CHAPTER VII

WESTERN MEDICINE: TRAINING FACILITIES AND TRAINED DOCTORS

Goa Medical School (Escola Medico-Cirurgica de Goa)

The Portuguese in Goa were probably the first to teach medicine and surgery of western kind in a systematic way in India. The first medical school of western medicine in Asia was opened in 1842 at the Military Hospital in Nova Goa. Earlier the informal education of medicine was carried out at St. Paul College and then at the Royal Hospital in the city of Goa.

Jesuit missionaries taught philosophy, astronomy, theology, mathematics at St. Paul College and medicine at the Hospital for the Poor (Hospital da Gente Pobre da Terra) run by the Jesuits in the city of Goa. It appears that the Jesuits were convinced that knowledge of medicine was essential for their work among the poor. Medical care was generally at this time in the hands of non-Christians. Moreover, they knew medicine was a highly prized profession through which
they could enter the courts of native rulers and receive favours on behalf of Portuguese kings. Furthermore, the Jesuits had missions in China and other parts of Asia where they needed personnel with medical knowledge.

The Portuguese rulers believed also that the teaching of medical science was important for gaining confidence of the people which later they could exploit to their own advantage. In addition there are other factors that contributed to the teaching of medicine, such as an acute paucity of trained doctors. Goa was dependent on Portugal for medical personnel. Portuguese medical doctors were reluctant to come to India on account of poor incentives, tropical climate and prevailing diseases. By the last quarter of the sixteenth century, the city of Goa was an unhealthy place. The city suffered from constant epidemics that reduced its population. Several viceroys and large number of soldiers died of dysentery, typhoid and other infectious diseases.

This chapter is divided into two sections. The first section is about medical training on western lines imparted at the Royal Hospital in the city of Goa and Goa Medical School at Nova Goa. Section II deals with contribution of doctors to Health and Hygiene in Goa, and of Goan doctors outside Goa.
I. MEDICAL TRAINING FACILITIES.

Royal Hospital (Hospital Real)

The prevailing unhealthy conditions in Goa forced viceroy D. Cristovam Souza Coutinho to initiate some measures. The viceroy requested the Home Government to send doctors who could teach medicine to the natives. It appears that the first steps to teach medicine at the Royal Hospital were started in the late seventeenth. A reference is found in a Royal letter dated 23rd March 1691. In this letter the Portuguese king informed the local authorities about the appointment of two doctors to teach medicine in Goa. Feleciano Gonsalves did not leave Portugal and the second doctor Manuel Rodrigues de Souza could not teach medicine as he fell ill on his arrival. Portuguese doctors were reluctant to take up appointments in India. Finally after several appeals rudimentary teaching of medicine was started in 1702 with Cipriano Valadares as the master. During the first quarter of the eighteenth century students were taught only two subjects — Cadeira Prima and Cadeira de Vespera, besides practicals. The course was incomplete. During this period medical students in Portugal were taught five disciplines.

In March 1713 Manuel Rosa Pinto was appointed to teach Cadeira de Vespera with a salary of 500 xerafins paid
quarterly. It seems that in the next three years Dr. Rosa Pinto trained students to cure the sick. Dr. Pinto was followed by Dr. Jose da Silva Azevedo and Dr. Francisco de Brito Vidigal in 1721.

The earliest native doctor trained at the Royal Hospital is perhaps Gregorio Pereira Ribeiro. In 1732 he was considered the oldest trained doctor in Goa, probably at the time of Cipriano Valadares or Rosa Pinto. Doctors trained at the Royal Hospital were absorbed in the hospital or had private practice. In 1735 King Jose instructed the Viceroy of India to grant permission to Manuel Caetano Alvares to practice as a physician in Portugal and all its colonies. He was the first and only Goan to be given capelo gratuito of Faculty of Medicine by an order issued by King Jose of Portugal. Earlier his father Vincente Alvares was issued letter to practice by the Chief physician of Goa. Many others were given letters to practice. Among these were Pedro Roiz da Costa and Luis Alvares who worked as assistant physicians at the Royal Hospital. Antonio Xavier de Lima practised at S.Mathias and Antonio Tome dos Milagres practised at Panjim.

Teaching of medicine was not carried out on regular basis due to non-availability of teachers or because some of the Chief physicians refused to carry out the teaching work as they were already overburdened with work in the hospital, as
in the case of Dr. Costa Portugal, who refused to teach on the grounds that the hospital lacked necessary equipment and books. 8

In 1799 viceroy Souza Coutinho informed the Home Government of the need to have a Chief physician and a good surgeon as the surgeon in the hospital was sick for the last one year and was unable to work. 9 The Royal Hospital had no trained doctor in western medicine between 1779-1801 after Dr. Costa Portugal left Goa. 10 Teaching of medicine was not carried out in Goa from 1775 to 1800. During this period the governors of Goa requested several times to the Home Government to send doctors who could teach medicine. It was felt that Goan youth would do well and would be useful in the field of medicine. 11 After the death of the native doctor Ignacio Afonso, the hospital had no doctor capable of running the institution. 12

In 1800 the Portuguese Government appointed Dr. Antonio Jose Miranda e Almeida, a professor trained at Coimbra University to teach medicine in Goa. 13 He was also well versed in pharmacology and botany and a good administrator. 14 Dr. Miranda Almeida started a three years course in medicine and surgery at the Royal Hospital, Panelim in 1801. Students seeking entry to the course required knowledge of Latin and
French as most of the books used were written in these languages.

In the first year the students were provided with knowledge of anatomy. Pathology was taught in the second year together with botany and chemistry. In the third year the students learnt all about diseases. A total of eight disciplines were taught in the 3 years course. There is no doubt that this course was an improvement upon the earlier one. A detailed list of books prescribed for this course is available. The course had several limitations. The teaching of medicine was more theoretical than practical. Dr. Bernardo Peres da Silva was appointed to help Dr. Miranda Almeida and later when Dr. Almeida fell ill, Dr. Peres da Silva, a native, taught medicine in the hospital. Many Goans joined the course.

Dr. Almeida was followed by Dr. Antonio Jose de Lima Leitão. He started a new course of four years. The academic year was from June to March. Theory classes were held on alternate days and practicals were held daily. The students daily accompanied the teacher on his visits to the wards. Any student missing ten theory classes was not allowed to appear for his final examinations. A student failing twice had to leave the course. A dissertation had to be submitted at the end of the year. This dissertation had to be written
in a closed classroom without the help of any book. Examinations were to be held at the end of every academic year. At the end of the four years the student was to be given a certificate of proficiency either in medicine or surgery, depending on the branch selected by the student. The Curso Medico-Cirurgiao of 1821 consisted of following disciplines: Anatomy, physiology, materia medica, internal pathology and nosografia medica e cirurgica. In the fourth year the students were required to study internal organs and treatment. This course paved the way for the formal teaching of western medicine as early as 1842.

Goa Medical School

The Goa Medical School was established on 5th November 1842. It was set up along the lines of similar schools in France and Portugal. However, the facilities provided were limited as the best teachers did not find incentives to teach and the standard of teaching remained low. The staff at first consisted of four teachers who belonged to the health cadre, including the Director who was the Chief Physician of the State. These four teachers were entrusted with several disciplines of medicine. The school lacked proper equipment for class room work and research. Books prescribed for the course were either not available in Goa or were outdated. Some of them were published in the earlier century.
The school required entrants to be over 16 years of age and to have a good knowledge of Latin, grammar, philosophy and drawing. In addition the student was required to pass the first year of Mathematics School. The medical course was spread over four years, with the following subjects: Anatomy, physiology, materia medica, pharmacology, hygiene, pathology, surgery, history of medicine, internal pathology, medical clinics and forensic medicine. The school had a course of three years in pharmacy. The school was legalized on 26th March 1847 and provided with proper rules. It was known as Escola Medico-Cirurgica de Nova Goa. The first batch of students who graduated in 1846 consisted of Agostinho Vicente Lourenço, Felizardo Quadros, Gonzaga de Melo, Joaquim Lourenço de Araujo, Francisco Xavier Lourenço, Fremiot da Conceição, Luis Moreira and Bernardo Wolfango da Silva. Among the pharmacy course students Cosme Damião Pires received his diploma in 1846.

In 1856 the school council submitted a plan to the Home Government, requesting to improve the standard of teaching and to restrict admissions to the school. Students were to be admitted on alternate years. This was essential as qualified teachers were not available. Besides many graduates from the school remained without practice due to scarcity of jobs. Jobs in Government services were few and not easily accessible to the natives. Fifteen posts of military surgeons were occupied
by the Portuguese doctors. Old Conquests with 2,47,846 inhabitants had 128 trained physicians. Hence, one doctor for 1,936 inhabitants. Margão, a small town in south Goa had 16 doctors. Moreover, non-Christians rarely consulted doctors trained in western medicine. They resorted to vaidyas and other native medicine men. New Conquests had no doctors trained in western medicine. Graduates from Goa Medical School refused to work in rural areas because of poor amenities.

A plan was proposed to raise the number of subjects to nine, including general and topographic anatomy. The descriptive anatomy introduced earlier was of no help to the students. They could not learn many details because of scarcity of dead bodies and bones. The course was to be extended to five years. A report enclosed along with the plan of 1856 explained the difficulties faced by the school. The school had no buildings of its own. It was run in the Military Hospital with inadequate facilities. One lecture room was used for three classes. A building started five years earlier for the school was incomplete due to lack of funds. Anatomy was imperfectly taught from pictures and models. The scarcity of bodies prevented the school from having regular practicals in anatomy. Students had no proper training in obstetrics. It was also taught with pictures since female patients were not admitted in the hospital attached to the school. Therefore, the school had placed orders in Paris for a doll and parts of
female organs made of synthetic material. The existing equipment was limited. The plan of 1856 was approved only in 1865 with minor changes. The Director of Health Services was appointed the Director of Medical School. In 1859 the school received books from Lisbon.

During this period an unsuccessful attempt was made to merge the Military Hospital with Hospital de Misericordia. This merger would have solved some of the problems of the school in the field of gynecology and pediatrics.

Another plan was submitted in 1871 by the Director of the school Dr. Fonseca Torrie. This plan stressed the need for further improvements in the school. The existing course failed to meet the needs of the native population. For example, there was no midwifery course in the school. This course was judged essential because of high incidence of maternity and infant mortality. Women at the time of their deliveries sought the help of untrained dais. The report recommended establishment of wards for women and children. This need was not satisfied until the early twentieth century. The report also recommended laboratories for research and a botanical garden.

The school library had a collection of 205 books. Between 1870-1880 it acquired 3,711 books. The school received also some plants and some material needed for anatomy.
practicals. This was possible due to loans granted by Visconde de S. Januario to the tune of 3,880 xerafins. In addition the Archbishop had ordered for some instruments through the Banco Ultramarino.

Contemporary sources indicate that the school authorities constantly pressed for the improvement of facilities in the school. Their demands were motivated probably by their professional ethos and concern for the institution.

Several plans were submitted to the Government between 1871-1896. Every plan demanded changes in the curriculum, better service conditions for the staff and a properly equipped course for midwives. None of these plans were approved by the Government.

A complete apathy on the part of the Government was noticed. In 1888 one more report was sent to Portugal emphasizing the need to have well organized medical care, which was regarded necessary to perpetuate colonial rule and economic exploitation. A course of six years with 21 subjects and a pharmacy course of three years were proposed. The report recommended that the school should have at least ten teachers and four substitute teachers. It was also proposed to rename the school as Escola de Medicina Naval e Colonial. The plan further suggested that the school should be sponsored by the
Ministry of Overseas Colonies. Consequently, the graduates of Goa Medical School could be appointed to the overseas health services.

Most of the plans submitted to the local Government were not processed due to dearth of funds and deficiencies noticed in the plans. In 1894 further changes were demanded asking the Government to set up a laboratory for anatomy, pathology and bacteriology. The study of these subjects was to be made compulsory for the students after finishing their medical course. The plan also proposed the introduction of new subjects. The new curriculum would consist of general and descriptive anatomy in the first year. The same subject was to be repeated in the second year together with general biology and human physiology. In the third year the students would learn all about materia medica, pharmacology, general pathology, dermatology and clinical surgery. In the fourth year again the students would be taught pathology (internal and tropical), surgery, hygiene, practical medicine and surgery. Finally in the last year they would learn obstetrics, legal medicine, clinical surgery and medicine.

The school decided to start courses for nurses and midwives. Two new departments were attached to the school to cover experimental physiology and diagnosis. It also asked for more teaching staff.
In January 1905 the school council sent one more appeal to the Ministry of Overseas Colonies demanding changes in the existing medical course. It proposed a curriculum with twelve disciplines spread over a course of five years, increase in number of teaching staff and improvement in their service conditions. Establishment of a course for midwives was also proposed. Primary school certificate and 21 years of age were suggested as minimum qualifications for those seeking admission for the course of midwives. But there was no response from the Home Government. However, it approved the establishment of an Institute of Bacteriology. The purpose was to investigate the causes of various epidemics that occurred regularly in Goa. The Institute was established in 1907. The school was still being governed by decrees issued in the nineteenth century.

An apparent lack of interest from the Government prompted some members of the school council to discuss its future. They suggested that the Government should close down the school. However, the Director Dr. Miguel Caetano Dias and some others opposed the move. The Director submitted fresh proposals to the Government. He stressed the pioneering work done by the school in training young doctors and expressed regret about the attitude of the Government. Many young Goans preferred to join medical schools in Bombay. After the British had made themselves the undisputed masters of the Indian sub-
continent Goa had lost its importance. Besides medical schools, Bombay offered better facilities for training. The Director of Goa Medical School warned the authorities that this exodus would encourage decolonization. Further, it was suggested that Goa was the right place for the teaching of tropical medicine.26

The issue was discussed in the Portuguese Parliament. It was suggested that the school be closed down if it did not meet the required standards. In lieu of the school some deputies recommended granting of scholarships to Goans to pursue their medical studies in Portugal. The Portuguese press also expressed its opinion. It stressed the need to train doctors in their own environment. Teaching of tropical disease could be imparted better in tropical countries.27

The discussions and appeals resulted in three orders being issued by the Government between 1913-1919. They allowed adhoc changes in the school curriculum. The medical course included 16 disciplines to be taught during five years with seven teachers, one substitute teacher and two assistant teachers. Descriptive anatomy, physiology and histology was to be taught in the first year. In the second year the students would learn all about topographic anatomy, human physiology and microbiology. During the third year the students learnt pathological anatomy and dermatology, materia medica, external
pathology, general pathology and pharmacology -- both theory and practicals. Internal pathology, exotic pathology, surgery and hygiene was to be taught in the fourth year. Finally, in the fifth year the student learnt all about clinical medicine, clinical surgery, obstetrics, gynecology and general medicine. 28

The school was still experimenting with various disciplines of medicine and as a result many new disciplines were included from time to time while some existing ones were dropped.

In 1922 the School Council proposed certain changes in the existing decree of 11th October 1865, probably because it found some deficiencies and revision was necessary to meet the needs of the time. The changes gave extra powers to the School Council, such as to approve the teaching plan prepared by the teaching staff for each academic year. This plan had to be published 15 days before the new academic year. The Council was empowered to issue passing certificates to those who completed their studies in medicine and pharmacy as well to award prizes to the students. In the beginning of each academic year the teaching staff was to be given a time table. Each teacher was to be given a maximum of nine teaching hours. Teachers who failed to enter a class room within 15 minutes after the bell were to be marked absent. Any teacher who was
absent 20 times without any explanation would lose one third of their teaching allowance. The teaching staff was asked to sign the muster daily and to write down the work discussed in the class. The amount to be collected from the students for issuing a decree was fixed by the legislation. It also revised the fees to be paid by the students. Admission fees for the medical course was 34:04:07 each year. The degree of medico cirurgião was granted for 85:11:05. (Rs. tgs. rs.).

The library was put in charge of a substitute teacher who was responsible to the school council. Newspapers and journals were not to be issued to the staff. Any staff member who wished to take a book home from the library had to apply for the same in writing. Reference books could be issued to the teachers only during summer holidays. Other books could be issued for 15 days and reissued if there was no claim from others.

In case all the students stayed away from a class the teacher could consider the matter as done. This step was taken so that the curriculum was not affected due to the absence of the students. Each lecture was of ninety minutes. The first thirty minutes were for revision of the matter discussed in the previous lecture. In each subject there were three lectures per week. However, the practicals were to be held daily. Students missing 10 lectures in each subject of three
weekly lectures or 20 in subjects with six weekly lectures
without proper reason would not be allowed to appear for
examination in the subject. The Council and the teachers were
warned not to help the students in this matter.

There were written and practical examinations. All
final examinations had to begin in March. Each student had to
submit a dissertation. A committee was appointed to go
through the matter. The presiding member was to be paid Rs.10
and other members received Rs.5 each. The guide of the student
could not be a member of this committee.

The medical course now consisted of eighteen disci-
plines. In the first year the students were taught descriptive
anatomy, general physiology and histology. In the second year
students learnt all about topographic anatomy, human physiolo-
gy, and microbiology. Pathologic anatomy, dermatology, materia
medica, external pathology and propedeutica cirurgica was done
in the third year together with general pathology, theo-
retical pharmacology and practicals. In the fourth year inter-
nal pathology, propedeutica medica, exotic pathology, surgery,
general hygiene and demographic sanitation, climatology and
intertropical hygiene and practicals was taught. Finally, in
the last year they learnt about medicine, clinical sur-
gery, obstetrics, gynecology and general medicine. This
course was to be conducted by eight full-time teachers, one substitute teachers and three assistant teachers.

A new curriculum for the school was proposed in 1927 by Dr. Froilano de Mello, the Director of the School. In this curriculum the medical course would be spread over six years with 21 subjects including physics, zoology, biology and bio-chemistry. Dr. de Mello suggested the introduction of specialized courses in ophthalmology, E.N.T., physiotherapy, pediatrics, venereal diseases and the study of Ayurvedic medicine. These courses were thought necessary because otherwise in their absence the sick had to avail themselves of facilities in far away places in British India.

The teaching staff of the medical school was burdened with the work in the school, hospital and the health services. In 1946 the teaching staff of the school succeeded in their attempts to separate the school from the Health Services. The Goa Medical School was made an autonomous body with Dr. Germano Correia as its Director. A new plan of reform was approved by the Ministry of Overseas Colonies. The new course was spread over five years. The school was granted permission to engage assistant professors and substitute professors in addition to full-time professors. Nevertheless, the teaching staff continued to be overburdened with work in the hospital.
In 1946 the Goa Medical School was provided with a new curriculum. In a five-year course the students were taught anatomy, histology, embryology, physiology, bacteriology, medical zoology, pharmacology, surgery, medicine, climatology, hygiene, endemology, legal medicine, obstetrics-gynecology and orthopedics. The Pharmacy course was also reorganized. The school still lacked proper facilities. Some of the existing laboratories remained with the Health Services. The grants from the Government were too small to meet the needs of the time.

The planned transfer of laboratories from Health Services to the Medical School did not materialize. Attempts were made in 1952 to transfer them to one centrally located building so that both the institutions could use them. This attempt also failed. Finally in 1958 the Ministry of the Overseas Colonies determined the following:

The laboratory for clinical analysis and bacteriology, the laboratory of chemical analysis, bramatology, toxicology as well the X-rays and physiotherapy units were to be attached to Goa Medical School. As soon as these laboratories started functioning, the laboratory of analysis established in 1952 was to be closed down. The staff working in this unit as well in the X-rays unit (started in 1944) were to be transferred to the new laboratories with the same designation.
The laboratory of clinical analysis would have a director, assistant doctor, two laboratory assistants, one clerk and two peons. The laboratory of chemical analysis would be in charge of a Director with one assistant doctor, one mechanic cum photographer, one male nurse, one female nurse and two peons. The posts of assistant doctors were to be filled with graduates from Portugal or Goa Medical School. The selection was to be done through interviews. The post was on contract basis. The post of the pharmacist was also to be filled in the same manner. Technical qualifications were required for the post of a technician. In case qualified candidates were not available the post was to be filled with candidates having 5th year of Lyceum.

In 1949 the school received large grants from the government for, equipment diets and medicine. Between 1949-1959 several decrees were issued to introduce changes in the curriculum. Due to a fire in 1957 several laboratories were destroyed. At the end of the Portuguese regime there were plans to put up a new building for the school but could not be implemented due to a change of regime.

II. EMINENT DOCTORS

Goans have made a distinct contribution in the sphere of medicine since the early eighteenth century and they have
continued it till today. They have contributed as general practitioners and as specialists in various branches of medicine. They have worked to eradicate contagious diseases and have devoted themselves to valuable research in the field of medicine, not only in Goa but outside the territory. Joaquim Francisco Colaço, Caetano Florencio Colaço, Caetano Francisco Xavier, Bossuet da Piedade Rebelo, Joaquim Bernadino de Santana Pinto, Antonio Micael de Azaredo and others worked in Portuguese colonies of Africa to eradicate several epidemics. Doctors in medicine enjoyed great prestige in early days. Some doctors who graduated from the medical school did not practise as doctors. They involved themselves in non-medical work, probably because it was potentially lucrative or it appealed to them. These doctors became famous in administrative field, politics, anthropology, economic and cultural life. Thus for instance, Francisco Luis Gomes, Gerson da Cunha, Nicolau Fonseca, Blasio Paes, Constancio Mascarenhas, Mariano Saldanha and Roque Correia Afonso. Many of them might have joined the medical profession, not because they were inclined towards the profession, but due to the fact that higher academic courses were very limited or to keep up the tradition in the family. Besides, the title of doctor was considered prestigious. Such doctors have not been included in this study. As in Portugal, Goa also has a tradition of "doutores" without a degree from a medical school or any college for that matter.
This chapter only includes medical doctors who became known for their work in the medical field. It has not been possible also to include all eminent doctors due to lack of reliable information. Majority of doctors were Christians. There were very few Hindus in the profession. It could be due to the restrictions imposed by the varna and the belief that touching a dead body was "polluting".

a) Trained in Goa --- working in or outside Goa

Goans not only earned fame at home but also in the international field. The first Goan doctors trained in the Royal Hospital who crossed the seas were Vicente Dias Ataide from Taleigão, Antonio Fernandes from Ribandar, Mateus Pereira and Manuel de Conceição, both from Panjim.

Agostinho Vincente Lourenço (1822-1896) from Margão was one of the first students of Goa Medical School. After completing his medical studies he joined Goa Medical School. His great desire was to go for further studies in Portugal but he could not afford it. A scholarship of Camaras Agrarias enabled him to go to Portugal and another scholarship helped him to study in Paris. Agostinho Vicente Lourenço worked under renowned scientists Wurtz and Bunsen. In 1855 he made impor-
tant discoveries on the derivatives of glycol and glycerin and polyhydric alcohols. He took a degree in engineering and returned to Portugal to teach there. He organized the chemistry department of the University of Lisbon. He undertook a series of chemical analyses of the mineral waters of Chaves, Vizela and Vidago (Portugal). His research was presented at a scientific session at the University exhibition in Paris. The Portuguese Government gave him an award for his work. 32

Augusto Carlos de Lemos was the precursor of preventive quininism. This prophylactic which he used in Goa in 1869 was put into practice on a wider scale half a century later by the French during the First World War in the course of the Macedonian campaign.

Jose Antonio Valeriano Coutinho from Aldona completed his studies in 1876. He worked in the island of Cabo Verde and organized an excellent plan to eradicate smallpox in the colony. At this time graduates from Goa Medical School were not allowed to practise in Portugal, neither they were promoted to grade I in the colonies. Valeriano fought against this discrimination. Portuguese whites in the colonial armies were promoted without having any studies, while the doctors graduated from Goa Medical School were not promoted to more than a lieutenant in the army. 33
Jose Pedro Ismael Sertorio Caridade Moniz was the first to use with successful results an arsenic compound in tripanosomiasis human, revealing thereby a rare clinical knowledge of a sickness, the etiology of which was unknown. Moniz was also the first to combine arsenic with iodine just as Moore and others had combined it with atotoxil. 34

Luís Caetano Santana Alvares was in the health cadre of Guine and Mozambique. He was born in Margão. In 1888 he graduated from Goa Medical School with brilliant academic record. He did equivalent medical studies in the city of Oporto (Portugal). He worked to eradicate plague. He also rendered his services during the military operation at Geba and Bissau. The Portuguese Government honoured him with awards of Torre e Espada, medals of Christo e Avis and a gold medal for his outstanding work in the Overseas colonies. He retired in 1910 as medical captain in the army. 35

João Vicente Santana Barreto born in Margão died in 1913 at Lisbon. He studied medicine at Goa Medical School and later studied in Portugal. He was appointed to lead the committee to inquire about sleeping sickness at Guine for which he was honoured. His important works are: A tripanossomiasis humana na Guine Portuguesa, O beriberi na Guine Portuguesa, Historia de Guine, Insectos Henatofogos de Goa.
Encefalite Tuberculosa e Menigite celestial para meningocica, Plague in Portuguese India, Estudos Epidemiologico sobre a peste na India Portuguesa, Os Indios e as Farpas.  

Francisco Antonio Wolfango da Silva was the Director of Health Services of Portuguese India between 1915-1926. He studied at Goa Medical School, later he repeated his medical studies in Lisbon. Wolfango da Silva acquired an additional degree in pharmacy. Before joining the Goa Medical School as a professor he worked in the health cadre of Angola. He was the first surgeon to perform operations for strangulated hernia and laparastomy in Goa. Francisco Wolfango da Silva took an active part in the campaign against plague that broke out at Ribandar (Ilhas) in the early twentieth century. A good orator and writer, he was born in 1864 at Nova Goa. He was given several awards by the Portuguese Government for his work to end the epidemics of smallpox in the island of S. Tiago, cholera in Salcete (Goa) and Daman.

Pedro Joaquim Peregrino da Costa (1890-1960) born in Navelim, Goa, completed his medical studies in 1912 and equivalent studies in Lisbon. He studied also at the Institute of Histology of the Faculty of Medicine Lisbon. Peregrino Costa specialized in problems of digestion and heart at a well known hospital of Paris. In 1916 he joined the health cadre
of Macau and worked to eradicate meningitis and cholera from the area. He organized also units for leprosy, tuberculosis and pediatrics at Macau. He attended the Congress of Far Eastern Association of Tropical Medicine at Tokyo in 1925, at Calcutta in 1927 and at Hong Kong in 1938. The Portuguese Government awarded him Ordem de Avis and Benemerencia. He started Boletim Sanitário de Macau and has a number of works to his credit.39

Jose Camilo Aires da Conceição Sa from Nova Goa hailed from a family of doctors. Born in 1882 he obtained a degree from Goa Medical School in 1907. He specialized in equivalent medical studies with distinction at the University of Oporto. His thesis entitled "Hygiene de Panjim" was published in Goa. He acquired a diploma in Tropical Medicine from Lisbon. This diploma was a requirement to all desiring to join health services. After a brief stint in Portuguese colonies of Macau and Timor he was transferred to Goa Medical School as a professor. During the First World War he took active part in the plague campaign in Margão where he was posted as special doctor in the Health Board. The precautionary measures taken by him helped to control plague and improve the health and hygiene of the town. Since it was war time it was not possible to easily import machines. The small sulfur disinfection Clayton type of machine owned by the Health Department was required at the outpost of Colem. This led Aires de Sa to
improvise a machine which could be manufactured locally. This machine was named Airiston. The same was later imitated by Dr. Ed. Bonjean of Paris who named it Notial. Aires de Sa modified Willets pincers used in Obstetrics and was responsible for starting the department of radiology and electrotherapy.

Antonio Augusto T.R.do Rego son of João Filipe do Rego was born in 1887 at Nova Goa. He was professor at Goa Medical School and took an active part in campaign against plague that broke out in Margão during the First World War.

Froilano de Mello born in 1887 at Benaulim (Goa) concluded his medical studies in Goa, and later repeated the course at Oporto (Portugal). In 1910 he returned to Goa with an additional diploma in Tropical Medicine of the University of Lisbon. He joined the Goa Medical School and also took charge of the Bacteriological Institute -- a small shed in Campal (Goa) which became the center of his great activities as scientist. In his research with a microscope Froilano de Mello discovered thousand of protozoa, parasites and microbes which today bear the Latin names given by him, followed by his own surname de Mello, as the discoverer. He published more than 200 research papers on bacteriology in Portuguese, French and English journals. He was colonel in the army and was later appointed Director of Health Services of Portuguese India.
from 1927-1947. He was the Dean of Goa Medical School. In 1945 he was elected member of the Portuguese Parliament. 42

Froilano de Mello worked to eradicate tuberculosis in Goa and malaria from Old Goa. Due to his efforts two important institutions were established namely the Leprosarium at Macasana (Salcete) today known as Leprosaria Froilano de Mello and Dispensario Virgem Peregrina at St. Inez (Panjim). He succeeded in opening a ward for lepers in Daman. He headed a Portuguese delegation to the World Leprosy Conference in Cuba and attended at least 37 World conferences. The President of Cuba honoured him with the Grau de San Martin. Pope Paul IV and Queen Juliana of Netherlands awarded him medals of honour. Froilano de Mello was a great orator and always in demand to raise toasts for Goan weddings. His work in French entitled A la veille du Centenaire describes in a nutshell the contribution of Goa Medical School during the first hundred years of its establishment. 43 Froilano de Mello was responsible for introducing measures to improve urban sanitation including the establishment of Sanitary Police in the capital town. 44

Alberto Carlos Germano da Silva Correa doctor of the military corps, professor and Director of Goa Medical School was born in Nova Goa in 1888. He studied in Goa and Oporto and acquired additional diploma in Tropical Medicine before joining the teaching staff of Goa Medical School in 1912. In
1946 when the Health Services were separated from Medical School he was appointed the Dean of Goa Medical School. He attended various medical conferences in Lisbon, London and Cairo. He was interested in anthropology, history, ethnography and climatology. He has written more than twenty papers and several books on health and hygiene of Goa and Angola. He was awarded many medals by the Portuguese Government and the Pope. He reached the rank of colonel in the Portuguese army.

João Manuel Pacheco de Figueiredo (1901-1990), the last Dean of Goa Medical School and the first Dean of Goa Medical College was born in Margão. Pacheco de Figueiredo studied medicine in Goa and Coimbra. He obtained also a diploma in Tropical Medicine in Lisbon. After a brief stint in Mozambique, he joined the Goa Medical School as professor. In late 1940's Pacheco Figueiredo was appointed the Director of Goa Medical School. He occupied several honorary posts and attended many conferences and congresses. He represented Goa Medical School in 1952 at the Luso-Spanish Congress held at Coimbra, International Congress of Tropical Medicine at Lisbon in 1953, VI Medical Conference in Pakistan. He represented the Portuguese Government at the following conferences: At the second, third, fourth and fifth South East Regional Conferences of W.H.O. held in different parts of Asia in 1949, 1950, 1951 and 1952, at the first National Congress of Tropical Medicine Lisbon 1952, third Medical Conference of Pakistan in 1953, the
first World Conference of Medical Education in 1953 at London, IV Congress of International Society of Hematology Boston 1956; VI International Congress of Blood Transfusion and the IX Annual Meeting of American Association of Blood Bank in 1956. In 1953 he visited France, Spain and Switzerland as a scholar of W.H.O. Pacheco de Figueiredo was a member of many medical associations including Academia das Ciencias e do Instituto de Coimbra, Sociedade das Ciencias Medicas de Lisboa and Instituto Brasileira de Historia da Medicina da Goa. He has a number of papers to his credit. He was doctor of Medicine Honoris Causa from Coimbra University 1961.46

Escolastica Gracias e Amaral Peres born in 1904 was Director of Hospicio de Sagrado Coração, Margão. She studied medicine at the University of Lisbon and obtained an additional diploma in Tropical Medicine from Lisbon. She was a professor of the midwifery course. Her thesis on leprosy was published in Lisbon.

Fernando Albuquerque was born in Panjim in 1910. He graduated from Goa Medical School in 1932 and from the Faculty of Medicine of Lisbon in 1936. Later he obtained a diploma in Tropical Medicine in Lisbon. In 1948 he was appointed professor in Goa Medical School. In 1957 he represented this school at the third Congress of P.I.O.S.A of Indian Ocean held at Madagascar, where he read a paper enti-
continued it till today. They have contributed as general practitioners and as specialists in various branches of medicine. They have worked to eradicate contagious diseases and have devoted themselves to valuable research in the field of medicine, not only in Goa but outside the territory. Joaquim Francisco Colaço, Caetano Florencio Colaco, Caetano Francisco Xavier, Bossuet da Piedade Rebelo, Joaquim Bernadino de Santana Pinto, Antonio Micael de Azaredo and others worked in Portuguese colonies of Africa to eradicate several epidemics. Doctors in medicine enjoyed great prestige in early days. Some doctors who graduated from the medical school did not practise as doctors. They involved themselves in non-medical work, probably because it was potentially lucrative or it appealed to them. These doctors became famous in administrative field, politics, anthropology, economic and cultural life. Thus for instance, Francisco Luis Gomes, Gerson da Cunha, Nicolau Fonseca, Blasio Paes, Constancio Mascarenhas, Mariano Saldanha and Roque Correia Afonso. Many of them might have joined the medical profession, not because they were inclined towards the profession, but due to the fact that higher academic courses were very limited or to keep up the tradition in the family. Besides, the title of doctor was considered prestigious. Such doctors have not been included in this study. As in Portugal, Goa also has a tradition of "doutores" without a degree from a medical school or any college for that matter.
This chapter only includes medical doctors who became known for their work in the medical field. It has not been possible also to include all eminent doctors due to lack of reliable information. Majority of doctors were Christians. There were very few Hindus in the profession. It could be due to the restrictions imposed by the varna and the belief that touching a dead body was "polluting".

a) Trained in Goa --- working in or outside Goa

Goans not only earned fame at home but also in the international field. The first Goan doctors trained in the Royal Hospital who crossed the seas were Vicente Dias Ataide from Taleigão, Antonio Fernandes from Ribandar, Mateus Pereira and Manuel de Conceição, both from Panjim.

Agostinho Vicente Lourenço (1822-1896) from Margão was one of the first students of Goa Medical School. After completing his medical studies he joined Goa Medical School. His great desire was to go for further studies in Portugal but he could not afford it. A scholarship of Camaras Agrarias enabled him to go to Portugal and another scholarship helped him to study in Paris. Agostinho Vicente Lourenço worked under renowned scientists Wurtz and Bunsen. In 1855 he made impor-
tant discoveries on the derivatives of glycol and glycerin and polyhydric alcohols. He took a degree in engineering and returned to Portugal to teach there. He organized the chemistry department of the University of Lisbon. He undertook a series of chemical analyses of the mineral waters of Chaves, Vizela and Vidago (Portugal). His research was presented at a scientific session at the University exhibition in Paris. The Portuguese Government gave him an award for his work. 32

Augusto Carlos de Lemos was the precursor of preventive quininism. This prophylactic which he used in Goa in 1869 was put into practice on a wider scale half a century later by the French during the First World War in the course of the Macedonian campaign.

Jose Antonio Valeriano Coutinho from Aldona completed his studies in 1876. He worked in the island of Cabo Verde and organized an excellent plan to eradicate smallpox in the colony. At this time graduates from Goa Medical School were not allowed to practise in Portugal, neither they were promoted to grade I in the colonies. Valeriano fought against this discrimination. Portuguese whites in the colonial armies were promoted without having any studies, while the doctors graduated from Goa Medical School were not promoted to more than a lieutenant in the army. 33
Jose Pedro Ismael Sertorio Caridade Moniz was the first to use with successful results an arsenic compound in tripanosomiasis human, revealing thereby a rare clinical knowledge of a sickness, the etiology of which was unknown. Moniz was also the first to combine arsenic with iodine just as Moore and others had combined it with atotoxil.\textsuperscript{34}

Luís Caetano Santana Alvares was in the health cadre of Guine and Mozambique. He was born in Margão. In 1888 he graduated from Goa Medical School with brilliant academic record. He did equivalent medical studies in the city of Oporto (Portugal). He worked to eradicate plague. He also rendered his services during the military operation at Geba and Bissau. The Portuguese Government honoured him with awards of Torre e Espada, medals of Christo e Avis and a gold medal for his outstanding work in the Overseas colonies. He retired in 1910 as medical captain in the army.\textsuperscript{35}

João Vicente Santana Barreto born in Margão died in 1913 at Lisbon. He studied medicine at Goa Medical School and later studied in Portugal. He was appointed to lead the committee to inquire about sleeping sickness at Guine for which he was honoured. His important works are: \textit{A tripanossomiasis humana na Guine Portuguesa}, \textit{O beriberi na Guine Portuguesa}, \textit{Historia de Guine}, \textit{Insectos Henatorogos de Goa}, \textit{...}
Francisco Antonio Wolfango da Silva was the Director of Health Services of Portuguese India between 1915-1926. He studied at Goa Medical School, later he repeated his medical studies in Lisbon. Wolfango da Silva acquired an additional degree in pharmacy. Before joining the Goa Medical School as a professor, he worked in the health cadre of Angola. He was the first surgeon to perform operations for strangulated hernia and laparastomy in Goa. Francisco Wolfango da Silva took an active part in the campaign against plague that broke out at Ribandar (Ilhas) in the early twentieth century. A good orator and writer, he was born in 1864 at Nova Goa. He was given several awards by the Portuguese Government for his work to end the epidemics of smallpox in the island of S. Tiago, cholera in Salcete (Goa) and Daman.

Pedro Joaquim Peregrino da Costa (1890-1960) born in Navelim, Goa, completed his medical studies in 1912 and equivalent studies in Lisbon. He studied also at the Institute of Histology of the Faculty of Medicine Lisbon. Peregrino Costa specialized in problems of digestion and heart at a well-known hospital of Paris. In 1916 he joined the health cadre.
of Macau and worked to eradicate meningitis and cholera from the area. He organized also units for leprosy, tuberculosis and pediatrics at Macau. He attended the Congress of Far Eastern Association of Tropical Medicine at Tokyo in 1925, at Calcutta in 1927 and at Hong Kong in 1938. The Portuguese Government awarded him Ordem de Avis and Benemerencia. He started Boletim Sanitario de Macau and has a number of works to his credit. 39

Jose Camilo Aires da Conceição Sa from Nova Goa hailed from a family of doctors. Born in 1882 he obtained a degree from Goa Medical School in 1907. He specialized in equivalent medical studies with distinction at the University of Oporto. His thesis entitled "Hygiene de Panjim" was published in Goa. He acquired a diploma in Tropical Medicine from Lisbon. This diploma was a requirement to all desiring to join health services. After a brief stint in Portuguese colonies of Macau and Timor he was transferred to Goa Medical School as a professor. During the First World War he took active part in the plague campaign in Margão where he was posted as special doctor in the Health Board. The precautionary measures taken by him helped to control plague and improve the health and hygiene of the town. Since it was war time it was not possible to easily import machines. The small sulfur disinfection Clayton type of machine owned by the Health Department was required at the outpost of Colem. This led Aires de Sa to
improvise a machine which could be manufactured locally. This machine was named Airiston. The same was later imitated by Dr. Ed. Bonjean of Paris who named it Notial. Aires de Sa modified Willets pincers used in Obstetrics and was responsible for starting the department of radiology and electrotherapy. 40

Antonio Augusto T.R. do Rego son of João Filipe do Rego was born in 1887 at Nova Goa. He was professor at Goa Medical School and took an active part in campaign against plague that broke out in Margão during the First World War.

Froilano de Mello born in 1887 at Benaulim (Goa) concluded his medical studies in Goa, and later repeated the course at Oporto (Portugal). In 1910 he returned to Goa with an additional diploma in Tropical Medicine of the University of Lisbon. He joined the Goa Medical School and also took charge of the Bacteriological Institute -- a small shed in Campal (Goa) which became the center of his great activities as scientist. 41 In his research with a microscope Froilano de Mello discovered thousand of protozoa, parasites and microbes which today bear the Latin names given by him, followed by his own surname de Mello, as the discoverer. He published more than 200 research papers on bacteriology in Portuguese, French and English journals. He was colonel in the army and was later appointed Director of Health Services of Portuguese India.
from 1927-1947. He was the Dean of Goa Medical School. In 1945 he was elected member of the Portuguese Parliament. Froilano de Mello worked to eradicate tuberculosis in Goa and malaria from Old Goa. Due to his efforts two important institutions were established namely the Leprosarium at Macasana (Salcete) today known as Leprosaria Froilano de Mello and Dispensário Virgem Peregrina at St. Inez (Panjim). He succeeded in opening a ward for lepers in Daman. He headed a Portuguese delegation to the World Leprosy Conference in Cuba and attended at least 37 World conferences. The President of Cuba honoured him with the Grau de San Martin. Pope Paul IV and Queen Juliana of Netherlands awarded him medals of honour. Froilano de Mello was a great orator and always in demand to raise toasts for Goan weddings. His work in French entitled A la veille du Centenaire describes in a nutshell the contribution of Goa Medical School during the first hundred years of its establishment. Froilano de Mello was responsible for introducing measures to improve urban sanitation including the establishment of Sanitary Police in the capital town.

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Pondarinath S. Borcar from Ponda completed his studies at Goa Medical School in 1934. He practised for a while in a private nursing home at Gogol, Margão before joining the Health Services of Portuguese India. In 1950 he was one of the two doctors selected by W.H.O to undergo training at the Malaria Institute at Delhi. He was in charge of Malaria campaign in Sanguem. In 1960s when the Malaria department was established in the Health Services he was put in charge of the department. In 1955 he attended the W.H.O. conference at New Delhi and Bandung. Pondarinath Borcar is still an active clinician. He has many published papers and he is the author of a Marathi book on some problems of health during the Portuguese rule in Goa.

Jose Filipe P. Fernandes Mesquita, born at Benaulim (Goa) in 1910 was Deputy Director of the Health Services of Portuguese India. He graduated at Goa Medical School at the age of 22 with several prizes. He did his post graduate studies under W. H. O. fellowships. In 1952 he acquired a diploma in Public Health from Calcutta and received training in control of tuberculosis at Dacca in 1955. In 1961 he received training in Public Health Administration in Puerto Rico and Brasil. Jose Filipe Mesquita was put in charge of
campaign against Filarasis. He was one of the two delegate who represented Portugal the at the W. H. O. conference at Bangkok and Kandy. He attended also the First Conference on Malariology in Bangkok (Thailand) held in 1953. He has published papers on medical subject in Goa and Portugal.

Francisco C. T. da Silva was born in Benaulim, Goa in 1911. He completed his medical studies at the Goa Medical School in 1935 with a gold medal and several prizes in microbiology, physiology, obstetrics-gynecology and hygiene. He studied at the Institute of Tropical Medicine in Lisbon before joining the Health Services of Portuguese India. In 1950 he was sent by the Government on a W. H. O. scholarship to the Malaria Institute in New Delhi for a course in malaria. After further training in Bombay and Orissa he was posted at Canacona (Goa) to eradicate malaria which was done successfully. Few years later he was posted at Quepem for the same purpose. In 1953 he attended the first International Conference on Malaria organized by W. H. O at Bangkok and later together with Dr. Jose Filipe Mesquita attended the W.H.O. meeting held at Bangkok as a delegate of Portugal. He was in charge of campaign against smallpox in Goa and has contributed papers to the Anais de Medicina Tropical, Lisboa.
Emidio Afonso (1916-1990), son of Bossuet Afonso from Betalbatim, comes from a family which has given Goa several eminent doctors. After graduating from Goa Medical School in 1938, he was a Government analyst, the first Principal of the Pharmacy College, professor of Biochemistry, Director of Public Health Laboratory and Director of Health Services. A modest person, he was a good clinician. In 1959 the local Government sent him on a one year W.H.O. scholarship to study in New York. Emidio Afonso published no less than one and half dozen papers in renowned international journals such as *Nature*, *The Lancet*, *Immu**nochemistry* a journal of clinical Pathology and the *Clinica Chimica Acta*. He reconstructed a simpler version of J.C. Bose's crecograph, an instrument to find the sensitivity of plants. His major work *Cor In Vitro* contains experimental studies in embryology, histology, physiology and pathology of the heart. He wrote a number of papers for *Boletim do Instituto Vasco de Gama*.

Skoda Afonso, brother of Emidio Afonso, was born in November 1923. After studying in Goa Medical School, he went for further studies to U.S.A. In 1965 he was awarded a doctorate in physiology by the University of Wisconsin. He became the Associate professor for cardiovascular physiology at the same University. Skoda Afonso developed a method for measurement of coronary blood flow.
Goans from Goa Medical School have distinguished in the army right from Pedro Gonzaga de Melo, one of the first eight students of the school. Caetano Florencio Colaço, Albino Pascoal de Rocha, Jose Antonio Valeriano Coutinho, Luis Fernando Colaço, Feliciano Primo de Menezes, Antonio Maciel de Azaredo, Joaquim Francisco da Silva, Afonso Aniceto de Souza, Graciano Andre Ribeiro de Santana, Cosme Valerio Dalgado, Domingos Joaquim Menezes. Caetano Francisco Xavier Bossuet da Piedade Rebelo, Miguel Dias, Aires de Sa, Victor Dias, Froilano de Mello, Germano Correia, Pedro Joaquim Peregrino da Costa are some of the many Goan doctors who were in the army.

Aristides da Costa, Jose Pedro Godinho, Demostenes Mascarenhas, Caetano Rosario Dantas, Joaquim Lourenço de Araujo, Luis Cabral, João Filipe de Souza, Octaviano Moniz, Arminio Ribeiro de Santana, Sacarama Gude, Honorato Sousa, Pestaninho de Veiga, Jose Inacio de Loiola, Pedro Joaquim Peregrino Costa, Elinio Colaço, Sales de Veiga Coutinho, Manuel da Veiga Coutinho, Atmarama Borcar were known clinicians. Antonio Colaço was another great clinician who became a member of the Indian Parliament. Many of the students were health officers throughout the Portuguese regime. Some where doctors of the hospitals, Municipalities and partido (Communidades).
b) Doctors who worked in Goa

Garcia d'Orta, the renowned physician was born at Elvas in Portugal. He was given license to practice by the Chief Physician of Castelo de Vide after appearing for a test. He came to India in 1534 as the Chief Physician of the State. He carried detailed research in India, especially concerning the use of various medicinal plants. He is well known for his famous work *Os Colloquios dos Simples e Drogas.*

Francisco Manuel Barroso e Silva arrived in Goa as the Chief Surgeon in 1786. He brought along with him from Portugal a number of instruments to be used in the Military Hospital and for the teaching of medicine to the natives.

Antonio Jose de Miranda Almeida studied at the University of Coimbra where he taught for a while before coming to India. He was responsible for starting a three years course in Medicine at the Royal Hospital at the city of Goa.

Antonio Jose de Lima Leitão, a graduate in medicine from the University of Paris occupied several posts in Portugal and Mozambique before coming to India as the Chief Surgeon of the State. He started the four year course in medicine at the Royal Hospital. Later he had to resign from his post as he got involved with political activities of the time which were
directed against the Government. He has written a number of papers in medicine and translated some books. 52

Mateus Cezario Rodrigues Moacho, a graduate in medicine from the University of Lisbon, received his doctorate from the University of Lovama. He improved the conditions of the Military Hospital of Goa. It is on his advice that the local Government decided in 1840s not to issue licenses to individuals desiring to practise as doctors unless they appeared for a test.

Francisco Stuart da Fonseca Torrie arrived in India in 1862 and was appointed to the post of Director of Health Services in 1871. He has many works to his credit on maritime hygiene, environmental hygiene, military hygiene, cholera and prostitution in Portuguese India. He was given many awards by the Portuguese Government for his contribution to health. 53

Rafael Antonio Pereira, the first Goan to be given charge of the Health Services of Portuguese India, was born at Benaulim in 1847. A graduate in medicine from the University of Lisbon he worked in the Portuguese navy as doctor of grade II before he was transferred to Goa in 1875. He was appointed acting Director of Health Services in 1884 and he was confirmed in this post in 1885. In 1896 he was transferred to the Portuguese colonies of Cabo Verde and Guine as the
Director of Health Services. The following year he was promoted in the army as colonel. He was awarded a silver medal for good behaviour and the award *Real Órdem de S.Bento de Aviz* in 1897.54

Caetano Antonio Claudio Julio Raimundo da Gama Pinto a famous ophthalmologist and professor of the University of Lisbon, was born in 1853 at Saligão (Goa). He did his secondary education in Goa and Portugal. He passed his medical course with distinction from the University of Oporto. Very keen in learning ophthalmology he visited Paris, Munich, Leipzig, Halle and Berlin. In Paris he worked under famous doctor Wecker, in Heidelberg he studied under Kuchne and Arnold and in Viena he specialized with famous ophthalmologists Arlt and Jacger. In 1880 he joined the Goa Medical School as a professor, but soon thereafter he was invited by professor Otto Becker to work with him in Germany, where he was appointed lecturer of ophthalmology and ocular surgery at the University of Heidelberg. After ten years he returned to Portugal and set in 1892 the Institute of ophthalmology, today named after him. He was member of various associations and contributed a number of papers to reputed medical journals of Portugal, Germany, France and United States.55
Roberto Belarmino do Rosario Frias (1853-1918) from Arpora was a well known surgeon born in 1853. He studied at Oporto and later he returned to Goa. He taught at Goa Medical School for some time. In 1887 he joined the medical school of Oporto and was promoted to the post of professor of clinical surgery. He wrote *Compendio de Quimica*. His other works were in the field of tuberculosis, filaria, peritonitis, influenza, etc. He died in 1918.56

Miguel Caetano Dias (1854-1936) was the Director of Health Services of Portuguese India and Goa Medical School. He was the last Goan General when he died in 1936. He studied medicine at the Faculty of Medicine of the University of Lisbon and joined the military medical cadre of Mozambique. The Portuguese Government bestowed on him several honours including the medal given by Queen Amelia. Miguel Dias was responsible for eradicating the bubonic plague from Panjim in 1908.57 His son Antonio born in 1898 was a medical graduate from the University of Lisbon. He was well known as surgeon and Director of Hospicio de Sagrado Coração, Margão. It is said that Antonio Dias found a new cure for polio. Miguel Caetano's other son Victor (1892-1949) studied medicine at the University of Lisbon. "The anti-social reaction of the alcoholics" was his theme for the doctoral thesis for which he was awarded the degree of *Doutor em Medicina e Cirurgia* by the University of Lisbon. He obtained an additional
diploma in Tropical Medicine before joining the health cadre of Angola. In 1923 he was transferred to Goa as the professor of surgery, physiology and histology. He was Director of the Health Services in late 1940s. Victor Dias was entrusted by the Portuguese Government with the Sanitation Scheme at Old Goa, which he successfully concluded before his death in 1949. 58

Bossuet Afonso (1880-1957) son in law of Miguel Caetano Dias, became well known for his famous thesis entitled "The action of X-rays on the eye", for which he won the Benemerenti medal awarded by the University of Wuerzburg (Germany) and was granted the title of professor of the same university. This title was not granted to a foreigner until that time. He proved that lens of the eyes were subject to the damage of the X-rays. Another important work of this doctor was The thyroid gland and Haemolysis of puerperal streptococci. Bossuet Afonso studied at the Universities of Viena, Berlin, Wuerzburg and Heidelberg. He has several contributions to his credit. During the First World War he rendered medical care to German soldiers in Goa.

Adelia Costa was the first woman neurologist in Portugal. Born in 1928 at Loutolim, Goa, she joined the Goa Medical School where she completed second year of medicine and proceeded to Lisbon to study medicine there. She joined the
Faculty of Medicine of the University of Lisbon and graduated from there in 1952. In the same year she joined as an intern in *Hospitais Civis de Lisboa*. In 1953 she passed one year diploma course in Tropical Medicine at the Institute of Tropical Medicine of Lisbon and the following year she obtained licentiate in Public Health from *Instituto Superior de Hygiene Dr. Ricardo George*, Lisbon. At this time it was common for women doctors in Portugal to specialize either in pathology or gynecology or pediatrics. However, Adélia Costa chose a different branch for her specialization which no women in Portugal had so far joined. She specialized in Neurology at *Hospital dos Capuchos* and appeared for a test from *Ordem dos Medicos*. She took a keen interest in clinical electroencefalography. She practised in *Hospital Julio Matos* (a hospital dealing with mental problems) before returning to Goa in 1958 to join the Health Services. She was appointed Director of Mental Hospital renamed soon after as *Hospital Abade Faria*. In 1962 she returned to Lisbon to further specialize in psychiatry from *Ordem dos Medicos*.

During the last two decades of Portuguese rule some outstanding Portuguese surgeons visited Goa and worked in the Medical School Hospital and *Hospital da Misericordia*. Among these was Dr. Baptista Souza who introduced several changes to improve the conditions of the Goa Medical School Hospital in late 1940s.
c) Goan doctors outside Goa.

Jose Caetano Pereira -- was born at Divar, Goa in 1821. He finished his medical studies in 1851 and joined the army as chief surgeon. He saved the life of Dom Afonso V at a time when his brothers were already dead due to an illness. He was rewarded by the Portuguese King with an appointment as honorary doctor of the Portuguese Court. He fought to end the epidemic of cholera and yellow fever that broke out in Lisbon in the years 1856-1857. The Portuguese king bestowed on him the award Torre e Espada. His career suffered a setback due to a crime committed by his wife. He was accused as an accomplice was later proved not guilty. He published his thesis entitled There is no connection between the virus causing blenorragia and cancer. He contributed to many medical journals. 60

Jose Camilo Lisboa, a renowned botanist hailed from Assagao, where he was born in 1823. After his elementary education in Goa he went to Bombay to study in Grant Medical College. He was appointed Assistant Surgeon at J. J. Hospital and as professor of Anatomy in the Grant Medical College. Later he was appointed surgeon in the J.J. Hospital and lecturer on Anatomy in the College. He distinguished as surgeon in western India. He was in Europe for two years and on his return studied botany and leprosy. He contributed several
papers to various journals. The Government of Bombay appointed him to study the Flora of the Presidency. He discovered several plants some of which have been named after him. He was a member of Bombay University Syndicate and President of Grant Medical College Society. He was a distinguished member of the Royal Asiatic Society and Bombay Natural History Society. He was a Fellow of the Geographical and Medical Society of Lisbon. The Royal Academy of Science elected him Fellow of the Linnaean Society of London. The Académie Internationale de Géographie Botanique of France elected him corresponding member and awarded him a medal "Merit Scientific".  

Andre Paulo de Andrade was born in Parra (Bardez) in 1834. He did his early studies in Goa and then joined the Medical College in Bombay. He completed his medical studies on the top of the list in 1834. He worked as assistant surgeon at J.J. Hospital in Bombay before he was appointed Assistant Medical Officer to a newly set up venereal hospital at Bandra. He was a Fellow of the Medical Society of Grant College. He distinguished in legal and religious field as well.  

Luis Caetano Santana Alvares belonged to the Guine and Mozambique Health Cadre. Born in Margão, he died in Lisbon in 1915. A brilliant student of Goa Medical School, he repeated his medical studies at Oporto (Portugal). He fought one of the most violent epidemics of his time in Mozambique, and to
improve the sanitary conditions of the place. He joined the army and took part in the military operations as medical doctor. He was honoured by the Government with the of cross of Torre e Espada, and awards of Christ and Avis, besides gold medal for outstanding work in Portuguese colonies in Africa.

Jervis Pereira, who played an important role in Africa was born in 1862. After a brilliant career at Grant Medical School he proceeded to England where he took a diploma of medicine at the University of Glasgow and Edinburgh. He specialized in gynecology and obstetrics. He was appointed a life member of the Medical Society of Edinburgh. In 1888 he left England for Portugal to work as Medical Officer in Mozambique and took over the charge of the hospital of Lourenço Marques. He took active part in the Municipal life of the city and occupied several posts. He was appointed Italian consul in Lourenço Marques and Consul for Greece in 1900.

Alfredo Costa (1859-1910) was born at Margão (Goa). A graduate from the Medical School of Lisbon, he joined the school first as a demonstrator and promoted later to the post of a lecturer in obstetrics. Probably, he was the first surgeon to perform colostomy and Estlander operations in
Portugal and to introduce Volkmann method in the cure of hydrocele. Alfredo Costa was one of the first surgeons in Portugal to make use of autoclave. His great dream of setting up a maternity home did not materialize in his lifetime. However, he was responsible in setting up a temporary maternity ward in the hospital where he was working. He published several scientific works. In 1932 a Maternity Home was established in Lisbon and named after him. 63

Bernado Bruto da Costa was born in Goa in August 1878. After graduating in medicine from the University of Lisbon and obtaining a diploma in tropical medicine he joined the Portuguese overseas health cadre. He was appointed to lead a team to eradicate sleeping sickness in Portuguese colony of Principe from 1911 to 1915 and at Benguela from 1916 to 1918. He discovered that the tse-tse flies were responsible for the sleeping sickness in S.Tome and Principe. He was Director of the Hospital of S. Tome, President of the Municipality and Administrator of the same island. Besides contributing to end the sleeping sickness at S. Tome and Principe, he worked to improve the hygiene of the colony. The Portuguese Government honoured him with a gold medal for his services in Africa. 64

Luis Cupertino Saldanha, born in Goa in the year 1886, completed his primary education at Anjuna at a very early age of seven. He finished his secondary education in Bombay before
proceeding to England to study medicine in the University of Edinburgh. He obtained his Master in Surgery and later studied at the faculty of Medicine and Surgery of Glasgow. He was appointed member of the Royal College of Doctors. He was nominated Fellow of the British Medical Association of the London and Scottish Geographical Society. Luis Saldanha worked in hospitals of London, Paris, Berlin, Aberdeen before returning to India. He occupied various posts in India and distinguished himself by his measures against the violence of plague that raged in India from the end of the 19th century. He died of plague in 1903.65

Agostinho de Souza was born in Calangute, Goa. He went to Oporto to take his degree of Medicine. As early as 1880 he made a name for himself by publishing his famous work La theorie de l'Atomicite et la loi periodique de M. Mendlejeff. In 1888 his theory of cardiac rhythm made him popular not only among the Portuguese but even among the French Physiologists. He enjoyed vast practice as an expert of Dermatology and Venereal Diseases. He died at a comparatively young age in 1919 at Oporto.66

Ramkrishna Vital Lad, commonly known as Bhau Daji, was born in Mandrem (Pernem) in 1822 and settled in Bombay. He was one of the makers of modern Bombay. He was one of the first student of Grant Medical College.67 He was well-known as a
physician and surgeon. In surgery he distinguished himself by operating on tumors and eye cataracts and by doing obstetrical operations. As a physician, he enjoyed the reputation of having cured a Goan suffering from leprosy.\textsuperscript{68} Bhau Dhaji was a man of varied interests in life. He took interest in chemistry, mineralogy, botany and numismatics. He earned the honour of being one of the first Indians to be appointed as a member of the Royal Asiatic Society and later was appointed the Vice-President of the same Society.

Acacio Gabriel Viegas from Arpora earned reputation for his brilliant diagnosis of bubonic plague that raged in Bombay at the end of the nineteenth century. His diagnosis helped the Bombay Government to take timely action in successfully combating plague in Bombay. He had the unique distinction of being the first Indian Christian to be elected to the Bombay Municipal Corporation in 1888. In 1906 he became its first Catholic President.

Francisco Xavier da Silva Teles was born at Nova Goa in 1860 and died at Lisbon in April 1930. He graduated in medicine from the University of Lisbon. He joined the overseas health cadre and later joined the navy. In 1905 he represented the naval doctors in the National Congress of T.B. held at Coimbra. Earlier he attended the International Congress of Medicine in Paris. He taught Tropical medicine and joined the
University of Lisbon as its Rector. Teles da Silva was the Secretary General of Geographical Society of Lisbon, and in this capacity he attended several meetings. He published several works in the medicine and non-medical fields among these was his thesis *A tuberculose e o problema.*

Luis Manuel Julio Frederico Gonsalves was born in Nova Goa in the year 1881. He graduated from the University of Lisbon with the highest marks and joined the naval medical services. He participated in many military expeditions in Africa and was bestowed several awards. He designed a special type of stretcher for the Portuguese navy. He was Director of *Gabinete de Estudos da Armada, Naval Arsenal Health Services* and *Naval Hospital.* He attended several congresses and has many papers to his credit.  

Francisco Xavier da Costa who specialized in London was the first Goan and second Indian to be a Fellow of the Royal College of Surgeons of London. He was the director of the well known *St. Marta Hospital* of Bangalore.

Aires de Souza was born in Goa in October 1905. In 1929 he graduated in medicine from the University of Lisbon and specialized in Tropical Medicine. In 1932 he joined the *Civil Hospitals* of Lisbon as radiologist. Few years later he was promoted as the head of the department of radiology and

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was promoted as the head of the department of radiology and posted at Hospital de Desterro. Aires de Sousa specialized in France, England and Italy. He attended the II Congresso Luso-Espanhol of Dermatology, IV Hispano-Portuguese Congress of Urology, II Hispano-Portuguese Congress of Radiology, and II Medical Congress of electro-radiologists. He was the president of various medical associations of Lisbon. His works were published in well-known journals such as Lisboa Medica, Imprensa Medica, Boletim Clinico e de Estatistica dos H.C.L and many others from France. 71

Alfredo Araujo was in charge of the psychology department of the Julio Matos Hospital and Director do Instituto da Orientação Profissional.

Jeronimo Acacio Gama who was born in 1845 at Verna (Salcete) was one of the first ophthalmologists from Bombay. He founded the Bombay Charitable Eyes and Ear Infirmary. He presented several papers to British Medical journal of London and Annales d'Oculistique of Paris. He was awarded with order of Christ by the Portuguese Government. 72

Herculano de Sa (1881-1958) from Piedade (Ilhas) started his medical career as tutor at the Grant Medical College and in 1926 he was appointed professor of Midwifery and Gynecology at G.S. Medical College. He set up a maternity
became in 1939 the first Goan woman surgeon of Bombay. Later she was put in charge of Midwifery department of Grant Medical College. On her father's death she took over his nursing home. His son Joseph (Joe) Vincent de Sa after advanced training in U.S.A. and Great Britain joined the K.E.M. Hospital as the head of the E.N.T. department. He became a member of International College of Surgeons, Fellow of the American College of Surgeons and some other associations.\textsuperscript{73}

Socrates Noronha specialized in London, Paris and Vienna. He was a professor of dermatology in the National Medical College, Nair Hospital, St. George Hospital, Polish Red Cross Hospital. He worked to combat venereal diseases in Bombay and set up a league for the purpose. He established the V.D. Department at St. George's Hospital and the Military Hospital at Colaba. He was awarded the Order of British Empire, Kaiser-i-Hind Medal and some others for his outstanding services. Socrates Noronha was the founder member of the Catholic Medical Guild of St. Luke, Bombay.\textsuperscript{74}

Jose Luis Pinto do Rosario was the deputy Director of the Health Services of Bombay Presidency and Director of Vaccine Institute of Belgaum. He was the Director of Health Service of Gujarat. Pinto do Rosario represented Bombay Presidency at the Congress of Tropical Medicine in Calcutta and Congress of Social Hygiene in London.
Ernest Borges is remembered for his great human qualities and solicitude for his cancer patients. He studied medicine in Bombay and went to England for his F.R.C.S. later he specialized in cancer. He joined the Tata Memorial Hospital in 1939 and made Tata Hospital one of the best cancer centers of India. Honoured both by the Church and the State in 1961 he was knighted in the order of St. Gregory the Great and in 1964 the Pope appointed him Privy Chamberlain with cape and sword. In 1965 the Government of India awarded him the Padma Shri. He died in 1969 at the age of 59 years.75

In 1950s Charles Pinto received advanced training in plastic surgery in the U.S.A on his return he started a department of plastic surgery in the K.E.M. Hospital. Ten years later he was appointed President of the Association of Plastic Surgeons in India and a member of the British Association of Plastic surgeons. Charles Pinto became famous for developing a technique to correct cleft-palate.76

Ivan Pinto was probably the youngest Indian to be a member of American College of Cardiologists. He specialized in the U.S.A and England. He was appointed the Head of the Department of Cardiology of K.E.M and G.S. Hospitals in Bombay. He was a member of the Executive Committee and the Research Committee of the International Society of Cardiology Council
in Arteriosclerosis. In 1977 he was elected President of Cardiological Society of India and presided over the first National Conference on Pacemakers. He was a honorary cardiovascular consultant to the W.H.O. He helped to set up the first pacemakers bank in the K.E. M. Hospital. 77

The first department of neurology in India was set up at Grant Medical College by Menino de Souza. He specialized abroad and in 1957 represented India at the World Neurological Conference at Brussels. In 1951 he was elected Dean of the Faculty of Medicine of Bombay University. 78

V.N. Shirodkar was a gynecologist of great repute. He was born at Shiroda a village in Ponda (Goa). After obtaining M.D degree from Bombay University he proceeded to England for further studies. He obtained a fellowship of the Royal College of Obstetrics and Gynecologist and a Fellowship of the American College of Surgeons. He designed half a dozen techniques in gynecological surgery: a technique to prevent abortions commonly known as Shirodkar stitch; a technique for cure of the descent of the womb; the Shirodkar technique for opening blocked fallopian tubes and the cervical hood and a technique for creating an artificial vagina. He was an authority in Tuboplasty. He attended several congresses abroad where he was asked to demonstrate his technique.
REFERENCES

(1) HAG: MR. 56, fl. 75.

(2) HAG: MR. 59, fl. 305. Majority of doctors in Portugal at this time were Jews.

(3) HAG: Ms. 23 -- Livro das Mercês Gerais, fl. 204.

(4) HAG: Ms. 7 -- Livro das Mercês Gerais, fl. 205v.

(5) HAG: Ms. 25 -- Livro das Mercês Gerais, fl. 134.

(6) HAG: MR. 99, fl. 286.

(7) Torre do Tombo: Chancelaria de D. Jose - Livro 66, fls. 357-357v.

(8) HAG: MR. 161 D, fl. 2149.

(9) HAG: MR. 180 A, fl. 272.

(10) HAG: MR. 159 C, fl. 712: Costa Portugal was accused of several irregularities and bad temper.

(11) HAG: MR. 159 C, fls. 712-713; HAG: MR. 164 C, fl. 1057.

(12) HAG: MR. 178 A, fl. 272. Ignacio Afonso was accused of over drinking and causing problems in the Hospital.

(13) HAG: MR. 180 A, fl. 90; HAG: MR. 185, fl. 6.

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HAG: MR. 185, fls. 26v-29v.

HAG: MR. 180 A, fl. 48.

HAG: MR. 196 A, fl. 321; HAG: Ms. 91 -- *Cartas ordens e Portarias*, fls. 56v-59, says that Bernardo Peres da Silva together with Gonzaga Vincente da Fonseca and Antonio de Noronha were dismissed from the Royal Hospital in 1820.

HAG: MR. 198 A, fls. 144-144v.

HAG: MR. 198 B, fl. 420.

HAG: Ms. 91 -- *Cartas, Ordens e Portarias*, fl. 98v.

B.G. no. 54, 7th July 1922.

HAG: Ms. 125 -- *Cartas, Ordens e Portarias*, fl. 99.


Pacheco de Figueiredo, *op. cit.*, pp. 156-158.


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(27) Ibid., pp. 179-180.


(29) B.O. no 54, 7th July 1922.


(34) Ibid., p. 160.


(36) Ibid., p. 133.

(37) The degree of Goa Medical School was not recognised in Portugal and in order to practice there one had to study medicine all over again.


(41) *Anuario da Escola Medico-Cirurgico de Nova Goa* 1925, Nova Goa, 1925, pp. 56-60.

(42) *GEPB*, vol. XVI, Lisboa, p. 806. (Henceforth GEPB).


(45) *GEPB*, vol. XXVIII, Lisboa, pp. 856-857; *Anuario da Escola* p. 61.


(47) *Literatura Goesa*, op.cit., p. 54.

(48) Information compiled from various published works of Dr. E. Afonso.


(51) Ibid., pp. 18-19.

(52) Ibid., pp. 19-20.

(53) Ibid., pp. 29-30.

(54) Ibid., pp. 38-39.

(55) GEPB, vol. XII, pp. 118-119.


(57) Dr. Miguel Caetano Dias, Nova Goa, 1937.


(62) Ibid., p. 130.


(67) Peregrino da Costa, op. cit., p. 129.

(68) Antonio Cruz, Goa -- Men and Matters, Vasco da Gama, 1974, pp. 205-214.


(70) GE PB, vol. XVI, p. 559.


(72) Peregrino da Costa, op. cit., p. 130.


(74) Ibid., p. 39.

(75) Ibid., pp. 40-41.

(76) Ibid., p. 42
(77) Ibid., p. 44.

(78) Ibid., p. 42.