

Risk Factors Related to Heartburn in Pregnant Women Attending the Antenatal Care Clinic, Rajavithi Hospital

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Objective: To determine the risk factors related to heartburn in pregnant women attending the antenatal care clinic, Rajavithi Hospital.

Material and Method: Self-reporting questionnaire about demographic data and risk factors related to heartburn in those pregnant women between May 1 and July 31, 2010.

Results: Heartburn was found in 55 out of 452 pregnant women (12.2%). There were no significant differences in demographic characteristics and risk factors between the heartburn and non-heartburn groups. Consumption of alcoholic drinks was a reversely significant risk factor of heartburn (OR 0.11, CI 0.01 to 0.78) ($p = 0.005$).

Conclusion: Heartburn was not uncommon, and no associated factors were demonstrated.

Keywords: Heartburn, Risk factor, Pregnancy

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Heartburn is defined as a burning sensation beginning in the epigastrium behind the breastbone, which often extends upwards to the neck and throat⁽¹⁻³⁾. Gastroesophageal reflux disease (GERD), a more-recently defined disease, is very similar to heartburn. Many researchers defined heartburn as one of the symptoms of GERD together with acid reflux or regurgitation⁽⁴⁻⁶⁾, and there is usually an overlap between prevalence of GERD and heartburn. Atlay et al previously reported that heartburn was common in about two-thirds of all pregnancies in their study and was significantly more common in white females than in black females⁽⁷⁾.

The pathogenesis of GERD and heartburn is complicated, multifactorial and controversial⁽⁸⁾. Rayner⁽⁵⁾ suggested that diminished basal lower esophageal sphincter pressure, impaired esophageal peristalsis and raised intra-abdominal pressure could produce GERD.

To our knowledge, there has been no comparable study in Thailand. Therefore, the present study was conducted to determine the prevalence of heartburn in pregnant women and to identify the associated factors of heartburn in pregnant women.

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Material and Method

Self-reporting questionnaires were collected from pregnant women attending the antenatal care clinic of Rajavithi Hospital between May 1 and July 31, 2010. The Hospital Ethic Committee approved the study and written informed consent was obtained from all participants. The inclusion criteria were singleton pregnancy with viable fetus regardless of gestational age. Women who had underlying diseases such as medical or obstetric complications were excluded. The questionnaire data included age, race, parity, pre-pregnancy weight, height, severity, and risk factors of heartburn. Heartburn in the present study was defined as a burning sensation or discomfort behind the breastbone that often extends upwards to the throat⁽¹⁾. All data were collected and analyzed using statistical software (SPSS, version 17.0, Chicago, IL). Statistical significance was set at $p < 0.05$.

Results

Four hundred eighty two pregnant women were included in the present study and 30 cases were excluded due to incomplete data. The prevalence of heartburn was 12.2% (55 of 452). None of the demographic characteristics such as age, occupation, race, body mass index, weight-gain during pregnancy, parity, and gestational age were statistically significantly different between the heartburn and non-heartburn groups. The p-value were 0.33, 0.28, 0.75, 0.69, 0.29,

Table 1. Comparison of risk factors between heartburn and non-heartburn group (n = 452)

Risk factors	Heartburn, n = 55	Non-heartburn, n = 397	Total	p-value	OR (95% CI)
Fat	4 (7.3)	67 (16.9)	71 (15.7)	0.067	0.39 (0.14-1.11)
Sugar	5 (9.1)	49 (12.3)	54 (11.1)	0.486	0.71 (0.27-1.87)
Chocolate	1 (1.8)	23 (5.8)	24 (5.3)	0.338	0.30 (0.04-2.28)
Coffee	2 (3.6)	52 (13.1)	54 (11.9)	0.071	0.25 (0.06-0.78)
Consumption of alcoholic drinks	1 (1.8)	59 (14.9)	60 (13.3)	0.005*	0.11 (0.01-0.78)
Onion	5 (9.1)	54 (13.6)	59 (13.1)	0.520	0.64 (0.24-1.66)
Spicy	35 (63.6)	279 (70.3)	314 (69.5)	0.316	0.74 (0.41-1.34)
Large meal	18 (32.7)	101 (25.4)	119 (26.3)	0.250	1.43 (0.78-2.62)
Eating before going to bed	12 (21.8)	69 (17.4)	81 (17.9)	0.421	1.33 (0.67-2.65)
Stress	9 (16.4)	44 (11.1)	53 (11.8)	0.257	1.57 (0.72-3.42)

* Statistical significance, $p < 0.05$

0.35, and 0.59, respectively. The mean ages were 28.1 and 27.4 years in the heartburn and non-heartburn groups respectively. Distribution of gestational age was similar in the heartburn and non-heartburn groups for example < 12 weeks of 5.4%: 3.0%, 12 to 28 weeks of 45.5%: 49.6%, and > 28 weeks of 49.1%: 47.4%, respectively. Consumption of alcoholic drinks was a reversely significant risk factor associated with heartburn, as shown in Table 1.

Discussion

The prevalence of heartburn in the present study (12.2%) was much lower than for Western women (68% to 78.8%)^(1,7,9), and slightly lower than Asian women of 32.1%^(3,6). Goh⁽¹²⁾ reported that GERD was more prevalent in the west than in Asia and it was becoming more widespread because of the westernization of lifestyles. Two Asian studies of heartburn and GERD reported the prevalence of heartburn was 32.1%⁽⁶⁾ and 22.8%⁽³⁾ in Indian and Singaporean pregnant women respectively. In many studies, variations in a number of factors such as race, gestational age, culture, and personal habits were assumed to be the explanation for the variation in the prevalence of heartburn and GERD in those studies. Different criteria for diagnosis, methodologies of data collection such as self-reporting, or two-way communication questionnaires could also be causes of these variations in the prevalence of heartburn and GERD.

All of the studied factors had no significant association with heartburn, except alcohol drinking, which showed the reverse significance factor. The overturned result had no scientific ground to support,

because several studies reported that alcohol is the most precipitated factor toward heartburn⁽¹⁰⁻¹²⁾. Dall'Alba et al⁽²⁾ reported that ingestion of monounsaturated fatty acid was a risk factor of pregnant women with heartburn. However, it was only of borderline statistical significance ($p = 0.061$). Fat was not a risk factor associated with heartburn in pregnant women in the present study.

In the study by Dall'Alba et al⁽²⁾, data on the intake of dietary components was collected using a 24-hour record and calculated using special software but there was neither any dietary 24-hour record nor calculation software program in the present study. Therefore, different methodologies and populations (Brazilian and Thai) in Dall'Alba et al⁽²⁾ and the present study were proposed to explain the different results.

In conclusion, heartburn was not uncommon, but no associated factors were demonstrated.

Potential conflicts of interest

None.

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ปัจจัยเสี่ยงสัมพันธ์กับอาการแสบร้อนกลางอกในหญิงตั้งครรภ์ ณ คลินิกฝากครรภ์ โรงพยาบาลราชวิถี

เอกชัย ไคววีสารัช, รวีวรรณ พรหมศิลา

วัตถุประสงค์: เพื่อศึกษาปัจจัยเสี่ยงสัมพันธ์กับอาการแสบร้อนกลางอกหญิงตั้งครรภ์ ณ คลินิกฝากครรภ์ โรงพยาบาลราชวิถี

วัสดุและวิธีการ: ใช้แบบสอบถามตอบเองเกี่ยวกับข้อมูลทั่วไปและปัจจัยเสี่ยงสัมพันธ์กับอาการแสบร้อนกลางอกระหว่างวันที่ 1 พฤษภาคม ถึง 31 กรกฎาคม พ.ศ. 2553

ผลการศึกษา: พบอาการแสบร้อนกลางอกในหญิงตั้งครรภ์ 55 ใน 452 คน (ร้อยละ 12.2) ไม่มีปัจจัยเสี่ยงใดมีความแตกต่างอย่างมีนัยสำคัญระหว่างกลุ่มมี/ไม่มีอาการแสบร้อนกลางอก การดื่มแอลกอฮอล์เป็นปัจจัยเสี่ยงที่มีนัยสำคัญด้านกลับต่ออาการแสบร้อนกลางอก (OR 0.11, CI 0.01 to 0.78) ($p = 0.005$)

สรุป: อาการแสบร้อนกลางอกไม่ถึงกับพบบ่อย และไม่มีความสัมพันธ์กับปัจจัยเสี่ยงใด