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## ANTENATAL CARE PRACTICES AND OUTCOME OF ADOLESCENT PREGNANCY IN RURAL TAMILNADU

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### **Abstract**

Adolescents in rural areas may face troubles due to lack of right kind of information regarding their own physical and or sexual developments. Motherhood at a very young age entails a risk of maternal mortality that far exceeds the average, and the children of young mothers tend to have higher levels of morbidity and mortality. Early childbearing continues to be an impediment to improvements in the educational, economic and social status of women in India and Tamil Nadu in particular. Pregnancy among adolescents is a health risk for the mother as well as the foetus. It is associated with high maternal morbidity and mortality. Child bearing can have adverse effects for both the adolescent mother and her baby due to biological and physiological immaturity. This paper underscores the fact that teenage pregnancy in rural Tamil Nadu shows higher levels of pregnancy related complications including eclampsia, pregnancy induced hypertension, intrauterine growth retardation and premature delivery among adolescents than among older women. The paper also spells out certain policy implications like skilled birth attendants, emergency obstetric services, strong health system, adequate infrastructure facilities and last but not the least to teach adolescents and other family members the signs of a difficult labour which in turn would definitely reduce the maternal mortality in rural Tamil Nadu.

**Keywords:** *Antenatal care, adolescent's mothers, morbidity.*

### **Introduction**

Adolescents are an important resource of any country. According to the WHO expert committee, adolescence is defined as the period between 10-19yrs, the 2nd decade of life. This transition phase makes them vulnerable to a number of problems for example, psychosocial problems, general and reproductive health problems, and sexuality related problems (Sharma 2008). The period of adolescence for a girl is a period of physical and psychological preparation for safe motherhood. As direct reproducers for future generations, the health of adolescent girls influences not only their own health, but also the health of future generation. A vast majority of adolescent girls in India are suffering from reproductive health morbidities (Agrawal S 2007). Adolescent girls constitute about 1/5th of total female population in the world. According to an estimate, around 16 million adolescent women (aged 15–19) give birth every year around the world and most of these births (about 95%) are concentrated in middle and low income countries ([World Health Organization, 2012](#)). Childbirth in adolescence is often risky. It is associated with a host of life threatening adverse health outcomes such as high risk of premature delivery, delivery and postnatal complications, unsafe abortion complications, and obstetric fistula etc. In India there are 190 million adolescents comprising 21% of India's total population. The age at marriage is quite low in rural areas & adolescent girls in these communities fall into fertility trap quite early. These situations predispose girls to teenage pregnancy that may have more immediate effect on their life than any other problem. Adolescent girls are

trained in different vocations and remain ignorant about mother and child care. Factors like illiteracy, early marriage, and socio-economic disparities also add to this. Women account for almost 49 per cent of the total population and about 46 per cent of this comprise girls under 20 years. The young would-be mothers have little knowledge about reproduction, safe motherhood and child care. They acquire little knowledge from friends, relatives and sometimes from books. They are not able to have dialogue with their parents because of inhibitions and social taboos. So with this little knowledge they become mothers and may face problems like early pregnancy, spacing problem, birth control measures, health, nutrition, immunisation and other aspects of maternal and child care (Subhanga et al., 2003).

## **2. Objectives:**

1. To assess the antenatal care practices and outcome of adolescent pregnancy of adolescent mothers in rural Tamilnadu.
2. To suggest appropriate programme strategies to meet the reproductive health needs of adolescent mothers in rural areas.

## **3. Methodology:**

The study was carried out on a sample of 400 adolescent mothers aged 15-19 years selected from two districts of TamilNadu viz., Thiruchirapalli and Dindigul. After the selection of districts, one Primary Health Centre (PHC) was selected from each of the selected districts. In the next stage, two sub-centres were selected at random from the selected PHC. In the next stage, two villages were selected at random from each sub-centre. A sample of 50 adolescent mothers was selected from each village using systematic random sampling procedure. Thus the sample consisted of 200 adolescent mothers from each of the selected districts. In all, 400 adolescent mothers were selected from the two districts of TamilNadu.

## **4.Result and Discussion**

### ***Ante Natal Care***

Ante Natal Care (ANC) refers to pregnancy related health care provided by a doctor or a health worker in a medical facility or at home. Ideally, antenatal care should monitor a pregnancy for signs of complication, detect and treat pre-existing and concurrent problems of pregnancy, and provide advice and counselling on preventive care, diet during pregnancy, delivery care, post-natal care and related issues. The reproductive and child health programme recommends that as part of antenatal care, women receive two doses of tetanus toxoid vaccine, adequate amounts of iron and folic acid tablets or syrup to prevent and treat anemia and at least three antenatal check-ups that include blood pressure checks and other procedures to detect pregnancy complications (Ministry of health and family welfare 1997; 1998). A study on the outcome of pregnancy shows that the percentage of pregnant women attending Antenatal Care (ANC) is low even in urban areas, where health facilities are within easy reach, pregnant adolescents attend antenatal facilities at lower rates than adult women (Adhikari and Amatya, 1996). A study on health consequences of adolescent child bearing in developing countries concluded that primi parity continued, growth during pregnancy, quality of obstetric antenatal care and poor socio-economic status are major risk factors associated with poor outcomes of adolescent pregnancy (Kruz, 1997).

Another study conducted in Bangladesh shows that young women were not aware of the need of medical care during pregnancy or delivery. They had little idea about what to expect during pregnancy and delivery, and only vague ideas about possible complications (Syeda Nahid and Chowdhury, 2003).

#### 4.1 Registration for antenatal check-ups

The percent distribution of adolescent mothers who had registered their last pregnancy for antenatal check-up is presented in table 4.1. It is found that most of the adolescent mothers had registered their pregnancy for antenatal check-up (98 per cent) and just 2 per cent of adolescent mothers had not registered for antenatal check-up.

**Table 4.1 Percent distribution of adolescent mothers registered for antenatal check-up**

Registration	Number	Percent
	N=400	
Yes	392	98.0
No	8	2.0

#### 4.2 Timing of registration of pregnancy for antenatal check-up .

The percent distribution of adolescent mothers by timing of registration of pregnancy for antenatal check-up is presented in table 4.2. The results showed that majority of the adolescent mothers (70.1 per cent) had registered for antenatal check-up at the first trimester itself and 28.6 per cent registered for antenatal check-up during second trimester. Only 1.3 per cent had registered their pregnancy for antenatal check-up during third trimester.

**Table 4.2: Percent distribution of adolescent mothers by month of registration**

Month of registration	Number	Percent
	N=392	
1st trimester	275	70.1
2nd trimester	112	28.6
3rd trimester	5	1.3

#### 4.3 Place of registration for antenatal check-up by adolescent mothers

The percent distribution of adolescent mothers by place of registration for antenatal check-up is presented in table 4.3. The results showed that half of the adolescent mothers (50 per cent) had registered for antenatal check-up in primary health centre and government hospital, 25 per cent had registered with the Village Health Nurse and another 25 per cent had registered at private hospital.

**Table4.3 Percent distribution of adolescent mothers by place of registration for antenatal check-up**

Place of registration	Number	Percent
	N=392	
VHN/ANM/SC	98	25.0
PHC/GH	196	50.0
Private hospital/Doctor	98	25.0

VHN – Village Health Nurse, ANM – Auxiliary Nurse Midwife, SC – Sub Centre, PHC – Primary Health Centre, GH- Government hospital

#### 4.4 Number of antenatal check-ups by adolescent mothers

The percent distribution of adolescent mothers by number of antenatal check-ups is presented in table 4.4 showed that nearly two thirds (65.8 per cent) of adolescent mothers had antenatal check-ups four times and above and 27.6 per cent had three times. The results showed that awareness about antenatal check-ups was more among adolescent mothers in rural areas.

**Table 4.4 Percent distribution of adolescent mothers by number of antenatal check-ups**

Number of Antenatal check-ups	Number	Percent
	N=392	
One	9	2.3
Two	17	4.3
Three	108	27.6
Four& above	258	65.8

#### 4.5 Tetanus toxoid immunization

TT immunization protects mother and also her new born baby from tetanus which is a serious cause of death of infants. Two doses of tetanus toxoid vaccine given one month apart during early pregnancy are nearly 100 per cent effective in preventing tetanus both among new born infants and their mothers. Immunity against tetanus is transferred to the foetus through the placenta when the mother is vaccinated (Foster, 1984). The percent distribution of adolescent mothers who received tetanus toxoid is presented in table 4.5. The results showed that 94.8 per cent of adolescent mothers had received two or more doses of tetanus toxoid and 4 per cent had received only one dose of tetanus toxoid. Just 1.2 per cent did not receive even a single dose of tetanus toxoid injection during pregnancy.

**Table 4.5 Percent distribution of adolescent mothers who had received T.T. immunization during their last pregnancy**

T.T Immunization	Number	Percent
	N=400	
No immunization	5	1.2
Onedose	16	4.0
Two or more	379	94.8

#### Complications during pregnancy

Pregnancy among adolescents is a health risk for the mother as well as the fetus. It is associated with high maternal morbidity and mortality (Sharma et al., 2003).

#### 4.6 Experience of health problems during pregnancy

The percent distribution of adolescent mothers who had experienced health problems during pregnancy period is presented in table 4.6. It is found that nearly one third of adolescent mothers (30.5 per cent) had reported to have health problems during pregnancy.

**Table 4.6 Percent distribution of adolescent mothers who had experienced health problems during pregnancy**

Health Problems	Number	Percent
	N=400	
Yes	122	30.5
No	278	69.5

#### 4.7 Type of health problems during pregnancy

The adolescent mothers were asked whether they had experienced any of the following pregnancy related problems – anemia, high blood pressure, oedema (accumulation of excess fluid in body tissues, causes swelling in face, legs and hand), albumin sugar, vaginal bleeding and excessive fatigue. The percent distribution of adolescent mothers who had reported health problems during pregnancy is presented in table 4.7.

The most commonly reported health problem was anemia (38.5 per cent) and oedema (23.8 per cent). About 13.9 per cent of adolescent mothers had reported excessive fatigue and 23.8 per cent reported other problems such as blood pressure, vaginal bleeding and albumin sugar.

**Table 4.7 Percent distribution of adolescent mothers by the type of health problems during pregnancy**

Health Problems	Number	Percent
	N=122	
Anemia	47	38.5
Oedema	29	23.8
Excessive fatigue	17	13.9
Others(BP, Vaginal bleeding, albumin sugar)	29	23.8

#### 4.8 Type of birth

The percent distribution of adolescent mothers by type of last birth presented in table 4.8 showed that 95.3 per cent of adolescent mothers had live birth and 4.7 per cent had still birth.

**Table 4.8 Percent distribution of adolescent mothers by the type of last birth**

Type of birth	Number	Percent
	N=400	
Live birth	381	95.3
Still birth	19	4.7

#### 4.9 Nature of delivery

The percent distribution of adolescent mothers by nature of delivery is presented in table 4.9. It is observed that 72.3 per cent of adolescent mothers had normal delivery, 19.4 per cent had caesarean, and 8.3 per cent had delivery with the help of forceps.

**Table 4.9 Percent distribution of adolescent mothers by the nature of delivery**

Nature of delivery	Number	Percent
	N=400	
Normal	289	72.3
Caesarean	78	19.4
Forceps	33	8.3

#### 4.10 Place of delivery of adolescent mothers

An important thrust of the reproductive and child health programme is to encourage deliveries under proper hygiene conditions under the supervision of trained health professionals. The results presented in table 4.10 revealed that 52 per cent of births took place in government institutions (such as primary health centre, sub centre and government hospital), 38 per cent took place in private hospitals and surprisingly 10 per cent of births took place in homes.

**Table 4.10 Percent distribution of adolescent mothers by place of delivery .**

Place of delivery	Number	Percent
	N=400	
PHC/SC/GH	208	52.0
Private	152	38.0
Home	40	10.0

#### Table 4.11 Logistic regression analysis on place of delivery

The logistic regression analysis of the data on place of delivery by selected background characteristics of the respondents presented in table 4.11 showed that adolescent mothers with primary and middle level of education had significantly less chances of going to government hospital for delivery when compared to illiterates. The chances of going to private hospital for delivery was 2.5 times higher for primary and middle and it was 3.2 times higher for adolescent mothers with educational status of high school and above compared to illiterates. Adolescent mothers going for home delivery were significantly less among adolescent mothers who had education up to high school and above, compared to illiterates.

**Table 4.11 Logistic regression analysis for place of delivery of adolescent mothers by selected background characteristics**

Characteristic	Reference	Government		Private		Home	
		Yes=208	No=192	Yes=152	No=248	Yes=40	No=360
		odds ratio	significant	odds ratio	significant	odds ratio	significant
<b>Age</b>							
	≤18 years						
19 years		1.198	0.492	0.778	0.380	0.934	0.878
<b>Education</b>							
	Illiterate						
Literate		0.950	0.892	1.792	0.197	0.419	0.137
Primary and middle		0.553	<b>0.086***</b>	2.515	<b>0.026**</b>	0.912	0.852
High school and above		0.656	<b>0.251</b>	3.175	<b>0.008*</b>	0.223	<b>0.022**</b>
<b>Religion</b>							
	Hindu						
Non-Hindu		1.342	0.360	0.734	0.368	0.845	0.783
<b>Community</b>							
	SC/ST						
MBC		0.648	0.137	2.825	<b>0.001*</b>	0.220	<b>0.014**</b>
BC and others		0.587	<b>0.035**</b>	2.482	<b>0.001*</b>	0.586	0.203
<b>Standard of living</b>							
	Low						
Medium		0.771	0.417	2.013	<b>0.037**</b>	0.118	<b>0.051***</b>
High		0.278	<b>0.012**</b>	4.913	<b>0.002*</b>	0.000	0.756
<b>Monthly income (Rs.)</b>							
	Rs.≤1000						
1001-2000		0.885	0.660	1.029	0.928	1.491	0.368
2001 and above		0.563	<b>0.089***</b>	1.950	<b>0.066***</b>	0.826	0.758
<b>Type of family</b>							
	Nuclear						
Joint		0.896	0.623	1.392	0.168	0.538	0.134
<b>Exposure to media</b>							
<b>Listening to radio</b>							
	Yes						
No		3.072	0.166	0.997	0.997	0.000	0.789
<b>Watching television</b>							
	Yes						
No		2.418	0.292	0.976	0.978	0.000	0.803
<b>Going to movie</b>							
	Yes						
No		2.002	0.343	0.875	0.862	0.000	0.821

<b>Reading newspapers/ magazines</b>							
	Yes						
No		0.266	2.350	0.978	0.978	0.000	0.818
<b>Level of exposure</b>							
	No exposure						
Low		0.484	0.394	1.257	0.801	3147.158	0.822
Medium		0.112	0.167	1.720	0.744	0.00062	0.802
High		0.072	0.278	0.711	0.894	0.00011	0.796
<b>Level of autonomy</b>							
	Low						
Medium		1.054	0.849	0.915	0.768	0.872	0.772
High		1.220	0.511	0.645	0.194	1.229	0.669

\*p<0.01, \*\*p<0.05, \*\*\*p<0.10

Adolescent mothers belonging to backward caste and others had lesser chances of going to government hospital compared to SC/ST. The chances of going to private hospital was 2.8 times higher for most backward caste and others and 2.4 times higher for backward caste and others when compared to SC/ST. Home delivery was significantly less among adolescent mothers belonging to most backward caste when compared to SC/ST.

Adolescent mothers with high standard of living had significantly less chances of going to government hospital for delivery. The chances of adolescent mothers going to private hospital for delivery was 2 times higher for those with medium standard of living and it was 4.9 times higher for those with high standard of living compared to low standard of living. Mothers going for home delivery were significantly less for medium standard of living compared to low standard of living.

Adolescent mothers with monthly family income of Rs.2001 and above had significantly less chances of going to government hospital and nearly two times higher for going to private hospital.

Overall the logistic regression analysis indicates that utilization of government hospital for delivery was significantly more among illiterates, SC/ST, low standard of living and low income adolescent mothers. Utilization of private hospital was significantly more among literates, other than SC/ST, medium and high standard of living and high income adolescent mothers. The prevalence of home delivery was significantly more among illiterates, SC/ST and low standard of living adolescent mothers. Thus it is clear from the results that among the various factors examined in the study, education, community, standard of living and family income were the major factors which determine the place of delivery of adolescent mothers.

#### 4.12 Assistance during delivery at home

The percent distribution of adolescent mothers according to person assisted during delivery at home is presented in table 4.12 The results showed that 45 per cent of home deliveries were assisted by trained health personnel like nurse or auxiliary nurse midwife and 55 per cent were assisted by untrained persons such as untrained dais or relatives.

**Table 4.12 Percent distribution of adolescent mothers by the person attended delivery in home**

Person attended at home	Number	Percent
	N=40	
Nurse/ANM*	18	45.0
Untrained persons	22	55.0

\*ANM-Auxiliary Nurse Midwife

#### 4.13 Birth weight of babies

Health risks to both mother and child increase when children are born to very young mothers. The results presented in table 4.13 showed that 56.7 per cent of new born babies weighed more than 2500 gms and the rest were low birth weight babies (43.3 per cent).

**Table 4.13 Percent distribution of adolescent mothers by birth weight of babies**

Birth Weight of babies	Number	Percent
	N=395	
<2500gms	171	43.3
2500+gms	224	56.7

#### 4.14 Experience of post partum complications

The percent distribution of adolescent mothers by their experience of post partum complications is presented in table 4.14. The results indicate that only 15.3 per cent of adolescent mothers had experienced post partum complications.

**Table4.14 Percent distribution of adolescent mothers complications after delivery**

Complications after delivery	Number	Percent
	N=400	
Yes	61	15.3
No	339	84.7

#### 4.15 Major post partum complications

The major post partum complications as reported by the adolescent mothers are presented in table 4.15. The results showed that high fever was the major post partum complication experienced by 55.7 per cent adolescent mothers, followed by massive vaginal bleeding (41.0 per cent) and blood pressure (14.8 per cent).

**Table 4.15 Percent distribution of adolescent mothers by type of post partum complications**

Post partum complications	Yes		NO		Total	
	No	Percent	No	Percent	No	Percent
Massive Vaginal bleeding	25	41.0	36	59.0	61	100.0
High fever	34	55.7	27	44.3	61	100.0
Blood pressure	9	14.8	52	85.2	61	100.0

#### 4.16 Summary and Conclusion

The analysis of the data on maternal and child care practices showed that most of the adolescent mothers had registered for their antenatal check-up (98 per cent). A majority of adolescent mothers (70.1 per cent) had visited doctors at first trimester for antenatal check-up. It is observed that half of the adolescent mothers (50 per cent) had registered for antenatal check-up in primary health centre and government hospital. Nearly two thirds (65.8 per cent) of adolescent mothers had antenatal check-ups four times and above and 27.6 per cent had three times

Most of the adolescent mothers (94.8 per cent) received two or more doses of tetanus toxoid immunization. About one third of adolescent mothers (30.5 per cent) reported to have experienced health problems during antenatal period. The most commonly reported problems were anemia (38.5 per cent) and oedema (23.8 per cent). About 13.9 per cent reported excessive fatigue and 23.8 per cent of adolescent mothers reported other problems such as blood pressure, vaginal bleeding and albumin sugar.

Only 4.7 per cent of adolescent mothers had reported still birth and nearly one fifth had cesarean delivery (19.4 per cent). It is observed that 52 per cent of births took place in government institutions (such as primary health centre, sub centre and government hospital), 38 per cent took place in private hospitals and surprisingly 10 per cent of births took place in homes. 45 per cent of home deliveries were assisted by trained health personnel like nurse or auxiliary nurse midwife and 55 per cent were assisted by untrained persons such as untrained dais or relatives. 56.7 per cent of new born babies weighed more than 2500 gms and the rest were low birth weight babies (43.3 per cent). Only 15.3 per cent of adolescent mothers had experienced post partum complications. The main post partum complications experienced by adolescent mothers were high fever (55.7 per cent), massive vaginal bleeding (41 per cent) and high blood pressure (14.8 per cent).

Reproductive health in general and adolescent reproductive health needs in particular are poorly understood and ill served in India. Attainment of higher level education seems to be low among adolescent mothers because of early marriage. The emerging issues identified in this study include more complications during pregnancy, high prevalence of low birth weight babies, less treatment seeking behaviour for gynaecological problems. For maximum impact on reproductive health, skilled birth attendants and emergency obstetric services must be closely linked within a strong health system. Strong health system, in turn depend on adequate infrastructure, including good roads and transportation networks, electricity and clean water. Teaching adolescents and other family members the signs of a difficult labour should be a priority for reducing maternal mortality.

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