

Maternal Knowledge, Attitude and Practice of Safety Belt Use During Pregnancy at Srinagarind Hospital

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Abstract

From January 2002 to July 2002, 260 pregnant women of more than 20 weeks gestation at the antenatal care unit of Srinagarind Hospital, who fulfilled the criteria and had signed consent forms, and had answered the structured questionnaires. This cross sectional study showed that 230 women (88.5%) had an acceptable level of knowledge. Only 85 pregnant women (32.7%) had received information about safety belt use during pregnancy and mostly from books or magazines. There were 97, 154, and 9 pregnant women (37.3%, 59.2%, and 3.5%) who had a good, fair and poor attitude about safety belt use during pregnancy. Prevalence of safety belt use during pregnancy was 93.5 per cent and 17 pregnant women (6.5%) never used it during pregnancy. The most frequent reason for not wearing safety belt was discomfort. Two hundred and twenty pregnant women (90.5%) identified the correct position of safety belt use.

Key word : Pregnancy, Safety Belt, Knowledge, Attitude, Practice, Maternal, Srinagarind Hospital

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Trauma occurs in approximately 6-7 per cent of all pregnancies, and about half of these injuries are due to motor vehicle accidents^(1,2). In pregnant women, the injuries resulting from car accidents are different due to the anatomic and physiologic changes in pregnancy, as most pregnant women continue normal daily life including driving and traveling by car⁽³⁾.

The leading cause of fetal death in motor vehicle accidents is maternal death, and the most

common cause of maternal death is ejection from the vehicle⁽⁴⁾. Maternal mortality has been reported to be 33 per cent when the woman is ejected from the vehicle *versus* only 5 per cent when she is not. When the mother is ejected, fetal mortality is 47 per cent compared to 11 per cent when the mother remains in the vehicle⁽⁴⁾. Fetal death is therefore decreased by safety belt use because it prevents ejection and decrease maternal mortality.

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The American College of Obstetricians and Gynecologists has formulated guidelines for use of automobile passenger restraints during pregnancy. There is no evidence that a safety belt increases injury to fetus, uterus or placenta⁽⁵⁾. Despite the benefits of a safety belt, pregnant women often hesitate to use it. Pearlman and Phillips found that a third of women did not use a safety belt or used it incorrectly⁽⁶⁾. Similarly, Tyroch et al reported that while 86 per cent used restraints while pregnant, almost half used them incorrectly⁽⁷⁾. In addition, some women apparently discontinued the use of safety belt during pregnancy because of discomfort or poor fit⁽⁷⁾.

The present study was conducted to determine the prevalence of using a safety belt during pregnancy and to study the pregnant women's knowledge, attitude and practice toward using a safety belt during pregnancy.

MATERIAL AND METHOD

A descriptive study was conducted at the antenatal care clinic, Srinagarind Hospital, Khon Kaen from January 2002 to July 2002. The study protocol was approved by The Ethics Committee of the Khon Kaen University.

The survey was given to two hundred and sixty pregnant women who presented consecutively for antenatal care. All subjects gave informed consent before the study. At the time of the study, Srinagarind Hospital had no specific policy regarding safety belt education.

Two hundred and sixty subjects were recruited in the study. The inclusion criteria were pregnant women whose gestational age was 20 weeks at least and used a car which had safety belts. Regarding the self-administered structured questionnaire, content validity was approved by experts. Reliability testing was performed by Cronbach's alpha coefficient. Reliability coefficient of knowledge and attitude were 0.74 and 0.82, respectively.

In the structured questionnaire, there were 10 closed-end questions for assessing their knowledge, 10 closed-end questions for assessing attitude and 6 closed-end questions for assessing practice. To decide whether they had adequate knowledge or not, the correct answer to 6 of 10 questions (60% in the part of knowledge) were the cut off point. There were 10 questions for assessing their attitude and each question had 4 levels of agreement. The authors divided attitude level as good, fair, and poor at 31-40, 21-30, and 10-20 scores. Assessment of practice was assessed

as frequency for use, reasons of use, and position of use.

Regarding statistical analysis, data were presented as percentage.

RESULTS

The mean age of the pregnant women was 28.8 ± 4.5 years (range 15-40 years). Two hundred and fifteen pregnant women (82.7%) lived in Khon Kaen. One hundred and forty-nine pregnant women (57.3%) were nulliparous. The most common academic degree was a bachelors degree in 52.7 per cent. Government officer was the most common occupation in 40.4 per cent. Mainly, the monthly incomes per family were 10,001-20,000 baht (43.8%) and 5,001-10,000 baht (23.1%). The most popular type of car was a pick up (70%). Two hundred and eighteen pregnant women (83.9%) sat beside the driver. Traveling distance per day were less than 10 kilometers in 138 pregnant women (53.1%) and between 11-20 kilometers in 55 pregnant women (21.1%).

1. General characteristic

Table 1. Maternal age.

Maternal age (year)	Number	%
15-20	11	4.2
21-25	49	18.9
26-30	116	44.6
31-35	64	24.6
36-40	20	7.7
Total	260	100.0

Table 2. Geographic distribution.

Per cent (number)

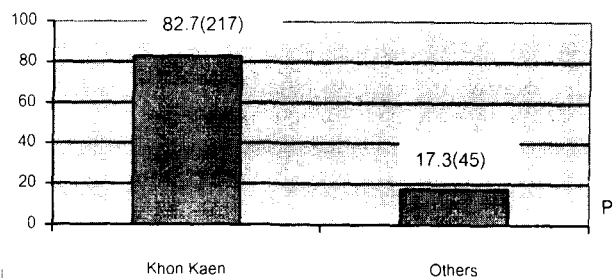


Table 3. Parity.

Parity	Number	%
0	149	57.3
1	89	34.2
2	22	8.5

Table 4. Gestational age.

Gestational age (week)	Number	%
20-28	101	38.8
29-37	113	43.5
38-42	46	17.7
Total	260	100.0

Table 5. Education.

Level of education	Number	%
1. Primary	12	4.6
2. Secondary	73	28.1
3. Postsecondary	38	14.6
4. University and higher	137	52.7
Total	260	100.0

Table 6. Occupation.

Occupation	Number	%
1. Government officer	105	40.4
2. Housework	64	24.6
3. Employee	46	17.7
4. Business	41	15.8
5. Agriculturer	4	1.5
Total	260	100.0

Table 7. Average family income per month.

Average family income per month (baht)	Number	%
Less than 5,000	19	7.3
5,001-10,000	60	23.1
10,001-20,000	114	43.8
20,001-30,000	51	19.6
more than 30,000	16	6.2
Total	260	100.0

Table 8. Type of car.

Type of car	Number	%
1. Pick up	182	70.0
2. Sedan	77	29.6
3. Van	1	0.4
Total	260	100.0

Table 9. Seat of the pregnant women.

Seat	Number	%
1. Beside the driver	218	83.9
2. Driver	42	16.1
Total	260	100.0

Table 10. Traveling distance per day.

Traveling distance per day (kilometer)	Number	%
≤ 10	138	53.1
11-20	55	21.1
21-30	26	10.0
31-40	2	0.8
41-50	9	3.5
51-60	10	3.8
61-70	4	1.5
71-80	9	3.5
more than 80	7	2.7
Total	260	100.0

Two hundred and thirty-three women (88.5%) had an acceptable level of knowledge. Eighty-five women (32.7%) had received information on safety belt use during pregnancy. The most common information sources were books (72.9%), followed by broadcast (30.6%), husband (20.0%), health care providers (16.5%), policemen (9.4%) and friends (9.4%).

Regarding their attitude towards safety belt use, 45 per cent (117/260) thought that wearing a safety belt during pregnancy caused discomfort, 40 per cent (104/260) felt bored about using a safety belt, 33.5 per cent (87/260) thought that wearing a safety belt during pregnancy was harmful to the fetus. However, 77.7 per cent (202/260) thought that pregnant women always wore a safety belt when driving.

The frequency of safety belt use reported during pregnancy was : always ($n = 77$, 29.6%), often ($n = 66$, 25.4%), sometimes ($n = 100$, 38.5%) and never ($n = 17$, 6.5%).

One hundred and seventeen women stated that they sometimes or never used a safety belt during pregnancy; their reasons included discomfort (54.7%), harming the fetus (35.9%), travelling a short distance (4.3%), poor fit (3.4%) and forgot to use it (1.7%). Two hundred and forty-three women (90.5%) identified the correct position of safety belt use during pregnancy.

2. Knowledge

There were 230 pregnant women who had 6 or more correct answers from 10 questions that the researcher assigned as having knowledge.

Table 11. Number of correct answers.

Number of correct answers	Number	%
2/10	2	0.8
3/10	4	1.5
4/10	4	1.5
5/10	20	7.7
6/10	28	10.8
7/10	31	11.9
8/10	27	10.4
9/10	44	16.9
10/10	100	38.5
Total	260	100.0

Table 12. Measuring of knowledge questions.

No 1.	Driver and all passengers must use safety belt.
No 2.	Safety belt use in ordinary people can prevent danger during accidents.
No 3.	Safety belt use in pregnant women can prevent danger during accidents.
No 4.	When driving a short distance safety belt use is unnecessary.
No 5.	Safety belt use in pregnancy can be more harmful to the mother.
No 6.	Safety belt use in pregnancy can be more harmful to the fetus.
No 7.	Safety belt use in pregnancy can cause an abortion.
No 8.	Safety belt use in pregnancy can cause pre-term labor.
No 9.	Now, By law the driver and the passenger in the front seats must use a safety belt.
No 10.	Safety belt can prevent ejection outside the vehicle during an accident.

Table 13. Source of safety belt use during pregnancy which the pregnant women received.

Source	Number of checks
1. Book, magazine, brochure	62
2. Radio, television	26
3. Husband	17
4. Physician, nurse, paramedic	14
5. Police or traffic police	8
6. Friend or associate	8

3. Attitude

Table 14. Level of attitude about seat belt use during pregnancy.

Level of attitude about seat belt use during pregnancy	Number	%
1. Good	97	37.3
2. Fair	154	59.2
3. Poor	9	3.5
Total	260	100.0

Table 15. Measuring of attitude question.

No 1.	Do you think that safety belt use during pregnancy has more benefits than risks ?
No 2.	Do you believe that safety belt use during pregnancy is more harmful to the fetus ?
No 3.	Do you believe that when gestational age increases a safety belt should no longer be used ?
No 4.	Do you feel bored with safety belt use during pregnancy ?
No 5.	Do you feel bored with the advice about safety belt use during pregnancy ?
No 6.	Do you think that safety belt use during pregnancy is uncomfortable ?
No 7.	Do you think that you should advise your friends or associates who are pregnant to use a safety belt during pregnancy ?
No 8.	Do you believe that safety belt use during pregnancy can cause congenital fetal anomalies ?
No 9.	Do you believe that safety belt use during pregnancy can make it difficult to get out of the vehicle after an accident ?
No 10.	Do you think that pregnant women should use a safety belt ?

4. Practice

Table 16. Frequency of safety belt use before and during pregnancy.

Frequency	Before pregnancy number	%	During pregnancy number	%
Always	43	16.5	77	29.6
Usually	124	47.7	66	25.4
Sometimes	87	33.5	100	38.5
Never	6	2.3	17	6.5
Total	260	100.0	260	100.0

Table 17. Reasons for always or usually using a safety belt during pregnancy.

Reasons	Number	%
1. Fetal safety	78	54.5
2. Laws	42	29.4
3. As usual	18	12.6
4. Other reasons	5	3.5
Total	143	100.0

Table 18. Reasons for sometimes or never using a safety belt during pregnancy.

Reasons	Number	%
1. Discomfort	64	54.7
2. Fear it can be harmful to the fetus	42	35.9
3. Short distance of traveling	5	4.3
4. Not suitable for her body	4	3.4
5. Other reasons	2	1.7
Total	117	100.0

Table 19. Comparing frequency of safety belt use during pregnancy with before pregnancy.

Frequency	%
1. Increased	36.1
2. Equal	20.4
3. Decreased	43.5
Total	100.0

Table 20. Position of safety belt application in each pregnant women.

Position of application	Number	%
As Fig. 1	220	90.5
As Fig. 2	7	2.9
As Fig. 3	16	6.6
Total	243	100.0

DISCUSSION

Motor vehicle accidents are a significant contributor to deaths in pregnancy. Studies have clearly demonstrated the positive impact of a safety belt and other restraint systems on injury outcome after motor vehicle accidents^(8,9). However, little is known about safety belt use during pregnancy including actual use and the effect of belt placement on pregnancy outcome. This survey was designed to establish the use and placement of safety belt use among pregnant



Fig. 1. Picture of position of safety belt application in each pregnant woman.

women, and the source of information for that knowledge among women attending a tertiary hospital prenatal clinic.

Prevalence of safety belt use during pregnancy in the present study was 93.5 per cent. Most of the subjects had adequate knowledge and a fair attitude.

Reasons for not wearing safety belt in the present study were discomfort (54.7%), fear of harming the fetus (35.9%) same as Pearlman⁽⁵⁾ that the reason was discomfort (48.5%), never using a safety belt (29.4%), fear of hurting the baby (16.2%).

Applying the results of the study in clinical practice should be considered because about half of the subjects sometimes or never used a safety belt during pregnancy. Therefore, pregnant women should be encouraged to wear properly positioned three-point restraints throughout pregnancy while driving or traveling in an automobile.

The lap belt position of the restraining belt should be placed under the abdomen and across the upper thighs. The belt should be snug and as comfortable as possible. The shoulder belt also should be

snugly applied and positioned between the breasts. The fixed point of the shoulder belt in the vehicle should be appropriate with the height of the users.

A correctly fitted safety belt should be worn during pregnancy to reduce the risk of maternal and fetal morbidity and mortality. The prevalence of safety belt use in the present study was 93.5 per cent. Most pregnant women (80.4%) did not always use. Some pregnant women used it improperly. Most common reason for not wearing a safety belt was discomfort. Some women had received education from health care providers about using a safety belt, thus emphasizing the importance of discussing the use of a safety belt during pregnancy with all pregnant women.

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ความรู้ ทักษะและการปฏิบัติของสตรีตั้งครรภ์เกี่ยวกับการใช้เข็มขัดนิรภัยที่โรงพยาบาลศรีนครินทร์

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สตรีตั้งครรภ์ 260 คน ที่มารับบริการฝากครรภ์ที่โรงพยาบาลศรีนครินทร์ที่มีอายุครรภ์ตั้งแต่ 20 สัปดาห์ขึ้นไป และใช้รถยนต์เป็นประจำวันซึ่งมีเข็มขัดนิรภัยทั้งที่คนขับรถยนต์หรือที่ผู้โดยสารนั่งแถวหน้าในระยะเวลาตั้งแต่ มกราคม 2545 ถึง กรกฎาคม 2545 เป็นกลุ่มตัวอย่างโดยให้ตอบแบบสอบถามหลังจากลงชื่อในใบยินยอมเพื่อทำการศึกษ ผลการศึกษาพบว่าสตรีตั้งครรภ์ 230 คน (ร้อยละ 88.5) มีความรู้เรื่องการใช้เข็มขัดนิรภัยอยู่ในเกณฑ์ดี สตรีตั้งครรภ์เพียง 85 คน (ร้อยละ 32.7) เท่านั้นที่ได้รับข้อมูลเกี่ยวกับการใช้เข็มขัดนิรภัยขณะตั้งครรภ์ โดยแหล่งข้อมูลส่วนใหญ่ได้จากหนังสือหรือวารสาร จากการศึกษาถึงทัศนคติพบว่าสตรีตั้งครรภ์จำนวน 97 คน (ร้อยละ 37.3), 154 คน (ร้อยละ 59.2) และ 9 คน (ร้อยละ 3.5) มีทัศนคติต่อการใช้เข็มขัดนิรภัยขณะตั้งครรภ์อยู่ในระดับดี ปานกลางและไม่ดี ตามลำดับ จากการศึกษาถึงการ ปฏิบัติ อุบัติการณ์ การใช้เข็มขัดนิรภัยขณะตั้งครรภ์อยู่ที่ร้อยละ 93.5 และ 17 ราย (ร้อยละ 6.5) ไม่ใช้เข็มขัดนิรภัยเลยในขณะตั้งครรภ์ เหตุผลของการไม่ใช้เข็มขัดนิรภัยที่พบมากที่สุดคือความรู้ลึกลับผิด ในการบอกตำแหน่งการคาดเข็มขัดนิรภัยในขณะตั้งครรภ์ พบว่า ร้อยละ 90.5 ของสตรีตั้งครรภ์บอกตำแหน่งได้ถูกต้อง

คำสำคัญ : ความรู้, ทักษะ, การปฏิบัติ, สตรีตั้งครรภ์, การใช้เข็มขัดนิรภัย, โรงพยาบาลศรีนครินทร์

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