Ramadan fasting during pregnancy: Obstetric risk stratification
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Abstract
Some women may wish to fast during pregnancy or lactation, for religious or spiritual reasons. This may pose a dilemma to the obstetric care provider, who has to balance the need for maternal and foetal wellbeing with the wishes and needs of the mother. This communication describes a pragmatic, shared decision making, based on patient centred approach to this challenging clinical situation. It highlights simple clinical and investigation based clues which allow obstetric risk stratification of women in pregnancy or lactation. This clinical and laboratory based assessment allows appropriate decision making regarding fasting, while keeping foeto-maternal safety paramount.

Keywords: Fasting, Ketonuria, Pregnancy, Ramadan, Religion.

Introduction
While Ramadan fasting is mandatory for able-bodied adult Muslims, antenatal and lactating women are exempt from this requirement.1,2 Many women however, prefer to observe the fast even during these phases of life. This poses a special challenge for the obstetrician, who has to balance respect for the person’s wishes, with concern for health of the mother and unborn child. This is a true test of person-centered care. In depth understanding of physiology, and empathic understanding can help many antenatal women fast safely.

Pre-Conception
Healthy women who are planning pregnancy need not abstain from fasting. However, they must be counseled to contact the obstetrician as soon as pregnancy is diagnosed. Women who wish to postpone pregnancy till the completion of the Ramadan month should be offered appropriate contraceptive measures.

Obstetric Risk Stratification
The current risk stratification scheme suggested for pregnant women prior to Ramadan3 is based solely on their glucose lowering therapy. Women with gestational diabetes mellitus on diet and metformin are classified as having high risk during fasting, while those requiring insulin, and women with pre-existing diabetes, are graded as facing a very high risk of complications.

This approach, however, totally neglects obstetric or foeto-maternal health. One should ideally practice a comprehensive obstetric risk stratification policy, rather than a solely pharmacology-based triage, in antenatal women.

It is obstetric history and examination, rather than drug history alone, which determines the feasibility of fasting. Any adverse event documented during the current or previous confinement, especially hypoglycaemia, dehydration/ hypotension or pregnancy loss, should be evaluated carefully regarding the safety of fasting. Women who may not be able to seek immediate obstetric care in the event of foetal or maternal compromise, or who may not be able to monitor themselves appropriately, should be discouraged from fasting. Evidence of intrauterine growth retardation, or reduced foetal movement, is a strict contraindication to fasting. Women with high risk pregnancies should be firmly discouraged from fasting, while an individualized decision can be taken for those with no obvious high-risk factor.

From an obstetric viewpoint, all antenatal women with diabetes are labelled as having high risk pregnancies. We mention pragmatic points which may help women with diabetes, and their health care professionals, reach an informed and shared decision regarding Ramadan fasting.

First Trimester
The first trimester of pregnancy may be accompanied by nausea and vomiting. Ketonuria, precipitated by dehydration and reduced oral intake, is frequent during this phase, and has deleterious effects on organogenesis.4

Women who wish to fast must monitor urine ketones at the end of each fasting period, on a daily basis. Early
morning ketonuria should be checked in women with uncontrolled vomiting. Women without ketonuria may fast safely, and should take special care to maintain hydration. Repeated ketonuria, not responding to overnight oral hydration, is an indication for discontinuation of the fast. Signs of maternal distress, such as tachycardia, hypotension, and dehydration should prompt reconsideration of the decision to fast. Any sign of maternal compromise is an indication for immediate termination of fast.

**Second and Third Trimesters**

The second trimester is a phase of pregnancy in which a physiological fall in blood pressure occurs. This may be aggravated during prolonged fasting. Symptoms and signs suggestive of foetal compromise, such as reduced foetal movements, or maternal compromise, i.e., vomiting, syncope, dehydration, tachycardia, hypotension and postural hypotension must be taken seriously. Acute onset oligohydramnios indicates foetal stress and discourages fasting.

Women can be monitored by physical examination during periods of fasting. Quickening, expected at 16-18 weeks gestation in primigravida, and at 15 weeks onwards in multigravida, must be anticipated. Abdominal circumference and fundal height must be checked weekly. A <1 cm/week increase in either parameter should prompt detailed investigations and a reconsideration of the safety of fasting.

The foetus cannot tolerate fasting for periods more than 8 hours. Loss of foetal movement is an absolute indication for termination of fasting, as sudden intraterine death may be precipitated by foetal hypoglycaemia, hypokalaemia or hypoxia. Non-reactive non-stress test (NST), oligohydramnios, poor biophysical score, abnormal colour Doppler indices, and evidence of intrauterine growth retardation (IUGR) should be taken as absolute contraindication to fasting. Abnormal biochemical values such as raised liver enzymes and uric acid should firmly discourage fasting.

**Active Labour**

Fasting should be avoided in active labour. While certain centers practice nil per orally (NPO) policy during labour, there is no evidence to support this practice. The NPO policy, which began as a safeguard against possible aspiration in emergency operative deliveries, has been made redundant by modern advances in anaesthesiology. Hence, women in active labour should recuse themselves from fasting.

**Lactation**

Lactating women should not fast. Women who wish to fast during this period should be counseled that extra calories are needed to maintain adequate breast milk production. Women must monitor their overall health, the quantity of food, and take an individualized decision, in consultation with the obstetrician or physician, if they wish to fast.

**Pragmatic Advice**

Ideally, fasting should be discouraged during the antenatal period, labour, and lactation. However, it is understood that some persons may wish to fast for spiritual reasons. Obstetric factors, along with medical ones, should guide decision making in this regard. Women can be informed about religious teachings which allow them to make up for lost days of fasting, after their confinement is over. Antenatal and lactating women who insist on fasting should remain under close obstetric supervision, and be encouraged to consume copious
nutritious liquids during the non-fasting period. Fruit juice, buttermilk, coconut water are suitable examples. Irrespective of personal wishes, foetal and maternal safety and well being must be kept paramount in all decision making.

References
1. The Holy Quran: Chapter 2 al-Baqarah 2:185
2. Shaykh Ibn Uthaymeen (may Allaah have mercy on him): Fatawa al-Siyaam; p. 162