Disease and Pregnancy by Dr. K. M. Masani; Labour following Previous Caesarean Section by Dr. J. DeSa Souza; Review of cases of Caesarean Section and Survey of Cases of Placenta Previa by Dr. S. J. Aptekar. Dr. N. A.

*Purandare*, as early as 1916, read a paper on Management of Cases of Placenta Previa by External Podalic Version and Bringing down a Leg.

*Dr. Chamanlal Mehta* reported on his work of External Cephalic Version in Breech Presentation. *Dr. B. N. Purandare* wrote, in 1943, on the Role of Anaerobic Streptococci during Pregnancy, Labour and Puerperium and gave a report on Trilene Analgesia in Labour in 1947. *Dr. N. A. Purandare* wrote an enlightening paper on Forceps—when Safe, Safer and Safest. His latest work was on Perineal Measurements at the Time of Delivery of the Head. Work on Nutrition has been reported by *Dr. K. S. Mhaskar* and *Dr. Chamanlal M. Mehta*, the latter having investigated nutrition among Gujarati women.

#### *Foetal and Neo-natal Problems*

The late *Dr. M. I. Balfour* again deserves credit for initiating investigations, through the Lady Irwin Research Fund, into these problems. She arranged for *Dr. Christine Thompson* to come out for this investigation (1929-30). Her plan of work was on the lines of Eardley Holland in London except that it was difficult to get post-mortems on a number of cases. *Dr. B. C. Das Gupta*, with the active help of *Dr. Hazel Machado*, carried out an investigation into the Bearing of Premature and Immature Births on Infant Mortality (1946-47). He reported an incidence of 17.6% of premature and immature births in institutional deliveries and further stated that 81% of neonatal deaths occurred among the prematures and immatures.

#### *Concluding Remarks*

I have given a survey of advances made in the provision of facilities for maternity cases, by way of increasing accommodation in urban and semi-rural areas, and availability of medical and nursing personnel as also consultant services. The supply, however, falls far short of the requirements. In Bombay, itself, where over 90% of confinements now take place in institutions, there is overcrowding in each of the public maternity institutions, so much so that deliveries are almost turning into casualty services, patients, after normal delivery, being discharged within 48 hours! The remoter districts have sparse accommodation for maternity and much less access to specialist aid. This brings about the deplorable fact that cases are brought in to towns late in labour with perhaps the uterus already ruptured. One cannot imagine how many more succumb without any aid.

Maternity has certainly been made safer wherever it is organised. A glance at maternal mortality statistics will prove convincing. A recent survey of even the past 20 years shows much advance towards reduction of maternal mortality. It is interesting to note the advance achieved in better management of obstetric cases. The advent of sulphonamides and antibiotics, along with the aseptic technique of labour, has gone a long way towards reducing deaths from puerperal sepsis. Anaemia, however, continues to take a comparatively high toll, inspite of the fact that a good number of cases are salvaged by

intensive therapy. The three main problems at the present day are anaemia, eclamptic toxæmia and post-partum hæmorrhage, a large number of these being preventable by proper ante-natal and intra-natal care. The scope of operative deliveries is being worked out carefully at the major maternity centres with a view to minimise maternal and neo-natal trauma. It is noticed, however, that incidence of rupture uterus, due to rupture of previous cæsaerean scar, has gone up. Careful consideration has to be given to the above facts and work planned out so as to reduce these complications to the minimum. Statistics from other progressive countries prove convincingly that such a reduction is possible. Ante-natal work requires complete reorientation. Overcrowded ante-natal clinics have to be prevented by arranging for clinics during morning and afternoon sessions, and by the municipal maternity services organising small clinics in over-crowded localities to suit the convenience of the ordinary classes, as also to relieve pressure on larger institutions. An ante-natal clinic is only a part of ante-natal work, which should envisage roping in of various ancillary aids, for proper arrangement of nutrition to expectant women, facilities for easy water supply and adequate sanitary requisites and for opportunities for exercise in the open air. Regular propaganda for better understanding of the responsibility of the individual concerned and the family towards the pregnant state and the forthcoming confinement is necessary. Work organised on these lines should go a long

way towards reducing the incidence of the complications, if not actually preventing them.

There is need for intensive *clinical follow up*, side by side with *laboratory investigations*, into the problems of anaemia and toxæmia, work which should help towards reducing their incidence and ultimately preventing their occurrence. We welcome the opening of a special *Research Laboratory at the K. E. M. Hospital, Bombay*, through the *munificent gift of our veteran obstetrician, Dr. N. A. Purandare*, where under the able guidance of his son Dr. B. N. Purandare, we look forward to much advance in the elucidation of these and other specific problems. It must be emphasised that research, laboratory and clinical, must be supplemented by regular *statistical survey* of work done year by year, which brings out vividly the advances made, besides giving an opportunity to review one's methods which may need recasting in certain directions to bring about better results. The N. Wadia Maternity Hospital used to bring out comprehensive reports in the earlier years. It is regretted that it has not been possible to keep up the detailed reports. Our Obstetric Society can profitably arrange *special annual sessions for presentation of reports* from our main maternity centres which should prove very enlightening.

*Regular investigation of maternal deaths* is carried on by a special Committee in each State in the U. S. A. A Pilot Enquiry of this nature was set up by the Bombay Municipal Corporation at the request of the Obstetric Society and an

illuminating report brought out. This was 4 years ago. We had hoped that the Corporation would set up a permanent machinery to carry on these investigations, which, I am sure, will help to reduce maternal mortality by bringing out the defects in the services. Our Society should pursue this subject with the Corporation. A similar Committee, I understand, was set up for a short period at Ahmedabad. It will be beneficial for each large city, to start with, to have a permanent machinery on these lines.

Well-organised ante-natal work should go a long way towards minimising complications during labour. However, city-wide "*Flying Squad*" and "*Blood Transfusion*" services will prove helpful in salvaging a number of cases going in for haemorrhage or difficult labour. These remarks apply not only to the city of Bombay but to every city and district town.

As for *Rural Midwifery* we must but look to Government to expedite its work of providing trained personnel within easy reach of the remotest village, proper transport facilities and the establishment of Primary Health Units in every area. Statistics are just not possible from these areas. The only indication of havoc wrought by untrained dais (who happen to be the only available personnel in these outlying parts) is the type of case brought to

the nearest hospital — cases exhausted by prolonged labour, cases with ruptured uterus and cases of puerperal sepsis — all these being preventable by careful ante-natal care and proper management of labour. It is possible that many more women die ere they are seen, and what of the numbers of cases of urinary fistulae coming up for treatment, not to speak of other types of trauma!

#### *Foetal and Neo-natal Deaths*

As already stated in the preliminary remarks, foetal and neo-natal mortality has not shown a proportionate reduction, even in advanced countries, as compared to total infant mortality. It is difficult to offer comment on work in India, in the absence of reliable statistics. However, a cursory glance through reports from leading institutions shows a definite progress towards salvage of neo-natal life which goes with better maternity service. A very careful survey needs to be undertaken to elucidate this problem.

These are the bare facts we have to admit in these modern days! A grave responsibility rests on us obstetricians. I have enough faith in our rising generation of obstetricians to feel that 25 years hence a very optimistic note will be sounded and our country will vie with other progressive countries in working up an utopian maternity service.