ABSTRACT
Introduction: The ever-increasing technological advances of Western medicine have created new ethical issues awaiting answers and response. The use of genetic therapy, organ transplant, milk-banking, end-of-life care and euthanasia are of paramount importance to the medical students and need to be addressed.

Methods: A series of searches were conducted of Medline databases published in English between January 2000 and January 2017 with the following keywords: medical ethics, syllabus, Islam, jurisprudence.

Results: Islamic medical jurisprudence is gaining more attention in some medical schools. However, there is still lack of an organised syllabus in many medical colleges.

Conclusion: The outlines of a syllabus in Islamic medical jurisprudence including Islamic values and moral principles related to both the practice and research of medicine are explored.

KEY WORDS:
Medical Ethics, Syllabus, Islam, Jurisprudence, Teaching

INTRODUCTION
Phenomenal advances in medicine, especially in the last few decades, have made the old medical ethical codes obsolete in many ways. In the past, the main aim of medicine was to cure disease. Now, medical techniques are called upon for purposes which influence the community as a whole, as much as it involves the individual; e.g., in matters related to contraception, sterilisation, abortion and choice of sex. A faithful Muslim physician must understand every ethical issue in the guidelines of Shari‘ah (Islamic rulings), making the issues more comprehensible and easy for physicians, patients and their families. In Islam, bioethical deliberation is inseparable from the religion itself, which emphasises continuity between ethics and jurisprudence. Hence, Islamic Medical Ethics is tied up to the Islamic Law (Shari‘ah), as Islamic Law does not only legislate but also assigns moral values.1,2

This paper describes the outlines of a syllabus in Islamic medical jurisprudence that may be taught in the medical schools of the concerned countries.

Why the need for Islamic Medical Jurisprudence?
Despite the argument for a religiously neutral bioethics, the only way for many people (of any religion) to resolve serious bioethical problems is by referring to their religion. For Muslims, matters involving these questions are of utmost religious significance, and must be addressed in line with what they believe to be divine expectations about these issues.3 Given the wide range of ethical commands in Islam, Islamic ethical tradition devotes a special attention to the medical practice to ensure that such practice adheres to the Islamic Shari’ah (Law).4

The inclusion of Islamic views on bioethical subjects in medical school syllabus is a prerequisite for defining the field of bioethics, and for increasing awareness to these subjects, with the aim of integrating this discipline in the formal medical training programme. This program could contribute to the widening of horizons and to the teaching of humanistic values. Integrating these ethical subjects into the academic framework would improve the quality of medical care in their daily practice.

On matters of life and death, sexual morality, abortion, in vitro fertilisation, sperm, egg or embryo donation, surrogacy and genetic counselling; the clamour of opposing opinions arising from different camps in different countries is overwhelming. There is no consensus of opinion in such matters, even among doctors. The lawyers, members of parliament, the clergy, the media and the public at large, are all discussing these hair-raising contentious subjects. It is of paramount importance for Muslim physician to know at least the basic Islamic rules that regulate his profession.

It is true that new and advanced techniques such as genetic engineering and new methods of procreation have no precedent, and this makes it difficult for Islamic jurists to give clear-cut rulings. However, the jurists were very active over the last few decades, where they held many conferences, to which many doctors were called, to discuss issues such as brain death, abortion, contraception, milk banks, artificial insemination, in vitro fertilisation, surrogacy and organ transplantation.1 This is an unexpected achievement, which should greatly assist in formulating the rules on medical ethics in the field of rapidly advancing medicine of high technology.

Objective of the syllabus
This syllabus aims at graduating a Muslim physician who...
knows and practices Islamic rulings about health and disease, and who is capable of instructing his patient, according to his knowledge in medical sciences and its Islamic rulings. It should include the Islamic rulings related to the acts of worship during the course of illness, the rulings on medical practice and its ethics, and the Islamic rulings that regulate new medical achievements.

Contents of the syllabus
A syllabus in Islamic medical jurisprudence should contain a study of the following two main items of Islamic jurisprudence, as a brief out-look, with more detail to those aspects related to the practice of medicine and its ethics. Islamic jurisprudence is divided into two parts;
I. Usul (fundamentals): which formulate the basic sources of Islamic laws. It is important for the practicing physician to know how new rules for new problems arising in the field of medicine are reached. If he has a fair idea about “Usul”, he would appreciate these rulings arrived at by the jurists. He should be competent enough to understand and even take part in the discussions of the jurists to arrive at new rulings in newly discovered medical techniques that encroach upon human life and morality.

The main sources of Islamic law (Shari’a) consisted of:
1. The Holy Qur’an.
2. The Sunna: (The trodden path) which includes the sayings of the prophet Muhammad Peace Be Upon Him (PBUH ); which is known as the “Sunna Qawliyya” or Hadith, the deeds and acts of the prophet “Sunna Filyya”, and the prophet approvals “Sunna Taqririyya” whether they are expressed or implied.
3. The Qiyaṣ; or “Ijtihad” whereby the jurists or Qadi (judge) would use analogy and reasoning to arrive at the judgment that is not mentioned in the Holy Qur’an or Sunna.
4. Ijma: this is the consensus of opinion of jurists. It is well-known that true Ijma of the jurists over the world has been always difficult to meet. However, achieving the consensus of the majority of opinions is a more realistic option. Some jurists would limit Ijma to the era of Sahaba (companions of the Prophet), others will extend it to all ages.

There are other sources like “Almasalih Al Mursalah” which is held by the Maliki School. This simply means taking care of public interest, provided it does not clash with a clear text of the Holy Qur’an or Sunna. The Hanafi School has a similar source which they call “Istihsan”; i.e. seeking the best solution for the general interest.3

This superstructure is very rational. This is seen especially in the use of Qiyaṣ (analogy) in the development of shari’ah (Islamic law). For example, wine is the only alcoholic beverage mentioned in the Qur’an, but since its consumption is prohibited, the jurists have, by analogy, extended the prohibition to all similar alcoholic drinks. A similar approach is followed by contemporary scholars searching for a solution for current debates in medical ethics in line with the Islamic principles.4 For example, it is a religious duty in Islam to have children, and since it is commendable in Islamic Sunni law provided it is practiced within the husband and wife, and during their marital contract – otherwise the process would not be allowed (Haram) and may be tantamount to adultery.7
II. Furu’- i.e. branches of Islamic jurisprudence which includes the details of every aspect of life and worship (Ibadat and Mu’amalat).

Syllabus medical subjects
The syllabus should contain subjects of the day-to-day problems faced by the practicing physician. Issues not related to the profession should not be included or, if included, should be studied very briefly.

Taharat (cleaning)
The rules of Taharat (cleaning) and Najasat (dirt) which will involve human excreta and secretions such as semen, menses, vaginal discharge, urethral discharge, etc., will be studied. The rules of the cleaning (Taharat) of those suffering from anal fistulas, vaginal fistulas, colostomies, incontinence, and those having to put dressings for their wounds or plaster for their fractures should all be included. The rules of the prayers (Salat) of the sick and the disabled should also be explained.

Fasting
Similarly, the rules on fasting of the sick; when they should stop fasting and when they are allowed to fast? Can the patient receive blood if he is fasting? Can the pregnant or breast-feeding lady fast? Can enemas, eye drops, ear drops or suppositories be used during the period of fasting? A detailed resolution was issued by the Council of Islamic Fiqh Academy in 1997 on fast-breaking substances in medical treatment and this resolution should be thoroughly explained.8

Prohibited substances
The syllabus should discuss the Islamic rules on the use of prohibited substances in treatment – e.g., alcohol in medicines; drugs derived from porcine origin – e.g., porcine insulin or porcine enzymes, or porcine valves for the heart as valve replacement, or porcine skin or organs for transplantation. A fair idea of Islamic rules of “halal” (allowed) and “haram” (forbidden) food and drink should be given to the medical student.

Examining the opposite sex
Similarly, the rules on examining the opposite sex and examining sensitive parts called “awra” should be clarified. Patients typically prefer same-gender providers and may feel uncomfortable when alone with a physician of the opposite gender. A Muslim doctor examining a female patient must have a third party in room (i.e. nurse) so that the issue of sexual harassment will not be a serious problem. Most Islamic scholars believe that a patient seeking non-urgent treatment should choose a physician according to the following order of decreasing preference: Muslim of the same gender, non-Muslim of the same gender, Muslim of the opposite gender, non-Muslim of the opposite gender.6

All Muslim scholars state that necessity allows things that are ordinarily forbidden to be permissible. Ibn Qudama, (an eighth-century Hijra/14 Century CE) Hanbali scholar, writes: “it is permissible for the male doctor to inspect whatever parts of the woman’s body that the medical examination
warrants.” Scholars are also clear that female doctors may fully examine male patients in cases of necessity. In all cases, a third party of the same gender as the patient is required to be present for the examination.10

**Doctor-Patient relationship**

The rules that control the medical ethics and medical practice and the relationship between the patient and his/her doctor should be discussed with enough detail to give the student a fair knowledge of the Islamic rules that regulate his daily practice.11,12

**Marriage and Pregnancy**

The Islamic rules that regulate marriage should be studied in general terms. Premarital medical counselling and examination is a prerequisite in many Islamic countries to do the contract of marriage. Genetic counselling rules on the progeny, duration of pregnancy, rules of the rights of the foetus and embryo, and Islamic rules about breast-feeding and nursing of the baby, should all be included in the syllabus. Sexual practices and Islamic rules should be clarified. Premarital and extramarital relations, sexual perversions, homosexuality and rape should all be discussed in depth from an Islamic perspective.

The Islamic rules on contraception, sterilization and abortion should be carefully studied. Muslims conclude that foetal ensoulment occurs 120 days from the day of conception—an important consideration in discussions about termination of pregnancy. An existing life, with its responsibilities and ties, takes precedence over a developing one. If the continuation of pregnancy exposes the mother’s life to danger, then all Muslim scholars agree that termination of pregnancy is justified. Termination for any other reason is strongly and consistently discouraged.13

**New methods of procreation**

The Islamic rules on new methods of procreation, e.g. artificial insemination, in vitro fertilization, donation of sperms, ova (eggs) or embryos, with ensuing formation such as semen banks, egg banks or embryo banks, should all be studied. Islamic law frowns on any use of assisted reproductive technology with no medical justification. Surrogacy is prohibited in Islamic law.7 Islamically, the involvement of a third person in the dyad of legal husband and wife is totally unacceptable, whether it is a sperm, an ovum, an embryo, or a uterus.7

**Abortion**

Congenital malformation of the foetus, and hence whether to allow abortion or not was the subject of many conferences held by Muslim jurist. If the malformation is untreatable, unmanageable and very serious, then abortion may only be carried out prior to the 120th day of conception (calculated from the day of fertilization, not from the last menstrual cycle). Beyond 120 days, (i.e., after the ensoulment,) abortion is only allowed if there is a danger threatening the mothers’ life and not only her health. These rulings should be explained carefully and applied universally in Muslim countries.14

**Genetic engineering**

Whilst genetic research and gene therapy may have positive usage in seeking to restore health, special care must be undertaken to ensure that the Islamic principles are not violated. The Islamic Jurisprudence Council of the Islamic World League15 in 1998 gave the following guidance: “allow the use of genetic engineering for disease prevention and treatment, provided they do not cause further damage; forbid the use of engineering in evil and criminal use or what is forbidden religiously; forbid using genetic engineering to change human personality”.15 Islam places great emphasis on paternity and provides a fundamental insight on its clarity to protect human dignity and build a united blessed family structure. The resolution of the Islamic Fiqh Academy in its 16th session held in Makkah in 2002, approved the following: it is not permissible to rely on genetic profiling in denying paternity, and it shall not have priority over the oath of condemnation.16

While the majority of Islamic jurors permit Human Embryonic Stem Cells (hESC) research, all agree that that creating embryos for the sole purpose of research is prohibited. The Islamic Fiqh council of Islamic World League, Makkah Al Mukaramah in its 17th session (19–23.10.1424 H/13–17 December 2003 CE) has declared Decree # 3 on Stem Cell Therapy stating that it is permissible to obtain stem cells, to be grown and used for therapy or for permissible scientific research, if its source is legitimate.14, 15 Both the Islamic Institute of Turkey and the Malaysian National Fatwa Council supported the hESC research.17

Problematic issues, such as growing embryos in vitro for the purpose of study of hereditary and congenital disease, or for the use as spare parts for organ transplantation for needy patients should all be scrutinized in an Islamic perspective.

**End-of-life issues**

Moral issues of medical practice near the end-of-life should be looked at from an Islamic context. Religious traditions may help the physicians, patients and other healthcare professionals to do their moral duties near the end-of-life. The Islamic concept concerning Do Not Resuscitate (DNR) decision has been clarified by the Presidency of the Administration of Islamic Research and Ifta, Riyadh, KSA, in their Fatwa No. 12086 issued on 28/3/1409 (1989). The Fatwa states that: “if three knowledgeable and trustworthy physicians agreed that the patient condition is hopeless; the life-supporting machines can be withheld or withdrawn. The family members’ opinion is not included in decision-making as they are unqualified to make such decisions”.18

The sanctity of human life rules out the demand for euthanasia. No one is allowed to deliberately end his life, or that of another human being. Saving life is encouraged, and reducing suffering with analgesia is however acceptable, even if, in the process, death is hastened.19

**Brain Death**

An Islamic consensus on brain death is lacking. Some equate brain death with cardiopulmonary arrest, both being death proper in Islamic law. Others hold brain death to be an in-between state between life and death, where life support need not be continued, while few have rejected the concept in Toto.20 Brain death has been acknowledged as representing true death by many Muslim scholars and medical organizations, including the Islamic Fiqh Academies of the Organization of the Islamic Countries, the Islamic Medical Council supported the hESC research.21
Association of North America (IMANA), and considered as legal rulings by multiple Islamic nations. However, consensus in the Muslim world is not unanimous, and an appreciable minority accepts death by cardiopulmonary criteria only. These should be discussed and elaborated on carefully.

Organ transplantation
Similarly, the Islamic rules on organ transplantation, should also be discussed in some detail. It is noteworthy that Malaysia was among the earliest countries to sanction organ transplantation. A fatwa regarding organ transplantation was issued in Malaysia in 1970 by the National Fatwa Council. The most detailed fatwa on organ transplantation was that of the Fourth International Conference of Islamic Jurists, held in Jeddah in February 1988. It endorsed all previous fatwas on organ transplantation, clearly rejecting any trading or trafficking of organs and stressed the principle of altruism.

Autopsy and post-mortem dissection.
Muslim legal scholars believe in the inviolability of human beings whether alive or dead. They assert that it is not permissible to assault a human whether dead or alive. The Standing Committee for Scientific Research and Ifta’a (legal opinion) divided the autopsy subject into three main categories: 1) Autopsy for the purpose of medicolegal investigation; 2) Autopsy for the purpose of verifying an epidemic disease to develop appropriate preventive measures; and 3) Autopsy for the purpose of scientific education and research. The Council approved autopsies for all cases that fall within the first and second categories, but disapproved the procedure when bodies are sold for scientific research because of the Prophet Mohammed’s hadith and the need to respect other individuals.

Other issues
Adverse Drug Reactions is responsible for a significant number of hospital admissions ranging from 0.3% to 11%. Pharmacogenomics is the study of the role of the genome in drug response. It analyses how the genetic makeup of an individual affects his/her response to drugs. A pilot study from Malaysia, showed that the majority of participated Malaysian future Doctors & Pharmacists demonstrated good knowledge and attitude towards pharmacogenomics. Islam encourages research and in Islamic jurisprudence axioms: “Avoiding harm takes precedence over bringing good.” It simply means if a certain action end in both good and harm, then it is preferable first to thwart off harm. However, if the benefit is much greater than the harm, then that action could be applied.

There are many dilemmas to be answered. Is it allowable to abort a foetus showing Downs syndrome, although even with this condition it is possible to live a quiet, peaceful life? If the Huntington’s disease gene is detected, is abortion justified, although the disease will not appear until age 40 or even 60? It is hoped that, in the near future, advances in gene therapy will remove the need to consider abortion in such cases.

CONCLUSION
The syllabus of Islamic medical jurisprudence comprises a wide spectrum of different ethical issues, with special reference to the comprehensive principles of Islam in this field. This syllabus is devoted for Muslim students or those who are interested in Islamic studies. Students would develop a critical understanding of the ethical issues applied to their future practice. The most important aspects of Islamic medical jurisprudence may be the rules on the new methods and techniques provided by tremendous advances in medicine and the moral changes of the societies. In this paper, we have highlighted the importance of teaching of Islamic medical jurisprudence and explored their applications. Once equipped with such knowledge and understanding, it is possible for the doctor to move beyond the “recipe book” approach of the medical school, and deal with the ethical problems faced in real-life with more confidence.

REFERENCES