WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

SJIF Impact Factor: 5.464

ISSN: 2457-0400
Volume: 6.
Issue: 11
Page N. 97-103
Year: 2022

Original Article www.wjahr.com

PRIMARY HEALTH CARE MANAGEMENT OF HIGH RISK PREGNANCY IN MOSUL

Omaya F. Qassid*[1] and Samim Al Dabbagh[2]

[1]Alquds Family Medicine Center.
[2]Duhuk University.

Received date: 22 September 2022 **Revised date:** 12 October 2022 **Accepted date:** 02 November 2022

***Corresponding Author: Omaya F. Qassid**
Alquds Family Medicine Center.

ABSTRACT

High risk pregnancy is still a major problem among women in developing countries. The aim of the present study is to evaluate the type, quality, and to assess the health services given to high risk pregnant women in **PHCCs** in Mosul. Cross sectional study design was conducted on 400 pregnant women who were selected randomly from the attendants of four **PHCCs** in Mosul. Actual data collection period was six months (from 1st of November 2004 31st of April 2005). A special questionnaire from has been prepared which contains detailed information on the activities of **ANC.** The result showed that in the history taking the most frequent recorded items were for age and **LMP. B.p** measurement, measurement of fundal height, and body weight were recorded in all cases (100%). Regarding investigations, **GUE** and Hb level determination were also done in all cases (100%). 82.2% of records showed missing of short birth space reporting. The proportion of anemic pregnant women was high among the study population, and not all of them were recorded as risky. All pregnant women received iron and folic acid supplementation during their **ANC.** The proportion of pregnant women with previous abortion was high among the study population. Pregnant women with slight to moderate bleeding during pregnancy and pregnant women with multiple pregnancy have got a low proportion among the study population. Pregnant women with **D. M.** were all discovered and recorded as risky and the management was done for almost all of them.

INTRODUCTION

- Antenatal care (ANC)

The antenatal care (ANC) is one of the most rewarding aspects of family practice. It is a time during which strong doctor-patient bonds often develop (Sloan et al., 2002).

Antenatal care during pregnancy is an opportunity for promotion, education and application of prophylactic measures such as iron and folate supplementation, management of diseases like malaria and sexually transmitted diseases and to ensure early detection and management of complications (WHO, 1994).

The aims of the ANC are: assessment and management of fetal risk, prenatal diagnosis and management of fetal abnormality, diagnosis and management of prenatal complications, decision regarding timing and mode delivery, parental education regarding child spacing and family planning (Campbell and Less, 2000).

Number and timing of antenatal visits

The patient is advised to come for a checkup as soon as she missed her period, she is called for an antenatal check up every 4 weeks till 28 weeks, every 2 weeks till 36 weeks, and every week till she delivers (Bhargava, 1993).

Both in developing and developed countries there is a great variation in the provision and content of the ANC. Data of utilization of ANC by pregnant woman show a distinct sociodemographic and geographical difference (Coppeus and James, 1999).

A United state public Health Service Report suggested that patient with risk factors need modified care (Taylor, 2003).

Activities and content at first visit

History

Name, age, parity, dare of last menstrual period, menstrual history, past obstetric history, social history, history of medical problems, family history, and other complaints or problem.

Physical examination
General appearance, height, weight, blood pressure, signs of anemia, signs of previous cesarean section, uterine size, fetal wellbeing, signs of physical abuse, physical examination for assessment of complaints.

Investigations
Urine examination for bacteria tested for glucose and protein, ABO blood grouping and RH typing, hemoglobin concentration, syphilis clinic based test with same day treatment of positive results and follow up of partners, and random blood sugar estimation.

Health promotion at all antenatal visits
Counseling for nutritional advice, exercise, danger signs, symptoms of pregnancy, drug use, occupational hazards, exposure to infectious agents, avoidance of tobacco and alcohol, breast feeding, signs of labor contraception, infant growth and development (Sloan et al., 2002).

Care Provision
Including tetanus toxoid immunization, iron and folic acid supplementation, delivery plan, psychological support, and timing of next antenatal visits (WHO, 1996).

Identification of high risk mothers
Multifactorial risk assessment has evolved to evaluate the risk status of a pregnancy. Al-Jawadi and Al-Jibbory (1998) suggested an interventional strategy based on the risk approach recommended by Backettet et al. (1984). Coopland et al. (1993)stated a scoring system for the high risk pregnancy, and this system is the most comprehensive one that include all risk variables related to the reproductive, obstetric, medical, surgical, and gynecological history, in addition to the history of present pregnancy (Arias, 1993). This system newly used in Mosul PHCCs (PHC Department, 2005), See (Appendix **II**). Also Al-Jawadi (1998) had introduced this system on her study population.

Aim of the study
To evaluate the type, quality, and to assess the health services given to high risk pregnant women in primary health care centers (PHCCs) in Mosul.

Specific objectives of the study
1. To determine number, timing, and content of antenatal visits.
2. To evaluate the risk pregnants according to age reproductive performance.
3. To evaluate ANC services, regarding quality and completeness of doctor work including history, examination, investigations, and recording of them, and the process of referral and feedback system.
4. To calculate the percentage of risk pregnancies with their percentages of management in PHCC of each risk factor.

MATERIAL AND METHODS

Official permission to perform the study has been obtained from the Ninevah Health Authority. Four PHCCs in Mosul have been involved in the study.

Study design
To achieve the aim of the present study, across sectional study design was adopted.

Study setting
Mosul city are divided into four districts, and one PHCC have been taken randomely from each district (Lottery Method), and these PHCCs are: Al-zuhoor PHCC, Al-Shorqi PHCC, Al-Hadbaa PHCC, and Al-Ghalbi PHCC. They receive pregnant women from their specific catchments' areas which are: 33.000, 68.000, 62.000, 71.000 population respectively.

The questionnaire
Depending on the maternal registration car (See appendix IV), a detailed questionnaire form was proposed (See appendix I), focusing on the activities of ANC and was composed of the following:

History: the variables include: age, parity, present obstetric history, past obstetric history, medical history, last menstrual period (LMP), menarche, contraceptive history, family history, date of the next visit, referral, and follow up.

Examination: the variables include: general examination, height, weight, B.p, clinical signs of anemia, presence of previous scar, fundal height, fetal lie and presentation in 3rd trimester, and fetal heart sound in 3rd trimester.

Investigations: the variables include: Hb, blood group and Rh, GUE for (protein, bacteria, and glucose), VDRL, and R.B.S.

Other services: include: referral for dental care, health promotion, and care provision.

Risk groups: (See appendix III) The following in formations were collected for each risk group:
1. Anemia: iron supplementation, follow up, and referral to hospital.
2. Hypertensive disorders of pregnancy: check B.p twice weekly and proteinuria, follow up and referral to hospital.
3. Bleeding during pregnancy: viability of fetus, uterine size, instructions for bed rest reassessment, and referral.
4. Rh incompatibility : regular visit, refer for antibody titer, and follow up
5. Previous C.S: regular visit to ANC, instructions and identifying scar.
6. Multiple pregnancy: visit to antenatal care, instructions and referral.
7. Short birth space: regular visits and instructions.

8. Grand multiparity: regular visits and instructions.
9. Gestational DM: send for F.B, refer for G.T.T., treatment, and follow up.
10. Previous Abortion: regular antenatal visit and instructions.

Date collection

Date collection was conducted during six months period (1st of November 2004-31st of April 2005). During this period, the doctor work in the ANC including recording were observed for 400 risky pregnant women. The observation was conducted for 3 days a week working between 9-11am.

Statistical analysis of data

Frequency tables for data description and percentages are used.

RESULT

PHC management of the some risk factors in the study

Table (1) demonstrates the percentages of different types of anemia which are: mild (66.9%), moderate early in pregnancy (27.46%), and moderate late in pregnancy (5.63%). The table also shows the management outline during ANC, the percentage of women with mild anemia who received iron supplement was (100%), the percentage of women with mild anemia who were identified as risky was (86.3%). There was no follow up for those with mil anemia. The table shows that the percentage of moderately anemic women early in pregnancy (>34weeks) who were recorded as risk group was (94.8%) and follow up was done for (43.5%) of them. Also it has been found that women with anemia in pregnancy were not referred to hospital but they received iron therapy in the form of injection or tablet.

Table (1): Management of anemia.

Type	Count		Iron supplementation		Recorded risk		Follow up	
	No.	%	No.	%	No.	%	No.	%
Mild Hb 11-9gm/dl	95	66.90	95	100	82	86.3	0	0
Moderate Hb 9-7gm/dl Early<34weeks	39	27.46	39	100	37	94.8	17	43.5
Moderate Hb 9-7gm/dl Late >34 weeks	8	5.63	8	100	8	100.0	7	87.5
Total	142	100	142	100	127	89.4	24	16.9

Table (2) shows that the percentage of pregnant women with diastolic B.p 90-100 without proteinuria was 53.19%. It also shows that percentage of those identified and recorded as risky was 88%, but only 4% of these patients were checked twice weekly. The percentage of their follow up was 56%. The table also reveals that the percentage of pregnant women with diastolic B.p 90-100 with proteinuria was 46.8%, and the percentage of those recorded as risky was 95.4%, but only 9% of them were checked twice weekly, no refer to hospital was found, and the percentage of follow up was 31.8%.

Table 2: Management of pregnancy induced hypertension.

Type	Count		Check Twice weekly		Referral To hospital		Recorded as risk		Follow up	
	No.	%	No.	%	No.	%	No.	%	No.	%
Diastolic B.p 90-100, no proteinuria	25	53.19	1	4.0	0	0	22	88.0	14	56.0
Diastolic B.p 90-100,with Proteinuria	22	46.8	2	9.0	0	0	21	95.4	7	31.8
Total	47	100	3	6.4	0	0	43	91.4	21	44.68

Table (3) shows that the number of Rh negative pregnant women was 37, the number of primigravida was 20 and the number of multigravida was 17, the table shows that the percentages of recording as risky were (90% - 76.4%) for primigravida and multigravida respectively. The percentage of instruction given was 48.6% for both primigravida and multigravida. For primigravida, the percentage of regular antenatal visit was 20%, no refer

for antibody titer and also no follow up for them. For multigravida, the percentage of regular antenatal visit was 94.1%, and 100% for refer to antibody titer, and 64.7% for follow up.

Table (3): Management of Rh incompatibility.

Type	No.	Regular visit		Referred For Antibody titer		Giving instruction		Recorded as risk		Follow up	
		No.	%	No.	%	No.	%	No.	%	No.	%
primigravida	**20**	**4**	**20**	**0**	**0**	**8**	**40**	**18**	**90**	**0**	**0**
Multigravida	**17**	**16**	**94.1**	**17**	**100**	**10**	**58.8**	**13**	**76.4**	**11**	**64.7**
Total	**37**	**20**	**54**	**17**	**45.9**	**18**	**48.6**	**31**	**83.8**	**11**	**29.7**

Table (4) demonstrates that the number of pregnant women with previous C.S was 92, and the percentage of recording as risky was 90.2%, and for regular antenatal visits was 67.4%. The steps that should be taken during ANC of these risk pregnant women showed that the percentage of identified scar was 96.7% and the percentage of giving instruction was 33.7%. The table also shows that the number of women with grandmultiparity was 62 and the percentage recording them as risky was 72.6%. The table also reveals that the percentage was 48.4% for regular antenatal visit. No instruction was giving to grandmulti parous. The table also shows that the number of pregnant women with short birth spacing was 45, and the percentage of recording them as risky was 17.8% and the percentage of giving instruction to them was 15.6%. The table also demonstrates that the number of pregnant women with multiple pregnancy was 9, and percentage of recording them as risky was 100%. It also shows that steps of management of such group were not fully done, it shows that the highest percentage was for identifying multiple pregnancy (100%), and for their referral from 32 weeks onward (100%), but there were on more visit for them from midgestation onward, and also the percentage of giving instruction was 66.6%. The table also reveals that the number of pregnant women with history of previous abortion was 113, and all of them recorded risky but only half of them have regular antenatal visit.

Table (4): Management of some risk factors of pregnancy.

Type	No.	Recording as risk		Regular Antenatal Visit		Giving instruction	
		No.	%	No.	%	No.	%
Previous C.S *	**92**	**83**	**90.2**	**62**	**67.4**	**31**	**33.7**
Grandmultiparity	**62**	**45**	**72.6**	**30**	**48.4**	**0**	**0**
Short Birth space	**45**	**8**	**17.8**	**23**	**51.1**	**7**	**15.6**
Multiple Pregnancy **	**9**	**9**	**100.0**	**0**	**0**	**6**	**66.7**
Previous abortion	**113**	**113**	**100.0**	**57**	**50.4**	**42**	**37.1**

*The percentage of identifying scare was 96.7%.
** the percentage of identifying multiple pregnancy and referral to hospital was 100%

Table (5) shows that the percentage of women with gestational D.M was 64%, all of them send for F.B.S, only 43.75% of them refer to hospital for oral GTT, 87.5% of them was on insulin therapy, and the percentage of recording as risky was 100%, but for follow up was 75%.

The table also shows that the percentage of pregnant women with pregestational D.M was 36%, all of them send for F.B.S., but only 44.4% send for oral GTT, all of them was on insulin therapy, and the percentage of recording as risky and for follow up was 100%.

Table (5): Shows that the percentage of women with gestational D.M.

Type		Gestational D.M	Pregestational D.M	Total
Count	No.	16	9	25
	%	64	36	100
Send for F.B.S	No.	16	9	25
	%	100	100	100
Refer for OGTT	NO.	7	4	11
	%	43.75	44.40	44.00
On insulin therapy	No.	14	9	23
	%	87.5	100	92.0
Recorded risky	No.	16	9	25
	%	100	100	100
Follow up	No.	12	9	21
	%	75	100	84

DISCUSSION

Assessment of the PHC management of risk pregnancies

Anemia

In the present study, it was found that 89.4% of the anemic pregnant in the study were recorded as risky and this result is comparable with the result of a study done by Taha and Bella (1996) in Saudi Arabia, who mentioned that iron deficiency anemia needs to be considered by members of the health team.

It can be seen that the percentage of pregnant women who suffered from anemia during pregnancy was found to be high (35.5%) among the study population, but only (16.9%) of them had follow up for their problem and this may be due to that the health team not aware about the early and late complication of anemia during pregnancy, and this result contradicts the study done by Ingram (2004), which suggested that anemia during pregnancy is a serious problem and routine iron and folate supplementation should be given during pregnancy and this appears to prevent low Hb at delivery. this study also shows that all pregnant women receive oral iron and folic acid supplementation, and this is compatible with the study done by Walravch (2002) who reported that oral treatment of anemia is the most feasible, and therefore remain the most widely used.

Hypertensive disorders of pregnancy

In the present study, it can be seen that the percentage of pregnant women with pregnancy induced H.T was about (11.75%), and it is somewhat similar to the study of Paruk and Moodley (2001) who had been founded that the incidence of hypertension in developing countries is 18%, as HDP represent one of the major contributor to maternal mortality and morbidity.

The result also show that most pregnant women with HDP were recorded as risky which may be due to the awareness of the health care provider to the diagnosis of HDP.

The strategy of the WHO, that pregnant women with diastolic B.p of (90-100) mmHg without proteinuria should be checked twice weekly, and referred to hospital if B.p rises, compared with the present study which shows that (4%) of pregnant women with diastolic B.p of (90-100) mmHg without proteinuria are checked twice weekly, but non of them referred to hospital.

The result also shows that pregnant women with diastolic B.p of (90-100) mmHg with proteinuria were not referred to hospital which contradicts the recommendation that if diastolic B.p is (90-100) mmHg with proteinuria the women should be referred to the nearest hospital (WHO, 1994).

Rh – incompatibility

In the present study, the result shows that most of pregnant women with Rh negative blood group are recorded as a risky (83.8%), and that there is o management for primigravida with Rh-negative. This is comparable with Bhargava (1993) who mentioned that there is no effect on the first pregnancy and the first child usually escape.

It can be seen from the result that all multiparas who are Rh-negative are usually referred for antibody titer (indirect combs' test) which is compatible with Nicolades and Rodeck (1992) who suggested that indirect combs' test should be done at the 7th month or before that for all multiparas and even for all pregnant women who are Rh negative. It can be seen from the results there is follow up for (29.7%) of this risk group because there is a feedback mechanism between the hospital and the health center, and this may be due to increased awareness of its effect on the fetus.

The study reveals that only (48.6%) of them have instructions given, and this agree with Milaat (1995) who discovered lack of many important aspects such as proper health education.

History of previous C.S.

The study shows that the percentage of pregnant women with previous C.S among the study population was 23%. The high percentage might be due to the fact that C.S is important in decreasing maternal mortality rate and prenatal mortality rate in developing countries.

The incidence of C.S. varies in different hospitals from 6-30% (Bhargava, 1993).

The result shows that health care providers identify the scar in most of these pregnant women and this goes in agreement with the recommendation that an important step in managing such pregnants during ANC is identifying the scar (WHO, 1996).

Multiple pregnancies

In this study, it can be seen that there are nine pregnant women with multiple pregnancy and all of them were recorded as risky which may be due to the awareness of the increased risk associated with multiple pregnancy.

The study shows that all of the nine pregnant women were identified by the obstetricians during physical examination and by referring them for ultrasound.

These pregnant women are referred to hospital from 32weeks on word and this result is compatible with the recommendation that pregnant women with multiple gestation and referred to hospital from 32weeks on word (WHO, 1994).

Diabetes mellitus during pregnancy

The result of the present study shows that all pregnant women with gestational D.M were recorded as risky and F.B.S was done for all of them. Although F.B.S at 1st prenatal visit has good patient compliance, however it has got poor specificity (high false +ve rate) makes it in sufficient screening test for gestational diabetes (Sacks et al., 2003).

Early GTT screening could avoid some diabetic complications, and Bartha et al. (2003) recommended oral GTT to be done for high risk pregnants (obese, personal history of gestational diabetes, family history of gestational diabetes, glycosuria).

The result also shows that the (43.75%) of these pregnant women were referred for oral GTT in the hospital, and 75% of them have follow up because of the feedback mechanism between the hospital and the health center.

CONCLUSIONS

1. The study shows that the age group (25-29) year was the most frequent attendants to the ANC.
2. The recording of history, physical examination and investigations were inadequate and not completely done each pregnant woman.
3. Lack of many important ANC services for high risk pregnancies such as advice and health education.
4. It is concluded that many of the risk factors identified by the maternal and child unit, directorate of prevention, MOH, are not very well known by the health care provider such as short birth space.
5. Anemia was found to be the most common risk factor among the study population.
6. The management of many risk factors was found to be inadequate
7. There was full recording and management for pregnant women with D.M
8. Lack of referral and feedback system in early all risk factors in the study

9. The introduction of new scoring system will share in identifying the high risk pregnancies more easily.

REFERENCES

1. Jawadi T.A. Identification of high risk pregnancy and its outcome, Acohort study, University of Mosul, M.Sc Thesis, 1998; 29.
2. Arafa M., Abodol-Fataah M., Abouzeid H., and EL-Kkhouly A. Out comes of pregnancies complicated by early vaginal bleeding. Eastern Mediterranean health Journal, 2006; 213: 457-462.
3. Arias F. Identification of risk mothers practical guide to high risk pregnancy and delivery, Mosby, USA, 2nd ed., 1993; 4(5): 166.
4. Beckmann Charles R., Frank W. Ling, Douglas W. Laube, Roger p.Simith, Barbara M.Barzansky, and William N.p. Herbert Multiple gestation .Obstetric and gynecology, 4th ed., Lippincott Williams and wilkins, USA, 2002; 273.
5. Bhargava V. Antenatal care In: V.L Bhargava text book of gynecology and obstetrics, Vol-II-obstetrics, Galgotia publication Pvt Ltd, 1993; 55-73.
6. ampbell S. and Less C. operative delivery. Obstetric by ten teachers, Arnold, London, 17th ed., 2000; 292.
7. Coopland et al. Identification of high risk mothers In: Arias practical guied to high risk pregnancy, Mosby, USA, 2nd ed., 1993; 4(5): 166.
8. Coppeus M. and James D. Organization of prenatal care and identification of risk In: James D.K., Steer P.J., Weiner C.P., Gonik B.high risk pregnancy management option, W.B Saunders, USA, 2nd ed., 1999; 19-26.
9. Ingram C. Routine iron and folate supplement in pregnancy The WHO reproductive health library, Oxford, 2004; 8: 12-20.
10. Milaat W. Antenatal care and risk assessment in a working primary health care clinc: a critical look, Bahrain Medical Bulletin, 1995; 17(1): 26.29.
11. Paruk F. and Moodley J.(2001) Antihypertensive drug therapy for mild to moderate hypertension during pregnancy, the WHO reproductive health library, No.8, update software Ltd, Oxford, 2005.
12. Sacks D.A., Chen-w., Wolde - Tsa dik, and Buchanan J.A. F.B.S. at 1st prenatal visit as a screen for gestational diabetes, Obstet-Gynecol, 2003; 101(6): 1197-203.
13. Sloan P.D, Slatt L.M., Ebell M.H., and Jacques L.B. prenatal care. Essentails of family medicine, Lippincott Williams and wilkins, U.S.A., 2002; 4: 153.
14. Taha A.and Bella H. use of the rapid assessment method in maternity care: A practical example. Saudi Medical Journal, 1996; 17(6): 744-751.
15. Taylor R.B. Antenatal care. Family medicine principles and practice, Springer, USA, 6th ed., 2003; 98.
16. Walravch G. Treatment of iron deficiency anemia in pregnancy, the WHO reproductive health Library, No.8, update software Ltd, Oxford, 2005.
17. WHO/ FHE/ MSM/. Care of mother and baby of the health center: Practical guide Report of a technical working group. Maternal health and safe motherhood program, division of family health, WHO, Geneva, revision, 1994; 1,94.2: 1.
18. WHO/ FRH / MSM/, Eclampsia module education material for teacher of midwifery. Maternal health and safe motherhood program, family Reproductive health, WHO, Geneva, 1996; 96.5: 2, 13.