

**Research Article****Use of Antenatal Care Services (A.N.C.) During Pregnancy in Pakistan**

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**ABSTRACT**

**Objective:** To determine the awareness, availability and use of ANC services among the pregnant women attending the emergency ward of SGRH. We also wanted to find out the adequacy of these services.

**Methodology:** A cross-sectional study was conducted among the pregnant women attending the emergency department at SGRH. A total of 200 pregnant women participated and was convenient sampling was done. It was an anonymous survey and participation was voluntary. SPSS was used for data entry and analysis. For categorical data chi-square was used & for continuous data students t-test was used. All the tests were performed using alpha=0.05.

**Results:** Data on antenatal care was collected from 200 pregnant women aged 11-50 years out of them, a majority of pregnant women, 160 (80%) were aware of ANC services but only 120 amongst them avail it. Majority of those women 180 (93%) were housewives belonging to low socioeconomic status. 93(46.5%) of the respondents have the parity of 2-3 & 75% visited ANC clinic in their 3rd trimester with major complication of Hypertension & other mentioned diseases. Out of the sample of 200, 90 (45%) of them attended the ANC before 7 weeks majority having their first contact with a general practitioner while 71 (35.5%) of the women visited for more than 4 times. Services and investigations were adequately provided however health education about prevention against malaria & dengue (40.5%), proper sleep (21.5%), weight gain during pregnancy (20.5%), avoiding smoking (14.5%), use of contraceptive methods after delivery (20.5%) and labor (18%) was confined to very low proportion of pregnant women. Majority 170 (85%) of women think that ANC were beneficial for them.

**Conclusion:** Cultural and traditional practices often influence negatively, the attitude of pregnant women in Pakistan. Despite the high rate of awareness of the existence and importance of ANC services the women think that they really don't need it. Other women have issues like lack of availability of transport as well as absence of such a center nearby. Majority of the women suffer from preventable diseases but because of lack of health education & its implementation they have to face complications endangering lives of both mother & child. The findings of this study provide insights for planning & implementing appropriate antenatal health education programs in order to improve the health & well-being of mother & child.

**Keywords:** Antenatal care services, pregnancy, Pakistan, Child, Culture.

**INTRODUCTION**

WHO defines antenatal care as a dichotomous variable, having had one or more visits to a trained person during the pregnancy. Pakistan has one of the highest infant mortality rates in Asia because women largely do not receive timely and proper antenatal care. Not to mention the high prevalence of anemia and unassisted deliveries at home which add to high infant mortality and morbidity associated with pregnancy-related condition [1].

Pakistan the maternal mortality is estimated at 279/100,000 babies born and infant mortality is 78/1,000 live births. Only 23 percent of births take place within a health facility, while the remaining 77 percent occur at home. Unqualified personnel conduct a large proportion 82 percent of deliveries. Furthermore, antenatal care (ANC) visits are significantly lower in rural areas, where only 20 percent of women make four or more

ANC visits compared with 62 percent of women in major urban areas. All these statistics show that the utilization of antenatal care, especially in rural areas of Pakistan, is low and the mortality rates soaring. Antenatal care is the cornerstone good maternal health [2].

**LITERATURE REVIEW**

In rural Western Kenya, a research was conducted on the use of ANC services and delivery care among women. A cross-sectional study pattern was used on a sample size of 635 women, 90% of whom visited ANC during third trimester. The ANC services provided were also evaluated and provision of abdominal palpation, tetanus vaccine and weight measurement were high (>90%) but provision of services i.e. Malaria prevention (21%), iron (53%) and folate supplementation (44%), syphilis testing (19.4%) and health talks

(14.4%) was low. Women who didn't receive ANC either had a low educational problem or low socioeconomic status or health facility problems. 80% women delivered outside health facility, among these TBA assisted was 42%, and lay person assisted 36%, while 22% received no assistance. Factors that were associated with giving birth outside a health facility include age of approximately 30years, parity approximately 5, low socioeconomic, less than 8 years of education and more than 1 hour walking distance. Therefore, it was concluded that in that rural area usage of ANC was increased however the opportunity was not used appropriately to deliver important health services and the use of professional delivery services was low, almost 1 out of 5 women delivered unassisted and there is urgent need to improve this dangerous situation [8].

**Fig. 1.** Focused antenatal care (ANC): The four-visit ANC model outlined in WHO guideline

First visit 8-12 weeks	Second visit 24-26 weeks	Third visit 32 weeks	Fourth visit 36-38 weeks
Confirm pregnancy and EDD, Classify women for basic ANC, (four visits) or more Specialized care. Screen, treat and give Preventive measures.	Assess maternal And fetal well-being. Exclude PIH and Anemia. Give preventive Measures. Review and modify Birth and emergency Plan. Advise and Counsel.	Assess maternal and Fetal well-being. Exclude PIH, anemia, Multiple pregnancies. Give preventive Measures. Review and modify Birth and emergency Plan. Advise and Counsel	Assess maternal and Fetal well-being. Exclude PIH, anemia, Multiple pregnancy, Malpresentation. Give preventive Measures. Review and Modify birth and Emergency plan. Advice and counsel.

Although the studies given previously do have a component describing the factors influencing the utilization of ANC services, more comprehensive studies evaluating this are viewed next. In Indonesia, a research was done on factors associated with utilization of antenatal care services in years 2002\2003 and 2007<sup>9</sup> which was published in PMC journal was conducted on sample size of 26591 singleton line born infants of mothers between 1 to 5 years of age. Type of study was cross sectional study and aimed to examine factors associated with underutilization of health care services.

**METHODOLOGY**

**OBJECTIVE:**

To determine the use of antenatal care services during pregnancy

To determine factors that hinder use of ANC services

To determine the services being provided at ANC

**STUDY DESIGN:** Cross-sectional study

**STUDY POPULATION:**

Pregnant women attending emergency department at SGRH hospital

**SAMPLE SIZE:** 200-250

**SAMPLING TECHNIQUE:** Convenient sampling

**DATA COLLECTION METHOD:**

Data will be collected using structured questionnaire which will be interviewer administered.

**DATA ANALYSIS:**

For data entry and analysis SPSS will be used. Descriptive statistics and frequency distribution will be determined. For categorical data chi square will be used and for continuous data student's t-test will be used. All tests will be performed using alpha=0.05.

**ETHICAL CONSIDERATIONS:**

Permission will be obtained from concern higher authorities at initiation of data collection. Participation in study will be voluntary and question is will be administered after obtaining consent. Secrecy and confidentiality of the data will be maintained. Also, data will be presented in an aggregated form to further maintain anonymity of study participant. There will be no invasive procedures involved. In addition participants will be advised accordingly and if found to have some health problem will be referred to concerned departments.

**RESULTS**

We had a sample of 200 pregnant women attending SGRH for study of use of ANC services aged 11-50 years with mean age 26.4 years, majority of them housewives 186 (93%) and a few working women 13 (6.5%) all married 200 (100%), their husbands, mostly laborers 176 (83%) remaining were doing their personal business (10%) and government jobs 13(7%). Mostly belonging to low socioeconomic status as 73% had income less than & equal to 10,000 & 87% had an educational level of intermediate or less than that. (Table #1) In our sample 93 (46.5%) of women coming for ANC services had a parity of 2-3 followed by 73 (36.5%) of women with primary parity & 34 (17%) of women with parity between 4-6. Most of them 169 (84.5%) were attending ANC clinics in 3rd trimester, 23(11.5%) in their second trimester while a few 8(4%) in third or more with a mean gestational age of 2.3 trimester.

Most presented with major complications of Hypertension 54(27%) alone and along with other diseases like preeclampsia, hepatitis b, hepatitis c, diabetes, AIDs. (Table #2)

**TABLE # 1**Demographic characteristic of sample women

VARIABLE	FREQUENCY	PERCENTAGE(%)
Age (years)		
11-20	24	12
21-30	149	74.5
31-40	26	13
41-50	1	0.5
Mean±SD 26.4±.334		
Occupation		
House wife	186	93.0
Working women	13	6.5
Student	1	0.5
Marital status		
Married	200	100
Unmarried	0	0
Husband's job		
Government job	13	6.5
Personal business	20	10
Job/workers	176	83
Husband's education		
Illiterate	36	18
Under metric	44	22
Metric	60	30
Intermediate	34	17
Graduate	18	9
Higher education	7	3.5
Hafiz	1	0.5

Monthly income		
1000-10,000	146	73
11,000-20,000	35	17.5
21,000-30,000	9	4.5
31,000-40,000	3	1.5
41,000-50,000	7	3.5
Family members		
1-7	155	77.5
8-14	33	16.5
15-21	9	4.5
22-28	2	1
29-35	1	0.5

**TABLE # 2** Details of sample (pregnant) women

VARIABLE	FREQUENCY	PERCENTAGE(%)
Parity		
primary		
2-3	73	36.5
4-6	93	46.5
	34	17
Gestational age		
1 <sup>st</sup> trimester		
2 <sup>nd</sup> trimester	8	4
3 <sup>rd</sup> trimester and more	23	11.5
Mean±SD 2.3±0.095	169	84.5
Diseases which she have		
HTN and pre-eclampsia	2	1.0
AIDS	1	0.5
Hypertension (HTN)	54	27.0
Diabetes	8	4.0
Hepatitis b	1	0.5
Hepatitis c	3	1.5
Pre-eclampsia	6	3.0
HTN and diabetes	7	3.5
All mentioned diseases	118	59.0

From the 200 samples, 160 were aware of ANC services out of which only 120 had the availability of ANC clinic. About 113 of women had an ANC clinic at the distance of 10km from their house while 87 had a distance greater than 10km. Out of these 87 women unfortunately only 41 were provided with a transport facility. About half (48.5%) of multipara women had visited ANC clinic in their previous pregnancy while 163 (81.5%) of total women had visited ANC clinic in their current pregnancy. Most of them 124 (64%) came for regular checkup, 10 (5%) were advised by families & 29(14.5%) came due to complications. Out of 37 (18.5%) who did not come 15 (7.5%) thought that they did not need it at all. (Table #3)

Out of sample of 200 pregnant women, the first health professional they contacted was general practitioner in case of greater than three quarters (77 %) of women. 90 (45%) of pregnant women visited ANC clinic before 7 weeks, 53 (26.5%) between 7-12 weeks, 33 (16.5%) visited after 12 weeks. 55 (26.5%) visited four times during their pregnancy, 71 (35.3%) visited for more than 4 times & 21 didn't visit.

164(82%) of women had ultrasound scan done during pregnancy.

Out of total 200 only 42(21%) women had the contact number of a health professional they could contact if they had any concern while remaining 158 (79%) didn't have. (Table #4)

**TABLE # 3** Facility and availability of ANC clinic

VARIABLE	FREQUENCY	PERCENTAGE (%)
Awareness of existence of ANC services		
Yes	160	80.0
No	40	20.0
If yes, availability of ANC		
Yes	120	60.0
No	40	20.0
Distance of ANC clinic		
10 km	113	56.5
More than 10 km	87	43.5
If >10 km, transport availability		
Yes	41	23.0
No	46	20.5
Visit to ANC clinic in previous pregnancy		
Yes	97	48.5
No	30	15.0
Nil	73	36.5
Visit to ANC clinic in current pregnancy		
Yes	163	81.5
No	37	18.5
Reason to visit		
Pregnancy related problems	29	14.5
Advised by family	10	5
Checkup	124	62
Reason, not to visit		
Did not need it	15	7.5
Household problem	2	1.0
LHV came to home	4	2.0
Mother in law is a Dias	1	0.5
No facility	12	6.0
Not informed about services	2	1.0

**TABLE # 4** Information about visit at ANC clinic

VARIABLE	FREQUENCY	PERCENTAGE (%)
First health professional you contacted		
GP	154	77.0
Midwife	11	5.5
Any other	15	7.5
Nil	20	10.0
Week of first visit		
before 7 weeks	90	45.0
7-12 weeks	53	26.5
> 12 weeks	33	16.5
Can't remember	4	2.0
Nil	20	10.0
Total no. Of checkup		
2	55	27.5
4	53	26.5
More than 4	71	35.5
Nil	21	10.5
Ultrasound scan done		
Yes	164	82.0
No	36	18.0
Have contact no. Of health professional		
Yes	42	21.0
No	158	79.0

Out of total, those pregnant women who attended ANC clinic were being investigated both clinically and pathologically to screen out any future complications, about 102 (51%) monitored for weight, 145 (72.5%)

for BP and 119(59.5%) fetal heart rate, 130 (65%) had abdominal examination done, 120 (60%) had urine examination done, 131 (65.5%) had complete blood examination. Evaluation of necessary services that should be provided at ANC showed that only 128 (64%) were immunized against tetanus, 39 (69.5%) were given iron/folate supplements & 152 (76%) were given calcium supplements. (Table #5)

Out of total women who attended ANC services 106 (53%) were advised about diet, 81 (40.5%) were given advice about prevention against malaria & dengue, 127 (63.5%) were advised to avoid lifting heavy weight, 43 (21.5%) were advised to have proper sleep, 41 (20.5%) were told about how much minimum weight they should gain during their pregnancy, 29 (14.5%) were advised to avoid smoking, 89 (44.5%) were asked to avoid certain medication that causes fetal anomalies like tetracycline, valporic acid etc.

93 (46.5%) being informed about maintenance of personal hygiene, 36 (18%) were advised on what to do if labor starts earlier, 92 (46%) were advised about breast feeding, 41 (20.5%) were given advice on the use of contraceptive method while only 68 (34%) were told about their delivery plans. Table #6

Out of Sample of 200, a majority of women 170 (85%) consider ANC to be beneficial to them. Table #7

**TABLE # 5** Investigation and services provided at ANC clinic

VARIABLE	FREQUENCY	PERCENTAGE (%)
Weight monitoring	102	51.0
BP monitoring	145	72.5
Abdominal examination	130	65.0
Urine examination	120	60
Complete blood examination	131	65.5
Fetal heart monitoring	119	59.5
Immunized against tetanus	128	64.0
Given any iron or folate supplements	139	69.5
Given any calcium supplements	152	76.0

**Figure # 1**

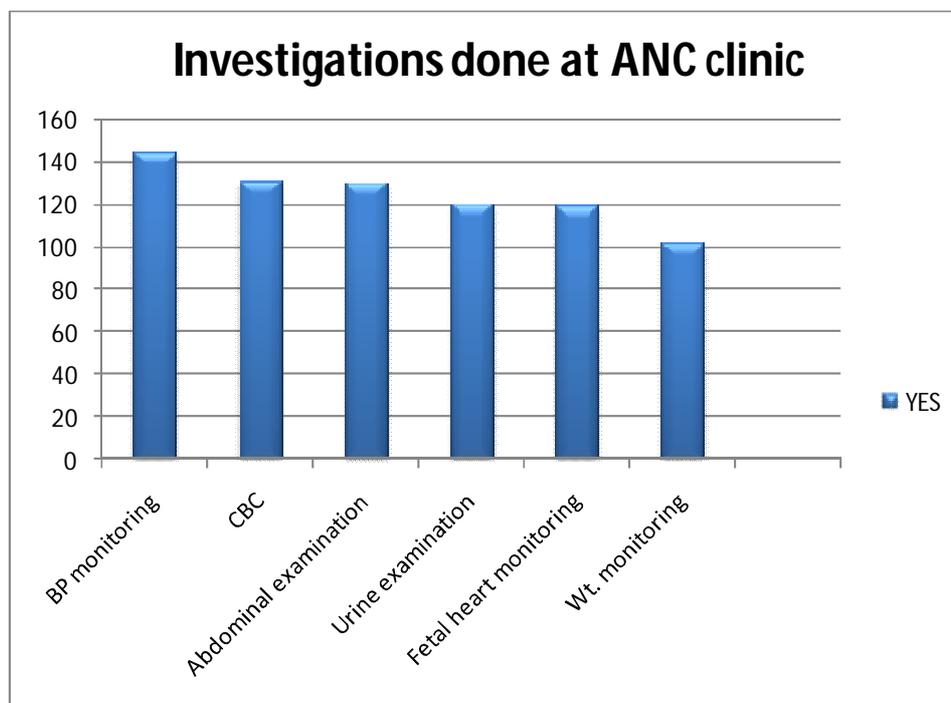


Figure # 2

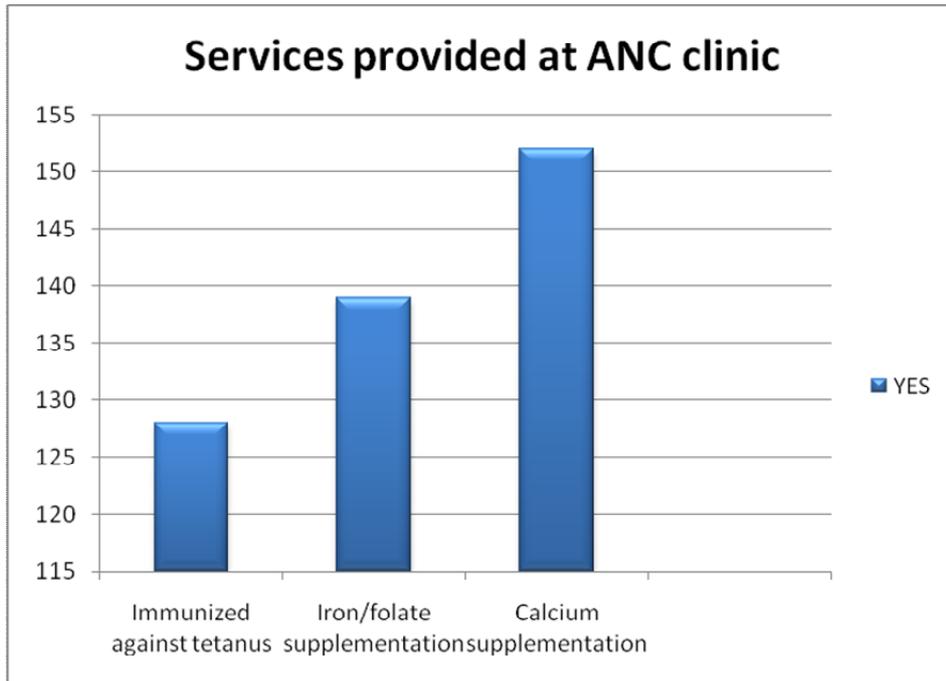
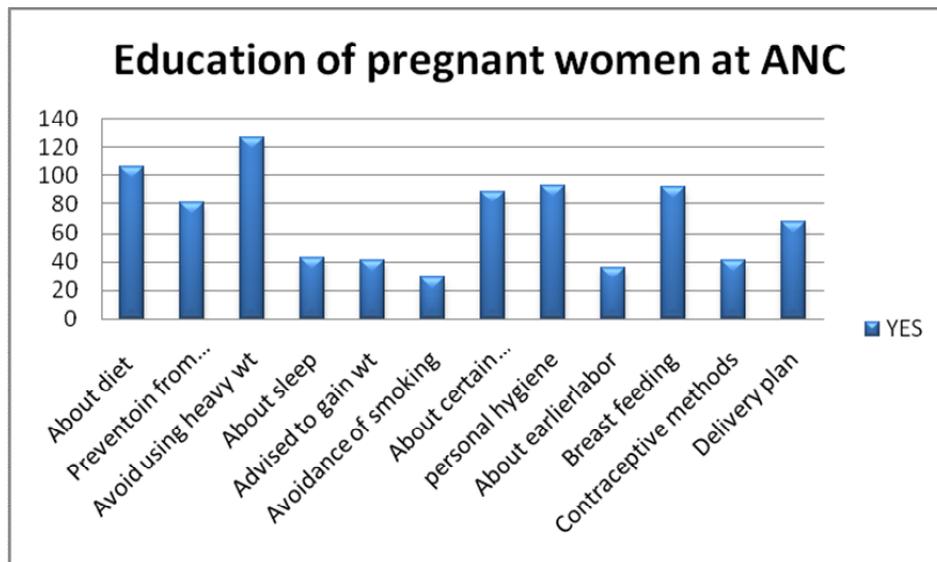


Table # 6 Education to women during pregnancy at ANC clinic

VARIABLE	FREQUENCY	PERCENTAGE (%)
Advised about diet	106	53.0
Prevention against malaria and dengue	81	40.5
Advised to avoid using heavy weights	127	63.5
Advised to have proper sleep	43	21.5
Advised to gain weight	41	20.5
Avoidance of smoking	29	14.5
Avoidance of certain medications	89	44.5
Maintenance of personal hygiene	93	46.5
Advised about earlier labor	36	18.0
Advised about breast feeding	92	46.0
Use of contraceptive methods	41	20.5
Discussed delivery plans with you	68	34.0

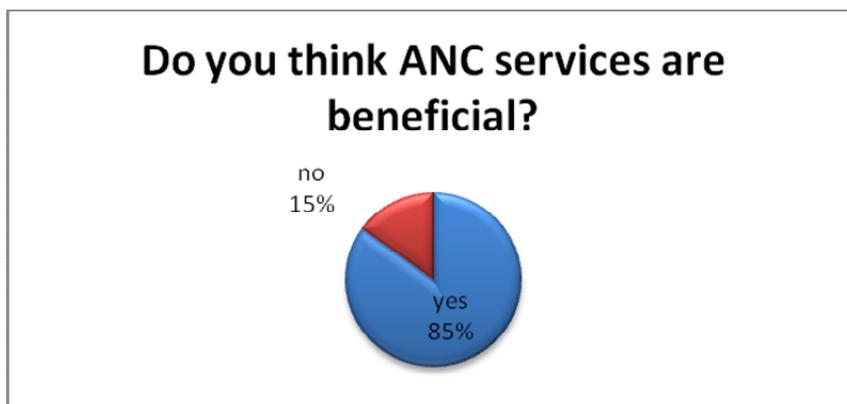
Figure #3



**Table # 7** Women’s opinion about ANC services

Variable	Frequency	Percentage
Do you think ANC services are beneficial		
yes	170	85.0
no	30	15.0

**Figure # 4**



**DISCUSSION**

We discovered that a majority of the population was aware about the existence and the benefits of such services yet surprisingly, despite the awareness, some opted out of attending ANC clinics because they think that they do not really need it. Our sample of 200 can be divided into three categories that is those who were aware about the services & also avail them (120) those who were aware but did not avail those services (40) & remaining those who were not aware so neither avail (40). This brings our attention to the fact that still we have such pregnant ladies in our societies who are not aware about their ANC rights. Most of these women were housewives and had an education level of up to 5th class and only a small percentage was highly educated and working which may have influenced their delay in attending such services. Having more than 5 years of education and being of higher socio-economic status were the most important factors associated with ANC attendance; these findings are similar to those from an evaluation of antenatal care attendance in developing countries. As was expected, some women believed that there was no need to go for such services as pregnancy according to them is a natural process and women

require no assistance as such, some women had restrictions imposed on them by their families but at the same time some families were the encouraging factor in pushing such women to attend ANC. Minority also lacked access to any ANC clinic mostly due to distance and lack of available transport shows that Government has not taken proper measures regarding the transport issues despite of the fact that many pregnant women if have complications end up their lives just because of not reaching at time to get a proper care.

Many of the women who utilized ANC services were multiparous and due to this were significantly aware of the benefits of ANC services during pregnancy due to past experiences. About half of the multipara had visited the Hospital during their previous pregnancy. Unfortunately, many of the women attending came in their 3rd trimester and not during first seven weeks after conception as has been recommended by WHO. Increasing parity affects the attitude of women towards ANC, with no previous complications they think that next delivery would also be safe neglecting the fact that complications increase with increase in the parity & this reflects lack of awareness. For the

availability and efficacy of the ANC being provided, we discovered that almost all women attending had had at least one ultrasound scan, most had their blood pressure and weight as well as fetal heart sounds monitored. More than half had had an abdominal examination done, along with regular blood and urine examination. Other services like immunization and provision of supplements including calcium, iron and folate are available to the pregnant women in most ANC clinics however some improvement may be required. From this we realize that the services provided are pretty much sufficient and are the basic services required for ANC, we just need to make sure this trend is followed everywhere.

One very important aspect of ANC involves the provision of guidance and counseling to the expecting mother. Advice given at such a time is usually very well comprehended as it is a sensitive time for the pregnant woman. Amongst the advice given to these women during attendance at an ANC clinic were; what to include in their diet plans, protection from malaria and dengue using insecticide treated nets, to avoid carrying heavy weights and what drugs to avoid during pregnancy. A majority of women were advised only this, however a small percent of women were also advised on sleeping habits, weight gain, breast feeding, contraceptive use among others. Hence we see that there is a great deficiency in the advice that is being given to pregnant women during ANC, there is need to improve the guidance given to women attending ANC. The major limitation to our study was that we collected the data from the pregnant ladies attending emergency department who came to get themselves checked for the complications & most of them were in their third trimester. Other limitation was that families with low socio-economic status usually attend Government hospitals & these ladies are not highly educated so we have no comparison of the practices as it is a homogenous population. Majority of the pregnant ladies in our sample prefer to get themselves checked by General practitioner so we did not get that how many women have complications after

being delivered by a Dai or TBA as the majority of women we sampled were from a government hospital. However, all of these limitations maybe overcome by increasing the area under study and including government as well as private institutions in the study.

## RECOMMENDATIONS

The awareness programs for ANC should continue more aggressively as we do see an improvement in the utilization of ANC, the media should also be actively involved in it. There should be an increased effort in creating ANC centers, especially in areas that are far flung or at least ready transport should be made available in areas away from such centers. Although the services and advice provided at the ANC are relatively good enough, there is need to further improve and maintain the quality. Certain areas like routine blood and urine tests need to be done frequently. Advice on breast feeding and spacing/family planning must also be given more keenly.

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