

Update on Dispensing

Part I. The history of dispensing and medical practice

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Curriculum vitae

Dr Cassimjee has been in active family practice for the last 18 years. He has been part time Senior Lecturer in Family Medicine at the University of Natal since 1988. Presently he is working toward an Honours degree in medical science in Pharmacology at the University of Durban, Westville. As an executive member of the Natal Inland branch of the Academy of Family Practice/Primary Care he is convenor of the committee for continuing medical education. His personal interests are in the economics of general practice and the legal issues relating to dispensing by doctors in South Africa.

Medical practice dates back as far as 3 500 BC when medicine and religion were inextricably intertwined. Ancient cultures firmly believed that both sickness and cures emanated from their gods, therefore the preparation and administration of medicines was often the prerogative of religious leaders.

In Egypt, the land of the Pharaohs, priests became specialised medical practitioners, some only treating internal maladies, others dealing exclusively with diseases of the eye, the head or the teeth. They developed an extensive pharmacopeia which listed some 800 remedies and 700 drugs. One probably successful example was a preparation for crying children prepared from poppy seed, the basis of opium. The Egyptian god of medicine was named "Ph-ar-malei", from which words such as "pharmacy" are obviously derived. The Greeks were the first to loosen the ties between medicine and religion. They used logic rather than magic in the treatment of disease. Careful diagnoses and selection of appropriate remedies were the concepts upon which their philosophies were based. Sadly, medical knowledge and expertise became shrouded in the mists of myth and magic once more, as Europe plunged into the dark ages. It was the desert Arabians of yester-year who continued the progress of

Summary

In a short historical overview of dispensing dating back to 3500 BC, the development of medical practice over the centuries is given, explaining how medicine and religion were intertwined, how apothecaries and physicians were fighting one another and how the South African rules for dispensing developed.

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pharmacy. They developed procedures, including distillation and fermentation, to extract more than 2000 drugs from various sources. The Arabian provinces appointed inspectors, forerunners of our Medicines Control Council inspectors, whose task it was to prevent the sale of harmful medicines and food!

In Europe, at the conclusion of the dark ages, attention was once again focussed on medicine. The population of cities exploded, travel increased dramatically and disease became rife. Doctors and pharmacists charged such exorbitant prices for medicines of questionable efficacy that they were beyond the reach of the general public. Poor folk had no choice but to fall back on self-doctoring with patent medicines.

The inventors of these remedies had been bestowed with protected rights from the king. Although they became popular in England, it was in the Colonies that the patent medical industry sank roots and began to flourish. Faced with devastating diseases, such as typhus, yellow fever, tuberculosis, and dysentery, the time for quackery

was ripe. It is not difficult to picture the vast selections of potions and elixirs, all guaranteeing to cure everything from typhoid to in-growing toenails. By 1905 some 50 000 different patent medicines were available for sale, most of their originators pouring millions of dollars a month into advertising. In the seventeenth century, the medical properties of drugs could not be correctly estimated. Scientific methods for proper evaluation were developed in the eighteenth and

In ancient cultures medicine was the prerogative of the religious leaders

nineteenth centuries. Prior to that time experiments were conducted only on poisons, for with poisons the results are certain and immediate. Modern pharmacology, the study of the action of drugs, developed out of this early study of the action of poisons. The well known tale of Cleopatra testing the poison of her asp on her slaves before she applied it to herself is typical of the pharmacological methods of that time. One of the most energetic of the early pharmacologists was Mithridates, King of Pontus, in the second century before Christ. His pharmacological studies were made possible, by the influence of Greek learning on Egyptian civilisation. The early Egyptian physicians made considerable use of drugs. Their drugs were of the kind usually found in ancient civilization: a few effective remedies lost in a mass of substances of purely superstitious origin. For many centuries the medical system of the Egyptians was not subject to foreign influence, for the early Egyptians punished with death, every stranger who entered their country.

Egyptian Pharaohs became specialised medical practitioners

About 500 BC however they began to tolerate foreigners. Greek physicians came to Egypt and under their influence Egyptian medicine declined and was replaced by Greek medicine. Mithridates was versed in the Greek medicine of Egypt and undertook his pharmacological experiments to find an unusual antidote against poison. His attention centred largely upon snake venoms. These he administered to slaves, studying the effects and trying to find an antidote. After his death his recipe was discovered. This compound

was known as Mithradaticum and with some variations in the hands of later physicians, was developed into 'theriac'. In subsequent times theriac was more extensively employed than any other medicinal remedy. It contained from 37 to 63 ingredients, all of which are worthless as remedies. Theriac was used as a cure-all even up to a hundred years ago. It was taken internally in the treatment of all diseases and applied externally in the treatment of all wounds. Eventually theriac became known as treacle and when theriac was discarded as a remedy the term treacle was applied to molasses. The sulphur and treacle administered to all young people a generation or two ago as a spring tonic, was derived from this old belief of theriac. Greek medical practice, as established by Hippocrates 500 years before Christ, did not include an extensive use of drugs. At the great University of Alexandria, however, a more extensive use of drugs was grafted upon Greek medical learning. After the fall of Corinth, Greek Physicians migrated to Rome.

The Romans used many drugs. The combined influence of Greek, Alexandrian, and Roman medicine brought in an extensive use of drugs.

In the dark ages medical knowledge became shrouded in the mists of myth and magic

The increasing importance of drugs led Dioscorides to compile a list of drugs, the first extensive *Materia Medica*. The substances listed in Dioscorides' book were worked into a system by Galen. This system was the medical religion of the Christian Era up to the seventeenth century. It has left its mark on medicine even to this day. Galen was born in Pergamum in Asia Minor in 131 AD. He undertook the study of medicine at an early age, and then for eight years wandered from city to city, adding to his store of medical knowledge. Galen was an energetic experimenter, but his method was faulty in that he insisted on having a theory for every phenomenon, whether or not it had any basis in fact. His superficial theories displaced the more laborious methods of Hippocrates which were based upon direct observation and logical interpretation.

According to Galen's theory, the body, like the universe, was composed of 4 elements — fire, air, water and earth. These elements represented the qualities of the body: fire was hot, air was

dry, water was wet and earth was cold. Health consisted in preserving each of these qualities in its proper proportions in the body. In health heat and cold were balanced and so also was dryness and moisture. Disease resulted when the balance between the four qualities was disturbed; and disease was to be cured by administering drugs to restore the proper balance. The various drugs had the four fundamental qualities of the body; some were cooling, others were heating, or

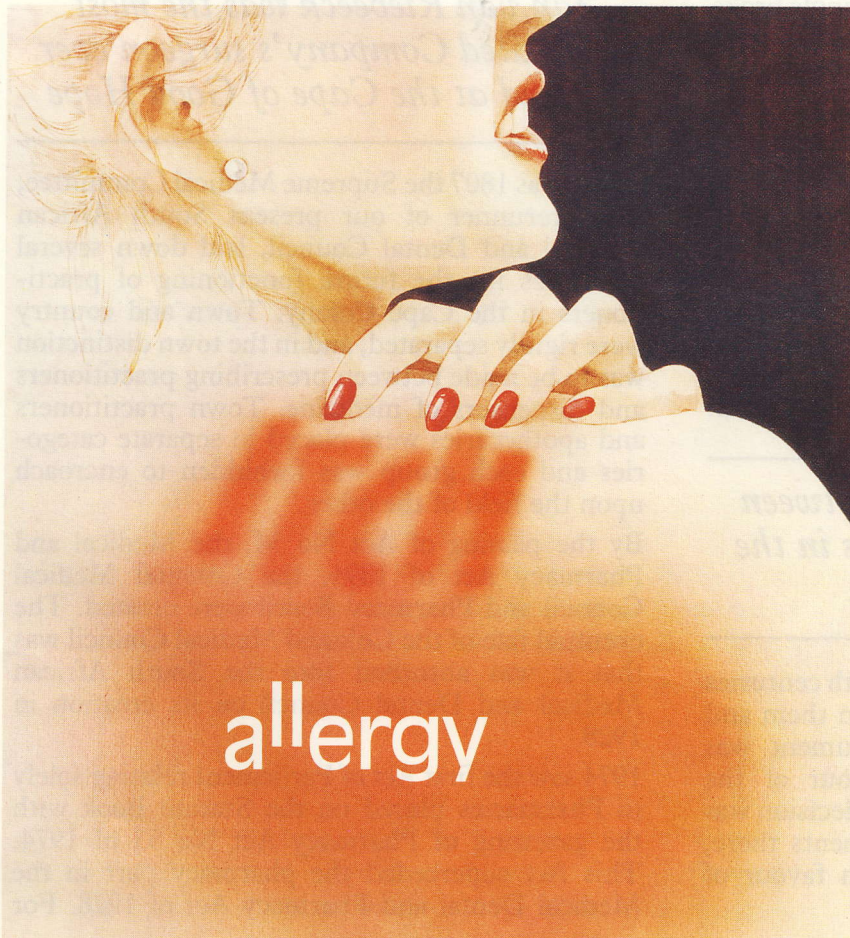
50 000 different patent medicines were available for sale by 1905

moistening or drying. Drugs possessed these fundamental qualities in different degrees. Thus, bitter almond was heating to the first degree and drying to the second degree while pepper was heating to the fourth degree and cucumber seeds were cooling to a similar degree. The common expression "cool as a cucumber" is derived from the therapeutic theory of Galen. Several thousand drugs were necessary for the Galenic system of

therapeutics. A hundred or more drugs might be included in a single prescription. In Roman times the physicians themselves collected and prepared their own medicine. For many centuries after the Roman times, physicians continued to dispense their own medicines.

The apothecaries of Europe during the middle ages were drug peddlars. Apothecaries' bills were exceptionally high in the 17th century and the cost of medicines was often exploited by physicians and surgeons as an excuse for running up their charges. The grocers were the original drug merchants even after the apothecaries were duly incorporated by James I in 1606, but in 1617, the druggists succeeded in shedding the grocers by means of a new Charter, after which time they had the physicians against them. The reason for this was that the apothecaries set up as practitioners, not only selling drugs but prescribing them. Extortion was the great failing of the apothecaries. In two drug bills of 1633 and 1635, cited by Handerson:

1. For a 'glass of chalybeate wine' 4 s 0/pence is charged.
2. For a 'purge for your worship'; 3s 0 pence is charged.



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3. For a 'purge for your son' 3s 6 pence is charged. High as these were for the time, gross exploitation was practised by George Buller who, in 1633, charged 30 shillings a piece for pills and 37 pounds and 10 shillings for a boxful. In the reign of James II the College of Physicians prosecuted Dr Tenant for charging 6 pounds each for a pill and a decoction, and Pitt in 1703, stated that the apothecaries had been known to make 150 pounds to 320 pounds out of a single case and that the prescription charges were at least 90% more than

In 1617 the travelling apothecaries set up as practitioners who not only sold drugs but prescribed them

shop prices. In 1687, the College of Physicians bound their fellows and licentiates to treat the sick and poor of London and its suburbs free of charge, which strained the situation still further and, in 1696, 53 influential physicians subscribed 70 pounds each to establish dispensaries for supplying drugs to the poor at cost price.

War was now joined, not only between physicians and apothecaries, but an internicine wrangle broke out among the dispensarians and anti-dispensarians, the latter being, of course, favoured by the apothecaries.

A lively bout of scurrilous pamphleteering ensued and in 1699 Garth published "The Dispensary", a satirical poem, stating the injustice of the dilemma forced upon the physicians "to cheat as tradesmen, or to fail as fools".

Formerly apothecaries diagnosed diseases of their customers and supplied them with the medicaments for treatment. This practice was looked upon by the physicians as being unfair, and in

... continued court cases between physicians and apothecaries in the 16th century

France and England in the 16th and 17th centuries there were continual disputes between them and the apothecary. In France the argument was settled in the 17th century in favour of the physicians. In England, however, the decision was against the physicians. Public sentiments there, in the 17th century, was strongly in favour of the apothecaries.

In the early part of the 18th century an apothecary who had prescribed medicines was arrested and tried as a test case. The trial aroused considerable partisanship. The apothecaries won the trial and were allowed to carry on a quasi medical practice until 1866 when the Law was changed to require a medical education as a prerequisite to the prescription of drugs.

South Africa sprung from the Cape of Good Hope — which was the unwilling off-spring of the great maritime colonial powers of Western Europe, Holland and England. Jan van Riebeeck (1618-1677) was destined to be the most celebrated Company's surgeon ever to land at the Cape on the Friday afternoon in April 1652. At the Cape discontentment between pharmacists and doctors has been recorded as early as 1795. In order to restore order and resolve chaos between the two professions, the British Government licensed the medical practitioner and the apothecary. This has been considered to be an important medical reform after 1795 and was very typical of the genius for organisation and administration that has been the most striking contribution of the British to colonial development the world over.

Jan van Riebeeck was the most celebrated Company's surgeon ever to land at the Cape of Good Hope

As early as 1807 the Supreme Medical Committee, the forerunner of our present South African Medical and Dental Council, laid down several principles for the future functioning of practitioners in the Cape Colony. Town and country were rigidly separated, and in the town distinction was to be made between prescribing practitioners and dispensers of medicine. Town practitioners and apothecaries were placed in separate categories and each group was forbidden to encroach upon the field of the other.

By the passing of Act No 34, the Medical and Pharmacy Act of 1891, the Colonial Medical Council and Pharmacy Board were created. The eventual fate of the Colonial Medical Council was that it was absorbed into the South African Medical and Dental Council on its creation in 1928.

1974 saw the first Act of Parliament relating solely to Pharmacies placed on the Statute Book with the gazetting of Pharmacy Act No 53 of 1974. This Act superceded the pharmacy part in the Medical Dental and Pharmacy Act of 1928. For

the first time pharmacy was recognised in South Africa as a health profession in its own right.

1974 also saw the first gazetting of the Medical Dental and Supplementary Health Services Professions Act No 56 of 1974. The Act consolidated and amended the laws providing for the establishment of the South African Medical and Dental Council, for control over the training of, and for the registration of Medical Practitioners, Dentists and Practitioners of Supplementary Health Service Professions; and to provide for matters incidental there to.

Section 52 of Act No 56 of the Medical, Dental and Supplementary Health Service Profession Act 1974 affirmed the Medical Practitioners' or Dentists' rights to dispense medicines under certain conditions.

Britain licenced the medical practitioner as well as the apothecary – an important medical reform after 1795

In part II of this series on dispensing, the current legislation will be discussed.

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