Antenatal Screening for Assessing Obstetric Risk Factors at Kolta's Maternal and Child Health Center

Hanan Bolis Mored, Manal Farook Moustafa, Ghadah Abd-Elrahman Mahmoud

Nursing specialist**-**Technical Institute of Nursing **-** Assiut University
Assistant Professor of Obstetrics and Gynecological Nursing- Faculty of Nursing -Assiut University
Assistant Professor of Obstetrics and Gynecological Nursing - Faculty of Nursing - Assiut University

Abstract:

Antenatal care ANC plays an important role in ensuring a healthy mother & baby during pregnancy and after delivery. **Aims of the study** to assess the prevalence of low and high risk pregnant women at Kolta's Maternal and Child Health Center (MCHC), Medical and Obstetrical (Maternal& fetal) risk factors among pregnant women at the same center. **Subjects and methods** descriptive research design was utilized in the present study, convenient sample was used among all prospective pregnant women who attended the Kolta's MCHC, sample size was 346 women, statistical record was from data base records of Kolta′s MCHC to gain the actual prevalence of low & high risk pregnant women, structured interviewing questionnaire which developed by the investigator and included: Sociodemographic data, Obstetrical history, initial assessment, data related to high risk pregnancy, scoring system of high risk pregnancy. **The study results** revealed that 67.9 % were in the of age group 20- 29 years old, 52% were living in rural areas, 71% were multigravidae, 23.6% had complications during last pregnancy, 86.2% had no medical history, 41.9% had anemia during pregnancy, 69.7% were high risk pregnancy, there are significant difference between weeks of gestation and anthropometric measurement P value =0.021 and significant difference between sociodemographic data and current antenatal care P value= 0.001 **Conclusion** study concluded more than one third of the sample had anemia, the rate of high risk in the study was more than two thirds of the sample . **Therefore, it is recommended** to increasing pregnant women's awareness about ANC and risk factors during pregnancy, continuing Educational Nursing Programmes to access the high quality of care, new studies should be established.

Key Words*:* Antenatal care, Obstetrical& Medical risk factors, Risk approach.

Introduction:

According to World Health Organization (WHO) estimates, more than 1,500 women die from pregnancy or childbirth-related complications every day. Annually, about half a million maternal deaths occur worldwide, and most of these deaths are in developing countries **(WHO, 2008).**

Antenatal care ANC coverage is a success story in Africa, since over two-thirds of pregnant women 69% have at least one ANC contact **(Jacob, A; 2009).**

According to Egypt Demography and Health Survey EDHS, slightly more than one quarter of Egyptian pregnant women do not receive antenatal care. However, among those who receive antenatal care only one third of them received advised about signs of obstetrical complications and where and when to seek medical assistance **(EDHS, 2008).**

Egypt, MMR has declined dramatically from 174/100000 live births in 1992-1993 to 67.6/100000 live births in 2005, a further decline to 44.6/100000 was also reported in 2009. Egypt has scored a marked reduction in MMR, between 1992 and 2008, Approaching 68% in all Egypt, 64% in Lower Egypt and 72% in Upper Egypt **(WHO, 2009).**

Antenatal care is a preventive obstetric program aiming to getting pregnancy, labor and puerperium as near to normal as possible. One of the primary goals of antenatal care is to identify those women with raised risks for problems during pregnancy or delivery, in order to ensure that precautionary measures are instituted where possible or more intensive medical care is available when needed to this (**Klossner and Hatfield, 2010).**

Many health problems in pregnant women can be prevented, detected and treated during antenatal care visits with trained health workers. WHO recommends a minimum of four antenatal visits, comprising interventions such as tetanus toxoid vaccination, screening, treatment for infections and identification of warning signs during pregnancy **(Barber, Sl; 2008).**

The aim of prenatal screening is to identify the pregnant women who need going beyond surveillance and care over the basic care offered to all.**(Goodwin, J, et al. 2009).**

Antenatal care begins by initial visit, the aim of the first visit is to identify all risk factors .It includes: History (Menstrual, Obstetric, past history, medical,

surgical and family history) , Examination: (General examination , abdominal examination , pelvic examination), Investigation (screening tests) : (urine analysis for albumin , urinary tract infection, blood picture for hemoglobin , blood group, Rh typing, blood glucose screen , tests for hepatitis B, HIV, Syphilis, gonorrhea, Chlamydia, Rubella titer, pap smear screening and thyroid function screening. **(Hodnett, 2009)**

At subsequent antenatal visit, the following assessments are completed Weight, Blood Pressure, fundal height measurement, assessment for quickening and assessment of fetal heart rate (normal 110:160 beat/ minute) **(Bottomlry& Ryme, 2008).**

The "risk approach" is a managerial tool for improving maternal and child health care. The risk assessment and classification of pregnant women into low risk and high risk groups has remained an integral component of most antenatal policies. Such antenatal policies ensure access to higher levels of care for at-risk pregnancies based on need **(Nbaber& Ckenny, 2011).**

Risk factors include preexisting disorders, physical and social characteristics, age, problems in previous pregnancies (e.g., spontaneous abortion), and problems that develop during the pregnancy or during labor **(Wong& Perry, 2008).**

The WHO has devised a simple scoring system which can be modified for local use when assessing the risk status of a pregnancy the scoring system takes into consideration maternal characteristics such as age, number of children, time since last delivery, medical history, and maternal education, referral to appropriate levels of care is obligatory for those women who have high risk pregnancy. A simple scoring system assigns different points to different maternal characteristics of interest: age (<19 or > 40 years 4 points; 30-39 years scores 2 points; 20- 29 years scores zero); number of children (> 10 children scores 4 points; 0-1 child scores 2 points; 2-9 children scores zero); medical history (previous obstetrical complications and perinatal deaths scores 3points, diabetes, heart disease, renal disease, psychosis scores 5 points) and maternal education (illiterate scores 1 point, literate scores zero). The scoring system place pregnant women with aggregate points 3- 4 as high risk and those with points 0-2 as low risk **(Oyibo, et al., 2011)**

The Maternal and Child Health Care Centers (MCHCs) collaborate with public hospitals to establish a comprehensive antenatal shared-care programmer to monitor the whole pregnancy and delivery process. Expectant mothers receive checkups at scheduled intervals, routine blood tests, related health advice and counseling. **(ARE, MOHP, 2009).**

So Maternal mortalities are mostly preventable, especially those related to direct causes. Access of pregnant mothers to skilled care during delivery and provision of emergency obstetric care when necessary, have contributed to diminished levels of maternal mortality **(EDHS, 2008).**

Significance of the Study

Approximately 500.000 births that occur worldwide each year are categorized as high risk because of maternal or fetal complication. Perinatal outcomes depend on the early recognition and management of problems, identification of the risks, together with appropriate and timely intervention during the perinatal period, can prevent morbidity and mortality among mothers and infants **(Wong& Perry, 2008**).

In Egypt 2010, 287,000 women died of pregnancy-related causes. The number of maternal deaths ranges from an average of 16 per 100,000 live births in the world's most developed countries to over 1,000 per 100,000 live births in the world's least developed countries, twenty-nine maternal deaths were identified among 8656 pregnant women residing in Assiut city (Upper Egypt). **(WHO, 2010)**

To identify women at high risk of complications in a current pregnancy, in order to refer them for care by personnel or centers suitably equipped to prevent maternal and neonatal morbidity and mortality. An adverse Obstetric history is an excellent indicator of risk in a current pregnancy

Research questions:

- What are the Obstetric & medical risk factors at Kolta's MCHC?
- What are The prevalence of low and high risk pregnant women at Kolta's MCHC?

Aims of the Study were:

1- General objectives:
- To assess the prevalence of low and high risk pregnant women at Kolta's MCHC.
- To assess Medical and Obstetrical (Maternal& fetal) risk factors among pregnant women at Kolta's MCHC.

2- Specific objectives:
- To assess type of medical & Obstetric risk factors.
- To assess rate of low & high risk factors.

Subject and Methods:

Research design: descriptive design was utilized in the present study.

Setting:

The study was conducted in Kolta′ s MCHC in Assiut city.

Sample size:

Random sample was used among all prospective pregnant women who attended the Kolta's MCHC at Assiut city by using Epi- info version 3.3 with power

80%, CI 95%, and expected prevalence of 55%, worst acceptable 60% so sample size was 346.

Tools:
Part I
* Statistical record was constructed to be completed from data base records of Kolta′ s MCHC; the data collected in the statistical record included the following:

• Total number of pregnant women/month for one year to gain the actual prevalence of low (normal) & high risk pregnant women at MCHC.

Part II
* Structured interviewing questionnaire which developed by the investigator and included the following data:

1. Sociodemographic data (e.g. name, age, residence, education…)
2. Obstetrical history (e.g. gravidity, parity, still birth, neonatal death, number of living children ………….)
3. Initial assessment:-
   • Measurement (e.g.: weight, height, Body Mass Index BMI)
   • The actual routine investigations done at MCHC: (complete blood count, blood type and antibody screen, urine analysis for sugar, protein, ultrasonography).
   • Current antenatal condition.
   • Weeks of gestation.
   o First trimester
   o Second trimester
   o Third trimester
4- Data due to high risk pregnancy (Maternal Medical risk Factors, Obstetrical risk factors {maternal and fetal}, special Investigations in the presence of high risk factors, type of risk Factors {Medical or Obstetrical}, investigations, vaccinations done For women and schedule antenatal care for {low and High risk groups}.

Part III:
A simple scoring system assigns different points to different maternal characteristics of interest: age (<19 or > 40 years 4 points; 30-39 years scores 2 points; 20- 29 years scores zero); number of children (> 10 children scores 4 points; 0-1 child scores 2 points; 2-9 children scores zero); medical history (previous obstetrical complications and perinatal deaths scores 3points, diabetes, heart disease, renal disease, psychosis scores 5 points) and maternal education (illiterate scores 1 point, literate scores zero). The scoring system place pregnant women with aggregate points 3- 4 as high risk and those with points 0-2 as low risk

Ethical considerations:
The purpose and nature of the study was explained to the directors and take a copy from protocol to obtain their permission. The purpose of study explained to pregnant women who agreed to participate in the study, they were free to ask any question about the details of the study and have right to withdrawal at any time. Confidentiality of obtained information insured and achieved by the use of locked files and the names of the participating pregnant women replaced by numbers.

Procedure:
This study carried out in 3 phases:
1-Preparatory phase: A review of current, past, local and international related literature in the various aspects of the problem using books, articles, periodical magazines and websites were done and this ended by a pilot study.

2-Pilot study phase: Was done for 10% of pregnant women from the sample subjects to evaluate validity and reliability of the tools, these cases were excluded from the study.

3- Actual study phase:
Procedure:
o An official permission was obtained from the Dean of the Faculty of Nursing directed to deputy manager of Kolta's MCHC in Assiut City. All pregnant women were attending the Kolta's MCHC were recruited in this study.

o The investigator collected the sample through two days every week, the investigator went to Kolta 's MCHC at 9:00 Am, The investigator introduced to the nurses who assisted to collect the data and then introduced to all pregnant women who agreed to participate in the study,

Before entering the Examination room:
o The investigator explained the purpose of the study to the women and invited them to participate in the study; those women who agreed to participate in the study gave a (written/verbal) informed consent after clear explanation of the purpose of the study and there was no additional risk or cost in participation.

o The investigator interviewed each woman separately, obtained the sociodemographic data: (name, age, residence, education), Obstetrical and Medical history: (gravidity, parity, still birth, neonatal death, number of living children). Data due to current pregnancy if there is any risk factors (Maternal, Fetal), provided general health education about antenatal care such as, ANC schedule visits, its importance, importance of continuing in follow up, warning signs, antenatal advices e.g. hygienic care during pregnancy, perineal care, breast feeding, different family planning methods, importance of spacing between

children), provided specific health education according Medical or Obstetrical risk factors such as: importance of follow up with medical physician in case of pre-gestational diabetes or hypertension, regular check up to detect any deviation from normal and referral system.

At Examination room:

o The investigator measured blood pressure, weight, height for each pregnant woman and listened to each woman during physical, abdominal, ultrasound examinations. participated in management which is done for each pregnant woman and according to her condition (by helping the pregnant woman to recognized her condition, if any requested investigation advice the women to complete it in laboratory and bring results to the Obstetrician& interpret her laboratory investigations in clear explanation, how to take prescribed medications, encouraged asking any question about her condition and reinforced time of the next visit.

o *Finally* the investigator recorded the Medical and Obstetrical risk factors if present for those pregnant women.

Pilot Study:

It is done for 10% of pregnant women from the sample to evaluated validity and reliability of the tools, these cases were excluded from the study.

Limitation of the study:

Stop working for 3 months because sit of doctors at Kolta′ s MCHC to request their rights.

Statistical analysis:

Statistical package for social sciences (SPSS) statistical software version 16 logistic regression analysis was used in this study. Data collected were coded and analyzed. The results were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables and means and standard deviations for quantitative variables. A significant P-value was considered when it is less than or equal.

Results:

Table 1 Distribution of study subjects by sociodemographic characteristics:

Sociodemographic characteristics	Frequency (No=346)	%
1-Mother age		
< 20	20	5.8
20 – 29	235	67.9
30- 39	82	23.7
40 +	9	2.6
(mean +SD)	**26.5+5.2**	
2-Residence		
Rural	180	52
Urban	166	48
3-Education level		
Illiterate	110	31.8
Read and write	15	4.3
Primary education	10	2.9
Preparatory education	32	9.2
Secondary education	133	38.4
University	46	13.3
4-Mother occupation		
House wife	303	87.6
Employed	43	12.4

Table: (2) Distribution of study subjects by their obstetrical history

Obstetric history	Frequency (N=346)	%
1-Gravidity mean +S D	**2.2+1.3**	
Primigravdiae	101	29
1 – 2	212	60.4
3 – 4	31	10
5 +	2	0.6
2-Stillbirth mean +S D	**1.1+0.4**	
Zero	339	98.0
1 – 2	7	2.0
3-Neonatal death mean +S D	**1.5+0.7**	
Zero	344	99.4
1 – 2	2	0.6
4-No of living children males mean +S D	**1.3+0.6**	
1	117	33.8
2 – 3	41	11.8
No of living children females	**1.7+1**	
1	116	33.5
2 – 3	59	17.1
4 +	13	3.8
5-Abortion mean +S D	**1.2+0.6**	
None	332	95.9
1	12	3.5
2	1	0.3
3+	1	0.3

Table: (3) Distribution of study subjects according to Medical history

Medical history	Frequency (n=346)	%
1-Maternal problems		
None	298	86.2
Cardiovascular diseases	5	1.4
Hypertension diseases	2	0.6
Renal diseases	4	1.2
Respiration diseases	5	1.4
Gastro intestinal diseases	1	0.3
Diabetes mellitus	5	1.4
Others	23	6.6
More than one risk factors	3	0.9

Figure (1-A) Distribution of pregnant women according to Maternal risk factors
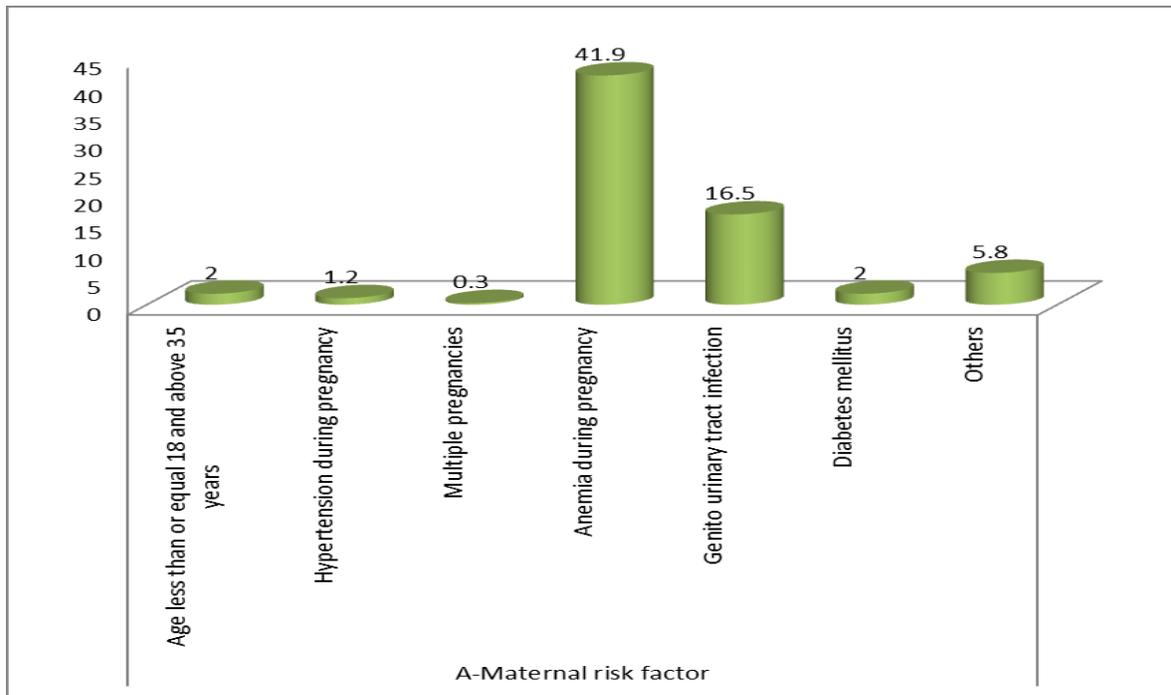

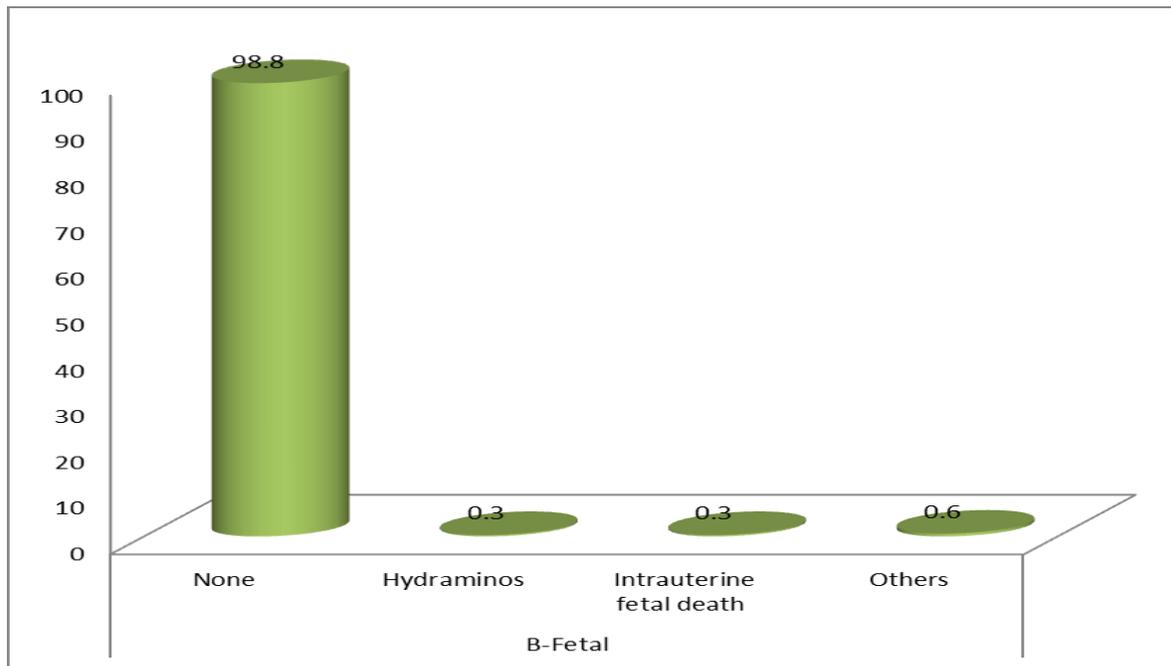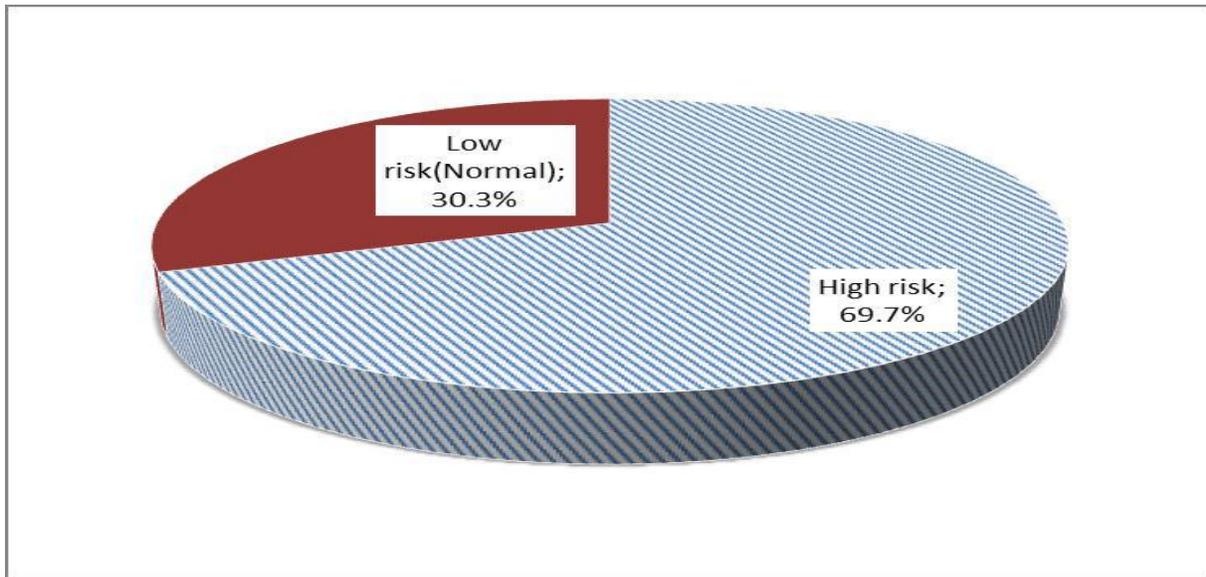**Figure (1-B) Distribution of study subjects according to fetal risk factors**

Table: (4) Distribution of study subjects according to Current antenatal condition:

Current antenatal condition	Frequency (N= 346)	%
High risk	241	69.7
Low risk(Normal)	105	30.3

Figure: (2) Distribution of study subjects according to Current antenatal condition.

Table: (5): Relationship between sociodemographic data and current antenatal condition:

Sociodemographic characteristics	High risk (n=241)		Low risk (n=105)		P. value
	N	%	N	%	
1-Maternal age (mean+ SD)	28.9+4.5		24.3+3.7		0.001**
☐ < 20	17	7.1	3	2.9	
☐ 20 – 29	135	56.0	100	95.2	0.001**
☐ 30- 39	80	33.2	2	1.9	
☐ 40 +	9	3.7	0	0.0	
2-Residence					
☐ Rural	165	68.5	15	14.3	0.001**
☐ Urban	76	31.5	90	85.7	
3-Education level					
☐ Illiterate	100	41.5	10	9.5	
☐ Read and write	12	5.0	3	2.9	
☐ Primary education	8	3.3	2	1.9	0.001**
☐ Preparatory education	12	5.0	20	19.0	
☐ Secondary education	99	41.1	34	32.4	
☐ University	10	4.1	36	34.3	
4-Mother occupation					
☐ House wife	236	97.9	67	63.8	0.001**
☐ Employed	5	2.1	38	36.2	

Table (6) The relationship between weeks of gestation and anthropometric measurements

Weeks of gestation Anthropometric Measurements	Mean ± SD			P. value
	1st trimester	2nd trimester	3rd trimester	
Height	156.9 ± 4.6	157.1 ± 3.9	157.1 ± 3.9	0.926
Weight	66.9 + 10	68.9 + 6.4	73.2 + 7.2	0.021*
BMI	27.4 ± 3.9	28 ± 2.9	28.1 ± 3.1	0.439
SBP	112.2 ± 8.5	114.7 ± 8.9	115.7 ± 11.9	0.157
DBP	77.2 ± 6.5	77.4 ± 6.1	77.8 ± 7.2	0.824

Table 1: shows that more than two thirds of the study subjects 67.9 % were in the age group 20- 29 years old, with the mean age of 26.5+ 5.2. As regards education, more than one third of sample 38.4% were secondary educated, whereas one third of them 31.8% were illiterate, slightly more than half of them 52% were living in rural areas and the majority of women 87.6% were housewives.

Table 2: Concerning Obstetrical history this table shows that more than two thirds of sample 71% was multigravidae, while only 29% were primigravidae; the mean of gravidity was 2.2+ 1.2. Regarding to history of stillbirth the majority of the sample had no a history of stillbirth, and neonatal deaths 98%& 99.4% respectively. Concerning history of abortion, majority of the sample 95.9% had no a history of abortions. concerning the history of living children, nearly third of sample had a history of one male and one female 33.8%and 33.5% respectively.

Table 3: Concerning distribution of study subjects according to medical history, Table 3 shows that the majority of sample 86.2% had no medical history.

Table 4: shows nearly two thirds of the sample (69.7%) were classified as high risk pregnancy, while nearly one third of the sample (30.3%) classified as low risk pregnancy.

Table 5: concerning relationship between sociodemographic data and current antenatal condition table 5 shows that there are significant difference between two variables, p value = 0.001.

Table 6: Concerning relationship between weeks of gestation and anthropometric measurement, as regarding to weight table 6 shows that there are significant difference between variables, P value =0.021.

Figure 1:A, B: shows more than one third of the study subjects 41.9% had anemia during pregnancy. Whereas nearly one third of the sample 30.3% had no maternal risk factors. As regard to fetal risk factor, figure1- B shows that vast majority of the sample 98.8% had no fetal risk factor.

Figure 2: shows nearly two thirds of the sample 69.7% were classified as high risk pregnancy, while nearly one third of the sample 30.3% classified as low risk pregnancy

Discussions:

Screening and monitoring in pregnancy are strategies used by health care providers to identify high risk pregnancies so that they can provide more targeted and appropriate treatment and follow up care and to monitor fetal well-being in both low and high risk pregnancies**. (Habib, F; et al. 2009)**
The aims of this study to assess: the prevalence of low and high risk pregnant women at Kolta's MCHC,

Medical and Obstetrical (Maternal& fetal) risk factors among pregnant women at the same center. Antenatal care prevalence according to the statistical data obtained from Kolta 's MCHC in the present study during the previous year (2012), the overall population rate of ANC was 548, more than half of the total categorized as low risk pregnancy and less than half of the total categorized as high pregnancy.

Regarded to sociodemographic characteristics of the study subjects table 1, the results of the present study revealed that the age of sample from 17- 40 with mean age +SD (26.5+ 5.2) , it also revealed that more than two thirds of the sample were in the age group of 20- 29 years old, this findings consistent with the result of the study conducted in Ethiopia, by **Alem, M; 2013** who reported in his study (factors affecting the utilization of antenatal care services in Ibadan, Nigeria) that about the mean age participants was 26.4+0.12 in age group ranged from 18-40 years.

Regarded to place of residence, the present study revealed that more than the half of the study subjects were living in rural areas versus nearly half of the sample were living in urban areas, this finding contracting with study conducted by **Alam, et al. 2013** those reported in their study (disparities in the use of antenatal care service in Ethiopia over a period of fifteen years) that about majority of the study subjects were from rural area, in addition, this finding contracting with study conducted by **Habib, F; et al. 2009** those mentioned in their study (antenatal care in primary health care centers, medina, Saudi Arabia) that about nearly one third of the sample lived in rural areas while two thirds of the sample were lived in urban areas.

According to educational level of the study subjects in the present study revealed that more than one third of the sample 38.4% had secondary education versus less than one third of the sample were illiterate, the results consistent with study conducted by **Habib, F; et al. 2009** those reported in their study (antenatal care in primary health care centers, medina, Saudi Arabia) that about more than one third of the sample got secondary education, this findings contracting with the study conducted by **Alam, et al. 2013**those reported in their study (factors affecting utilization of antenatal care among women in urban Sulum areas of Islamabad) that about majority of the sample were illiterate.

As regarded to mother's occupation, the present study revealed that majority of the study subjects were housewives this appear in increase rate of high risk pregnancy. This result consistent with study conducted by **Habib, F; et al., 2009** those reported in their study (antenatal care in primary health care centers, medina, Saudi Arabia) that majority of the sample were housewives.

Concerned the Obstetrical history table 2, the present study revealed that more than two thirds of the sample were multigravidae, this result ensure on multi parity increase risk during pregnancy, while less than one third of the sample were primigravidae. The mean of gravidity was 2.2+ 1.3.

As regarded to gravidity the present study supported by study conducted in rural Kenya by **Weiner, R; et al. 2013** those reported in their study (labor complications remain the most important risk factors for perinatal mortality in rural Kenya) that about less than one third of the study subjects primigravidae, while more than two thirds of the sample were multigravidae.

As regarded to neonatal deaths history, the present study shows that vast majority of the sample had no history of neonatal deaths, This finding consistent with the study conducted by **Zareen, N; et al. 2009** those reported in their study (perinatal outcomes in high risk pregnancies) that about (3.08%) had a history of neonatal deaths, and inconsistent with the study conducted by **Anne, M; et al. 2006** those found in their study (use of antenatal services and delivery care among pregnant women rural western Kenya: a community based survey) that about less than two thirds of study subjects had no history of neonatal deaths.

Concerned history of abortion, the present study revealed that vast majority of the sample had no history of abortions, this finding consistent with the study conducted by **Upadhyay, C; et al. 2013** those found in their study (obstetrical outcomes of pregnancies following abortion) that about majority of the study subjects had no previous history of abortion, on the other hand, inconsistent with study conducted by **Tebeu, P; et al., 2011** those found in their study (risk factors for hypertensive disorders in pregnancy: a report from the Maroua regional Hospital, Cameron) that about less than two thirds of the study subjects had history of abortions.

As regarded to maternal risk factors figure (1-A) in the present study shows that more than half of the sample had maternal risk factors (anemia, Genito urinary tract infection), this finding inconsistent with the study conducted by **Upadhyay, C; et al. 2013** those reported in their study (Obstetrical outcomes of pregnancies following abortions) that about nearly half of the of study subjects had maternal risk factors, and with study conducted by **Tuladhar, H; et al., 2011** those reported in their study (impact of antenatal care on maternal and perinatal outcomes a study of Nepal Medical College Teaching Hospital) that about one quarter of the study subjects had medical complications.

As regarded to prevalence of anemia, the present study revealed that more than one third of the study subjects had anemia during pregnancy due to lack of iron intake, malabsorbed of iron and increases physiological demands during pregnancy (twins, multipara), this finding nearly consistent with the study conducted by **Kalaivani, K; 2009** who reported in his study (prevalence & consequences of anemia in pregnancy) that about less than half of the sample had anemia during pregnancy, in addition, contracting with the study conducted by Nicholas, et al., 2012 those reported in their study (Quality of antenatal care in Zambia: a national assessment) that about less than one quarter of the study subjects had anemia during pregnancy.

As regarded to fetal risk factors figure (1-B) in the current study revealed that vast majority of the study subjects had no fetal risk factor, this finding contracting with the study conducted by **Upadhyay, C; et al. 2013** those reported in their study (Obstetrical outcomes of pregnancies following abortions) about more than one third of the study subjects had fetal risk factors.

As regarded to classifications of the study subjects according to current ANC condition (figure 2, table 4) in the present study revealed that more than two of the study subjects classified as high risk pregnancy while the other one third of the study subjects classified as low risk pregnancy. This finding due to lack of awareness by importance of follow up during antenatal period, ignorance of the pregnant women about warning signs and maternal, fetal risk factors during pregnancy.

These data consistent with study conducted by **Kashani, E; et al. 2012** those reported in their study (the rate of the prevalence of high risk pregnancies and the results on pregnant mothers and the effect on parameters after the birth) that nearly two thirds of study subjects had high risk pregnancy and more than one third of the sample had low risk pregnancy, In addition, contracting with studies conducted by **Zareen, N; et al. 2009** those reported in their study (perinatal outcomes in high risk pregnancies)& **Tran, T; et al. 2012** those found in their study (factors associated with antenatal care adequacy in rural and urban context – results from two health and demographic surveillance sites in Vietnam)& **Eswi, A., and Kalil, A., 2012** those found in their study (health locus of control among low risk and high risk pregnant women) that about more than half of the sample had high risk pregnancy and less than one half of the sample had low risk pregnancy& nearly one quarter of the sample had high risk pregnancy and nearly two thirds of the sample had low risk pregnancy& less than half of the sample had high risk pregnancy and more than half of the sample had low risk pregnancy respectively.

Concerned relationship between sociodemographic data and current of antenatal care table 5 the present study shows that there significant difference between two variables = 0.001.

Concerning relationship between weeks of gestation and anthropometric measurement table 6 , the present study shows that there are significant difference between weight during different trimesters (P value=0.021) this because weight gain during pregnancy (9-12kg).

Conclusions:

Based on the present study findings, it can be concluded that: more than two thirds of the sample in age group (20-29), more than one fifth of the sample had complications during last pregnancy, three quarters of the sample had no complications during last delivery, majority of the sample had no maternal medical problems, one third of the sample had no maternal (obstetric) risk factors while about more than one third of the sample had anemia during pregnancy, the rate of high risk pregnancy in the present study was more than two thirds of the study subject . The study approved that there are significant difference among weeks of gestation and anthropometric measurements (weight) p value= 0.021 & sociodemographic data and current of antenatal care p value= 0.001.

Recommendations:

In the light of the findings of the present study, the following recommendations are suggested:

- Increasing pregnant women's awareness about antenatal care and risk factors during pregnancy.
- New studies should be established to follow up the prevalence of obstetrical risk factors and its consequence on both maternal and fetal outcomes.

Future recommendation:

- Continuing Educational Nursing Programmes about the antenatal care should be designed and taught by expert nursing staff to access the high quality of care.

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