IMPACT OF FAMILY SUPPORT ON DELIVERY OUTCOMES OF ANTENATAL ATTENDEES IN OUR LADY OF APOSTLES (O.L.A.) HOSPITAL, JOS. NIGERIA.

Mballe P[1], Yohanna S[2]

[1]Department of Family Medicine, Our Lady of Apostles Hospital, Jos Plateau State. email: kogepet@gmail.com: phone: 08035999819.

[2]Department of Family Medicine, Bingham University Teaching Hospital, Jos, Plateau State. email: syohanna@gmail.com; Phone: 08034500961

Corresponding Author: Mballe P, Email: kogepet@gmail.com 0803 599 9819

Contribution of authors:

Mballe P was involved in conceptualizing the study design and undertaking the actual study including the writing of the article. Yohanna S was involved in the proposal stage including the writing and the approval of the final version of the article.

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ABSTRACT

Background: Pregnancy and delivery constitute a period of significant life changes in women with associated major physiological adjustments often associated with anxiety and stress. Providing family support by husbands/family members to the women is expected to reduce this stress and improve delivery outcomes.

Objective: The general objective was to determine the impact of family support for pregnant women on delivery outcomes in Our Lady of Apostles Hospital Jos, as a step towards reducing infant and maternal mortality in Nigeria.

Method: It was a prospective cross sectional study of 350 pregnant women who were recruited at the ANC and followed up till delivery. All participants completed the study. The level of family support was assessed using a questionnaire and the delivery outcomes measured. There were three levels of family support (ie strong, weak and none). Maternal delivery outcomes included maternal morbidity/mortality, duration of labour and mode/route of delivery. Fetal outcomes included gestational age at birth, delivery status of fetus, birth weight, Apgar score and fetal morbidity/mortality at birth.

Results: There was a significant difference in both maternal and fetal delivery outcomes in relation to the various levels of family support at p-value of 0.01. Strong family support impacted positively on the delivery outcomes while weak/no family support impacted negatively.

Conclusion: Delivery outcomes can be improved by strengthening the family support systems for women.

INTRODUCTION

Family support is the support system within the family that provides assistance and encouragement to individuals with physical or emotional problems in order that they may better cope.[1,2] Pregnancy and delivery constitute significant life changes involving physiological and psychological adjustments which are often associated with anxiety and stress requiring family support. During the delivery of a baby, family support is essential to the health and wellbeing of the expectant mother and the fetus.[3] The provision of emotional, psychological and mental support may mitigate the anxiety and stress of child birth.[3,4] Support may also motivate the expectant mother to engage in positive health behaviours and make life changes that may improve maternal and fetal outcomes.

There is no single intervention that is, by itself, sufficient to improve maternal and newborn health. Instead a continuum of care throughout pregnancy, childbirth and the postpartum period is needed to improve delivery outcomes. This continuum of care also involves the support particularly provided by the male partner throughout the period of pregnancy and delivery. On the other hand, lack of family support may impact negatively on both the expectant mother and the fetus. Research evidence from Britain and USA showed that lack of family support resulted in small for gestational age of infants.[5] Unfortunately, there is paucity of research work in Nigeria in this subject matter. The study was undertaken to determine the impact of family support for pregnant women on delivery outcomes in Our Lady of Apostles Hospital Jos, as a step towards reducing infant and maternal mortality in Nigeria.

MATERIALS AND METHOD

The study was conducted at the antenatal care (ANC) unit and the maternity ward of Our Lady of Apostles (O.L.A) Hospital, a faith based secondary health facility located in Jos, North central Nigeria. It was an observational study of women who attended antenatal care and delivered in the hospital over a three-month period. Ethical clearance was received from the ethical committee of O.L.A. Hospital. A total of 350 consenting pregnant women who fulfilled the inclusion criteria were recruited at the antenatal clinic and followed up till delivery. Participants were recruited using the simple random sampling method. Each day, from the list of pregnant women that attended the antenatal clinic, consecutive numbers were written on strips of paper, rolled and shuffled in a basket. Participants were then allowed

to pick from the basket by balloting and replacement to allow for an equal chance of selection. The same process was repeated on other antenatal clinic days until recruitment was completed. Adequate counseling of participants was done to ensure 100% hospital delivery. All the 350 participants completed the study.

Each antenatal clinic day participants received health education messages which included HIV counseling and testing, use of insecticide treated bed nets (ITNs), screening for sexually transmissible infections (STIs), intermittent preventive therapy (IPT) for Malaria, recognizing danger signs during pregnancy, screening for diabetes, immunization for tetanus, iron and folic acid supplementation and improving nutrition. In addition, they were educated for birth preparedness and the importance of family support during antenatal care and delivery. Family support was measured in terms of whether or not the woman was accompanied by a family member during ANC/labour, time of presentation to the hospital in relation to onset of labour and bringing of complete delivery items. Routine antenatal care was provided to all participants.

Questionnaires were administered to the participants to obtain relevant data including sociodemographic characteristics, perceived family support and birth outcomes. Family support was assessed using the perceived social support - Family scale; a 20-item validated measure of family support.[6] Birth outcomes were assessed after delivery. The maternal delivery outcomes of interest included morbidity/mortality, duration of labour and mode/route of delivery while fetal outcomes included gestational age at birth, delivery status of fetus, birth weight, Apgar score and perinatal morbidity/mortality.

RESULTS

The women were predominantly between the ages of 26 – 35 years (52%) and 338 (96.5%) were married. Of the 338 women that were married, 330 (97.6%) lived with their spouses, 7 (2%) were widows and one was separated from her husband. Twelve (3.4%) of the 350 were single parents. Full details of the sociodemographic characteristics of the participants are presented in Table 1.

Of the 350 women studied, 285 (81.43%) received strong family support, 63 (18%) weak family support while 2 (0.57%) women received no family support (Table 2). The differences in the levels of family support were statistically significant. (X^2 of 380.269 and p value of 0.000). Forty-five (12.86%) of the 350 participants had some complications during ANC or delivery, including preterm rupture of membranes, antepartum haemorrhage obstructed labour and postpartum haemorrhage. Of the 45 women, 10 (22.2%) had strong family support while 35 (77.8%) had weak or no family support. Of the 10 women who had strong family support, 4 (8.9%) had preterm rupture of membranes while 6 (13.3%) had antepartum haemorrhage. Meanwhile, of the 35 women who had weak/no family support 18 (40%) had preterm rupture of membranes, 5 (11.1%) had only obstructed labour and 12 (26.7%) had obstructed labour and postpartum haemorrhage, one of whom died. Family support level had an inverse correlation with morbidity and mortality of women during pregnancy and delivery.

There was a significant difference in the duration of labour of women who received strong family support compared to those with weak or no support. Women with strong family support had shorter duration of labour lasting between two to six hours, compared to those with weak or no support whose labour lasted for more than six hours ($p = 0.000$). A significant proportion (87.9%) of women who received strong family support had their pregnancy reaching term (37 – 42 weeks) compared to only 12.1% of those with weak/no family support at a p value of 0.000 and rho of 0.347. There was an inverse relationship between the delivery status of the fetus (live births, still births and IUFDs) at birth and family support levels. Women who received strong family support did not have any intrauterine fetal deaths. The difference was statistically significant ($p = 0.000$ and rho of -0.402).

Foetal birth weight correlated well with family support levels. A significant difference was observed in the birth weight of babies delivered by women who received strong family support compared to those with weak/no family support ($p = 0.000$ and rho of 0.425). Similar observations were made in the Apgar scores of babies of women who had strong family support compared to those with weak/no family support ($p = 0.000$ and rho of 0.543).

Perinatal morbidity and mortality correlated inversely with the level of support received by the women. Of the 350 babies delivered, 70 (20%) suffered some morbidity and mortality. Of these 70 babies 62 suffered morbidities such as birth asphyxia, neonatal jaundice, neonatal sepsis, and prematurity while 8 babies had IUFD, still birth and early neonatal deaths. Of the 70 babies, only 30% of their mothers had strong family support while the rest had weak/no family support ($p = 0.000$ and rho of -0.659).

Table 1: Socio-demographic characteristics of study participants. N=350

		Frequency	Percentage (%)
Age of participants (years)	16 – 25	158	45.1
	26 – 35	182	52.0
	36 – 45	9	2.6
	46 & above	1	0.3
Age of Husband if married (years)	18 – 25	10	2.9
	26 – 35	130	38.5
	36 – 45	168	49.7
	46 – 70	30	8.9
Marital status of participant	Married	330	94.3
	Single parent	12	3.4
	Widowed	7	2.0
	Separated	1	0.3
Number of wives husband has	One	315	93.2
	Two	20	5.9
	Three	3	0.9
Religion of participant	Christianity	263	75.1
	Islam	87	24.9
Occupation/Employment status of participant	Unemployed	110	31.4
	Employed	98	28.0
	Business	129	36.9
	Others	13	3.7
Occupation/Employment status of husband	Unemployed	5	1.5
	Employed	70	20.7
	Business	243	71.9
	Others	20	5.9
Educational status of husband	None	14	4.1
	Primary	51	15.1
	Secondary	161	47.6
	Tertiary	112	33.1
Educational status of participant	None	27	7.7
	Primary	45	12.9
	Secondary	175	50.0
	Tertiary	103	29.4
Ethnicity of participant	Hausa	66	18.9
	Igbo	151	43.1
	Yoruba	35	10.0
	Others	98	28.0
Ethnicity of husband	Hausa	71	21.0
	Igbo	158	46.7
	Yoruba	28	8.3
	Others	81	24.0
Distance away from hospital (minutes) using a car	10 – 30	261	74.6
	31 – 60	71	20.3
	61 – 90	18	5.

Table 2: Level of family support of participants N=350

	Number	Percentage (%)
Strong	285	81.43
Weak	63	18
None	2	0.57

Chi square (X^2) = 380.269, p-value 0.000

Table 3. Relationship between family support and delivery outcomes

Variable		Family support					
		Total number	Strong No.	%	Weak/none No.	%	Observed p-value
Maternal morbidity/mortality							0.000
	Present	45	10	22.2	35	77.8	
	None	305	275	90.2	30	9.8	
Duration of labour							0.000
	2-6hrs	51	49	96.1	2	3.9	
	>6hrs	299	236	78.9	63	21.1	
Mode/route of delivery							0.255
	Spont. Vaginal	310	255	82.3	55	17.7	
	Caesarean section	38	29	76.3	9	23.7	
	Assisted vaginal	2	1	50	1	50	
Gestational age of fetus at birth							0.000
	<37wks	29	3	10.3	26	89.7	
	37-42wks	321	282	87.9	39	12.1	
Delivery status of fetus							0.000
	Live births	333	283	85	50	15	
	Still births	15	2	13.3	13	86.7	
	IUFDs	2	0	0	2	100	
Fetal birth weight							0.000
	<2500g	21	3	14.3	18	85.7	
	2500-4000g	324	277	85.5	47	14.5	
	>4000g	5	5	100	0	0	
Apgar score							0.000
	High	259	243	93.8	16	6.2	
	Low	63	32	50.8	31	49.2	
	Very low	28	10	35.7	18	64.3	
Fetal (perinatal) morbidity/mortality							0.000
	Present	70	21	30	49	70	
	None	280	264	94.3	16	5.7	

Correlation is significant at the 0.01 level (2 tailed).

DISCUSSION

Most women who had strong family support levels did not suffer morbidity or mortality compared to those with weak or no support during the study period. The only maternal mortality that was recorded occurred among the women with weak /no family support. The mortality which resulted from obstructed labour and postpartum haemorrhage was further complicated by late presentation to the hospital. It is likely that the women with strong family support had companionship of the male partners to the ANC and labour and in addition received adequate nutritional and emotional support, adopted proper life styles and good health seeking behaviours. This concept agrees with Carter's findings in a study conducted in Guatamela.[7] The men who participated in antenatal counseling with their wives tended to know more about nutrition and

other health needs of their wives in pregnancy and ways and means of preventing complications during pregnancy and delivery. However, a small proportion of women that had strong support but suffered morbidity could have had a history of preexisting disease or a strong risk factor that could have complicated the pregnancy and/or delivery or vice versa.

Women who had strong family support had shorter durations of labour compared to those with weak or no family support. Most of those with strong family support were married and were older compared to those who did not have strong support levels who tended to be younger and not married This finding was corroborated in studies conducted by Love and colleagues in USA and Rahman M in Bangladesh.[8,9] However, it is important to note that other factors such as parity of the woman, presentation, lie, position and size of the fetus could have affected the duration of labour in some of the women. These factors were not examined in this study.

This study found no association between the mode/route of delivery and level of family support of women. The mode of delivery was rather determined by the women's biological and fetal factors. A similar observation was made by Ondoa-Onama and Tumwine in Uganda and by Kirschengast and colleagues in Austria.[10,11]

Most of the women with strong family support delivered term babies compared to those with weak support who delivered preterm babies. Family support correlated well with the gestational age of the fetus at birth.

This study looked at three categories of delivery status of the fetuses. They included live births, still births and intrauterine fetal deaths (IUFDs). Women who received strong family support had the highest proportion of live births compared to those with weak/no family support. The two women with strong family support who had still births had eclampsia and abruptio placentae respectively. Considering the above confounders, conclusions could not be drawn on the basis of family support alone impacting the delivery status of the fetus.

The fetal birth weights correlated well with the level of family support. Similar findings were reported by Lyne and Jay in USA. They found that increased stress in women resulted in negative birth outcomes such as preterm deliveries and low birth weight fetuses.[12] Although this study also found this relationship there could have been other obstetric and sociodemographic factors that influenced the fetal weights.[8,13-,23,24] Apgar scores of babies were related to the levels of family support in the women. Even though other variables such as skill of the attending midwife, maternal diseases and fetal factors could have affected the Apgar score, the association between family support of women and Apgar score was significant enough to be considered. The association could be linked to the complex interrelationship between family support, nutrition, stress and neuroimmunologic factors as reported by Lyne and Jay in 2010.[12]

CONCLUSION

Strong family support plays a vital role in impacting positively on the delivery outcomes of women and their babies while weak/no support has a negative impact. It is therefore important that all programmes relating to maternal and child health involve both mothers and their male partners. Men should provide adequate psychological and economic support to their wives and participate in antenatal care programmmes. The government and nongovernmental organizations should strengthen family support services and community linkage programmes that impact directly on pregnant women.

Implications on both clinical practice and policy maker:

The results from this study will be useful to clinicians in understanding the impact of Family Support on pregnant women and the need to encourage such support especially from male partners when providing antenatal care to pregnant women as it has been shown to mitigate maternal and infant morbidity and mortality.

Policy makers will use the knowledge from this study to involve other family members especially male partners when making policies relating to reproductive health.

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