

CHAPTER 1

INTRODUCTION

“Success in medical education in the future may well be judged by the degree to which graduates raise the level of health of their communities as a whole, as well as that of their patients”

Kaufman (1998:25)

1.1 BACKGROUND TO THE STUDY

Mozambique is a country situated in Southern Africa and in 2001 the population was estimated at about 18 644 000 inhabitants (INE, 1998). The majority of these (66.8 %) live in rural areas, spread out over an area of 799 390 square kilometres, yielding a population density of 20 people per square kilometre.

Despite strong growth in gross domestic product (GDP) in the years since the 1992 peace accord, incomes in Mozambique remain low. The GDP per capita is estimated at

US \$ 230, and 69% of the population lives below the poverty line (Advance Africa, 2003). Thus, according to WHO (2003), the Mozambican health profile is typical of sub-Saharan African countries, where the main causes of illness and death are the infectious and parasitic diseases associated with poor hygiene, limited water supply, low educational and economic levels, and high vulnerability to recurrent disasters (droughts, floods, epidemics).

Infant and maternal mortality are high. In fact, mortality of children under 5 is one of the highest in the world (273 per 1000 live births); 60 % of all births occur without any trained support; there is an annual population growth rate (1991-2001) of 2.9%, life expectancy at birth is 36 years and only 50% of the school age population is enrolled, with girls under-represented (WHO, 2003). Overall, the health status of the population is lower than the average for African countries. Shortly after independence, Mozambique initiated a comprehensive national health care system with a focus on preventive health.

1.2 THE NATIONAL HEALTH SYSTEM OF MOZAMBIQUE

The National Health Service is expected to provide health care to all citizens, under a central planning system. To this end an impressive network of primary health care facilities was created throughout the country to strengthen the health care system and improve health status. This means that Mozambique's National Health System is managed at three levels: the Ministry of Health, Provincial Health Directorates and District Health Directorates. It is further organised into four tiers: health posts (692) and

centres (204); rural and general hospitals (24); provincial hospitals (7); central hospitals (3) and specialised hospitals (3) (Ministério da Saúde, 2001). Alongside this formal state system, there is a less formal yet popular system comprised of practitioners such as traditional healers and birth attendants.

According to Ministério da Saúde (2001), the Public Health System in Mozambique is stretched thin as it attempts to provide coverage for a large, dispersed, and poor population. However, as reported by Advance Africa (2003), the progress made has been limited by various factors, including high rates of infectious disease and malnutrition; inadequate access to potable water; growing prevalence of HIV/AIDS; limited numbers of trained health personnel and annually decreasing funds for basic health care delivery due to the changes in priorities. Although the existing facilities in the health care system need improvement, the demand for health care keeps expanding and this sector is expected to concentrate its efforts in areas such as maternal and child health services, basic curative care, and control of communicable diseases, including HIV/AIDS. These needs require equipment in addition to qualified personnel. Thus, given the enormous challenges of promoting adequate health care, appropriate training of medical personnel is of crucial importance.

Medical doctors are trained at the Faculty of Medicine of the Eduardo Mondlane University (UEM) in Maputo with the principal purpose of producing competent professionals who can provide health care by being able to use biomedical knowledge and skills to explore and explain health problems as well as to make management decisions that lead to optimal health outcomes. Thus, it is expected that the teaching process at the medical school should be designed to provide usable knowledge and

skills that the student can apply to address national health problems. The other health personnel (nurses, pharmacists, physiotherapists, midwives, dental therapists, laboratory technicians) are trained at four Health Science Institutes for the basic professional level (comparable to higher education level) or by private institutions at the tertiary level (comparable to university degrees).

1.3 EDUARDO MONDLANE UNIVERSITY (UEM)

The UEM was founded in 1962, during the colonial era, and is the oldest and the largest university in the country. UEM comprises nine Faculties (Engineering, Architecture, Economics, Sciences, Arts, Veterinary, Medicine, Agronomy, and Social Science), and offers 21 degree-programmes of five years duration each, with the exception of the course for medical doctors which extends over seven years. The student population of UEM is about 6 000 with a ratio of one female to three male students. The academic year is divided into two semesters. Each semester comprises 16 weeks of active teaching, followed by a period of two weeks for examinations.

1.3.1 The medical course

Taking into account that the purpose of a medical education is to graduate individuals well fitted to meet the present and future needs of society for medical care, the main objective of the medical course (Faculdade de Medicina, 1994) is to graduate medical doctors with a high level of technical skills, who are able to:

- give priority to preventive medicine in particular by paying attention to developing community health, nutrition education and environmental sanitation to protect mothers and children, to combat preventable diseases and to organise services for schools and occupational health;
- organise and conduct curative medicine by providing curative care in rural and urban areas and by helping to prioritise the establishment of health centres and health posts in rural areas;
- help define a national policy to combat epidemics
- assist in developing technical scientific research.

The professional profile of the graduates (Faculdade de Medicina, 1994) has been defined by specification of the functional areas in which graduates may have to work and the types of activities to be performed therein. The graduate of medicine will be able to execute the activities in both public and private institutions in the sectors such as Health (Hospitals; Health Centres; Sports Medicine; School Health; Joint Health Service Institutes; Research Centres; Centres for Preventive Medicine; Medical Consultations; Home Visits and Sanitation and Environmental Health Centres), Education (Faculties of Medicine; Training Centres) and Defence (Military Medical Service; Justice and Forensic Medicine). Therefore, teaching in this Faculty has the purpose of ensuring that the students gain knowledge and skills that they are able to apply effectively to diagnosing and managing patients.

The curriculum currently delivered by the Faculty of Medicine of UEM is based on a plan introduced in 1995. Despite the fact that in many countries, including the Southern African region, medical curricula have changed over the time to more

integrated models, at UEM the curriculum is still organised in separate, independent disciplines (supposedly related to one another at least in a logical sequence). The curriculum consists of six semesters (the first three years) for basic and pre-clinical disciplines, followed by six semesters (the fourth, fifth and sixth years) for clinical disciplines. The clinical phase includes rotations through the departments of Maputo Central Hospital (HCM), during which time students are expected to master basic clinical skills.

The seventh year of training consists of a one-year clerkship programme, which includes rotations in the four major clinical areas (Internal Medicine, Surgery, Gynaecology and Obstetrics, and Paediatrics) and an integrated rural traineeship (focusing particularly on the national health programmes and on how to manage a health facility).

To achieve the aims prescribed by the curriculum, conventional teaching approaches are used, including lectures, non-clinical teaching (seminars, tutorials and laboratory/practicals) and clinical teaching (bed-side and community-oriented medicine approaches). As a result, the medical students are exposed to the basic and pre-clinical sciences in the classroom and to clinical experiences in the HCM where they are involved in two different settings: patient-based teaching (clinical setting) and theoretical teaching in the classroom.

To accommodate these activities the Faculty of Medicine building has 5 lecture theatres, which have adequate seating capacity and are equipped with overhead projectors. However, it is also possible to use electronic presentations such as PowerPoint. Practical

facilities are available within each of the basic science departments in the form of standard laboratories with certain courses such as Anatomy and Microbiology having specialised facilities.

The main learning resources for the students are books, supplemented by the teacher's handouts (lecturer's notes; copies of overheads shown at lectures). Because the vast majority of the students cannot afford to buy books themselves, they must rely on books offered by the library of the Faculty or borrowed from the classmates or students in higher years. The students' library is located in the building of the Faculty. Departments have their own discipline-oriented libraries. The medical students also have access to a computer room with 25 computers with Internet access but without CD-ROM players.

Teaching approaches are based on a teacher-centred model, with the theoretical components of the courses in both the basic science and the clinical cycles delivered in a large group format, while relatively small groups are used in practicals. Bearing in mind that what the teacher transmits in discipline content is useful only to the extent that it helps the student/doctor to deal effectively with patients and medical problems; the presentation of the subject matter should be aimed at helping the students to relate the subject matter to the problems, and what is examined is the effectiveness of how the students manage health problems. Thus, the current structure of the medical course at UEM is assumed to be organised in such way that it allows the student to deal with Mozambican health problems.

1.3.1.1 Basic Cycle

The basic cycle of the medical course includes a total of 20 independent basic and pre-clinical courses. The time allocated for teaching the various basic and pre-clinical courses is presented in Table 1.1. In the basic cycle the emphasis is almost exclusively on knowledge acquisition. Practicals mainly serve to illustrate or to expand on theory, and laboratory skills in particular are developed in this cycle.

Of the basic cycle courses Anatomy, which is considered one of the foundations of the medical qualification, is allocated the largest amount of time and is taught in both the first and second years together with other basic and pre-clinical courses. It is of importance to take into account that the teaching time allocated to Anatomy is being reduced worldwide and, in many medical schools e.g. at the University of Witwatersrand in South Africa, it is a component of an integrated curriculum.

The study of human Anatomy is an integral component of the training of medical students worldwide and remains one of the most extensive and demanding basic science disciplines due to its immense knowledge base and the diversity of its components. At UEM, the Anatomy course is expected to teach students the structure of the human body and its functional aspects. The knowledge of the normal structure of the body is considered essential for the understanding of pathological changes which take place within different systems and organs. Thus, the subject matter of the course is assumed to be the first step towards further medical teaching such as Physiology, Immunology, Pathomorphology and Pathophysiology. Therefore, this course is perceived as part of the syllabus leading to integrated knowledge of

structure and function of the human organism in both the state of health and illness. It is used as the nucleus of the course which defines the sequence of the other subjects' contents and respective sequence.

Table 1.1: Total time allocated for teaching *basic* and *pre-clinical* courses in the Faculty of Medicine at UEM

Courses	Hours					
	Theoretical		Practical		Total	
	Hours	%	Hours	%	Hours	%
Biomathematics	32	3	32	3	64	3
Biophysics	32	3	32	3	64	3
Histology/Embryology	64	6	64	6	128	6
Chemistry	48	4	32	3	80	4
Biochemistry	112	10	96	9	208	10
Anatomy	128	11	128	13	256	12
Cellular Biology	32	3	32	3	64	3
Community Health	32	3	64	6	96	4
Bio-statistics	32	3	32	3	64	3
Physiology	96	9	128	13	224	10
Immunology	32	3	32	3	64	3
Pathology	96	9	128	13	224	10
Pharmacology	96	9	64	6	160	8
Parasitology	32	3	32	3	64	3
History of Medicine	16	1	0	0	16	1
Physiopathology	64	6	32	3	96	4
Ethics	16	1	0	0	16	1
Genetics	32	3	16	1	48	2
Microbiology	96	9	64	6	160	8
Demography	16	1	32	3	48	2
Total	1104	100	1040	100	2144	100

On the other hand, the knowledge of Anatomy is recognised as indispensable in the prospective medical profession, irrespective of the chosen speciality. The understanding of diagnostic procedures, using modern techniques of imaging such as ultrasonography, computer tomography (CT) and magnetic resonance imaging (MRI) are nowadays essential. These techniques enable visualisation of not only the fine anatomical structures but also their topographical relations that will, in the future, help students to make diagnoses and planning appropriate medical procedures.

In addition to the regionally based descriptive Anatomy based on regions, topographical Anatomy is included in the curriculum at UEM. This allows students to understand the spatial relations of various regions of the body and helps them to achieve the general learning objectives. At the end of the course, each student should:

- have an essential knowledge of descriptive Anatomy and anatomical nomenclature,
- have an understanding of the structure of the human body, in both of the cadaver and the living subject,
- be familiar with the “in vivo” images of the human structure (X-Ray and ultrasonography) to the extent that is sufficient for further study,
- be able to correlate the structure of organs with their functions,
- be familiar with application of anatomical knowledge to clinical practice.

The specific objectives of this course are that, at the completion of the course, each student should:

- be able to use the common descriptive anatomical terms correctly and appropriately;

- have acquired a basic understanding of the functional significance of structures, their anatomical relationships, and their developmental history;
- be sufficiently familiar with surface Anatomy, so as to be able to demonstrate and display by inspection and palpation the most important structures of the body of the living subject;
- have mastered the basics of diagnostic imaging as an aid in understanding Anatomy;
- be sufficiently skilled in Anatomy to be able to study other basic medical science and clinical courses that require familiarity with human morphology;
- be able to apply the relevant anatomical information to basic clinical problems.

Lectures in the Anatomy are correlated with the practical training and, apart from the basic information on the body structure they also cover functional and clinical aspects. Some lectures are delivered by experienced clinicians.

The practical training in Anatomy of living subjects is complementary to the programme of dissection and study of prosected specimens. It is assumed that dissection of the cadavers enables students to understand the complex structure of the living body, to become familiar with the shape, dimensions, structure and functions of organs and systems. For this reason dissection was reintroduced to the Anatomy course in 1997. In a previous study (Rodrigues, 2000) the combination of lectures, tutorials and dissection emerged as being perceived by the students as the most effective teaching approach as compared with other uses of the teaching time.

However, the impact of dissection in Anatomy at UEM has yet to be evaluated. In the clinical years, depending on their individual perception of the subject's usefulness, the lecturers present a fragmented review of Anatomy content. There is, however, a general perception that the students in the clinical years at UEM have difficulty in applying the Anatomy learnt in the pre-clinical years in the context of diagnosing and managing patients.

Students have to pass all the courses of the basic cycle in order to be able to proceed to the clinical cycle. However, the content of Anatomy (taught during the first two years) acts as a direct foundation for Pathology (taught in the 3rd year). Thus, students cannot attend the Pathology classes without having passed Anatomy. The application of anatomical knowledge to clinical practice starts in the 4th year during the teaching of the introduction to Internal Medicine and Surgery.

1.3.1.2 Clinical Cycle

The clinical cycle comprises the 4th, 5th, 6th and 7th years of study. The courses included in this part of the undergraduate training are presented in Table 1.2. In this cycle, the students undertake clinical rotations as the practical component of the undergraduate programme. This occurs mainly at the HCM which is the largest hospital (about 1,000 beds) with a patient population representing the most common diseases associated with the community of Maputo Province and City. This hospital is in close proximity to the Faculty of Medicine buildings.

The training of practical clinical skills (diagnostic, therapeutic and communication skills) starts in this phase of the course, where many different teachers contribute to the students' learning process. From an educational perspective, clinical rotations are characterised by the fact that it is not known which learning experiences students will encounter and which elements of the training programme do or do not really contribute to their acquisition of complex skills.

Each clinical department is responsible for fulfilling the objectives pertaining to its own course, which are openly stated, and offer students real patient contact. The content and form of the clinical rotations can be described as rather traditional since, apart from small group teaching sessions, no structured training is offered to students. Students rotate through different departments in cycles of about 6-8 weeks including time spent in inpatient wards and the outpatient clinic.

The means by which students learn clinical skills has remained largely rooted in the traditional, rote-learning model exemplified by the typical "introduction to clinical medicine" where the students are asked to learn the complete history and physical examination through a mechanistic, protocol-driven process that encourages exhaustive and uncritical data collection. Clinical decision-making skills are expected to materialise independently of the content of the course or, if incorporated, are linked to dated concepts (Grupo da Reforma Curricular, 2004) whereby one defers diagnostic considerations until data collection is complete.

Table 1.2: Total time allocated for teaching *clinical* courses in the Faculty of Medicine at UEM

Disciplines	Hours					
	Theoretical		Practical		Total	
	Hours	%	Hours	%	Hours	%
Psychology	32	3	44	1	76	1
Nutrition	32	3	32	1	64	1
Epidemiology	64	6	40	1	104	2
Internal Medicine	218	19	628	18	846	17
Surgery	128	12	346	9	474	12
Imagiology	32	3	32	1	64	1
Methods of Control of diseases	16	1	32	1	48	1
Dermatology	32	3	80	2	112	2
Paediatrics	96	9	299	8	395	8
Orthopaedic and Traumatology	32	3	92	2	124	2
Gynaecology	64	6	90	2	154	4
Transmissible diseases	64	6	144	4	208	4
Urology	32	3	80	2	112	2
Dentistry	16	1	48	1	64	1
Anaesthesiology	16	1	80	2	96	2
Management of Health Unities	64	6	32	1	96	2
Obstetrics	64	6	161	4	225	5
Psychiatry	16	1	80	2	96	2
Emergency in Medicine	16	1	80	2	96	2
Forensic Medicine	32	3	32	1	64	1
Ophthalmology	32	3	32	1	64	1
Ear, Nose and Throat	16	1	32	1	48	1
Clerkship	0	0	1210	33	1210	25
Total	1114	100	3726	100	4840	100

By the end of the clinical cycle, it is expected that each student will have acquired the following practical skills:

- obtaining and recording a comprehensive history of the disease, and of performing examination of the physical and mental state of the patient, and assessing it critically;
- formulating a plan for examining the patient, interpreting the findings obtained from the examinations, suggesting a diagnosis and prescribing appropriate treatment;
- performing the necessary diagnostic and therapeutic procedures;
- communicating with patients and their relatives, colleagues;
- working within a health care team, comprising other doctors, medical nurses and technical staff;
- reacting promptly and making decisions in changing situations;
- the ability to continue his/her medical education during his/her professional career.

Thus, it is assumed that at the time of graduation the student is able to act as a competent medical doctor (Faculdade de Medicina, UEM, 1994). However, from the 7th year (which is considered the clerkship phase and a part of clinical cycle), the student is considered able to work as a doctor under the supervision of a specialist acting as a teacher.

In the Mozambican context greater emphasis is placed on the following skills, which the student should demonstrate when working with a patient during clinical training (Faculdade de Medicina, UEM, 1994):

- Interview and physical examination, including the ability to examine specialised areas according to need such as: mental status examination;

neurological and musculoskeletal examination; urological examination; breast and pelvic examination, and well-baby examination.

- Interpersonal relationships with medical team and family members.
- Communication with a patient who may be: unable to speak the official language; deaf; confused; hostile; withdrawn; retarded; very young or preverbal children.
- Appropriate use of non-patient information resources, e.g. parents, spouses, family friends, associates, consultants; other health professionals.
- Patient counselling, including negotiating care with the patient and family; preventive care and health risk management.

The 7th year student should also be able to demonstrate skills in ordering the following procedures as appropriate for the care of patients (Faculdade de Medicina, UEM, 1994):

- arterial puncture; central venous puncture; lumbar puncture;
- bone marrow aspiration and biopsy;
- bronchoscopy;
- endotracheal intubation; chest tube placement; tracheotomy;
- incision and drainage; abscess drainage; thoracocentesis; abdominal paracentesis; arthrocentesis;
- electrocardiogram;
- radiography: abdomen flat plate and/or upright; chest; shoulder/ribs, arm, hand; hip, leg, foot; cervical, thoracic, lumbar, sacral spine; skull, face sinuses; dental; arthrogram;

- intravenous pyelogram; kidneys, ureters, bladder;
- oral cholecystogram; contrast examination of the gastro intestinal tract (upper gastro intestinal, small bowel exam, colon);
- sonography of abdomen; gall bladder; kidneys or pelvis

After requesting these tests it is expected that the student is able to interpret them.

For example, when presented with:

- a chest radiograph (postero-anterior and lateral views), the student should recognise the normal Anatomy; a lung infiltrate; a pneumothorax or an enlarged heart;
- a radiograph of an extremity, the student should recognise the normal Anatomy; a fracture; a dislocation or a disruption of alignment;
- an oral cholecystogram, the student should recognise the normal Anatomy; non-function or calculi;
- contrast examination of the gastro-intestinal tract (upper gastro-intestinal, small bowel exam, colon), the student should recognise the normal Anatomy; an obstruction in the oesophagus, upper gastro-intestinal tract, small bowel or colon;
- plain abdominal radiograph, the student should recognise the normal Anatomy; a dilated bowel; free air (in the case of upright or decubitus views); significant calcifications; gross mass or enlargement;
- tomography of the head, the student should recognise the normal Anatomy; a haemorrhage; a midline shift or dilated ventricles;

- an intravenous pyelogram, the student should recognise the normal Anatomy; an obstructive uropathy or extravasations (in the trauma patient).

1.3.1.3 Overall curricular structure

Undoubtedly, the basic sciences should create a foundation for learning the pathophysiology of disease and therefore, as presented in the medical curriculum of UEM (Faculdade de Medicina, UEM, 1994), prior to graduation, students should demonstrate knowledge of the normal structure and function of the body and of each of its major organ systems; molecular, biochemical, and cellular mechanisms that are important in maintaining the body's homeostasis; causes, pathogenesis, and altered structure and function of the body and its major organ systems that are seen in common diseases and conditions; clinical, laboratory, and radiologic manifestations and treatment options of common maladies; behavioural, social, and cultural factors associated with the origin and progression of disease; approaches to the organization, financing, and delivering of health care; and the epidemiology of common illnesses within a defined population and systematic approaches useful in reducing the incidence and prevalence of these maladies.

From an in-depth analysis of the structure of the medical curriculum of UEM it is evident that it consists of many separate, poorly interconnected courses, which results in a reiteration of the information already taught several times in an overloaded curriculum. An impression is created for the students, particularly during the basic cycle, that the courses are time-consuming and do not necessarily provide the expected appropriate foundation for their further medical training. On the other hand, possibly as

a consequence of these courses being too independent of each other, the lecturers view the knowledge of most of the students as inconsistent and fragmentary. Majoor (2003) stated that such a fragmented curriculum ignores the fact that the primary health complaint of most patients is usually not exclusively restricted to one discipline but relates to several disciplines.

This type of curricular structure, associated with the assessment methods used at UEM (see below), gives the impression to the lecturers that students are turned from questioning school leavers into passive absorbers of the facts required only to pass examinations. This is supported by the students' view quoted in Majoor's report: "In the basic cycle you only worry about passing the exams, not about understanding. When you come to the clinic you have forgotten it all and you have to go back to the basic sciences" (Majoor, 2003: 15).

1.3.2 Assessment procedures

During each academic year students are assessed several times using written and practical tests set by the lecturers of each department, mostly at the cognitive level of factual knowledge and understanding. Until 1999 assessment procedures in Anatomy included an oral examination conducted by a group of 3 lecturers in a total time of about a hour per student. As a consequence of a decreased lecturer/student ratio, a reduction of the time available for the final examinations and the intention to develop a more objective type of assessment, it was decided to restrict the final examination to written and practical components. On the other hand, in the same course

(Anatomy) a detailed description of the dissection sessions was included as a summative assessment throughout the year.

The final mark for each student is obtained by combining the scores achieved in the tests. Students who achieve a combined score equal to 10 marks (50%) or above are admitted to a final examination. Students who achieved a mark equal to 10 (50%) or above, in the final examination are considered to have passed the course. Those students who fail are allowed to take another examination.

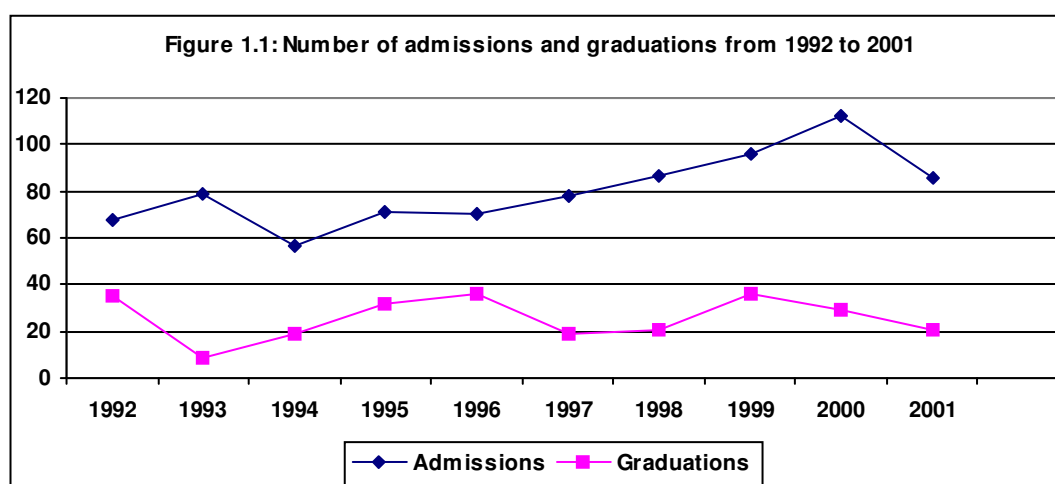
Those who fail a second time, as well the students who were excluded from the final examination, may repeat the course until they pass, bearing in mind that the total time in which they have to finish the medical course is 11 years (the minimum time being 7 years). Students can fail in the same or different disciplines but cannot exceed 11 years in the Faculty of Medicine.

Systematic objective assessment of students' performance is rare during clinical rotations. Moreover, when students are evaluated, the focus is more often than not on factual knowledge examined by written tests at the midway point of the major clinical courses, and final exams comprising a written part and oral case presentations. n not on factual knowledge examined by written tests at the midway point of the major clinical courses, and final exams comprising a written part and oral case presentations. The minor clerkships in the 6th year are concluded by a written test and an Objective Structured Clinical Examination (OSCE). During the clerkship in the 7th year, students have to perform a range of tasks related to the skills mastered by them, which must be confirmed by the signature of the tutors. The number, as

well as the quality of performance of these tasks serve as the basis for the assessment at this level of medical training.

1.3.3 Disparity between the number of admissions and graduates

Annually, the Faculty of Medicine admits about 80 new students of whom approximately two-thirds are women. All students enter the medical faculty after completing secondary school education. Admission to this Faculty is based on the applicants' performance in Chemistry and Biology in an entrance examination organised by the Rectorate of UEM. Those students achieving the highest scores in these examinations are accepted into the medical undergraduate training programme. The number of medical students admitted and graduating over the last 10 years is shown in Figure 1.1.



Source: Registo Académico, Faculdade de Medicina, 2003

Ideally, the number of graduates should be related to the original intake for that cohort of students but these data are not systematically available and the median of 8 years indicates that it is quite rare for an individual student to finish the medical course in the minimum period of 7 years.

1.4 AIM OF THE STUDY

In the context of the teaching and learning of Anatomy, and taking into account that the students not only need to know the concepts and principles of the medical sciences, but must also learn how to apply this medical knowledge, this study aimed to:

- evaluate the role of the teaching-learning of Anatomy in promoting an understanding of what is experienced in clinical practice
- contribute to restructuring the medical curriculum in such way that it better addresses the current Mozambican health care needs and ensures a better quality of medical professional.

Taken within this perspective and considering the fact that Anatomy is one of the first courses of the medical training and is recognised as an essential component of the foundation for the subsequent training, it was deemed necessary to evaluate if the students have the same feelings as the Faculty staff, particularly regarding the quality of training. To this end the following key questions were addressed:

- 1 Is the Anatomy course perceived by the students to be structured to address their needs regarding medical practice?*
- 2 Do medical students demonstrate a satisfactory knowledge of Anatomy in dealing with patients in practice?*
- 3 Is there a relationship between performance in Anatomy and other disciplines as recognised by the students?*

1. 5 IMPORTANCE OF THE STUDY

In 1999 a discussion began on the possible reform of the educational programme at UEM based on the fact that there is still uncertainty as to the quality of the graduates and the effectiveness of their medical education. Majoor (2003) suggested that a systematic approach to quality assurance of the medical programme should be implemented in the medical curriculum at UEM. Therefore, the importance of this study focuses on the possible improvement of the teaching-learning process and the students' pass rates in Anatomy at UEM.

Consequently, it is intended that the study will contribute to an improvement in the medical students' foundation for the other subsequent courses and ultimately in the quality of the future doctors graduating from the faculty. The conclusions of similar studies from many other countries, especially in the English-speaking world, cannot be readily transferred to the situation in Mozambique, as there are large differences between the school systems and their underlying educational and professional

philosophies as well as in their social and economical development. These differences thus reinforce the need for a study of this type.

1. 6 EXPECTED OUTCOMES

The present study is expected to provide quantitative and qualitative information regarding:

- students' opinion on the quality of the medical training programme
- efficacy of the teaching-learning process of Anatomy

Indeed, by evaluating the efficacy of teaching-learning Anatomy at UEM, particularly taking into account the main objective of the Anatomy course in preparing students to apply their knowledge to the cases that they will see as medical practitioners, it is expected to contribute to the following:

- raising of the value of Anatomy within the medical curriculum in a way that its content and process of delivery better meet the real needs of the medical training;
- establishment of better integration between the pre-clinical and clinical subjects for more effective multidisciplinary teaching and learning;
- improving the quality and performance of medical doctors in the use of anatomical knowledge and skills within their practice;
- ultimately contributing to an improvement of the quality of health care in Mozambique.