Knowledge and attitude of pregnant women towards modes of delivery in an antenatal care clinic in Baghdad

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Abstract:

Background: Since 1985 the World Health Organization (WHO) had stated: "There is no justification for any region to have Caesarian Sections (CS) rates higher than 10-15%". Since then, CSs have become increasingly common in both developed and developing countries. The rate of CS has been reported to be as high as 24.5% and 25.8% among Iraqi women in the years 2009 and 2010 respectively.

Objectives: The study was designed to provide data on the level of existing knowledge, attitudes and preference of modes of delivery, which can be used as a platform to raise knowledge among pregnant women and their partners and thereby empowering women to make informed choices.

Patients and Methods: This cross-sectional study was undertaken in an antenatal care clinic in Baghdad Teaching Hospital, Medical City, and Baghdad from 1st Feb. -31st May 2016. All 300 pregnant attending antenatal clinic were interviewed with a structured questionnaire that solicited information on their knowledge, attitudes and preference towards modes of delivery.

Results: Mean age of pregnant women was 28.3 ± 9.8SD years and84.7% were not employed. More than half of them (54.3%) had married at younger age (<20 years). Educational levels were 43.3% primary, 18% secondary and 20.4% university levels. Knowledge of majority of pregnant mothers (82.6%) about modes of delivery were obtained from relatives. Half of pregnant women had good knowledge about modes of delivery, 51.3% of them had negative attitude toward CS, and 62% had positive attitude towards CS delivery in current pregnancy.

Conclusion: Study results emphasize the need for educating families, especially pregnant women and their partners about the pros and cons of different modes of giving birth to their babies.

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Introduction:

Increasing rate of birth by Caesarian Sections (CS) is an issue of concern among public health officials and the medical community in many countries. In 2008, CS rates were reported to be;18.5% in Jordan, 22.0 % in United Kingdom, 30.3 % in the United States of America, 41.9% in Iran, and 45.9 % in Brazil. Since 1985, the international healthcare community has considered the ideal rate for CSs to be between 10-15%. Since then, CSs have become increasingly common in both developed and developing countries (1, 2). Two new Homelessness research Program (HRP) studies showed that when CS rates rise towards 10% across a population, the number of maternal and newborn deaths decreases. When the rate goes above 10%, there is no evidence that mortality rates improve. Countries with CS rates below 10% were considered to show underuse, while countries with rates above 15% were considered to show overuse. (1, 3) In Iraq the percentage of CS in the public sector was 24.5% during 2009 increased to 25.8% during 2010, whereas in the private sectors the percentage was very much higher reaching 75.8% and 79.5% during the years 2009 and 2010 respectively. (4) Like other surgical operations, CS carries the risk of infection,including local wounds, pelvic, respiratory tract, and urinary tract infections, as well as lung emboli, venous thrombosis, and complications of anesthesia. Thus morbidity and mortality rates are higher in CS compared to normal vaginal delivery (NVD) in both mother and child (5). In addition, studies showed that financial burden of repeated CS, including duration of hospitalization, drugs used, and their complications, are significantly greater as compared to NVD. Other complications of CS are the increased risk of placental adherence and uterine rupture in subsequent pregnancies, intensive care admission, hysterectomy, problems with subsequent fertility (e.g., reduced fertility, ectopic pregnancy, miscarriage), and increased risks of fetal and neonatal mortality. (6) Reasons suggested for the increase in CS rates include advancing maternal age, socioeconomic factors, reduced parity and improvements in surgical techniques. Other relevant factors include type of health insurance, whether the hospital is private or public, whether or not there is a neonatal resuscitation unit, the size of the city, the obstetrician's experience and type of training and the time and day of delivery (7). A cohort study showed that women are increasingly inclined to opt for delivery by caesarean for non-medical reasons such as fear of labor pain, concerns about date or time

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of birth that are traditionally believed to be auspicious and the belief that delivery by caesarean ensures protection of the baby's brain(8). Although in specific situations CS can prevent serious morbidity and mortality of the fetus and mother, data indicated that in many cases the procedure is not indicated and vaginal delivery could have been achieved safely. It has been demonstrated that caesarean deliveries are associated with higher rates of maternal and perinatal morbidity than vaginal deliveries and that they increase maternal mortality by a factor of 5 to 7. The general public shows increasing acceptance of CS as the safest method of delivery for the newborn child, without being aware of its adverse consequences (9). Indeed, "caesarean on request" is an active topic in obstetrics. The demand for this mode of delivery may have been stimulated by obstetric practitioners who believe that, considering the long-termconsequences of vaginal delivery, the levels of mortality and morbidity of caesarean and vaginal deliveries are similar (10). The study was designed to provide data on the level of existing knowledge, attitudes and preference of modes of delivery, which can be used as a platform to raise knowledge among pregnant women and their partners and thereby empowering women to make informed choices.

Patients and Methods:

Across-sectional study was undertaken in an antenatal care clinic in Baghdad Teaching Hospital, Medical City, and Baghdad from 1st Feb. -31st May 2016. Data were collected from pregnant women who attended the antenatal clinic seeking routine prenatal care. All 300 pregnant womenattending antenatal clinic, were interviewed with a structured questionnaire (which was used in other studies for the same purpose). (5, 11) It solicited information on pregnant women'ssocio-demographic characteristics, obstetric history and 23 statements for evaluating their knowledge and attitude about vaginal delivery and CS; (12 for knowledge about modes of delivery, 6 for attitude to vaginal delivery and 5 for attitude to cesarean section). The questionnaires were filled in by the pregnant women at the maternity center. For scoring knowledge statements; grade 3 was assigned to each correct response and 2 for don't know and1 for incorrect answers. For scoring attitude statements; grade 3 was assigned to each positive response and 2 for don't know and1 for negative response. Cutoff point for correct answer was considered equal and more than the median score. (For knowledge statements, score of 24 and more was regarded as good, less than 24 as weak. For attitude statements toward NVD; score 14 and more was considered as positive, less than 14 as negative. For attitude statements toward CS; score 10 and more was considered as positive, less than 10 as negative. The study tool was pretested on 10 participants, who were excluded from the study (pilot study) sample to assess the reliability and applicability of the tool. The validity of the questionnaire contents was approved by obstetric specialists and the reliability "Cronbachs" coefficient of the knowledge and attitude statements was calculated as 7. Ethical approval for the study protocol was approved by the Community Medicine department, the scientific committee of Baghdad College of Medicine and the scientific committee of Medical City Complex Directorate. The data were analyzed using SPSS version 20. Variables were described and Chi Square and Fishers Exact tests were applied to find out any significant relationship between variables. P values less than 0.05 were considered as significant.

Results:

A total of 300 pregnant women were included in the present study with a mean age of 28.3 ± 9.8 years; 8.7% were below 19 years, 23% (20-24years), 26.7% (25-29 years) 21.7% (30-34 years) and 20% above 35 years of age. Most of studied women (84.7%) were not employed. More than half of the pregnant women (54.3%) had married at younger age (<20 years), 27.7% at 20-24 years and18% had got married at older than 25 years of age. The educational level of pregnant women was distributed as follows; 7.3% illiterate, 11% read & write 43.3% primary level, 18% secondary level and 20.4% university. The information of pregnant women about delivery modes were obtained mainly from family members and social relationships (82.6%), while those who obtain the information from the primary health centers and antenatal clinics constitute 12.7% only. About two thirds (66.7%) of pregnant women had ≥ 3 pregnancies, 17.3% had 2 pregnancies and 16% had one pregnancy, and no history of abortion in 60.7% of them. 20.3% had one abortion and 19% had 2 abortions. More than half (54.7%) of pregnant women had no history of cesarean section, 17.7% had one cesarean section and 27.6% of them had ≥2 cesarean sections history. Only 19.3% of studied women had no children, 41.7% had 1-2 children, 39.0% had 3 and more children. Results of the knowledge questions are shown in Table-1; the statements about CS indication for breech presentation and that for "Maternal morbidity is more frequent in CS than NVD "received the highest percentages of correct responses (87.7% and 70.3% respectively), while that regarding the indications for CS when there is child malformations, venereal disease and tubal ligation had the highest rate of incorrect responses (67.0%, 45.3%, 53.3% respectively). Table-2 shows the responses to attitude statements on NVD; "Seeing the baby immediately after NVD is a pleasure for the mother", "Mother regains her health status sooner after NVD than CS" and "NVD is natural and acceptable way of delivery" scored the highest positive response (97.7%, 96.3%, 92.3% respectively), while "in term of fear from anesthesia, NVD is preferable" scored the lowest positive response (86.7%). Table-2 also shows the responses to attitude statements on CS." CS is preferable as pain of NVD is unpleasant "scored the highest positive response (70.7%), while "CS is preferable in the absence of economic problems "scored the lowest positive response (20.3%). Half (150) of pregnant women had good knowledge about delivery modes, 137(91.3%) of them had positive attitude and 13(8.7%) had negative toward NVD. Furthermore 154 (51.4%) of them had negative attitude and146 (48.6%) had positive attitude

toward cesarean section as shown in Table-3. No significant association was observed between women's knowledge and their attitude toward NVD (p=0.69), but there was a significant association between women knowledge and attitude toward CS (p=0.02), as shown in Table-4. More than half of pregnant women (62%) had positive attitude towards CS, and 38% of them had positive attitude towards NVD in current pregnancy. There is a significant association between age, number of CS, husband education and number of children, and positive attitude towards CS in current pregnancy as shown in Table-5.

Table 1: Response to knowledge statements about vaginal delivery and CS for 300 pregnant women.

Knowledge statements	Expected answers	Correct		Incorrect		Don't Know	
		No.	%	No.	%	No.	%
1. Pain is less severe after CS than NVD	True	122	40.7	168	56.0	10	3.3
2. Maternal morbidity is more frequent in CS than NVD	True	211	70.3	57	19.0	32	10.7
3.C S is mandatory for tube ligation	True	65	21.7	160	53.3	75	25.0
4. CS is mandatory after one CS	True	152	50.7	138	46.0	10	3.3
5. CS is necessary for mother with venereal diseases	True	66	22.0	163	54.3	71	23.7
6.CS is mandatory to >35 years old mother	True	130	43.3	149	49.7	21	7.0
7. Bleeding in CS is less severe than NVD	False	104	34.7	156	52.0	40	13.3
8. Babies born by CS are more intelligent than by NVD	False	176	58.7	57	19.0	67	22.3
9. Baby's fractures are impossible in CS	False	100	33.3	148	49.3	52	17.3
10. Neonatal respiratory disorders are less frequent after CS than NVD	False	93	31.0	160	53.3	47	15.7
11. CS is mandatory in breech presentation	True	263	87.7	30	10.0	7	2.3
12. CS is mandatory when there is child malformation	True	67	22.3	201	67.0	32	10.7

Table2: Response to attitude statements about NVD and CS for 300 pregnant women.

NVD Attitude statements	Positive		Negative		Don't Know	
	No.	%	No.	%	No.	%
1.NVD is natural and acceptable way of delivery	277	92.3	14	4.7	9	3.0
2. Seeing the baby immediately after NVD is a pleasure for the mother	293	97.7	6	2.0	1	0.3
3. Mother regains her health status sooner after NVD than CS	289	96.3	7	2.3	4	1.3
4. NVD creates a more affectionate mother–baby relationship	266	88.7	25	8.3	9	3.0
5. In terms of outcome, NVD is more pleasant	263	87.7	31	10.3	6	2.0
6. In terms of fear of anesthesia, NVD ispreferable	260	86.7	30	10.0	10	3.3
CS attitude statements						
1. CS is preferable in the absence of economic problems	61	20.3	233	77.7	6	2.0
2. CS is preferable as pain of NVD is unpleasant	212	70.7	76	25.3	12	4.0
3. Babies born by CS are healthier than those delivered by NVD	89	29.7	171	57.0	40	13.3
4. Concurrent CS is a suitable option for tube ligation	192	64.0	50	16.7	58	19.3
5. CS prevents pelvic relaxation	153	51.0	85	28.3	62	20.7

Table 3: Relationship between women's knowledge and attitude to NVD

Knowledge score	Attitude score to NVD		P value
	NegativeNo. (%)	Positive No. (%)	
Weak	16 (10.7%)	134 (89.3%)	0.697
Good	13 (8.7%)	137 (91.3%)	
Total	29 (9.7%)	271 (90.3%)	

Table 4: Relationship between women's knowledge and attitude to CS

Knowledge score	Attitude score to CS		P value
	Negative No. (%)	Positive No. (%)	
Weak	67 (44.7%)	83 (55.3%)	0.028
Good	87 (58.0%)	63 (42.0%)	
Total	154 (51.4%)	146 (48.6%)	

Table 5: Association between socio-demographic characteristics and attitude to the mode of delivery in current pregnancy (Delivery mode preference).

Characteristics	Groups	Positive attitude towards mode of delivery in current pregnancy				P value
		Towards NVD		Towards CS		
		No.	%	No.	%	
Age	≤15-19	7	26.9	19	73.1	0.01
	20-24	26	37.7	43	62.3	
	25-29	35	43.8	45	56.3	
	30-34	15	23.1	50	76.9	
	≥35	31	51.7	29	48.3	
Number of CS	0	36	22.0	128	78.0	0.001
	1	30	56.6	23	43.4	
	>2	48	57.8	35	42.2	
Husband education	Illiterate	11	61.1	7	38.9	0.01
	Read &write	4	23.5	13	76.5	
	Primary	47	44.8	58	55.2	
	Secondary	24	27.0	65	73.0	
	University	28	39.4	43	60.6	
Number of live children	0	14	24.1	44	75.9	0.03
	1-2	57	45.6	68	54.4	
	3-4	35	39.3	54	60.7	
	≥5	8	28.6	20	71.4	

Discussion:

Half of pregnant women were judged to have good knowledge on delivery modes.It is higher than that reported in Iran (36.5%) (11), and lower than that in Nigeria (62.4%). (12) Bearing in mind that a significant association between good knowledge of pregnant women with high number of antenatal care visits was reported by Habib et al study in Iraq (13). These differences might be related to differences in public awareness and antenatal care services between communities. An overwhelming majority (90.3%) of pregnant women had Positive attitude toward normal vaginal delivery. This finding is higher than that in Nisar et al study in Jordan who reported that 88.5% of pregnant women had Positive attitude toward NVD (14. This finding concurs with that of a Ghanaian teaching hospital study done among women attending the hospital's antenatal clinic in which approximately 93% of women preferred vaginal deliveries (15) . Such a finding provides a strong evidence that patient's preference is unlikely to be the most significant factor driving the increasing CS rate.On other hand, less than half (48.7%) of pregnant women had Positive attitude toward cesarean section. This was also noted by Qazi et al study in Pakistan where 48.6% of pregnant women had Positive attitude toward cesarean section (16). Women who preferred vaginal delivery generally felt that vaginal delivery is a natural and acceptable way of delivery and women who preferred caesarean delivery felt that CSs were safer and less painful. Similar findings were reported by Adageba et al in Ghana (15).These findings emphasize the need for health professionals to educate patients as to the actual risks that are associated with either mode of delivery.The main source of information for studied pregnant women was social source, which showed low level of information obtained through physicians and antenatal clinics.At every level of knowledge (89.3% of weak and 91.3% of good knowledge scores); women showed a positive attitude toward vaginal delivery. This may reflect traditional views about the process of childbearing in the community.A significant association was observed between good knowledge of pregnant women and negative attitude toward cesarean section (p=0.02). This is consistent with results of Habib et al study in Iraq (13) and Ghotbi et al study in Iran (5).Women whose husbands were at higher educational level preferred Cs delivery in this pregnancy. Tang CH et al had also reported a similar result which indicated that husband education also appeared to be an additional independent factor that was strongly associated with increasing rates of CS (17). About 70% of women agreed that CS is preferred to vaginal delivery because of the severe pain in the latter. According to this fact, adopting policies to make vaginal delivery a less painful experience might decrease CS rates. Previous experiences of childbirth seemed to influence women's knowledge and attitudes about types of delivery. Increased parity and history of previous CSs is associated

with higher attitude scores for vaginal delivery. (p=0.03, 0.005 respectively). This can be explained by the overall positive attitude towards vaginal delivery in the study population, especially in women who had experienced it before. CS can be regarded as an unpleasant experience, particularly in emergency cases, and this can partly explain the positive views towards vaginal delivery. More than half of pregnant women preferred CS in this pregnancy, and this is similar to results of ZakeriHamidi et al. findings in Iran who concluded that most participants, who had positive perceptions about CS and prioritized this mode of delivery, consideredCS as a painless and safe mode of delivery, which maintain the beauty of reproductive organs (18). There is a significant association between maternal age and positive attitude towards CS in current pregnancy (P=0.01), where 73.1% of studied women in younger age (15-19) years had a positive attitude towards CS in current pregnancy. This might be related to the belief in some families that young women at marriage have a small pelvis that is not suitable for vaginal delivery. However older age groups also showed positive attitude towards CS in current pregnancy which goes with other studies in which advanced marital age has been shown to be a contributing factor in increasing CS rate. These findings are in agreement with Lin HC et al in Taiwan who reported that women younger than 25 years and those older than 34 years were more likely to request for CS delivery (19). The positive attitude towards CS in current pregnancy was also related to; number of previous CS, low educational level of women's husbands and women having no children. These findings are close to that reported by Shi et al (20) study in China.

Conclusion:

The study results emphasize the need for educating families, especially pregnant women and their partners about the pros and cons of different modes of giving birth to their babies; their indications, advantages and adverse consequences. Well-trained health-care workers should help mothers in antenatal visits to choose the method of delivery.

Author Contributions:

Nadia A. Nasir: Study conception, study design, critical revision, acquisition of data analysis, interpretation of data, and drafting manuscript.

Hind Amir: Data collectionand helped in drafting manuscript

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