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Lethal Fetal Syndrome

Eclampsia Retrospective Study

Highlights

Maternal and Foetal Outcome

Quality of Life Before and After

Discovering Thoughts, Inventing Future

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Maternal and Foetal Outcome in Eclampsia Retrospective Study

By Dr. M. Bansal & P. Borkar
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Introduction- Though by the end of 20th century, eclampsia has become almost unknown to obstetrician in the developed countries. It is still remains an important factor of maternal and perinatal morbidity and mortality in the developing countries like India.

Eclampsia is the onset of seizures (convulsions) in a woman with pre-eclampsia.

Pre-eclampsia is a disorder of pregnancy in which there is high blood pressure and either large amounts of protein in the urine or other organ dysfunction, Onset may be before, during, or after delivery.

Most often it is during the second half of pregnancy. The seizures are of the tonic–clonic type and typically last about a minute. Following the seizure there is typically either a period of confusion or coma.

Pre-eclampsia is estimated to affect about 5% of deliveries while eclampsia affects about 1.4% of deliveries. In the developed world rates are about 1 in 2,000 deliveries due to improved medical care. Hypertensive disorders of pregnancy are one of the most common causes of death in pregnancy.

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Maternal and Foetal Outcome in Eclampsia Retrospective Study

Dr. M. Bansal [α] & P. Borkar [σ]

I. Introduction

Though by the end of 20th century, eclampsia has become almost unknown to obstetrician in the developed countries. It is still remains an important factor of maternal and perinatal morbidity and mortality in the developing countries like India.

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Pre-eclampsia is estimated to affect about 5% of deliveries while eclampsia affects about 1.4% of deliveries. In the developed world rates are about 1 in 2,000 deliveries due to improved medical care. Hypertensive disorders of pregnancy are one of the most common causes of death in pregnancy.

They resulted in 29,000 deaths in 2013 – down from 37,000 deaths in 1990. Around one percent of women with eclampsia die.

The word eclampsia is from the Greek term for lightning. The first known description of the condition was by Hippocrates in the 5th century BCE.

Typically the pregnant woman develops hypertension and proteinuria before the onset of a convulsion, the hallmark of eclampsia.–Other cerebral signs may immediately precede the convulsion, such as nausea, vomiting, headaches, and cortical blindness.

If the complication of multi-organ failure ensues, signs and symptoms of those failing organs will appear, such as abdominal pain, jaundice, shortness of breath, and diminished urine output.

The fetus may develop intrauterine growth retardation, and with maternal convulsions, bradycardia, and fetal distress. Placental bleeding, and placental abruption may also occur.

Sometimes the pregnant woman becomes comatose without preceding convulsions. Upon awakening from the coma, some experience amaurosis fugax: a "dark" and "fleeting" unilateral temporary blindness.

II. Material and Methods

This study was carried out in the department of Obs and Gyn, GMC Jagdalpur, Chattisgarh.

Study design: Retrospective study.

Duration of study: This study was carried over period of one year i.e. Dec. 2013 to Dec. 2014.

Sample size: It is a retrospective study of 66 pateints Of eclampsia with total 2856 deliveries in one year 2013-14 in GMC Jagdalpur.

III. Observation

The patients were analysed with respect to age, parity, booked/unbooked status, gestational age, type of eclampsia, mode of delivery and outcome of mother and fetus

All patients with eclampsia has received standard Pritchard regimen with MgSo4.

Out of 2856 deliveries in year 2013-14, 66 patients were admitted with eclampsia, so overall incidence of ecalmpsia is 2.31%.

This hospital is located in most remote area of chattisgarh and most of the patients are coming from rural area.

Area wise distribution of eclampsia, from rural area, 56 cases (84.84%) and urban area 10 cases (15.15%) were recorded.

Age

Age of patients	Number of cases
18-20 yrs	25
20-25 yrs	28
25-30 yrs	10
30-35 yrs	03

Most of the eclampsia patients were reported with age between 20-25 yrs and 18-20 yrs i.e. 28, 25 respectively

	Cases	Percentage
Primigravida	46	69.7
Multigravida	20	30.3

46(69.7%) patients were primigravida and 20(30.3%) case were multigravida, including 6 cases

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were gravida two and 14 cases were more than three gravida.

55 (83.33%) cases of antenatal eclampsia and 11(17.66%) cases of postnatal eclampsia were reported to the hospital.

Out of antenatal ecalmpsia, 34 (61.8%) cases were full term (37 weeks completed) and 21 (38.18%) were preterm.

IV. Discussion

All cases including antenatal and postnatal eclampsia were received standard Pritchard regimen with MgSo4. (loading 4 gm iv followed by 5 gm im on each alternate buttock).

Induction of labour was done in all antenatal eclampsia irrespective of gestation age.

Monitoring of labour was carefully done, simultaneously investigation was send and complication of ecalmpsia also noted which leads to maternal morbidity and mortality.

All patients were derived within 24 hours of induction of labour.

Normal vaginal delivery occurs in 48(87.27%) cases and LSCS was performed in 3 (5.45%) cases in view of foetal distress.

Out of Total Deliveries, 24 babies was live birth and 27 babies was IUD and perinatal mortality is around 53%.

Out of 66 cases of ecalmpsia, 59 patients were discharge after 1 week without any complication, one patient was absconded after two days of delivery and 6 cases had mortality.

Out of 6 cases 2 patient were expired due to massive PPH, 2 due to ARF, one due to CVA and one due to DIC.

V. Conclusion

In developed countries, incidence of eclampsia is markedly reduced over last 50 years. But in developing countries like ours- incidence is very high ranging from 0.5 to 1.8%. In remote places, however incidence is > 4%.

In our study incidence is 2.31%. This is mainly due to lack of awareness about disease, women illiteracy, poor transport facilities and delayed referral.

Maternal mortality in the present study is 9%.

Most of the Indian reports, Maternal mortality is between 8-14%.

The three delays framework commonly used to understand contribution to maternal death are

- Phase I delay- Delay in deciding to seek care on part of patient and family.
- Phase II delay- Delay in reaching an adequate health care facility.
- Phase III delay- Delay in receiving adequate care at the facility.

Our goal is to reduce the incidence and so the maternal mortality

But how……?

- Early detection of PIH and continous followup.
- Creating awareness among family members and patients for the disease and its deadly outcome.
- Creating awareness among health personals including mitanins and dais.(ASHA workers)
- Access to transport facility
- Timely referral is very important.
- Basic t/t at primary level specially at PHC & CHC level.

How to prevent…….?

Eclampsia is mostly preceded by severe preeclampsia.

Thus prevention of Eclampsia rest on… Early detection &effective management of PIH with judicial termination of pregnancy wherever needed. However, Eclampsia can occur bypassing the Preeclampsia state and as such is not always a preventable condition.

Incidence of eclampsia should be reduced so as to reduce the maternal mortality and improve fetal outcome. Despite the focus on maternal health over last 50 years antenatal care is very low. It is necessary to create awareness among society and to bring quality care in reach of those who need it.

In 21st century we really don't want any single mother to die of eclampsia.

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Impact of Fasting on Parturients in University Hospital Center of Brazzaville

By Jean Alfred Mbongo, Aya Nzéli, Henri Germain Monabéka & Léon Hervé Iloki

Abstract- Objective: To seek the impact of fasting on the outcome of labour.

Methods: This was a cross-sectional study carried out in consenting parturients who had a singleton pregnancy at term, and who had been fasting for at least 10hours. The fasting was confirmed by appositive ketonuria test.

The impact of fasting (attributable risk) was calculated using the Open Epi software.

Results: No case of Mendelson syndrome was observed, vomiting in the non fasting parturients was not abundant, (4% of cases RR=0.3); fasting exposes the women 3.75 times more to risk of dynamic dystocia (40% of cases) and 3.5 times more to risk o f acute fe tal distress (18.6% of ca ses). Instrumental vaginal delivery was not significantly more frequent in fasting women (RR=1.5 ; p=0.12) and spontaneous vaginal delivery had a protective effect (RR=0.66 ; p=0.001).

Keywords: *fasting; parturients; congo- brazzaville.*

GJMR-E Classification: *NLMC Code: WQ 400*



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Impact of Fasting on Parturients in University Hospital Center of Brazzaville

Impact Du Jeûne Chez Les Parturientes Au Centre Hospitalier Universitaire De Brazzaville

Jean Alfred Mbongo [α], Aya Nzéli [σ], Henri Germain Monabéka [ρ] & Léon Hervé Iloki [ω]

Résumé- Objectif: Rechercher l'impact du jeûne sur le déroulement du travail d'accouchement.

Patientes et méthodes: Il s'agissait d'une étude longitudinale, chez les parturientes consentantes, ayant une grossesse monofoetale à terme, et à jeûne depuis au moins de 10 heures, le jeûne confirmé par une cétonurie positive. L'impact du jeûne (la fraction attribuable) a été calculé à l'aide du logiciel Open Epi.

Résultats: Aucun cas de syndrome de Mendelson n'a été observé, les vomissements chez les parturientes non à jeûne n'ont pas été importants, 4% des cas (RR=0,3) ; le jeûne fait courir 3,75 fois le risque de dystocie dynamique (40% des cas) et 3,5 fois le risque de souffrance fœtale à la parturiente (18, 6% des cas).

L'accouchement par voie basse instrumental n'est pas significativement plus élevé chez les parturientes à jeûne (RR=1,5 ; p 0,12) ; la voie basse non instrumentale à un effet protecteur (RR=0,66 ; p 0,001) ; par contre l'accouchement par césarienne est significativement élevé chez ces parturientes (RR=3,7 ; p 0,0006). L'impact du jeûne chez les parturientes est la suivante : sur 100 parturientes à jeûne, 73,3% peuvent présenter une dystocie dynamique, 71,4% une souffrance fœtale aigue et 73,3% risquent un accouchement par césarienne.

Conclusion: Le jeûne est néfaste pour pronostic de l'accouchement, il serait souhaitable d'encourager l'alimentation des parturientes.

Mots clés: jeûne; parturientes; congo- brazzaville.

Abstract- Objective: To seek the impact of fasting on the outcome of labour.

Methods: This was a cross-sectional study carried out in consenting parturients who had a singleton pregnancy at term, and who had been fasting for at least 10hours. The fasting was confirmed by appositive ketonuria test.

The impact of fasting (attributable risk) was calculated using the Open Epi software.

Results: No case of Mendelson syndrome was observed, vomiting in the non fasting parturients was not abundant, (4% of cases RR=0.3); fasting exposes the women 3.75 times more to risk of dynamic dystocia (40% of cases) and 3.5 times more to risk of acute fetal distress (18.6% of cases). Instrumental vaginal delivery was not significantly more frequent in fasting women (RR=1.5 ; p=0.12) and spontaneous vaginal delivery had a protective effect (RR=0.66 ; p=0.001). On the contrary, cesarean deliveries were significantly more frequent in these parturients (RR=3.7 ; p =0.0006). The impact of fasting on parturients is as follows: for every 100 fasting parturients, 73.3% may present with dynamic dystocia, 71.4% with acute foetal distress and 73.3% stand the risk of having a cesarean delivery.

Conclusion: Fasting is detrimental to the outcome of labour and delivery, it is advisable to encourage feeding in parturients.

Keywords: fasting; parturients; congo- brazzaville.

I. Introduction

La question du jeûne au cours du travail est difficile à appréhender, car peu de travaux scientifiques ont été réalisés pour y répondre directement. La demande énergétique associée au travail obstétrical est importante et l'accouchement constitue une véritable épreuve d'effort ; la demande en oxygène augmente de 40%, pendant la phase de dilatation et de 75% durant les efforts expulsifs [1]. Le dogme du jeûne pendant le travail obstétrical a été introduit à la suite de la publication du Dr Curtis Mendelson en 1946. Au cours des 50 dernières années, les progrès réalisés en anesthésie obstétricale et la place de plus en plus importante de l'anesthésie locorégionale, ont grandement contribué à réduire l'inhalation bronchique. Le syndrome de Mendelson est ainsi devenu extrêmement rare en obstétrique moderne [2].

En France, une enquête nationale évaluant les pratiques des sages femmes, des obstétriciens et des anesthésistes sur ce sujet, montre que 30% des maternités disposent d'un protocole codifiant les prises alimentaires durant le travail d'accouchement. Dans cette étude Française, les habitudes diffèrent selon les praticiens : la sage femme a une attitude plus libérale, et anesthésiste plus restrictive [3].

Dans la plupart des maternités Africaines en général, et au Congo en particulier, la littérature est muette sur le sujet. Par enquêtes déclaratives ,il y a une absence de protocoles écrits établissant la nature des apports autorisés ou interdits pendant le travail d'accouchement, ce qui peut témoigner d'une certaine

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hésitation dans les pratiques, notamment sur l'autorisation de l'alimentation.

Le syndrome de Mendelson, ou Syndrome d'inhalation bronchique, est une inflammation pulmonaire qui résulte de la pénétration dans les bronches et les poumons de liquide gastrique .Ce liquide gène l'arrivée d'air jusqu'aux alvéoles et donc respiration (noyade). D'autre part, le liquide étant acide, attaque les muqueuses, provoquant des lésions inflammatoires graves très difficiles à soigner avec notamment la formation d'un œdème pulmonaire et une infection [4].

Le jeûne durant le travail peut être une cause de travail dystocique, de morbidité et de mortalité fœtale ; car prédispose au prolongement de la durée de la phase d'expulsion, augmentant ainsi le risque de souffrance foetale aigue, de mortalité fœtale et d'accouchement instrumentaux en raison de la fatigue maternelle.

L'objectif de ce travail est de déterminer l'influence du jeûne sur le déroulement du travail d'accouchement.

II. Patientes et Méthodes

Il s'agissait d'une étude longitudinale (exposés et non exposés), qui s'était déroulée, du1er mai au 31 Aout 2015, dans le bloc des naissances, du service de gynécologie obstétrique du CHU de Brazzaville.

Exposées: Parturiente à partir de 37 SA en travail à jeûne depuis au moins 10h, le jeûne a été diagnostiqué en dosant la cétonurie.

Non- exposées: femmes en travail à partir de 37 SA n'étant pas à jeûne. Une cétonurie a été également faite pour s'assurer que la parturiente n'est pas à jeûne.

Nous avons inclus les primipares et Paucipares en phase de latence, ayant un bassin cliniquement normal, chez qui on n'a pas retrouvé d'antécédent pathologique au cours de la grossesse, ayant effectué au moins trois consultations prénatales (CPN), parturiente avec une grossesse monofoetale évolutive en présentation céphalique, dont l'âge gestationnel est compris entre 37 et 41semaines d'aménorrhée, avec une cétonurie positive, consentante à l'étude.

Toute parturiente: ayant les contre-indications d'un accouchement par voie basse, non consentante à l'étude, ayant des antécédents pathologiques au cours de la grossesse, ayant fait moins de 3CPN ou n'ayant fait aucune, ayant une grossesse gémellaire ou multiple, à jeûne depuis moins de 10heures, ayant une grossesse de moins de 37 semaines, ou de plus de 41 semaines, et toute parturiente chez qui le partogramme n'a pu être établi.

Dans notre étude nous avons comparé deux groupes, la taille totale de l'échantillon (N= 2n), était de 150 parturientes.

La parturiente ayant rempli les critères d'inclusion et consentante à l'étude sera recrutée lors de son admission en salle d'accouchement. La surveillance du travail se fera à l'aide d'un partogramme.

La non exposée sera la première parturiente, non à jeûne avec cétonurie négative, qui accouchera après l'exposée recrutée et ayant la même parité. Elle sera également recrutée lors de son admission en salle de travail et suivi jusqu'à l'accouchement à l'aide d'un partogramme.

Les corps cétoniques sont les produits normaux du métabolisme des graisses. Leur rôle d'intervenir pour libérer l'énergie lorsque les réserves en sucre sont insuffisantes notamment en période du jeûne. L'organisme ne peut puiser dans ses réserves comme source d'énergie, la combustion trop rapide d'une trop grande quantité de graisses peut provoquer l'accumulation de corps cétoniques dans le sang .Ces corps cétoniques passent de la circulation sanguine, dans l'urine.

La détection des corps cétoniques à la bandelette

Ces produits du catabolisme lipidique, lors de la dégradation il se forme de l'acide acétyl acétique, précurseur de l'acétone et de l'acide hydroxy-butirique. Lorsque la cétonurie est positive, et la glycosurie est négative cela témoigne d'un apport alimentaire insuffisant.

L'impact du jeûne a été déterminé par le calcul de la fraction attribuable. Le risque de complications materno-foetales attribuables au jeûne mesure la proportion des cas différentes complications qu'on peut attribuer au jeûne en tant que facteur de risque chez les femmes exposées.

Cette fraction attribuable vaut : FR = RR – 1 / RR.

FR=fraction attribuable RR=Risque Relatif

Analyse des données a été faite avec le logiciel EPI INFO version 3.5.4.

Les variables quantitatives seront rapportées sous forme de moyenne ± écart type (SD), tandis que les variables qualitatives ont été rapportées sous forme de fréquence et de pourcentage.

Les comparaisons entre variables ont été faites par le test de Chi^2 (Khi-Carré).

Une valeur de probabilité $P < 0,05$ sera considérée comme statistiquement significative.

La fraction attribuable (l'impact du jeûne) a été calculée à l'aide du logiciel Open Epi.

III. Résultats

Il ressort du tableau 1, qu'aucun cas de syndrome de Mendelson n'est survenu dans les deux groupes, par contre le jeûne fait courir aux parturientes 3,75 fois le risque de dystocie dynamique ; 3,50 fois le risque de souffrance fœtale aigue. Le risque de mort

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fœtale intra-partale en cas du jeûne est un effet du hasard parce que la valeur 1 est à l'intérieur de l'intervalle de confiance.

Nous avions inclus uniquement les parturientes à jeûne depuis au moins 10h et ayant une cétonurie positive. La durée moyenne du était de 15,6h (SD=3,8).

Les parturientes à jeûne avaient souvent bénéficié d'une amniotomie (80%), en début de phase active puis de correction de la dynamique à la perfusion d'ocytocine en cas de dystocie persistante chez les exposées ; contre 30 % dans le groupe non exposées. Dans les deux groupes, ils s'agissaient souvent de dystocie dynamique en phase active du travail (92%) ; que de dystocie de démarrage (8%).La dystocie en phase active à plus concerné les parturientes à jeûne 70% des exposée.

Le poids moyen des nouveaux nés étaient de 2800,9g (SD=301,7) chez les parturientes à jeûne et de 3008,2g (SD=412,9) chez les non exposées (p=0,018).

L'Apgar à la première minute était en moyenne de 7 (SD=2) chez les parturientes à jeûne contre 8,5 (SD=1) chez les non exposées (p=0,02). Celui de la 5eme min était de 8 (SD=2,5) contre 9 (SD=1,3) chez les non exposées (p=0,04).

Le jeûne a fait courir 3,75 fois le risque aux parturientes ; mais l'accouchement instrumental par voie basse n'a pas été significativement plus importante chez les exposées que les non exposées ; comme le montre le tableau 2.

Sur le tableau 3, le calcul de la fraction étiologique a fait établir que, sur 100 parturientes à jeûne, 86,9 couraient le risque de faire une dystocie dynamique ; 90,1 le risque de souffrance fœtale aigue et 90,7 pourront s'exposer à la césarienne.

IV. Discussion

Nous n'avons retenu dans notre échantillon que les parturientes à terme, 90 avaient un âge gestationnel entre 37 et 40 SA et 60 étaient en post terme ; cette procédure nous permet d'écarter les complications de l'accouchement liées à la prématurité.

La moyenne de la durée du jeûne était de 15,6h (SD=3,8). En effet, plus le jeûne se prolonge, plus les complications deviennent manifestes. Durant les périodes du jeûne maternel, le métabolisme fœtal des corps cétoniques, notamment des béta-hydroxy-butyrates, peut compenser l'insuffisance des apports en glucose [5].

La dystocie dynamique survient plus régulièrement chez les parturientes à jeûne (3,75 fois plus), que les non à jeûne, en raison de la fatigue maternelle liée au jeûne. En effet, le travail obstétrical est considéré comme une véritable épreuve d'effort, ainsi, en 1996, Hazle a pu mettre en évidence des similitudes physiologiques entre la parturiente et l'athlète [6].

Pendant le jeûne, il y a production d'acétone ; cette production en quantité importante s'accompagne de l'accumulation des déchets d'acides dans le sang (acidose), ce qui peut entrainer une fatigue physique et intellectuelle, une perte d'appétit, des douleurs abdominales, un essoufflement, un chute de la tension, des nausées et vomissements [7].

La dystocie dynamique, en raison de la prolongation du travail d'accouchement qu'elle entraine peut conduire à une souffrance fœtale aigue ; nous l'avons observé 3,5 fois plus chez les exposées que les non exposées.

En conformité avec les données de la littérature qui plaide en faveur de la rareté du syndrome de Mendelson, nous ne l'avons pas observé [2].

Les vomissements chez les non exposées ne sont pas un facteur de risque, de même que dans le groupe à exposées (RR=0,4). En effet, O'sullivan et al, sur 2426 primipares à terme, avec fœtus unique, en présentation céphalique, se présentant en début du travail, parmi elles 1219 pouvaient manger et 1207 n'avaient le droit de boire que de l'eau, aucune différence significative n'a été trouvée entre les deux groupes, concernant la survenue des vomissements[8] .Alors que pour Scrutton et al en 1999 les vomissements sont deux fois plus fréquentes et trois fois plus volumineuses chez les femmes s'étant alimentées [9].

Les parturientes à jeûne, ont plus accouchées par voie basse sans instrumentation mais il n ya pas d'association entre le jeûne et l'accouchement par voie basse non instrumental, il s'agit plutôt d'un effet protecteur.

Les extractions instrumentales pour l'accouchement par voie basse n'ont pas été plus fréquentes parmi les parturientes à jeûne, que les parturientes non à jeûne (RR=1, 5), peut être en raison de la pratique dans notre travail de la direction du travail, avec son corollaire la correction de la dystocie dynamique. L'allongement de la durée du travail ou la stagnation à une certaine dilatation a pour conséquences chez le fœtus : la constitution d'une bosse séro-sanguine, sans gravité, mais qui peut rendre le repérage de l'orientation de la tête impossible ; et de favoriser la souffrance fœtale aigue car l'intensification et le rapprochement des contractions tend à créer une anoxie fœtale [10]. Ainsi, le jeûne fait courir 3,7 fois le risque de césarienne .Par contre, Scheepers et Essed, ont observé une augmentation significative du taux d'extraction instrumentale chez les patientes laissées à jeûne (24% chez les patientes jeun versus 12,5% chez les patientes ayant ingéré une boisson calorique [11]. Ludka L et al qui ont retrouvé un nombre d'extractions instrumentales augmenté de 35% et de césariennes augmenté de 38% par rapport aux parturientes qui n'étaient pas à jeun [12].

Le poids moyens des nouveaux chez les parturientes à jeûne et chez les non exposées n'avait

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pas de différence statistiquement significative, en effet la durée du jeûne relative au travail d'accouchement ne peut influencer considérablement le poids du nouveau né.

Concernant le score d'Apgar, il parait meilleur chez les nouveaux nés, issus des mères non à jeûne, mais il est connu que ce score est fait à postériori, et donc la part de subjectivité augmente [13].

Les nouveaux nés dans le groupe des parturientes à jeûne ont été plus concernés par la réanimation à la naissance. En effet, les besoins du fœtus en oxygène sont deux fois supérieurs à ceux de l'adulte en raison de l'immaturité des systèmes enzymatiques fœtaux et à la pauvreté en mitochondries. La réserve d'oxygène dont dispose un fœtus de 3000 grammes est de 36 millilitres et représente une avance d'oxygène de deux minutes, un apport régulier d'oxygène lui est donc indispensable ; plus l'expulsion est longue, plus l'acidose métabolique est importante entrainant une chute rapide du PH [14]. En plus, pour le fœtus, la seule source de glucose est le glucose maternel, car il n'est pas capable de réaliser une néoglucogenèse. Le fœtus ne reçoit qu'une petite portion de l'ordre de 5mg/kg/minute (poids fœtal), lorsque les taux maternels sont normaux .le reste est utilisé par le placenta [1].

Aucune période de jeûne ne suffit à atteindre le vide de l'estomac, chez une femme enceinte, mais augmente l'acidité gastrique. A l'inverse, les liquides accélèrent la vidange gastrique, diminuent l'acidité, améliore le confort de la parturiente et n'augmentent pas les vomissements [15].Si certaines dans maternités des protocoles écrits ont été mis en place [15], il ya donc nécessité de les vulgariser.

V. Conclusion

Le syndrome de Mendelson qui faisait courir à la mère et l'enfant les risques anesthésiques pendant l'accouchement est rare en obstétrique. Le jeûne est néfaste chez la parturiente en raison du risque de dystocie dynamique, d'augmentation de cas de souffrance fœtale aigue et d'accouchement par césarienne. Il est important d'encourager l'alimentation des parturientes en établissant des protocoles d'apports oraux dans les maternités pour lutter contre la morbi-mortalité fœto-maternelle.

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Tableau I : Risque materno-foetaux d'exposition au jeûne

Jeûne						
Complications	oui	non	RR	IC	P	Signification
Dystocie dynamique	30	8	3,75	1,8	10^{-4}	TS
-Syndrome de Mendelson	0	0	0	0	0	
-SFA *	14	4	3,5	1,2-10,1	0,01	S
-Vomissements	3	7	0,4	0,1-1,5	0,1	NS
-MFIP**	1	0	3	0,1-72,1	0,4	NS

*Souffrance fœtale aigue
**mort fœtale intra-partale
n : Effectif
% : Fréquence en pourcentage

Tableau II : Association entre le type d'accouchement et jeûne

Jeûne						
Type d'accouchement	oui	non	RR	Khi^2	P	Signification
Voie basse non instrumentale	38	57	0,66	10,3	0,001	TS*
Voie basse instrumentale	22	14	1,5	2,33	0,12	NS
Césarienne	15	4	3,7	7,2	0,006	TS

TS*: il n ya pas d'association entre le jeûne et l'accouchement par voie basse non instrumental, il s'agit plutôt d'un effet protecteur. Par contre le jeûne fait courir 3,7 fois le risque de césarienne.

Tableau III : Fraction attribuable relative aux complications et l'accouchement par césarienne

Complications	RR	FR (%)	IC à 95% FR
Dystocie dynamique	3,7	73,3	45,7 - 86,9
SFA	3,5	71,4	17,2 - 90,1
Césarienne	3,7	73,3	23,3 - 90,7

RR : Risque relatif
FR : Fraction étiologique
IC : intervalle de confiance.

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Quality of Life Before and After Vaginal Hysterectomy in Women Admitted to the University Hospital Center of Brazzaville

By Mbongo JA, Mouanga A, Massamba Miabaou D, Aya Nzelie, Mbiobou-Douniama & Iloki LH

Summary- Introduction: The disease is a trouble that must be eradicated; vaginal hysterectomy is beneficial to patients for this purpose but can also have a detrimental impact on the quality of life of women.

Objective: To explore the impact of the disease on the quality of life before vaginal hysterectomy (VH) of women before and after surgery.

Methods: This is a qualitative study, with clinical method during a 12-month period which involved women who underwent vaginal hysterectomy. Women who didn't consent to participate and had no phone contact were not included.

Results: During illness, women's experience was: sexual discomfort 26/40 (65%); genital bleeding 12/40 (30%); 13/40 pelvic pain (32.5%) After surgery, we noted transient dyspareunia 30/40 (75%); secondary headache due to anesthesia 4/40 (10%).

Keywords: experience of the disease; vaginal hysterectomy; brazzaville congo.

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Quality of Life Before and After Vaginal Hysterectomy in Women Admitted to the University Hospital Center of Brazzaville

Qualité De Vie Et Vécu De La Maladie, Avant Et Après Hystérectomie Vaginale, Chez Les Femmes Admises Au Centre Hospitalier Universitaire De Brazzaville

Mbongo JA [α], Mouanga A [σ], Massamba Miabaou D [ρ], Aya Nzelie [ω], Mbiobou-Douniama [¥] & Iloki LH [§]

Résumé- Introduction: Toute maladie est un mal en soi qu'il faut éradiquer car elle altère souvent de façon significative la qualité de la vie. L'hystérectomie vaginale est indiquée pour les patientes qui présentent certaines affections gynécologiques graves, elle est donc bénéfique mais, peut également avoir une répercussion néfaste sur la qualité de vie de la femme.

Objectif: Explorer le vécu de la maladie et de l'hystérectomie vaginale (HV) des femmes avant et après l'intervention chirurgicale.

Méthodes: Il s'est agi d'une étude prospective qualitative, à recueil clinique sur une période de 12 mois. Cette étude a concerné les femmes, ayant subi une hystérectomie vaginale. Celles n'ayant pas accepté de participer à l'étude, ou n'ayant pas de contact téléphonique n'ont pas été incluses.

Résultats: Pendant la maladie, le vécu des femmes a été : l'inconfort sexuel 26/40 (65%) ; les saignements génitaux 12/40 (30%) ; les douleurs pelviennes 13/40 (32,5%). En Post-opératoire, ont été noté les dyspareunies transitoires 30/40 (75%) ; les céphalées secondaires à l'anesthésie 4 / 40 (10%).

Le vécu psychologique a été dominé avant l'HV par la peur de la chirurgie chez toutes les patientes, les troubles du sommeil 38/40 (95%), l'angoisse 30 / 40(75%), un sentiment de honte lié aux difficultés à accomplir l'acte sexuel en raison du prolapsus 26/40 (65%) et/ ou en raison des saignements génitaux, dus au fibrome utérin 14/40(35%). le sentiment de la perte de féminité était déclarée par 26/40 femmes porteuses de prolapsus utérin (65%), la modification de l'estime de soi 26/40(65%). Ces appréciations subjectives ont été améliorées avec l'HV, contre balançant la perte de leur organe de reproduction.

Aucune information n'a été donnée par les femmes à leurs proches et aux membres de la famille avant la chirurgie, traduisant ainsi leur sentiment de gène ou de honte. L'arrêt des symptômes a été observé dans tous les cas, même si dans un cas (1,25%) un nouveau signe au titre des complications (plaie rectale) a été noté. Concernant l'activité sexuelle, tous les couples ont déclaré leur satisfaction après le traitement.

Conclusion: Le vécu dramatique de la maladie et de l'hystérectomie vaginale avant, est nettement amélioré après l'intervention chirurgicale.

Mots clés: vécu; maladie; hystérectomie vaginale; brazzaville-congo.

Summary- Introduction: The disease is a trouble that must be eradicated; vaginal hysterectomy is beneficial to patients for this purpose but can also have a detrimental impact on the quality of life of women.

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Results: During illness, women's experience was: sexual discomfort 26/40 (65%); genital bleeding 12/40 (30%); 13/40 pelvic pain (32.5%) After surgery, we noted transient dyspareunia 30/40 (75%); secondary headache due to anesthesia 4/40 (10%). The psychological experience before HV, has been dominated by the fear of surgery in all patients, sleep disorders38/40(95%), anxiety 30/40 (75%), shame and difficulty with the sexual intercourse because of prolapsed 26/40 (65%) even impossibility because of the genital bleeding 14/40(35%). The loss of femininity was reported by 26/40 women with uterine prolapsed (65%), the modification of self-esteem 26/40 (65%). If these items have been improved with the HV, by cons, they all lost the reproductive organ. No information was given by women to their families and members of the company prior to surgery. The cessation of symptoms was observed in all cases, although we noted one case of rectal injury (1.25%). as for sexual activity, all couples declared their satisfaction after therapy.

Conclusion: The experience of the disease and the tragic perception of vaginal hysterectomy before, were improved significantly after surgery.

Keywords: experience of the disease; vaginal hysterectomy; brazzaville congo.

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I. Introduction

La qualité de vie correspond pour l'Organisation Mondiale de la Santé à « …un large champ conceptuel, englobant de manière complexe la santé physique de la personne, son état psychologique, son niveau d'indépendance, ses relations Sociales, ses croyances personnelles et sa relation avec les spécificités de son environnement » (OMS, 1994).

Le vécu correspond à l'ensemble subjectif des expériences, et des événements de la vie. Pour Vermersch [1], le vécu contient toutes les propriétés de la vie subjective y compris celles qui relève de l'accomplissement des actes (mentaux et matériel).la biographie de la personne est constituée par des éléments liés à son vécu.

L'hystérectomie vaginale est l'ablation chirurgicale de l'utérus en utilisant la voie naturelle sans ouverture de l'abdomen. Parfois, selon le cas, le col de l'utérus, les ovaires et les trompes de Fallope peuvent également être enlevés [2].

L'hystérectomie est, dans le monde occidental, l'intervention gynécologique la plus répandue, environ 70 000hystérectomies sont pratiquées chaque année en France [3]. Le rôle de l'utérus dans la vie de la femme est, en dehors de sa fonction primordiale de support de la reproduction, particulièrement important dans la vision de son schéma corporel, dans sa sexualité et pour son psychisme .Il est donc licite de s'interroger sur les conséquences de l'hystérectomie sur la vie de la femme et notamment sur la qualité de sa vie sexuelle en particulier [3]. L'ablation de l'utérus, quelle qu'en soit l'indication, peut être mal vécue, en particulier parce que outre la peur de l'intervention, des douleurs ou des complications viennent s'ajouter l'angoisse et/ou la honte de la perte de la féminité, de la modification de l'image corporelle. De plus, s'ajoute, la croyance que l'hystérectomie vaginale est associée à la ménopause, donc synonyme de vieillissement [4].De même, la perte de l'organe les prive des menstruations et peut être vécue par certaines comme une perte de l'identité, de la désirabilité. Cependant l'hystérectomie vaginale peut les soulager de douleurs intenses ou de métrorragies abondantes ; ce qui constitue souvent la motivation principale les poussant à accepter ce geste salvateur mais qui en ôtant leur utérus leur enlève l'attribut principal de la maternité. Le vécu d'une maladie gynécologique telle que le prolapsus utérin et le traitement subséquent du type hystérectomie vaginale ; est une expérience très difficile à vivre par une femme; du, fait qu'elles font face aux complications inhérentes à d'une part à la maladie et d'autre part aux traitements, d'où altération importante de la qualité de leur vie.

Aussi, nous nous sommes fixés pour objectif d'étudier la qualité de vie et le vécu de la maladie et de l'hystérectomie vaginale des femmes hospitalisées au CHU de Brazzaville avant et après l'intervention chirurgicale.

II. Patientes et Méthodes

Il s'agissait d'une étude qualitative et descriptive, avec méthode clinique, effectuée dans le Service de Gynécologie Obstétrique du CHU de Brazzaville durant une période de 12 mois, soit du 14 juillet 2014 au 14 juillet 2015.

La population cible, a été constituée des femmes ayant subi une hystérectomie vaginale. Celles n'ayant pas accepté de participer à l'étude, ou n'ayant pas de contact téléphonique n'ont pas été incluses.

L'échantillon a été constitué de façon non probabiliste, incluant toutes les femmes qui ont accepté de prendre part à l'étude en répondant à un questionnaire standardisé.

Ainsi, et en tenant compte des critères d'inclusion 40 patientes ont été retenues pour l'étude.

La figure I, représente le schéma conceptuel, exprimant les problèmes qui influencent le vécu de la maladie et de l'hystérectomie vaginale par les femmes.

Les données ont été recueillies ont été analysées à l'aide du logiciel EPI-info.

III. Résultats

a) Caractéristiques sociodémographiques

L'âge moyen des femmes ayant subi une hystérectomie vaginale(FSHV) a été de44± 3ans avec des extrêmes de 32 à 65 ans ; 67,9% d'entre elles étaient mariées, 25% étaient veuves et 7,1% étaient célibataires.

La plupart des FSHV soit 80,7% avaient un niveau moyen, 19,3% avaient un niveau universitaire.

L'occupation professionnelle a montré que 39,3% des FSHV étaient des commerçantes, 32,1% sans emploi et 28,6% étaient ménagères.

b) Caractéristiques cliniques

Parité, 47% étaient Paucipares, 31% multipares, 10% grandes multipares et2% de nullipares.

Indications de l'hystérectomie vaginale : prolapsus du col de l'utérus 26 cas, soit 65%, fibrome utérin 10 cas, soit 25%, dysplasies sévères du col utérin 4 cas, soit 10%.

L'anesthésie pratiquée a été l'anesthésie générale 50% des cas, la rachianesthésie 48% et péridurale dans 2% des cas.

Le tableau I, a mis en évidence la constance de l'inconfort sexuel chez les femmes présentant un prolapsus ; celles souffrant de fibrome utérin se plaignaient de douleurs pelviennes, et de saignement génital avant l'hystérectomie vaginale ; après l'intervention, elles se plaignaient de douleurs post-opératoires, et de céphalées (effets secondaires de la rachianesthésie).

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La description du vécu psychologique figure dans le tableau II. En effet, le prolapsus qui souvent était de 3e degré, et les saignements génitaux dus au fibrome utérin, entrainent une insatisfaction sexuelle pendant la maladie. De plus, après l'intervention, il est prescris un repos sexuel de 90 jours.

A l'analyse du tableau III, concernant le vécu social des patientes, nous avons noté qu'elles n'ont pas informé leurs proches parents et leurs amis et relations sur leur état morbide, mais ces derniers avaient peur de la chirurgie et compatissaient avec elles dans les suites opératoires. Des cas d'infidélité du conjoint ont été signalés, mais la satisfaction sexuelle des couples après hystérectomie vaginale a été unanime dans l'ensemble.

IV. Discussion

La phase de manifestation de la maladie a été pour la plupart un moment délicat. Elles font face non seulement à la douleur mais aussi au saignement génital, et au désagrément du à l'extériorisation du col en rapport avec le prolapsus. Pour Farquhar CM et al [5], les problèmes gynécologiques comme les douleurs pelviennes, les saignements abondants et prolongés, ont un impact négatif sur la vie quotidienne de la femme et peuvent être atténués par certains par certaines stratégies telle que l'hystérectomie vaginale [5].La maladie a une influence sur les attitudes et les comportements ; les représentations de la maladie destructrice ou libératrice induisent des comportements : refus des soins et de recours au médecin dans le cas de la maladie destructrice ; rupture avec les contraintes sociales, enrichissement sur le plan personnel, lorsque la maladie est vécue sur le mode d'une libération. Il est question pour les femmes de croire à la disponibilité des ressources et opportunités individuelles pour pouvoir améliorer la qualité de vie et éviter les complications post opératoires.

Notre étude a montré que toutes les femmes étaient soulagées de leurs malaises ; mais pour certaines, d'autres symptômes sont apparus liés aux complications postopératoires, telles que les douleurs, la plaie rectale, les dyspareunies ; car il n'existe pas de chirurgie anodine. En effet, selon Hasson [6], la perte de l'organe prive les femmes des menstruations et peut être vécue par certaines comme une perte de l'identité, de la désirabilité malgré le fait que l'hystérectomie vaginale leur a permis d'être soulagé de douleurs ou de métrorragies invalidantes. Il y a peu de complications avec la voie vaginale, en effet, les femmes rapportaient peu de saignement en post opératoire. D'autres auteurs ont fait le même constat [7 ,8]. Les dyspareunies transitoires à la reprise des rapports après hystérectomie vaginale ont été fréquentes. La pathogénie de ces dyspareunies selon Jewett [9] est le raccourcissement du vagin secondaire à la chirurgie, d'autres auteurs observent leur disparition à un an de la chirurgie [10].

Le vécu psychologique avant l'hystérectomie vaginale, est marqué par l'insatisfaction dans le désir sexuel, la perte de la féminité et la modification de l'estime de soi en raison des saignements du fibrome et du désagrément esthétique lié au prolapsus, incitaient les femmes à braver la peur de la chirurgie. A cela, s'ajoutaient les difficultés financières liées au coût de la chirurgie, engendrant le plus souvent l'insomnie. Dans la préparation psychologique préopératoire des patientes, souvent il manquait les informations sur les complications per et postopératoires. Selon Estrade et al [12], il faut savoir écouter avant de décider de toute chirurgie dans le cadre d'un consentement éclairé.

Le suivi postopératoire doit être assuré par le chirurgien lui-même pour compléter certaines informations, pour rassurer et accompagner la patiente. Ces quelques conseils simples peuvent minimiser les risques de décompensation psychique postopératoire. En cas des troubles sexuels, il faut s'interroger sur l'état psychologique pré opératoire des patientes et sur leur attente de cette chirurgie.

D'après Soulier [11], les maladies répondent à des codes qui étaient pressentis depuis la nuit des temps dans tous les grands mythes et les grandes symboliques. Les recherches psychologiques récentes font qu'ils sont de mieux en mieux connus. Les dernières découvertes scientifiques viennent confirmer chaque jour ces compréhensions. Nous vivons dans un « système de croyances », qui est propre à chacun et qui forme notre « vision du monde ». Ce système est différent du réel, mais nous pensons que c'est la réalité. Ce sont nos croyances. La maladie peut aujourd'hui se concevoir comme la conjonction d'un code de survie d'espèce et de la conséquence d'une croyance.

Nos patientes étaient mariées, et mère d'au moins deux enfants, en période de péri ménopause, le plus souvent, la procréation pour elles, n'était plus une grande préoccupation, il en est de même pour l'absence de l'utérus causé par l'hystérectomie vaginale. Cependant les femmes éprouvent un sentiment de manque, de perte, elles ont l'impression qu'on leur a enlevé une partie de leur féminité et sombrent souvent dans la dépression. Même si le désir d'enfant n'existe plus, accepter l'incapacité physique de procréer est difficile pour certaines. D'autres percevront cette intervention comme une atteinte à leur féminité. Pour ces raisons il est indispensable que l'hystérectomie (totale ou non) soit le choix de la patiente et non pas seulement celui de l'équipe médicale [13]. Ainsi, selon Cailhier [14], pour favoriser des soins plus humains, il faut répondre à un besoin d'information tant sur la nature de la maladie que sur les traitements. Pour être utile, cette information doit répondre à un besoin identifié chez la patiente. L'investigation des besoins d'apprendre s'affirme

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comme étant une stratégie pour susciter la participation, l'intérêt et la prise en charge de la patiente. Le concept d'estime de soi, englobe l'image corporelle, l'idéal de soi, l'exercice de son rôle et l'identité personnelle [13]. L'image corporelle est l'image de notre corps que nous formons dans notre esprit, autrement dit, la façon dont notre corps nous apparait à nous même. C'est la somme de jugements conscients et inconscients que nous portons à l'égard de notre corps. Elle englobe les perceptions présentes et passées [15].

Nos patientes n'informaient ni les proches parents, ni leur entourage élargi sur leur état morbide, mais préféraient l'effet de surprise, juste après l'intervention. Cela est cela est certainement un problème culturel, faisant penser que la médiatisation de la maladie fait courir le risque d'avoir un mauvais sort en per ou post-opératoire. Souvent, le statut socioculturel particulièrement important des maladies de la sphère urogénitale, les symptômes de la maladie principale appartenant à la catégorie de ceux dont il est gênant d'en parler ou de s'en plaindre et qu'il vaut mieux cacher, en raison d'un fort sentiment de honte. De plus se pose la question de l'incertitude concernant l'avenir des relations familiales et sociales. Les patientes ont présenté des doutes sur la façon dont elles allaient être acceptées «ainsi».Les membres de la société, n'étant pas tenu au courant de la maladie avant l'intervention, ne peuvent aborder ce problème avec la patiente, après l'hystérectomie vaginale . Le fait que dans la plupart des cas, la prise en charge globale de la maladie est le fait de mutualisation des efforts dans la société, cela peut avoir un impact négatif sur la santé des femmes ayant subi une hystérectomie vaginale.

Tenant compte des symptômes gênant l'activité sexuel, pendant la maladie, la longue durée de prescription médicale de repos sexuel post hystérectomie (environ 90 jours) ; des cas d'infidélité du conjoint, et même de non respect de la prescription médicale ont été notés. En effet, pour certains auteurs [8], le désir sexuel est un concept complexe, difficile à identifier et donc à analyser. Il est déterminé par l'interaction de la pulsion, des valeurs et des motivations.

V. Conclusion

La maladie, par sa gravité potentielle, déstabilise non seulement la malade, mais également ses proches ; souvent les relations professionnelles sont plus ou moins interrompues. Les troubles psycho-sexuels, aggravés par l'atteinte de l'image corporelle pendant la maladie, et le confort de la patiente, sont nettement améliorés par l'hystérectomie vaginale en raison aussi de l'absence « virtuelle » de cicatrice abdominale.

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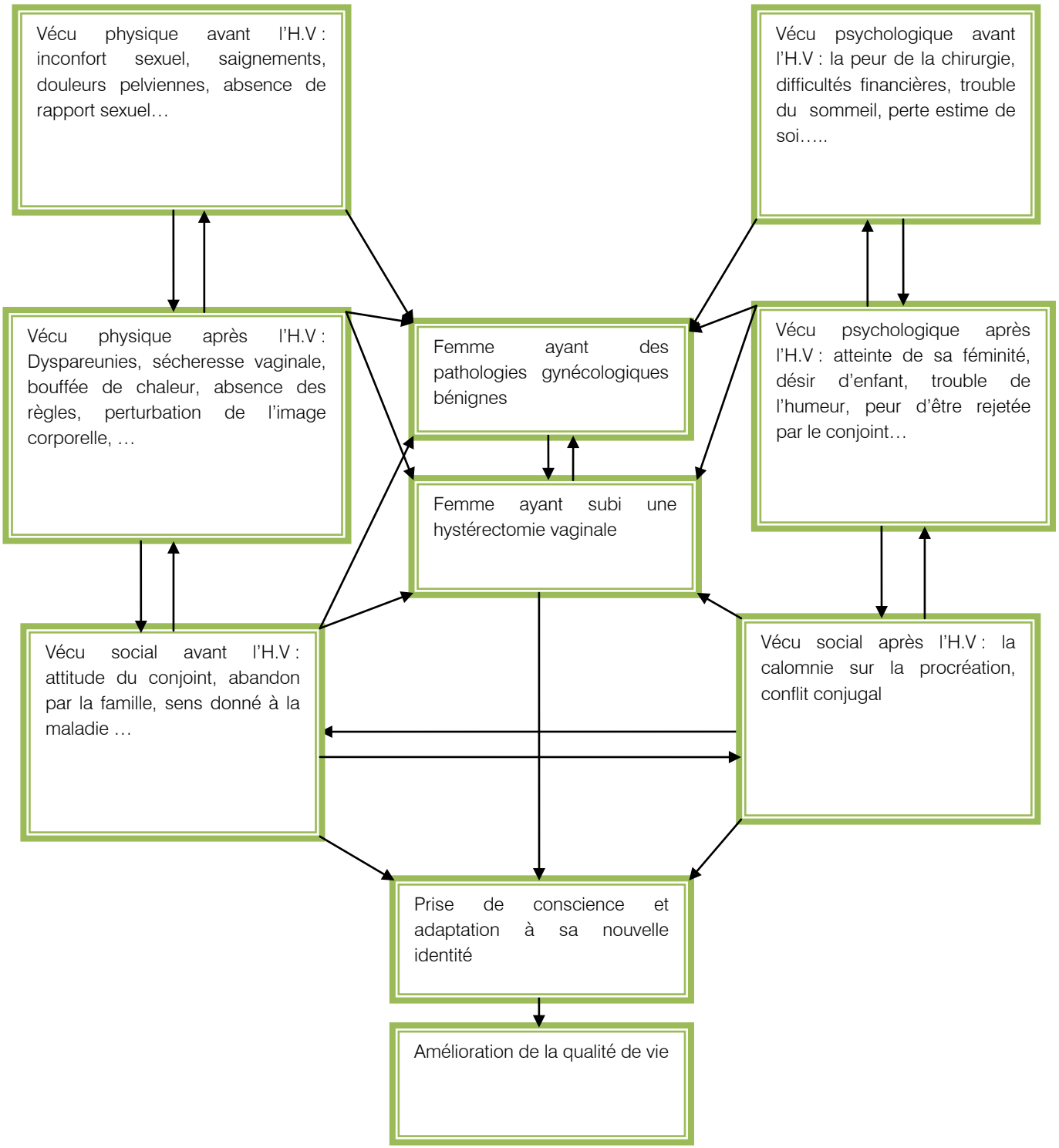


Figure 1 : Schéma conceptuel, exprimant les problèmes qui influencent le vécu de la maladie et de l'hystérectomie vaginale par les femmes.

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Tableau I : Les éléments du vécu physique avant et après hystérectomie vaginale

	Avant	HV	Après	HV
éléments	N=40	%	N=40	%
Signes de la maladie				
Douleurs	13	32,5	-	
Saignement génital	12	30	-	
Inconfort sexuel	26	65	-	
Complications post opératoires				
Douleurs	-		2	5
Céphalées	-		4	10
Plaie rectale	-		1	2,5
Dyspareunies	-		30*	75
Ecoulement vaginal	-		1	2,5

*en rapport avec la reprise des rapports sexuels après hystérectomie vaginale

Tableau II : Eléments du vécu psychologique avant et après hystérectomie vaginale

	Avant	HV	Après	HV
Eléments	N=40	%	N=40	%
Etat d'esprit				
Trouble du sommeil	38	95	-	
Peur de la chirurgie	40	100	-	
Angoisse pour moyens de prise en charge	30	75	-	
Rapports sexuels				
Impossibilité en raison du saignement	14	35	-	
Difficultés en raison du prolapsus du col	26	65	-	
Durée d'attente avant la reprise écourtée	-		10	25
Dyspareunie à la reprise	-		40	100
Absence d'atteinte de l'orgasme	-		2	5
Préparation à l'hystérectomie vaginale				
Information sur les complications	-	-		
Soulagement de la souffrance	40	100		
Coût de la prise en charge élevé	40	100		
Image corporelle				
Perte de la féminité	26	65	-	-
Perte d'organe de reproduction	-	-	40	100
Bouffées de chaleur	4	10	6	15
Sècheresse vaginale	8	20	10	25
Modification de l'estime de soi	26	65	-	-

Tableau III : Analyse du vécu social avant et après hystérectomie vaginale

	Avant	HV	Après	HV
Eléments	N=40	%	N=40	%
Information des proches sur la maladie	-			
Attitude de peur des proches pour la chirurgie	40	100	-	
Information des membres de la société	-dé		40	100
compassion des membres de la société après HV			40	100
Vécu conjugal				
Infidélité du conjoint	4	10	6	15
Satisfaction du couple aux rapports sexuels	24	60	40	100

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Premature Rupture of Membranes at Term Pregnancy: Management, At the Teaching Hospital of Brazzaville

By Mbongo JA, Mahoungou J D, Ovanga EB & Iloki LH

Summary- *Objective:* To describe the management of pregnant woman with premature rupture of membranes at term.

Patients and methods: A Cross sectional study conducted during two months. Were included, pregnant women with a gestational age greater than or equal to 37 weeks who presented a Premature Rupture of Membranes (PROM). Those with associated fetal death in utero, were excluded.

Results: The frequency of PROM was 4.25% of deliveries; the pregnant mean age was 29.5 years, ranging from 16 to 46 years. Thirty-seven pregnant or 80.4% have performed more than 4 prenatal consultations. Etiological research was unsuccessful in 42 cases (91.3%) At admission, we observed 13 pregnant (28.3%) not in labor. 23 pregnant in labor transition stage. Sixteen pregnant women (34.8%) had meconium. The duration PROM was 1 to 6 hours, with over a third of pregnant women.

Keywords: *premature rupture of membranes; to term.*

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PREMATURERUPTUREOFMEMBRANESATTERMPREGNANCYMANAGEMENTATTHETEACHINGHOSPITALOFBRAZZAVILLE

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Premature Rupture of Membranes at Term Pregnancy: Management, At the Teaching Hospital of Brazzaville

Rupture Prématurée Des Membranes Sur Grossesse A Terme : Prise En Charge, Au Centre Hospitalier Universitaire De Brazzaville

Mbongo JA [α], Mahoungou J D [σ], Ovanga EB [ρ] & Iloki LH [ω]

Résumé- Objectif: Décrire la prise charge des gestantes ayant des ruptures prématurées des membranes à terme, au CHU de Brazzaville.

Patientes et méthodes: Il s'est agi d'une étude descriptive transversale, sur une période de deux mois. Ont été inclus, les gestantes dont l'âge gestationnel a été supérieur ou égal à 37 semaines et ayant présenté une Rupture Prématurée des Membranes(RPM). Celles ayant des cas de RPM avec mort fœtale in utéro, ont été exclues.

Résultats: La fréquence des RPM a été de 4,25% des accouchements ; l'âge moyen de 29,5 ans avec des extrêmes de 16 à 46 ans. Trente sept gestantes soit 80,4%, ont effectué plus de 4 consultations prénatales. La recherche étiologique a été vaine dans 42 cas (91,3%). A l'admission, nous avons noté 13 gestantes (28,3%) non en travail ; 23gestantes en phase de latence. Seize gestantes (34,8%) avaient un liquide méconial. La durée de la rupture des membranes a été de 1 à 6 heures, chez plus du tiers des gestantes. La césarienne a été le mode d'accouchement le plus fréquent avec 27 cas soit 58,7%.

Trente deux nouveau-nés (69,6%), nés de mères ayant présenté une rupture des membranes avaient une cotation d'Apgar à la première minute de 7 à 10 ; chez 14 nouveau-nés (30,4%), ce score a été entre 4 et 6. Lorsque l'Apgar a été entre 4 et6 à la première minute, le test de Fisher indique qu'il n' ya pas de différence significative, entre le mode d'accouchement et la couleur du liquide amniotique. Par contre lorsque l'Apgar se situe entre7 et 10, la différence est significative, il ya 68,2% d'accouchements par voie basse lorsque le liquide amniotique est clair. Pour les Apgar entre 7 et10 il ya 100% d'accouchements par voie basse en phase active du travail.

Conclusion: Devant une RPM sur grossesse à terme avec un score de bishop favorable, nous pratiquons un déclenchement systématique. Si les conditions locales sont défavorables, une expectative de 24 heures est admise, à l'issue de laquelle une maturation cervicale en vue d'un déclenchement est effectuée.

Mots clés: rupture prématurée des membranes; grossesse à terme.

Summary- Objective: To describe the management of pregnant woman with premature rupture of membranes at term.

Patients and methods: A Cross sectional study conducted during two months. Were included, pregnant women with a gestational age greater than or equal to 37 weeks who presented a Premature Rupture of Membranes (PROM). Those with associated fetal death in utero, were excluded.

Results: The frequency of PROM was 4.25% of deliveries; the pregnant mean age was 29.5 years, ranging from 16 to 46 years. Thirty-seven pregnant or 80.4% have performed more than 4 prenatal consultations. Etiological research was unsuccessful in 42 cases (91.3%) At admission, we observed 13 pregnant (28.3%) not in labor. 23 pregnant in labor transition stage. Sixteen pregnant women (34.8%) had meconium. The duration PROM was 1 to 6 hours, with over a third of pregnant women. The Caesarean delivery was the mode of delivery the most common with 27 cases (58.7%). Thirty-two infants (69.6%) born from mothers who experienced rupture of membranes had a rating Apgar in the first minute of 7 to 10; this score was between 4 and 6 in 14 newborns (30.4%). When the Apgar was between 4 and 6 in the first minute, the Fisher test indicates no significant difference between mode of delivery and the color of the amniotic fluid. By cons when the Apgar was between 7 and 10, the difference was significant, and there are 68.2% of vaginal deliveries when the amniotic fluid is clear. For the Apgar score between 7 and10, 100% of vaginal deliveries.

Conclusion: In case of PROM in term pregnancy with a favorable Bishop score, we practice a systematic labor induction. If local conditions are unfavorable, a wait of 24 hours is allowed, after which cervix maturation for a labor induction is performed.

Keywords: premature rupture of membranes; to term.

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I. Introduction

La rupture prématurée des membranes (RPM), se définit comme solution de continuité de l'amnios et du chorion, avant le début du travail. Dans la majorité des cas, la RPM précède le travail de quelques minutes ou de quelques heures. Si un temps plus long s'écoule entre son apparition et la mise en route de l'accouchement, l'œuf est exposé à l'infection [1].

Les décès maternels liés aux infections sont rares dans les pays développés, mais restent un problème majeur dans les pays en voie de développement [2]. L'infection puerpérale constitue la

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cinquième cause de mortalité maternelle en France, d'après le rapport publié par l'Institut de Veille Sanitaire [3]. L'infection néonatale reste encore un problème majeur de santé publique dans les pays en voie de développement. Elle est l'une des causes principales de mortalité néonatale. L'infection néonatale est plus fréquente dans les groupes de population défavorisés, qui n'ont habituellement pas accès aux infrastructures de soins néonatals de bonne qualité ni à une couverture antibiotique adaptée [4]. Les possibles agents étiologiques dans les pays développés et les pays en voie de développement pourraient varier d'un endroit à un autre. Néanmoins, les moyens nécessaires à la culture bactériologique pourraient être insuffisants ou trop onéreux dans de nombreuses régions des pays en voie de développement et des antibiotiques à large spectre pourraient devoir être utilisés de façon empirique [4]. En raison des taux plus élevés d'infection et de morbidité néonatale dans les pays en voie de développement, l'administration systématique d'antibiotiques dans ces cas aurait un impact relativement supérieur sur l'amélioration des résultats cliniques dans ces régions par rapport aux pays industrialisés [4].

Au Congo Brazzaville, les infections qui étaient autrefois la cause essentielle de décès maternel à Brazzaville, sont reléguées à un rang secondaire grâce à l'amélioration sensible des conditions d'hygiène et l'utilisation plus large des antibiotiques [5].

Ainsi, nous nous proposons de décrire la prise charge des gestantes ayant des ruptures prématurées des membranes à terme, au CHU de Brazzaville.

II. Patientes et Méthodes

Il s'est agi d'une étude descriptive transversale, sur une période de deux mois, allant du 2 janvier au 2 mars 2016. Elle s'est déroulée dans le Service de gynécologie obstétrique du CHU de Brazzaville. Toutes les parturientes à terme, ayant accouché au CHU de Brazzaville ont constitué notre population cible.

Ont été inclus, les gestantes dont l'âge gestationnel a été supérieur ou égal à 37 semaines et ayant présenté une RPM. Celles ayant des cas de RPM avec mort foetale in utéro, ont été exclues.

Pendant cette période, nous avons enregistré 1082 accouchements, dont 236 par césarienne, avec 1247 naissances vivantes ; 60 morts fœtales intra et anté-partum, et 4 décès maternelles.

Toutes les gestantes avec RPM, ont été mises sous antibiothérapie probabiliste à l'admission. Celles qui avaient un score de Bishop favorable ont bénéficié d'un déclenchement immédiat, pour les autres, on pratiquait une expectative de 24heures, puis une maturation en vue d'un déclenchement, si l'entrée spontanée en travail n'était survenue.

Les variables analysées ont été : l'épidémiologie, la durée de la rupture des membranes avant l'admission, la cause de la rupture des membranes, la couleur du liquide amniotique, le stade du travail à l'entrée, le mode d'accouchement et la cotation d'Apgar.

Le masque de saisie des données a été élaboré dans CSPro [Census and Survey Processing System]. Des contrôles a priori ont été programmés dans CSPro afin de minimiser les erreurs de saisie des données. Les données ainsi saisies dans CSPro, ont été ensuite exportées dans Stata ou SPSS pour faire l'objet d'analyses uni et bi-variées.

L'analyse des correspondances a été effectuée à l'aide des tests du khi2 de Pearson ou de Yates et de Fisher. Le seuil de significativité des tests a été fixé à 5% ($p<0,05$).

III. Résultats

La fréquence des PRM a été de 4,25% des accouchements, avec L un âge moyen de 29,5 ans et des extrêmes de 16 à 46 ans.

L'analyse du tableau I, fait ressortir que la plupart de nos patientes exerçaient dans le secteur informel, ou le secteur public.

Concernant la surveillance prénatale, 37 gestantes soit 80,4% ont effectué plus de 4 consultations ; 5 gestantes (10,9%) ont en fait 3, et 4 (8,7 %) ont consulté une à deux fois.

La plupart des gestantes étaient pauci-gestes et paucipares (Tableau II).

La recherche de la cause de la rupture des membranes a été vaine dans 42 (91,3%) cas .Dans deux cas (4,3%) la gémellité a été incriminée et les deux derniers cas ont été rattachés à l'infection urinaire.

A l'admission, nous avons noté 13 gestantes (28,3%) non en travail ; 23gestantes en phase de latence (50%) ; et 10 en phase active (21,7%). L'examen de la couleur du liquide amniotique à l'admission faisait noter, un liquide clair chez 26 gestantes (56,5%) ; un liquide jaunâtre chez 4 gestantes (8,7%) et 16 gestantes (34,8%) avaient un liquide méconial.

La durée de la rupture des membranes a été de 1 à 6 heures, chez plus du tiers des gestantes (tableau III).

La césarienne a été le mode d'accouchement des parturientes avec rupture des membranes dans 27 cas soit 58,7% ; la voie basse a été sollicitée dans 19 cas soit 41,3%.

Trente deux nouveau-nés (69,6%), nés de mères ayant présenté une rupture des membranes avaient une cotation d'Apgar à la première minute de 7 à 10 ; chez 14 nouveau-nés (30,4%), ce score a été entre 4 et 6.

L'analyse du tableau IV, a montré que la couleur du liquide amniotique à l'admission n'a pas été

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influencée par la durée de la rupture des membranes (.Pearson Chi-2=0,724 ; Fisher exact 0,854, test non significatif).

Nous avons voulu établir une relation entre la cotation d'Apgar, la couleur du liquide amniotique et le mode d'accouchement. Lorsque l'Apgar a été entre 4 et6 ; le test de Fisher indique qu'il n ya pas de différence significative, entre le mode d'accouchement et la couleur du liquide amniotique. Il y a donc ambiguïté pour établir une correspondance entre les 2 variables. Par contre lorsque l'Apgar se situe entre7 et 10, le test de Fisher a une différence significative au seuil de 10% : il ya 68,2% d'accouchements par voie basse lorsque le liquide amniotique est clair (Tableau V).

La recherche de la relation entre l'Apgar, le mode d'accouchement et le stade du travail à l'admission a montré que lorsque l'Apgar se situe entre 4 et 6, le test de Fisher n'indique pas de différence significative entre le mode d'accouchement et le stade du travail. Par contre

Pour les Apgar entre 7 et10, le test de Fisher a indiqué une différence significative au seuil de 1%, 5%, et 10% : il ya 100% de cas d'accouchements par voie basse en phase active du travail (Tableau VI).

IV. Discussion

La fréquence de la rupture prématurée des membranes retrouvée (4,25%), parait faible par rapport à celle rapportée dans la littérature : 6,6% selon le collège des Gynécologues Obstétriciens Français [6] et jusqu'à 10% pour Blanchon et al [7].Cela est du au fait que nous n'avons pris en compte que les RPM à terme.

L'âge moyen de nos patientes a été de 29,5 ans, nous n'avons pas constaté une particularité de survenue de la RPM en fonction de d'âge maternel, pour certains auteurs [1], elle est plus fréquente chez les femmes âgées. Toutes nos patientes étaient des agents d'exécution (ménagère, élève, agent du secteur informel etc….), souvent multi gestes et multipares. Le bas niveau socio-économique, et la multiparité sont déjà incriminés dans la survenue de la RPM [1]. Pour les deux tiers environs de nos gestantes, la rupture des membranes remontait de 1à 6 heures. En effet, le risque infectieux, augmente avec le temps d'exposition [1,7]. Le risque de chorioamniotite est significativement plus élevé dès 12 heures et le risque d'endométrite augmente à partir de 16heures [8]. Nous n'avons pu identifier le germe en cause. Dans la littérature la principale bactérie dans les infections materno-fœtales est le streptocoque du group B [9]. Dans la plupart des cas, nous n'avons pu retrouver une étiologie à la rupture prématurée des membranes, cela peut s'expliquer par la déficience de notre plateau technique. Il est classique de reconnaitre que l'étiologie de la RPM est multifactorielle, mais l'infection joue un rôle important[10]. Il semblerait donc que les membranes se rompent en raison d'une fragilisation progressive plutôt qu'en raison d'une anomalie constitutionnelle.les infections surviennent par voie ascendante et colonisent la déciduale depuis le canal cervical[7]. Elles induisent les réactions inflammatoires au contact des membranes. En fin de grossesse, on observe un amincissement généralisé des membranes et une perte de leur élasticité ce qui diminue leur résistance [7]. Le point de rupture est habituellement situé en regard du col au niveau d'une zone dite à morphologie altérée. Chronologiquement, la séparation de l'amnios et du chorion apparait être l'un des premiers éléments amenant à la rupture [7].

La césarienne a été le mode d'accouchement le plus fréquent, avec plus de la moitié des cas. En effet, dans le tiers des cas, le liquide amniotique était méconial à l'admission parmi lesquelles 78,3% étaient non travail ou en phase de latence. L'expectative en milieu hospitalier en cas de RPM ou le déclenchement immédiat du travail pour prise en charge des RPM sur score de Bishop défavorable, demeure une problématique discutée [11]. L'obstétricien et le Pédiatre se trouvent face à une situation inconfortable ou le risque infectieux maternel et néonatal présente la complication la plus redoutable [6]. Il est reconnu qu' une attitude d'expectative en milieu hospitalier est envisageable que pour les patientes ayant une grossesse évolutive, sans facteur de risque obstétrical surajouté, en absence d'infection et en dehors de toute souffrance fœtale[12].durant la période d'expectative, la prévention de l'infection est impérative ; elle implique la proscription des touchers vaginaux, l'usage des garnitures stériles, la surveillance clinique et biologique régulière. L'antibioprophylaxie systématique est admise par la majorité des auteurs [6].Selon Festin, en raison des taux plus élevés d'infection et de morbidité néonatale dans les pays en de développement, l'administration systématique d'antibiothérapie en cas de RPM aurait un impact relativement supérieur, sur l'amélioration de résultats clinique dans ces régions par rapport aux pays développés[13]. Pour certains auteurs, un délai d'expectative de 48 à 72 heures, augmente le risque d'infection maternelle et néonatale sans diminuer le taux de césarienne [14]. D'autres auteurs pensent qu'il existe un bénéfice au déclenchement systématique du travail par rapport à une attitude expectative sous antibiothérapie en raison de la moindre morbidité maternelle, moindre morbidité néonatale et une plus grande satisfaction des patientes lorsque les conditions sont locales sont défavorables, le déclenchement par les prostaglandines semblent apporter un bénéfice en diminuant le recours aux césariennes et aux extractions instrumentales [15].

La couleur du liquide amniotique à l'admission n'a pas été influencée par la durée de la rupture. En effet, le liquide amniotique en cas de RPM peut se teinter en cas d'infection(Chorioamniotite) qui peut être

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la cause ou la conséquence de la RPM ; ou en cas d'hypoxie quelconque. Les complications de la RPM telles, que l'anamios prolongé, le décollement placentaire, les complications cordonales (procidence ou compression) sont responsables d'anomalie du rythme cardiaque fœtal[7]. L'infection n'est pas systématique, pourtant selon Guikovaky et al [1], le risque infectieux augmente avec le temps d'exposition. Le diagnostic d'infection en cas de RPM se fait par des tests sanguins maternels [16] : L'hyperleucocytose maternelle, et les dosages sériques de la C-réactine protéine, l'interleukine-6 sérique, du glucose intra-amniotique.

En cas de liquide amniotique teinté, à faible dilatation du col, souvent l'indication de césarienne était posée, à dilatation avancée l'accouchement par voie basse, avec extraction instrumentale ont été réalisés. Par contre quand le liquide amniotique était clair, la voie basse était privilégiée. Pour les RPM sur grossesse à terme, L'OMS Préconise une prise en charge programmée qui est « une sorte d'accouchement systématique» qui réduit le risque de morbidité maternelle infectieuse sans augmenter le taux de césarienne , d'accouchement assisté par voie basse et le nombre de nouveau-nés nécessitant des soins intensifs néonatals[17].

V. Conclusion

Devant une RPM sur grossesse à terme avec un score de bishop favorable, nous pratiquons un déclenchement systématique. Si les conditions locales sont défavorables, une expectative de 24heures est admise, à l'issue de laquelle une maturation cervicale en vue d'un déclenchement est effectuée.

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Tableau I : Profession des gestantes ayant la RPM

	Effectif N=46	%
Ménagère	7	15,2
Elève	6	13,1
Etudiante	8	17,4
Employé secteur publique	10	21,7
Employé secteur informel	15	32,6

Tableau II : Gestité et parité des patientes présentant la RPM

	Effectif N=46	%
Gestité		
1grossesse	6	13,3
2- 3 grossesses	23	50
≥ 4 grossesses	17	36,9
Parité		
Nullipare	8	17,4
Paucipare (1-3)	35	76,1
Multipare (≥4)	3	6,5

Tableau III : Durée de la rupture des membranes à l'admission des patientes

	Effectif N=46	%
1-6 heures	17	39,6
12 heures	5	11,6
24 heures	7	16,3
36-48 heures	8	18,6
≥ 72 heures	6	13,9

Tableau IV : Influence de la durée de la rupture des membranes sur la couleur du liquide amniotique

	Couleur du liquide amniotique			
	Clair	Jaune	méconial	total
1-6 heures	3	1	5	9
12 heures	-	-	1	1
24 heures	2	-	2	4
36-48 heures	3	1	2	6
≥ 72 heures	2	2	5	9
Total	10	4	15	29

Tableau V : Apgar en fonction du mode d'accouchement et de la couleur du liquide amniotique

	Mode d'accouchement		
	Voie basse	Césarienne	Total
Apgar entre 4 et 6			
Liquide clair	1	3	4
Liquide jaune	-	2	2
Liquide méconial	-	8	8
Total	1	13	14
Apgar entre 7 et 10			
Liquide clair	15	7	22
Liquide Jaunâtre	-	2	2
Liquide méconial	3	5	8
Total	18	14	32

Tableau VI : Apgar en fonction du stade du travail à l'admission des gestantes et au mode d'accouchement

	Mode d'accouchement		
	Voie basse	Césarienne	Total
Apgar entre 4 et 6			
Non en travail	-	6	6
Phase de latence	1	7	8
Total	1	13	14

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Apgar entre 7 et 10			
Non en travail	-	7	7
Phase de latence	8	7	15
Phase active	10	-	10
Total	18	14	32

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Cesarean Section Rate, Maternal and Fetal Outcome of Birth Following Cesarean Section at Finoteselam Hospital, Northwest Ethiopia: A Descriptive Retrospective Data

By Melaku KindieYenit, Tsebay Gezahegn, Mulat Adefires & Atsede Mazengia Shiferaw

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Methods: Hospital based two-year retrospective descriptive cross-sectional study design was conducted from March to May 2015 in Finoteselam hospital, Northwest Ethiopia. A total of 250 mothers who delivered by cesarean section from September 2013 to December 2015 and have completed data were included in the study. Data were extracted using structured data collection format and cleaned, and entered into EPI info software version 3.5.3 and transferred into SPSS version 20 for further descriptive analysis.

Keywords: *cesarean section rate, maternal and neonate outcomes, northwest ethiopia.*

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Cesarean Section Rate, Maternal and Fetal Outcome of Birth Following Cesarean Section at Finoteselam Hospital, Northwest Ethiopia: A Descriptive Retrospective Data

Melaku KindieYenit [α], Tsebay Gezahegn [σ], Mulat Adefires [ρ] & Atsede Mazengia Shiferaw [ω]

Abstract- ***Background:*** Pregnancy and parturition are events of considerable significance in the life cycle of women. Though it is supposed that the quality of care during labor, birth, and postpartum period plays a great role for adverse outcomes of birth, various reports claimed that cesarean section (CS) carries a higher maternal and fetal morbidity and mortality compared to vaginal delivery. Therefore, this study assessed the rate of cesarean section, maternal and fetal outcomes of cesarean section at Finoteselam hospital, northwest Ethiopia.

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Result: Among 2267deliveriesin the two years of retrospective data, a total of 250 mothers were delivered by cesarean section, giving cesarean section rate 11%. The leading indication for cesarean section was fetal distress (24.8%). Among the total cesarean section deliveries, 42neonates were died, giving the proportion of neonate mortality rate 16.8%.Three mothers were died following cesarean section delivery, giving maternal mortality rate following cesarean section delivery 12 per 1000 live births.

Conclusion: However, cesarean section rate in this study was within the WHO recommended range, the health outcome of mothers and neonates' following cesarean section was not acceptable. The neonatal and maternal mortality following cesarean section deliveries was 16.8% and12 per 1000 live births respectively. The main cause of neonatal death was birth asphyxia.

Keywords: cesarean section rate, maternal and neonate outcomes, northwest ethiopia.

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I. Background

Basic obstetric and newborn care provided by skilled attendants during prenatal and delivery has good maternal and neonatal outcomes[1, 2]. Cesarean section delivery as one of life saving procedure has played a major role in lowering both maternal and neonatal mortality rate[3]. Cesarean section refers to the delivery of afetus, placenta and membrane through the abdominal and uterine incision after 28 weeks of gestation[4]. Though cesarean section is considered as a life-saving intervention for both the maternal and a child health, the quality of obstetric care further determines the outcomes of the mother as well as the fetus [5-7]. Cesarean section unless used appropriately, the potential risk to the mother and baby becomes more than the vaginal delivery, therefore it can considered as the vital indications of the health status of the neonate and the mother [6, 8-10].

Poor outcomes of cesarean section among mothers and fetus in developed and developing countries were reported consistently higher compared to vaginal deliveries [3, 11, 12]. In resource-poor countries where poor quality of obstetric care is the problem, and most cesarean section deliveries are performed when a vaginal delivery puts the babies or the mother's life or health at risk, cesarean section delivery is the marker for poor outcomes of maternal and neonatal health [1, 3, 11, 13]. Unlike developed countries, most cesarean section deliveries in developing countries are conducted because of obstetrical complications or medical illness. Consequently, the risk of cesarean section may be worsening if it is performed under emergency situations [14-16].

Though, World Health Organization (WHO) suggesting that cesarean rate should not exceed 15% [17, 18], rate of cesarean section delivery are increasing dramatically. Due to the rising CS rate in both developed and developing countries, mothers and neonates are also vulnerable to unnecessary risks. However, there is variation on the rate of cesarean section delivery in the world; the rate cesarean section delivery in developed nations ranged from 12 to 86% [8, 19-21]. In developing

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countries, especially in Sub-Saharan country where maternal and neonatal mortality rate is high, maternal and infant mortality corresponding with the increasing rate of cesarean section delivery is associated with the quality of obstetric service during pregnancy and childbirth. In low and middle income countries, the rate of cesarean section delivery range between 2 to 39% [18, 19, 22, 23]

Maternal and neonatal morbidity and mortality is not only accounted by the surgical procedure, but also other risk factors such as un-booked status, severe blood loss[11, 12, 24, 25], previous antenatal care service, use of general anesthesia, anemia, dehydration, prolong labor, repeated vaginal examination, previous surgery Gestational age, and medical condition diagnosed before cesarean section[26-29].

In Ethiopia, maternal and neonatal morbidity and mortality rate is high. Maternal and neonatal death in the country is reported as 470 per 100,000 live birth and 37 per live births respectively. Though, institutional delivery rate across the country become increasing, the change in reducing maternal and neonatal mortality rate is not reduced substantially. According to 2011 Ethiopian demographic and health survey report, 2% of the pregnant women are delivered with cesarean section which is increased by 1% from the 2010 Demographic and health survey report[30-32]. Therefore, this study assessed the cesarean section rate, outcomes of cesarean section on the mother and fetus in Finoteselam hospital.

II. Methods

a) Study setting and Study Design

Hospital based cross-sectional retrospective study was conducted from September 2013 to December 2015 at Finoteselam hospital. The hospital provides health services for more than 500,000 residents of in the catchment areas at outpatient and inpatient wards. The hospital provides inpatient service with 80 beds, and 8 delivery couches. A total 2,267 mothers are delivered during the period from September 2013 to December 2015 and 250women were delivered by cesarean section.

b) Study participants, sample size and sampling procedure

All women who delivered by caesarean section after a failed instrumental delivery between September 2013 to December 2015 at Finote Selam zonal hospital were the population under the study. All caesarean deliveries including elective, emergency, primary and repeat cases are included in the study. The charts of all 250 mothers who gave birth by caesarean section during the retrospective period were reviewed. Charts with incomplete information were excluded from the study.

c) Data collection tool and procedure

Data were collected using pre-tested structured questionnaire using chart review method. The questionnaire consists of socio-demographic variables, obstetric history and outcomes of cesarean section. mothers' information including age, parity, gestational age, antenatal care, stage of labor at admission, fetal condition at admission, reason for admission prior to intervention, onset of labor, spontaneous or induced, oxytocin infusions, instrumentation and reason for referral before admission to the hospital. Information was obtained from theatre records, labor ward records, and neonatal ward. To maintain consistency, the questionnaire was first translated from English to Amharic (the native language of the study area) and was retranslated to English by professional translators and Public Health experts. Five midwifery as data collector and two health officers as supervisors were recruited for the study. Two days intensive training regarding the objective of the study, confidentiality of information, and techniques to conduct interview was given to data collectors and supervisors. To address the ethical issues, the data collectors were recruited among the permanent employees of the respective hospitals. Maternal death was defined as death of the mother during hospitalization. Early neonatal death was defined as death of the infant within 7 days of delivery. Cesarean section rates were calculated by dividing the total number of Cesarean section by the total number of deliveries excluding stillbirths.

d) Data Processing and Analysis

Data were entered into Epi-info version 3.5.3 and exported to Statistical Package for Social Sciences (SPSS) version 20 for further analysis. Data cleaning was done by running frequencies. Descriptive statistics, including frequency and proportions were computed to summarize the study variables.

III. Result

a) Socio-demographic characteristics of respondents

From September 2013 to December 2015, there was a total of 2267deliveries and 250 pregnant women delivered by a cesarean section giving an overall cesarean section rate 11%. The proportion of cesarean section delivery was higher among rural residents, which was 54.4%. A majority of cesarean section deliveries (63.6%) were in the age between 20 and 29 years of age. The mean ($\pm$SD) age of pregnant women who undergo cesarean section delivery was 27 years ($\pm$5.5). Nearly half (46.4%) of mothers conduct the cesarean section delivery procedure for their first child, while thirty mothers had previous CS delivery.

Among the total mothers who underwent cesarean section delivery, majority (85.2%) of these women had emergency CS, and the higher (75%) of referred cases were responsible for majority of

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emergency CS. More than half (56%) of CS were made by general anesthesia and the remaining were spinal anesthesia **(table-1).**

Table 1: Cesarean section cases with socio-demographic characteristics of in Finoteselam Zonal Hospital, West Ethiopia

Variables	Frequency	Percent (%)
Age		
10-19	12	4.8
20-29	159	63.6
30-39	72	28.8
40-49	7	2.8
Residence		
Urban	113	45.3
Rural	137	54.7
Marital status		
Single	8	3
Married	236	97
ANC follow-up		
No	69	28.7
Yes	171	71.3
Parity		
Primigravida	176	69.3
Para(1-4)	53	20.8
Grand multi	25	10.9
Gestational age		
Term	128	51.2
Post term	23	9.2
Unknown	99	39.6
Booking status		
Booked	77	70.8
Un-booked	73	29.2
Type of cesarean section		
Emergency	213	85.2
Elective	37	14.8
Frequency of cesarean section		
Primary	166	66.4
Repeat	84	33.6
Type of anesthesia		
General anesthesia	140	56
Spinal anesthesia	110	
Neonatal death	42	16.8
Maternal deaths	3	1.2

b) Cesarean section rate, maternal and neonatal outcomes of cesarean section (CS)

Among 2267 deliveries in the two years of retrospective data (from September 2013 to December 2015), a total of 250 mothers were delivered by cesarean section, giving cesarean section rate 11% (95% CI: 7.1, 14.9).

Among the total deliveries (2267), two hundred six (206) neonate and eight (8) mothers were died, giving the overall neonatal and maternal mortality rate of the hospital as 90.8 per 1000 live births and 353 per 100, 000 live births respectively. while, among the total mothers who delivered by cesarean section (250), three mothers and forty two neonates were died, giving the proportion of maternal mortality rate and neonatal mortality rate following cesarean section 12 per 1000 live births and 16.8% were attributed due to cesarean section delivery **(Table-1).** Hemorrhagic shock was the major 2(67%) responsible causes of maternal deaths. The rest one mother was died due to respiratory failure. Of the total mothers who conduct CS procedure; the leading indications of admission for cesarean section delivery were fetal distress (25%), Cephalo-pelvic disproportion (CPD) (24%), obstructed labor and fetal mal-presentation (11%) (**Figure-1**).

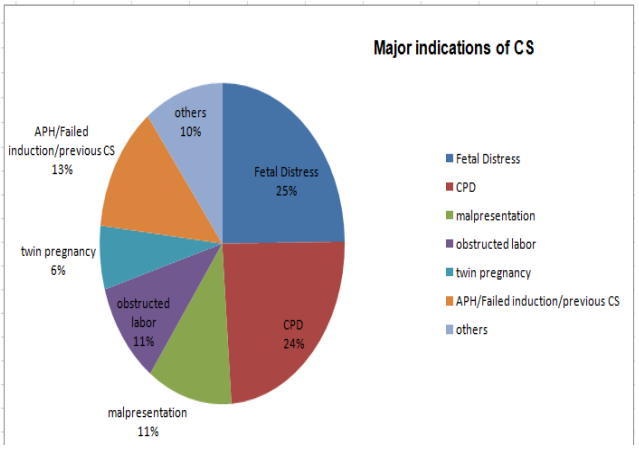


Figure 1: Major Indication of Cesarean section (CS) in Finoteselam Hospital, Northwest Ethiopia, 2015

One-third (28%) of the mothers would develop one or more complication following CS delivery, the most causes for these complications were wound site infection, PPH, anesthesia complication and puerperal sepsis **(figure-2).**

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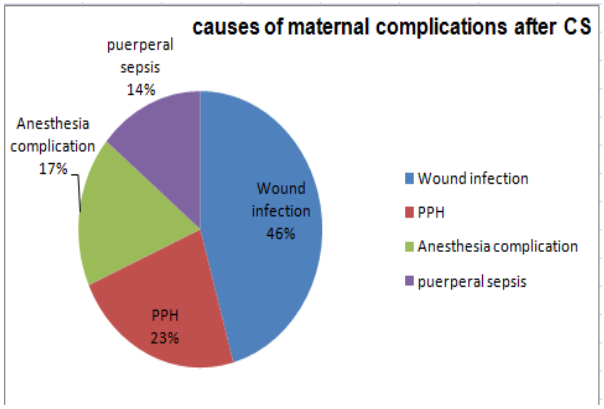


Figure 2: Causes of Maternal complication after Cesarean section in Finoteselam Hospital, northwest Ethiopia, 2015

In this study, nearly all fetuses (98.8%) had a positive fetal heart beat at the time of admission, and majority (84.4%) of them presented with the vertex. Three-fourth of newborn babies (76.4%) had normal birth weight (2.5-3.9 kg). Higher than two-third of (68.4%) fetus had normal Apgar score (**table-2**).

Table 2: Fetal Obstetrics related variables before and after CS intervention in Finoteselam zonal hospital, Northwest Ethiopia

Obstetrical variables	Frequency	Percent
Fetal heart beat arrival		
Positive FHB	247	98.8
Negative FHB	3	1.2
Fetal presentation		
Vertex	211	84.4
Breech	20	8
Other	12	4.8
Apgar score		
Very low Apgar(0-3)	41	16.4
Low Apgar(4-6)	38	15.2
Normal Apgar(≥7)	171	68.4
Birth weight		
Low birth weight	42	16.8
Normal birth weight	191	76.4
Macrosmia	17	5.8

Among the total deliveries, 25(10.4%) newborns were stillbirths. The still birth rate among CS deliveries was 9.4%. There were 42 neonatal deaths following cesarean section. The four leading causes of neonatal mortality were perinatal asphyxia (45%), neonatal sepsis (22%), neonatal jaundice/MAS/HMD 8(19%), and meconium aspiration syndrome 6(14%) (**Figure-3**).

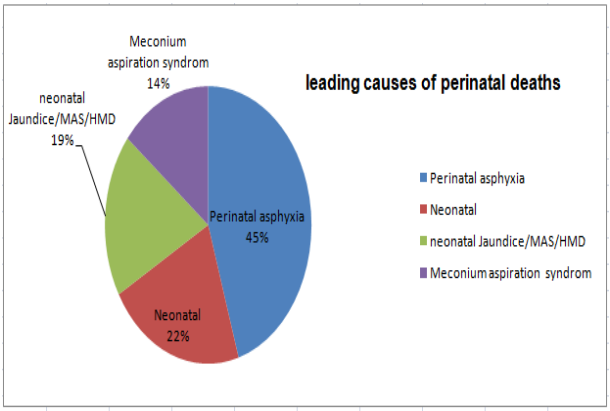


Figure 3: Leading causes of perinatal deaths in Finoteselam Hospital, Northwest Ethiopia, 2015

IV. Discussion

Cesarean section is the commonest obstetric operative procedure worldwide. When cesarean section is used appropriately it can improve the health outcomes of both the neonate and the mothers. However, when used inappropriately the potential harm may exceed the potential benefit of cesarean section. World health organization recommends that the rate of CS should not exceed 15% in developing countries. The purpose of this study was to determine the cesarean section rate, maternal and fetal outcomes and associated factors in Finoteselam hospital.

In this study, the rate of cesarean section (CS) delivery was 11%. This finding was consistent with the WHO recommendation which is between 5-15% [17, 18]. However, it was lower than studies conducted elsewhere in Ethiopia[12, 33, 34]. In this study majority (63.6%) of cesarean section deliveries were conducted within the age ranged from 20-29 years, which is consistent with the study conducted in Sudan[8]. this might be because of the reason that these age groups are the most reproductively active age group.

The finding of this study indicated that, the leading indication for cesarean section delivery was fetal distress; it accounted 25% of all the cesarean section which was consistent with the finding at southern Ethiopia, and Yekatit 12 hospital in Ethiopia [35] while, fetal distress proportion in this study was higher than studies at Jimma[12], Nigeria and Pakistan[26]. The higher proportion of fetal distress responsible for Cesarean section delivery might be due to the use of intermittent auscultation and nature of amniotic fluid as means of fetal monitoring during labor in the study center, because there were no facilities for electronic fetal monitoring in this study.

Although the cesarean section rate in this study was in line with the WHO recommended range, the two years of retrospective data analysis indicated that; two hundred six babies died in all forms of delivery and 42 neonates were died following cesearian section

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procedure, giving the overall neonatal mortality rate of 98.8% per 1000 live birth and a proportion of 16.8% neonatal death due to cesarean section delivery. Similar finding was reported in Ethiopia at Black lion hospital and Jimma Hospitals[11, 12].

On the other hand, in this study among the total 2267 total deliveries, eight mothers were died, giving the overall maternal mortality ratio 353 per 100,000 live births, while maternal mortality following cesarean section delivery accounted 12 per 1000 live births, which was higher than the finding from Jimma[12]. Besides maternal deaths, 28% of the mothers develop one or more illness following cesarean section delivery, majority of the poor health outcomes other than death was noted among mother whose age between 40-49 years. The major causes of maternal illness was wound infection (46%), hemorrhage (PPH) (23%), anesthesia complication (17%) and sepsis (14%), which was higher compared with the finding from Jimma[36]. The higher proportion of poor health outcomes of the mother following cesarean section delivery was due to the poor pre-operative preparation (preoperative prophylaxis), cleanness of the surrounding environment, and poor follow-up.

As limitation, outcomes of cesarean section delivery that were discharge at home from the hospital were not assessed. In addition, the nature of the study which was retrospective data analysis misses some variables.

V. Conclusion

The cesarean section rate of 11.0% of observed in this review is within the recommended range by the WHO for developing countries (5%-15%). The health outcome of both the mother and neonate following cesarean section delivery was worrisome. Hemorrhagic shock and respiratory failure was the major causes of maternal deaths. While, cephlopelivic disproportion (including failure to progress secondary to arrest disorder) was a major maternal indication for poor maternal health outcomes. Therefore, timely and adequate progress of labor evaluation should be conducted. In addition, fetal heart rate monitoring in labor is recommended to reduce the suspected fetal distress. Moreover, basic maternal health service and basic emergency obstetric care should be strengthening. Furthermore, establish neonatology unit near to the maternity ward to prevent neonatal hypothermia is very essential.

VI. Acknowledgment

The authors are indebted to Finoteselam hospital and the University of Gondar for permission to conduct the study. The authors also forward its gratitude for data collectors and supervisors who participated in the study, without them the study will not be factual.

Abbreviations

AOR, Adjusted Odds ratio;
ANC, Antenatal Care;
CI, Confidence Interval;
CS, Cesarean section;
CPD, Cephalopelvic disproportion;
OR, operating room;
SD, standard deviation;
SPSS, Statistical Package for Social Sciences;
PPH, post-partum hemorrhage; and
WHO, World Health Organization.

Competing interest

All authors declare that they have no any conflict of interest

Availability of data

Data will be available upon request from the correspondence authors.

Ethics consideration

Ethical clearance was obtained from Research Ethical Review Committee of the University of Gondar. Permission letter was secured from department of Gynecology and surgery. The data were kept with confidentiality.

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Study of Socio-Demographic Factors in Pre Labour Rupture of Membranes in Rural Area

By Dr. Arpita Jaiswal & Dr. C. Hariharan

JNMC

Abstract- Prelabor rupture of the fetal membranes (PLROM) is common obstetric problem and one of the most common clinical event where a pregnancy can turn into a high risk situation for mother as well as fetus. Present study was undertaken in a rural tertiary care institute located in central India with the aim to study the distribution and correlation of socio-demographic factors in PLROM. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravida.

GJMR-E Classification: NLMC Code: WQ 210



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Study of Socio-Demographic Factors in Pre Labour Rupture of Membranes in Rural Area

Dr. Arpita Jaiswal [α] & Dr. C. Hariharan [σ]

Abstract- Prelabor rupture of the fetal membranes (PLROM) is common obstetric problem and one of the most common clinical event where a pregnancy can turn into a high risk situation for mother as well as fetus. Present study was undertaken in a rural tertiary care institute located in central India with the aim to study the distribution and correlation of socio-demographic factors in PLROM. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravida.

I. Introduction

Prelabor rupture of the fetal membranes (PLROM) is defined as the rupture of membranes before the onset of labor. It is common obstetric problem and one of the most common clinical event where a traditional pregnancy can turn into a high risk situation for mother as well as fetus. When PLROM occurs, the fetus loses relative isolation and protection offered within the amniotic cavity.

Epidemiological studies have identified several risk factors associated with PLROM. The mechanism of PLROM is unknown, no standards for diagnosis exist and most facets of management are controversial. Probabale maternal complications are chorioamnionitis (3-30%), endometritis and placental abruption. Recurrence of PLROM may occur in 20% cause. PLROM is a major cause for prematurity which leads to increase perinatal morbidity and mortality. PLROM cause 20% of all neonatal deaths.

a) AIM

Present study was undertaken with the aim to study the distribution and correlation of socio-demographic factors in PLROM.

II. Material and Methods

This prospective study was conducted in Department of obstetrics & Gynecology, in a rural tertiary care institute located in central India. Pregnant women who reported with premature rupture of membranes at or after 34 completed weeks to 41 weeks of gestations, after obtaining ethical clearance from the local ethical committee were included in the study. Their case history, including previous and present obstetric history was taken in details, various demographic factors and different pre-exsitng congitions were studied in relation to PLROM. General examination and obstetric examination was done at the time of admission. A sterile Speculum examination was done and condition of vagina and cervix noted. Liquor drainining from the os was observed for the colour and odour. The specimen was collected and subjected to nitrazine test.

III. Observations

**Age Distribution*

Maximum (57.62%) women were in the age group of 21-25 years. Highest age was 39 years. Lowest age was 18 years. The mean age was 24.4 years with standard deviation of 3.4 years. (Figure- 1)

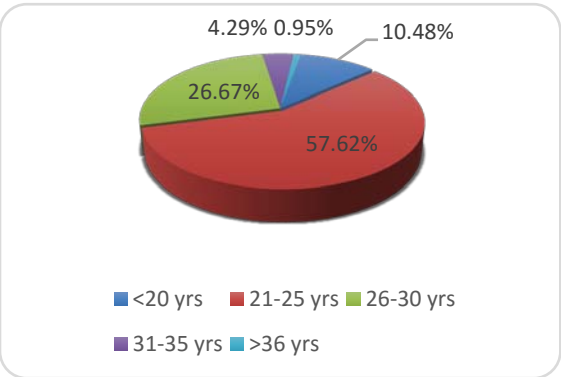


Figure- 1

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*Education Status

57.14% women had studied up to 12th class and only 17 (8.1%) were graduates. 21.9 % (23 out of 105) women had education upto class 5 and 12.86% (13out of 105) were illiterate. (Figure 2)

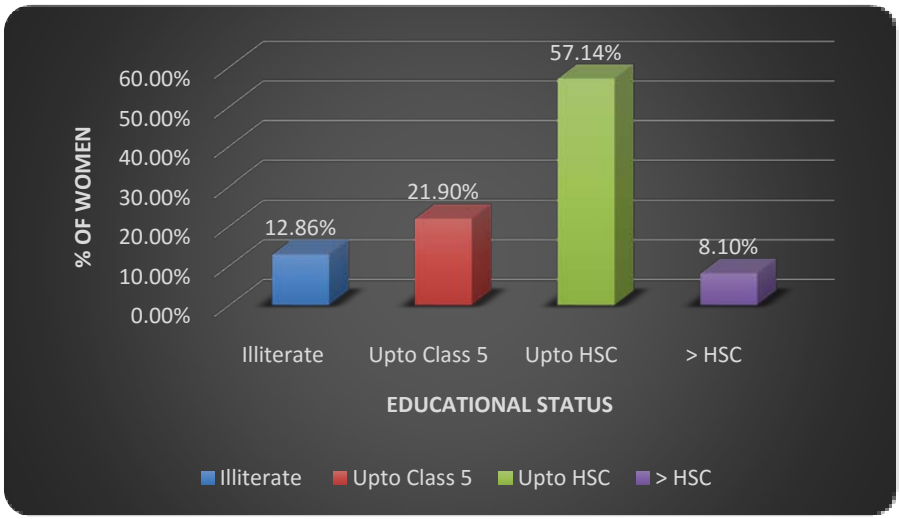


Figure- 2

Table 1: Correlation of antenatal status with PLROM

Antenatal Status		Gestational age (weeks)		Total
		37-41	34-37	
Antenatal Status	Booked	53(50.47%)	12(11.42%)	65(61.90%)
	Registered	26(24.76%)	5(4.76%)	31(29.52%)
	Emergency	7(6.66%)	2(1.90%)	9(8.57%)
Total		86(81.90%)	19(18.09%)	105(100%)
%^{2}-value		1.31		
p-value		0.51, NS, p>0.05		

65(61.9%) in the study group were booked, 31(29.5%) were registered only and 9(8.57%) came in emergency. Overall there was no significant difference (p>0.05) between antenatal status and gestational age at PLROM. (Table 1)

Table 2: Correlation of age and parity with PLROM

Age(yrs)	Parity	Gestational age (weeks)		Total
		37-41	34-37	
<20 yrs	Primi	7	4	11(10.47%)
	Multi	1	0	1(0.95%)
21-25 yrs	Primi	40	7	95(45.24%)
	Multi	11	2	26(12.38%)
26-30 yrs	Primi	13	5	35(16.67%)
	Multi	7	2	21(10%)
31-35 yrs	Primi	2	0	3(1.43%)
	Multi	2	0	6(2.86%)
>36 yrs	Primi	0	0	0(0%)
	Multi	1	1	2(0.95%)
Total	Primi	62	16	78(74.28%)
	Multi	22	5	27(25.71%)

• *x2 -vaue=5.89, p-value=0.65, NS, p>0.05*

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Out of 105 women, 78 (74.28%) were primigravida and 27(25.71%) multigravida. Among 78 primigravida, 62 women reported with term PLROM at 37-41 weeks of gestation and 16 reported at 34-37 weeks of gestation with PPLROM. In women with PPLROM there were 16 primigravida and 5 multigravida, thus more primigravida had PPLROM. In women with term PLROM, there were 62 primigravida and 22 multigravida. Overall, there were more primigravida women with rupture of membranes. (Table-2)

Table 3: Correlation of age and residence with PLROM

Age(yrs)	Residence	Gestational age(weeks)		Total
		37-41	34-37	
<20 yrs	Rural	4	2	13(6.19%)
	Urban	4	0	9(4.29%)
21-25 yrs	Rural	34	6	79(37.62%)
	Urban	17	4	42(20%)
26-30 yrs	Rural	10	5	31(14.76%)
	Urban	11	2	25(11.90%)
31-35 yrs	Rural	2	0	4(1.90%)
	Urban	2	0	5(2.38%)
>36 yrs	Rural	0	1	1(0.48%)
	Urban	1	0	1(0.48%)
Total	Rural	50	14	64(60.95%)
	Urban	34	7	41(39.05%)

• *x2-vaue=3.57, p-value=0.47, NS, p>0.05*

Out of 105 women with premature rupture of membranes, 64 (60.95%) were from the rural, and 41 (39.05%) were from urban residence. Of the 64 rural women, 50(78.12%) had term PLROM at 37-41 weeks of gestation and 14(21.87%) had PPLROM at 34 to less than 37 weeks of gestation. Of the 41(39%) urban women, 34(82.92%) had term PLROM and 7(17.07%) had PPLROM. (Table-3)

IV. Discussion

Pre-labor rupture of membrane (PLROM) is the spontaneous rupture of membrane before the onset of labor. It is a relatively common obstetric event, occurring in approximately 5-10% of all pregnancies[1]; of these 80% occur in term pregnancy[2]. Simhan (2005)[3]; ACOG (2007)[4] have suggested that PPLROM complicates 2 to 4% of all singleton and 7 to 20% of twin pregnancies. Getahun (2007)[5] reported 5% incidence of PLROM. Caughey (2008)[6], has reported that PPLROM complicates 2 to 20% of all deliveries and is associated with 18 to 20% of perinatal deaths.

Pasquier 2005[7] in his prospective study has reported the incidence of PPLROM to be 14.3% of all preterm deliveries and Obi 2007[8] reported that PPLROM accounts for 29.7% of all preterm births. In a recent study, Caughey 2008[6] has reported that PPLROM complicates 2 to 20% of all deliveries and is associated with 18 to 20% of perinatal deaths. In our hospital, we have a protocol of doing per speculum examination at every antenatal visit, so that we diagnose the genital infections early and treat them accordingly, hence we have comparatively less incidence of PLROM in the present study.

In the present study 10.4 % were of less than 20 years of age and the majority (58%) of cases belonged to the age group of 21-25 years. In the study done by Anjana Devi (1996), 6.9% of cases belonged to age group of 20-29 years[9]. Gandhi M et al 2012 reported highest incidence of PLROM in age group of 21-25 years[10].

Ferguson 2002[11] and Melamed 2009[12] have reported the mean age of 30 years. Piazze 2007 from Italy reported the mean age of women with PPLROM as 33 years. This may be due to the fact that women in these countries marry at a later age compared to developing countries. Tavassoli 2010[13] from Iran has also reported the mean age 25.8 years, close to that of present study. Lim 2010 from Nova Scotia has reported the mean age of 28.4 years[14]

In the present study 60.9% were rural similar to over all cases which is very similar to the study done by Gandhi M et al (2012)[10] where 237 (61.7%) patients

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came from rural area and 147 (38.3%) were from urban area.

The occurrence of PLROM is more in booked cases in present study compared to unbooked cases. In the study by Anjana Devi 52% were booked in the PLROM group compared to 63% in control group[9].

In our study total primigravida were 73.3% and multigravida were 26.6% which is similar to the study by Chaudhuri 2005[15], where there were 75% primigravida and 25% multigravida.

V. Conclusions

PLROM is an enigmatic condition associated with high risk of maternal and perinatal morbidity and mortality. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravidas (73.33%) compared to multigravidas (26.67%).Majority of women 60.5% were rural.

Conflict of Interest - Nil

Acknowledgement - Nil

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Utilization of Institutional Delivery Care Services and Influencing Factors among Women of Child Bearing Age in Assosa District, Benishangul Gumuz Regional State, West Ethiopia

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Abstract- Nearly all (99%) of maternal death occur in the developing countries. The major reason for this huge magnitude of the problem is failure to use delivery care services in these countries. Little is known about the utilization and factors influencing the use of delivery care services. The aim of study is to assess utilization of delivery care services and influencing factors among women in Assosa District. A community based cross sectional study was conducted from May 17 – 31, 2012 on randomly selected samples of 536 women who had at least one delivery in the five years prior to the study. Structured questionnaire, FGD and in-depth interview guide were used to collect data. Data were analysed by using SPSS version 16.0. Binary logistic regression was used to determine the association between dependent and independent variables. The result of the study reveals that out of the 525 study subjects 130(24.8%) attended their last delivery in health facility.

Keywords: delivery care, health service utilization, factors, assosa, benishangulgumuz.

GJMR-E Classification: NLMC Code: WQ 175

UTILIZATIONOFINSTITUTIONALDELIVERYCARESERVICESANDINFLUENCINGFACTORSAMONGWOMENOFCHILDBEARINGAGEINASSOSADISTRICTBENISHANGULGUMUZREGIONALSTATEWESTETHIOPIA

Strictly as per the compliance and regulations of:

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Utilization of Institutional Delivery Care Services and Influencing Factors among Women of Child Bearing Age in Assosa District, Benishangul Gumuz Regional State, West Ethiopia

Muluwas Amentie [α], Muluemebetabera [σ] & Misra abdulahi [ρ]

Abstract- Nearly all (99%) of maternal death occur in the developing countries. The major reason for this huge magnitude of the problem is failure to use delivery care services in these countries. Little is known about the utilization and factors influencing the use of delivery care services. The aim of study is to assess utilization of delivery care services and influencing factors among women in Assosa District. A community based cross sectional study was conducted from May 17 – 31, 2012 on randomly selected samples of 536 women who had at least one delivery in the five years prior to the study. Structured questionnaire, FGD and in-depth interview guide were used to collect data. Data were analysed by using SPSS version 16.0. Binary logistic regression was used to determine the association between dependent and independent variables. The result of the study reveals that out of the 525 study subjects 130(24.8%) attended their last delivery in health facility. Factors influencing institutional delivery services were being rural resident [AOR= 0.06, 95%CI: 0.01, 0.33], age at first pregnant >= 20 years [AOR= 2.15, 95% CI: 1.09, 4.22], ANC follow up [AOR= 7.02, 95%CI: 2.14, 18.98], having information on facility delivery[AOR= 2.49, 95% CI: 1.11, 5.58], occurrence of problems during pregnancy [AOR= 1.95, 95% CI: 1.01, 4.23], being knowledgeable on maternal health services [AOR=5.84, 95% CI: 1.03, 36.42], having favourable attitude towards delivery service[AOR= 9.25, 95% CI: 2.42, 35.33]and consulting others to made decision on place of delivery [AOR=3.9, 95% CI: 1.9,7.99]. Therefore, the study concluded that there is very low utilization of institutional delivery. It is still low as compared to national HSDP IV target. Socio-demographic, obstetric factors, knowledge, attitude and decision making power were identified as factors affecting institutional delivery care service utilization. Providing IEC and house-hold level discussion on the important of institutional delivery service utilization in the district is recommended.

Keywords: delivery care, health service utilization, factors, assosa, benishangulgumuz.

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I. Introduction

The health care that a mother receives during pregnancy, at the time of delivery and soon after delivery is important for the survival and well-being of both the mother and the child. The importance areas to maternal health care service: institutional delivery; problems in accessing health care and awareness and attitudes concerning maternal health care service are also essential for the survival and well-being of both the mother and the child[1,2,3,4].

The World Health Organization (WHO) estimates that, every minute of every day, somewhere in the world and most often in a developing country, a woman of reproductive age dies from complications related to pregnancy, childbirth and postpartum period[6,7]. Around 515,000 women are dying every year and nearly all-maternal deaths (99 percent) occur in the developing world, making maternal mortality health statistic with the largest disparity between developed and developing countries and the highest proportion of these deaths occur in sub-Saharan Africa[6, 7, 8]. The ratio of maternal mortality in the Sub Saharan African region is one of the highest in the world, reaching levels of 686 per 100,000 live births. Women play a principal role in the rearing of children and the management of family affairs, and their loss from maternity-related causes is a significant social and personal disaster[8].

In Ethiopia, the levels of maternal and infant mortality and morbidity are among the highest in the world. Studies have indicated that about 17,000 women of reproductive age die from complications associated with pregnancy and childbirth[2, 3, 4]. According to2011 Ethiopian DHS the maternal mortality rate was 676 deaths per 100,000 live births, and neonatal mortality rate, post-neonatal, infant mortality rate, child mortality and under five mortality rate were 37, 22, 59, 31 and 88 deaths per 1000 live births respectively are of the magnitude observed in Europe about a century ago and they are at least fifty times higher than the present rates in developed countries[2, 3, 4, 5]. One explanation for poor health outcomes among women and children is the non-use of maternal health care services by a sizable

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proportion of women in Ethiopia. Previous studies have clearly demonstrated that the utilization of available institutional delivery care services is very low in the country. Several studies in the 1990s have shown that about less than 10 percentages Ethiopian women received professionally assisted delivery care[2,9,10,11].

According to Ethiopia Demographic Health Survey 2011 in BenishangulGumuz regional state indicated that about 8.9percentof women received assisted delivery care by skilled providers[5].Regardless of the fact that institutional delivery care services utilization is essential for further improvement of maternal and child health little is known about the current magnitude of use of maternal health care services and factors influencing the use of these services in the study area.

The purpose of this study is to assess the current status of utilization of institutional delivery services in Assosa district and identify the various factors influencing the use of these services in the study area.

II. Methods and Materials

Community based cross sectional study was conducted employing both quantitative and qualitative methods of data collections to assess the status of delivery care services utilization and influencing factors among women in child bearing age in Assosa District, Assosa Zone, BenishangulGumuz Regional state, North-west Ethiopia. The source population were all women living in Assosa District and had at least one delivery in the five years period preceding the survey. For quantitative method: the study population were women selected from source population. For qualitative methods: the study population was the part of community members in the study area especially study kebeles site such as women in child bearing age group, community leaders, religious leader, husbands, health workers and health extension workers. Inclusion criteria were women who had at least one delivery in five years preceding the survey; if more than one delivery were there, the most recent one was selected; permanent residents of the kebeles were selected. However, exclusion criteria: women who had hearing or other disabilities hindering communication; women who were pregnant during the time of the survey even if they had at least one previous delivery and women who were in postnatal period even if they had at least one previous delivery. Sample size was calculated using two population proportion formula. Therefore, the sample size was calculated for each factors and magnitude of institutional delivery care services utilization and the optimum sample size was taken. The sample size was calculated using EPI table of EPI 6 computer software which uses the following formula. So that study conducted in Metekel Zone, BenishangulGumuz region was taken so as to get the sample size on factors influencing utilization of maternal health care service in Assosa district[16]. Therefore, among those factors place of residence is a major factor to determine utilization of delivery care assisted by skilled health personnel in the region. To determine the sample size the following assumptions were made: P_1=Proportion of urban women attended delivery care by skilled health personnel, 20.8% were taken from study conducted in Metekel Zone; P_2=Proportion of women in rural who attended delivery care by skilled personnel, 6.8% were taken from study conducted in Metekel Zone[16]. Therefore, the sample sizes was134 for urban and 402 for rural women to be selected considering a design effect of two for the variation due to clustering and non-response rate of 10%. The total calculated sample size was 536 women. For qualitative data, the sample size was purposively determined which result 29 key informative for in-depth interview and 10 FGD were selected to supplement the quantitative data. Sampling technique for the quantitative data, multi-stage sampling technique was employed. First, the four urban and seventy four rural kebeles were listed from which a total of ten kebeles (1 urban and 9 rural) were selected using simple random sampling technique. Secondly, the numbers of households living in the area were recorded; the probability of being included in the sample was proportional to the total number of household residing in each kebele. Out of the one sampled urban kebeles, a total of 134 households were selected. Also from the nine sampled rural kebeles, a total of 402households were selected using simple random sampling techniques. For households that had more than one eligible woman, interview was done by selecting one of them using lottery method. Revisit of three times was made in case where eligible respondents were not available at the time of the survey before considering as non-respondent. Regarding a woman having two and more under five children the most recent birth was taken. For qualitative data, focus group discussions were conducted after selecting FGD participant purposively. A total of ten FGDs were conducted at each selected kebele (one FGD having 8 –12 individuals) and: 3FGD for women in child bearing age, 2FGD for husbands, 3FGD for religious and community leaders, and 2FGD for health workers. For in-depth interview purposively selected 29 key informants were interviewed from the ten selected kebeles. Ten health workers(one from each kebele), 9 HEWs(one from each of the ruralkebeles having HEW) and 10 community leaders (one from each kebele) were interviewed. In order to minimize bias, those who participated in FGDs and in-depth interviews were excluded from participating in quantitative study. Data collection instruments for quantitative method: structured questionnaire was prepared in English and translated to Amharic language and then back translated to English by different people

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and used in the data collection of quantitative survey. For qualitative method: for the qualitative part, discussion guide was prepared in English and discussions were made in local languages. Tape record was used at the same time. Interview guide was prepared in English and used for in-depth interview of key informants. Both discussion guide and interview guide were not translated in to Amharic because they are moderated and collected by principal investigator and experienced nurse. Data collection process for quantitative method; ten female data collectors, who were health extension workers and could, speak local languages. For supervision four nurses having Diploma were selected from Health facility. Both the interviewers and supervisors were given two days training before the actual work about the study. Practical exercise was made through peer interviewer. Pre-test was carried out on 27(5%) of the sample size in two of the kebele in Assosa district which were outside of the selected kebeles that has similar socio-demographics characteristic with the people in both urban and rural kebeles. Then, the data were collected using house-to-house interview questions, which consist of seven parts. During the actual data collection, supervisors were assigned for the data collector. The supervisors checked the activities of each data collectors by walking with them in each kebele and sometimes-random spot-checking of the households were made to ensure reliability of the data collected. Each night the supervisors checked all the filled questionnaires for completion, clarity and proper identification of the respondents. Then, the principal investigator randomly checked 10% of the supervisors' work each day for completeness and relevance. Incomplete and unclear questionnaires were returned back to the interviewers to the next morning to get it corrected. For qualitative method: the principal investigator moderated the discussion of the male groups while the female groups were moderated by an experienced female nurse with diploma holder. Two senior nurses with diploma holder were took a note during the discussion. Each discussion had a tape recorded and finally the conversation was transcribed verbatim after each session and then analyse. Data processing and analysis for quantitative method: the collected data were coded, entered and cleaned and analyzed by using SPSS Window version 16.0. Descriptive statistics was calculated for all variables. In bi-variate analysis crude odds ratio and confidence interval were determined to select candidate variables for multivariate analysis at the level significance ($p<0.05$). Binary and multivariate logistic regressions were used to determine the adjusted odds ratio and corresponding 95% confidence interval. The strength of association was interpreted using the adjusted odds ratio and 95% CI. The criterion for statistical significance was set at $p<0.05$. For qualitative method: data of qualitative method were translated in to English, organized in narrative forms in congruent with the respondents' own words on the same day and analyzed by thematic frame work analysis. Data quality was controlled by designing structured questionnaire. Interviewers were recruited and trained for two days. Pre-test was carried out for both tools. Two day training was given for data collectors, supervisors, and FGD moderators. The collected data was examined for completeness and internal consistency each day by supervisors. Strict supervision and tape recording of FGD process were also additional quality control methods. The study was conducted after approval of the proposal by ethical review committee of Jimma University. The survey was commenced after written consent obtained from BenishangulGumuz Regional State Health Bureau to the respective offices. In turn the Assosa district Administration Office and Assosa Town Administrative Office wrote a letter to study kebeles to get permission and collaboration. Oral consent and written consent were obtained from each interviewe. Interviews were conducted in private place.

III. Results

a) Socio – Demographic Profiles

A total 525 women who gave birth within five years before the survey, were interviewed making a response rate of 97.9%. Three-quarter (75.0%) of the respondents were from rural area. Majority 433(82.5%) women were in the age group 20 and 34 years. Regarding ethnicity 303(57.7%) of women were Berta and 388(73.9%) of women were Muslims by religion. Twenty one (16%) of urban women and 264 (67.0%) of rural women were unable to read and write. Regarding marital status, 116 (88.5%) of urban women and 360 (91.4%) rural women were married. Concerning occupational status, more than half 74(56.5%) of urban women and 377(95.7%) of rural women were housewives. Three hundred thirty eight (86.4%) of rural women's husbands were farmers while 66(51.2%) of urban women's husbands were governmental employee **(Table – 1).**

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Table 1: Socio-demographic characteristics of respondents in Assosa District, Assosa Zone, BenishangulGumuz Region, Western- Ethiopia, May 2012

Variables		Place of residence		Total (N=525)
		Urban (n=131)	Rural (n=394)	
		No (%)	No (%)	No (%)
Age	15-19	5(3.8%)	13(3.3%)	18(3.4%)
	20-34	117(89.3%)	316(80.2%)	433(82.5%)
	35-49	9(6.9%)	65(16.5%)	74(14.1%)
Religion	Orthodox	47(35.9%)	73(18.5%)	120(22.9%)
	Muslim	70(53.4%)	318(80.7%)	388(73.9%)
	Others *	14(10.7%)	3(0.8%)	17(3.3%)
Ethnicity	Berta	36(27.5%)	267(67.8%)	303(57.7%)
	Oromo	37(28.2%)	2(0.5%)	39(7.4%)
	Amhara	38(29.0%)	120(30.5%)	158(30.1%)
	Other **	20(15.3%)	5(1.3%)	25(4.7%)
Educational Status	Unable to read & write	21(16%)	264(67.0%)	285(54.3%
	Able to read & write	16(12.2%)	111(28.2%)	127(24.2%)
	1-6 grade	12(9.2%)	12(3.0%)	24(4.6%
	7-12 Grade	48(36.6%)	7(1.8%)	55(10.5%)
	College or university	34(26.0%)	0(0.0%)	34(6.5%)
Marital Status	Married	116(88.5%)	360(91.4%)	476(90.7%)
	Divorced	3(2.3%)	4(1.0%)	7(1.3%)
	Widowed	1(0.8%)	1(0.3%)	2(0.4%)
	Single	11(8.4%)	29(7.4%)	40(7.6%)
Occupation	House wife	74(56.5%)	377(95.7%)	451(85.9%)
	Gov't Employed	30(22.9%)	2(0.5%)	32(6.1%)
	Student	16(12.2%)	36(9.1%)	25(4.8%)
	Others***	11(8.4%)	6(1.5%)	17(3.3%)
Occupational status of their husbands ***** (n_1=129, n_2=391)	Gov't employed	66 (51.2%)	19 (4.9%)	85 (16.3%)
	Private employed	19 (14.7%)	1 (0.3%)	20 (3.8%)
	Self employed	32 (24.8%)	15 (3.8%)	47 (9.0%)
	Farmer	1 (0.8%)	338 (86.4%)	339 (65.2%)
	Others****	11 (8.6%)	18 (4.6%)	20 (3.8%)

**Protestants, catholic*
*** Shinasha, Tigre, Guragie,*
**** Daily labour, farmer, Merchant*
***** Student, Daily labor, Carpenter*
****** 5 of the respondents have no husband (widowed, divorced or single) at the time last delivery*

III. Utilization of Delivery Care Service

One hundred thirty one (24.8%) women who gave birth within five year preceding the data collection period gave their last birth in the health facility (95(72.5%) for urban and 35(8.9% for rural). Women from urban area are more likely to receive delivery care from health facility than women from rural area.

A 33 years old man of the community leader; "In the ruralkebele ANC, PNC and family planning service were use properly but there is low utilization of institutional delivery service. This is because of lack of knowledge, culturally unacceptable, fear of medical procedure, lack of confidence to give delivery at the health facility, absence of water supply and the health post was not clean".

In a FGD of community leaders and religious leaders; "There is low utilization of maternal health care service especially delivery service in the ruralkebele because of the lack of water supply, electric power, shortage of equipment, the health facility were not give the services, lack of knowledge, and awareness in the community".

A 46 years old man live in rural area; "ANC service were utilized in the good manner but they were not come for delivery care to the health facility because

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of different factors such as lack of awareness and knowledge, lack of equipment for delivery care, cultural influence (women give delivery on the bed/Koch where forbidden which considered as prostituted women in their culture), fear of caesarean section, fear of medical procedure and examination, absence of health problems and considering TTBA as skilful and experience".

Among women who received institutional delivery, their reasons for utilization of the service were: "informed by health worker" 90(69.2%) {72(72%) for urban and 18(50%) for rural}, "previous bad experience from home delivery" 12(9.2%) {10(10%) for urban and 2(5.6%) for rural} and "had faced obstetric problems" 34(2.6%), {18(18%) for urban and 16(44.4%) for rural}.

In FGD of husbands; "The advantage of institutional delivery were to get healthy child, to get clean or safe delivery, to promote health of child and mothers whereas there is no advantage of home delivery but the disadvantage of home delivery were exposed for bleeding, prolonged labour, unclean or unsafe delivery and infection".

Among those women who delivered at health facility, 71(74.7%) of urban women and 27(68.6%) of rural women gave birth by spontaneous vaginal delivery (SVD).

Three quarter (75.2%) of the respondents had their last delivery at home (36(27.5%) for urban and 359 (91.1%) for rural). Regarding subjective reasons for not attending delivery service in health facility, there was a difference between urban and rural area. The main reasons for home delivery in urban area were "absence of health problem during labour and delivery" 24(66.7%), "close attention from family" 9(25%), and "home delivery is more comfortable" 6(16.7%). However the main reason of home delivery in rural area were "absence of health problem during labour and delivery" 183(50.9%), "close attention from family" 129(35.9%), "home delivery is more comfortable be attended in front of family member" 47(13.1%).

In a FGD women in child bearing age; "Women were not go to the health facility if the progress of labour is normal but if the progress of labour stay long period of time and heaving a problem the women go to the health facility". In the other group discussion; "The primary reason for home delivery were absence of health problems, absence of health centre, shortage of equipment in the health post, absence of transportation and shortage of income. The women give their birth at home were assisted by TTBA because they are accessible and available at the time of delivery".

Out of the study subject 85(16.2%) of the respondents encountered any one of problems during their labour of last delivery. In urban area IUFD 25 (75.8%) and PROM 7(21.2%) were the common problems mentioned by respondents. However, in rural area 40(76.9%) women suffered from IUFD and 4(7.6%) women suffered from PROM.

Nearly two third (65.9%) of the women had their last labour for less than 12 hours (97(74%) for urban and 246(63.2%) for rural) where as 116(22.1%) of the respondents had their last labour between 12 and 24 hours (15(11.5%) for urban and 101 (25.6%) for rural).

Three (0.6%) of the respondents had new born, who was born alive and died immediately which occurred in the rural area. More than three quarter 401 (76.4%) women made decision about place of delivery by themselves 83(63.4%) for urban and 318(80.7%) for the rural). **(Table: 2)**

Table 2: Place of delivery of respondents in Assosa District, Assosa Zone, BenishangulGumuz Region, Western-Ethiopia, May 2012

Variables		Place of residence		Total (N=525)
		Urban (n=131	Rural (n=394)	
		No (%)	No (%)	No (%)
Place of delivery	Institutional delivery	95(72.5%)	35(8.9%)	130(24.8%)
	Home delivery	36(27.5%)	359(91.1%)	395(75.2%)
Reasons for Institutional delivery (n_1=95, n_2=35)	Previous bad experience at home delivery	10(10.5%)	2(5.7%)	12(9.2%)
	Informed by health worker	72(75.8%)	18(51.4%)	90(69.2%)
	I have faced obstetric problems	18(18.9%)	16(45.7%)	34(2.6%)
Reasons for home delivery (n_1=36, n_2=359)	Absence of health problem during labour	24(66.7%)	183(50.9%)	207(52.4%)
	Close attention from family	9(25.0%)	129(35.9%)	138(34.9%)
	Home delivery is more comfortable	6(16.7%)	47(13.1%)	53(13.4%)
	My usual practice	5(13.9%)	70(19.5%)	75(18.9%)
	Others	8(22.2%)	16(4.4%)	24(6.0%)
Mode of institutional delivery (n_1=95, n_2=35)	Spontaneous Vaginal Delivery	71(74.7%)	27(68.6%)	95(73%)
	Assisted Vaginal Delivery (AVD)	12(12.6%)	6(17.1%)	18(13.9%
	Caesarean Section (C/S)	12(12.6%)	5(14.3%)	17(13.1)
Problems faced during last labour	Yes	33(25.2%)	52(13.2%)	85(16.2%)
	No	98(74.8%)	342(86.8%)	440(83.8)
Health related problems	Intrauterine foetal death	25 (75.8%)	40 (76.9%)	65 (76.5%)

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during labour (n_1=33, n_2=52)	Excessive bleeding during labour	1 (3.0%)	3 (5.7%)	4 (4.7%)
	Elevated blood pressure	0 (0.0%)	2 (3.8%)	2 (2.4%)
	Preterm labour	0 (0.0%)	3 (5.7%)	3 (3.6%)
	Premature rupture of membrane	7 (21.2%)	4 (7.6%)	11 (12.9%)
Duration of labour of last delivery	<12 hours	97(74%)	249(63.2%)	346(65.9%)
	12-24 hours	15(11.5%)	101(25.6%)	116(22.1%)
	>24 hours	19(14.5%)	44(11.2%)	63(12%)
Condition of new-born	Born alive	131(100%)	391(99.2%)	522(99.4%)
	Born alive but died immediately	0(0.0%)	3(0.8%)	3(0.6%)
Health problems after delivery	Yes	7(5.3%)	12(3%)	19(3.6%)
	No	124(94.7%)	382(97%)	506(96.4%)
Final decision maker on place of delivery	Just me	83(63.4%)	318(80.7%)	401(76.4%)
	My husband	21(16%)	42(10.7%)	73(12%)
	Me and my husband	10(7.6%)	0(0.0%)	10(1.9%)
	My relatives	9(6.9%)	19(4.8%)	28(5.3%)
	Health workers	5(3.8%)	6(1.5%)	11(2.3%)
	Others**	3(2.3%)	9(2.3%)	12(2.3%)

** *by God(Alah), by chance, other people*

IV. Factors Influencing Utilization of Delivery Services

Bi-variate analyses involving all variables were performed to identify candidate variables for multivariate analysis with the utilization delivery services. Consequently, place of residence, religion, ethnicity, educational status, occupational status, age at first pregnancy, ANC follow up, information on facility delivery, problem during pregnancy, knowledge on (ANC, family planning and maternal health care service), attitude towards (delivery and maternal health care service), decision maker on delivery service and availability transportation service showed significant association ($p<0.05$) with the utilization of delivery service.

A multivariate analysis was performed for identified candidate variables on utilization of delivery service in bi-variate analysis which showed significant association. Accordingly women who live in rural area were 94 percentages less likely to utilize delivery service than women living in urban area [AOR = 0.06, 95% CI: 0.01, 0.33]. Women who were Oromo by ethnicity were 10.87 times more likely to utilize delivery service in the health institution than women who were Berta by ethnicity [AOR = 10.87, 95% CI: 2.6, 45.2] where as women who were Amhara by ethnicity 3.4 times more likely to utilize delivery service in the health institution than women who were Berta by ethnicity [AOR = 3.4, 95% CI: 1.34, 8.47].Women who attended 1^{st} – 6^{th} grade were 86 percentages less likely to utilize delivery service than women who were illiterate [AOR = 0.14, 95% CI: 0.03, 0.74]. Women whose first pregnancy was at age greater than or equal to 20 years old were 2.15 times more likely to utilize delivery services than women whose first pregnancy age below 20 years old [AOR = 2.15, 95% CI: 1.09, 4.22]. Women who had health problems during pregnancy were 1.95 times more likely to utilize institutional delivery service than women who had not health problems during pregnancy (AOR=1.95, 95% CI: 1.01, 4.23). Women who had information on delivery service were 2.49 times more likely to utilized institutional delivery service than women had not information on facility delivery [AOR= 2.49, 95%CI: 1.11, 5.58]. The odds of utilizing institutional delivery among women who attend ANC service at least once was 7.02 times more than women who did not attend ANC service [AOR = 7.02, 95% CI: 2.15, 18.98]. Women who had favourable attitude towards delivery service were 9.25 times more likely to utilize institutional delivery service than women had unfavourable attitude towards delivery service [AOR= 9.25, 95% CI: 2.42, 35.33]. Women who were knowledgeable on maternal health care service were 5.84 times more likely to utilize institutional delivery service than their counter parts (AOR=5.84, 95% CI: 1.03, 36.42) and women who were consulting others for decision making on delivery service were 3.9 times more likely to utilize institutional delivery service than women who were deciding by themselves (AOR= 3.9, 95%CI: 1.9, 7.99). Women who were knowledgeable on postnatal care service were 89 percentagesless likely to utilize institutional delivery service than women who were not knowledgeable (OR=0.11, 95%CI: 0.02, 0.51). **(Table - 3)**

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Table 3: Factors influencing actual utilization of institutional delivery service in Assosa District, Assosa Zone, BenishangulGumuz Region, Western-Ethiopia, May 2012

Variables		Place of Delivery		Crude OR (95% CI)	Adjusted OR (95% CI) *
		Home delivery	Institutional delivery		
Place of residence	Urban	41(30.1%)	95(69.9%)	1	
	Rural	359(91.1%)	35(8.9%)	0.037(0.02-0.06	0.06(0.01-0.33)
Religion	Orthodox	74(61.1%)	46(38.3%)	1	
	Muslim	315(81.2%)	73(18.8%)	0.37(0.24-0.58)	0.82(0.32-2.08)
	Others	6(35.3%)	11(64.7%)	2.95(1.02-8.52)	0.98(0.15-6.59)
Ethnicity	Berta	266(87.8%)	37(12.2%)	1	
	Amhara	111(70.3%)	47(29.7%)	3.04(1.87-4.94)	3.4(1.34-8.47)
	Oromo	8(20.5%)	31(79.5%)	27.85(11.9-65.2	10.87(2.6-45.2)
	Others	10(40%)	15(60%)	10.78(4.51-25.7(	2.02(0.43-9.47)
Educational status	Illiterate	252(88.4%)	33(11.6%)	1	
	Able to read and write	103(81.1%)	24(18.9%)	1.78(1.3-3.16)	1.18(0.52-2.63)
	1 – 6th Grade	18(75%)	6(25%)	2.54(0.94-6.87)	0.14(0.03-0.74)
	>=7th Grade	22(24.7%)	67(75.3%)	23.26(12.72-42.5	1.32(0.39-4.37)
Occupation	House wife	367(81.4%)	84(18.6%)	1	
	Others	28(37.8%)	46(62.2%)	7.18(4.24-12.15	1.6(0.63-4.23)
Age at first pregnancy	< 20	271(81.4%)	62(18.6%)	1	
	>= 20	124(64.6%)	68(35.4%)	2.39(1.6-3.59)	2.15(1.09-4.22)
ANC follow up	No	90(94.7%)	5(5.3%)	1	
	Yes	305(70.9%)	125(29.1%)	7.38(2.93-18.5)	7.02(2.15-18.98)
Information on facility delivery	No	107(87%)	16(13%)	1	
	Yes	198(64.5%)	109(24.5%)	3.68(2.07-6.54)	2.49(1.11-5.58)
Problems during pregnancy	No	321(75.5%)	104(24.5%)	1	
	Yes	74(74%)	26(26%)	1.08(0.65-1.78)	1.95(1.01-4.23)
Knowledge on ANC service	Not-Knowledgeable	217(79.5%)	56(20.5%)	1	
	Knowledgeable	178(70.6)	74(29.4%)	1.6(1.1-2.4)	1.24(0.12-2.2.5)
Knowledge on family planning	Not-Knowledgeable	365(78.8%)	98(21.2%)	1	
	Knowledgeable	30(48.4%)	32(51.6%)	3.97(2.3-6.86)	1.44(0.37-5.54)
Knowledge on maternal health	Not-Knowledgeable	342(77.9%)	97 (22.1%)	1	
	Knowledgeable	53(61.6%)	33(38.4%)	2.19(1.34-3.58)	5.84(1.03-36.42)
Attitude towards delivery service	Unfavourable attitude	120(92.3%)	10(7.7%)	1	
	Favourable attitude	275(69.6%)	120(30.4%)	5.24(2.65-10.33	9.25(2.42-35.33)
Attitude towards maternal health	Unfavourable attitude	78(84.8%)	14(15.2%)	1	
	Favourable attitude	317(73.2%)	116(26.8%)	2.0(1.11-3.74)	0.33(0.09-1.24)
Decision maker on delivery care	Self	324(80.8%)	77(19.2%)	1	
	Others	71(57.3%)	53(42.7%)	3.14(2.03-4.85)	3.9(1.9-7.99)
Transportation service	No	337(88.5%)	44(11.5%)	1	
	Yes	58(40.3%)	86(59.7%)	11.35(7.18-17.9	0.64(0.13-3.02)

** Adjusted for socio-demographic variable, obstetric characteristic, knowledge, attitude, availability of service, transportation service, and information and decision maker on delivery service.*

Bold indicates Statistical significant at p.v = 0.05.

V. Discussion

Delivery care service is an important component in the effort to reduce the health risks of mothers and children is to increase the proportion of babies delivered in a safe and clean environment and under the supervision of health professionals.

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The results of this study revealed that there is low utilization of institutional delivery services (24.8%) in the district whereas utilization of institutional delivery is higher among urban (72.1%) than rural area (8.9%). This result is almost in consistent with study conducted in India in 2009(25%). However, the result is higher than most studies conducted in other parts of the country such as study conducted in rural Bangladesh (11.4%), in Southern Ethiopia (3.3%), Report of MOH in Ethiopia in 2006/7 (16.4%), EDHS 2011 in BenishangulGumuz (9.1%) and study Metekel zone in 2008 (12%)[5,13,14,17,18]. This is due to this study area include the capital city of the BenishangulGumuz and study done in the specific district for that the result was higher. However, the results lower than the study conducted in Kenya in (42%) and the results of EDHS 2011 in Harari (32.5%)[5,12]. This is due to the Harari have small catchment area and the all district were urban for that the result was higher.

Utilization of institutional delivery service in urban women (72.5%) was higher than as compared to rural women (8.9%). This because of in rural women there were cultural influence and norm that encourage the women to give delivery at home. Women who were live in rural area were 94 percent times less likely to utilized delivery service than women who were in living in urban area. This result in the line with EDHS 2005 reveals that children born in urban areas were 20 times more likely to be delivered in a health facility than their rural counterparts[19].Delivery service utilization among women at first pregnancy age between 20 to 29 years old were 2.15 times more than women age at first pregnancy below 20 years old. Whereas, studies done in Jimma Town in 2005, maternal age is significantly associated with place of delivery[22]. Different studies suggested that important demographic variable that affects the utilization of health seeking behaviour is mother age at the time of birth[2,11,20,21]. However, result of EDHS report shows a positive linear relationship between mother age at birth and institutional delivery[23].This is due to women who have an early/teenage pregnancy were become afraid or fear to go to the health facility to give the birth

In this study the women who had health problems during labour increases the likely hood of institutional delivery about 1.95 times than women who were in the absence of health problems. This is lower than study in Skeka zone in 2008 reveals that women who had encountered problems in their immediate birth were 33.78 times more likely to give birth at health facilities[24]. This could be due to the fact that most mothers in developing countries prefer home delivery and go to health institution when the labour is going wrong, particularly if it failed to be delivered within 12 hours.

ANC service utilization increased the likely hood of institutional delivery by about seven timesand acquiring information on facility delivery services increased the likely hood of institutional delivery by about 2.49 times than in the counterpart in this study. This result is in line with Sheka zone study of 2008, study in Harari region, study in Jimma town in 2005 and study in North Showa in 2009[14,15,24,25]. This is due to gaining better information and having knowledge about important of institutional delivery during ANC visit and advice on institutional delivery how it could prevent pregnancy or labour related problems were increase utilization of institutional delivery services.

In the current study, women who were knowledge on maternal health care service were 5.84 times more likely to utilized institutional delivery than not knowledgeable on it. This result in the line with in developing country reveals that delays in seeking health care during pregnancy are influenced by individual and community knowledge on maternal health care services and other study conducted in Sheka zone in 2008 reveals maternal knowledge on obstetric risks and services, mothers who knew at least one risks of home delivery were more than twice more likely to deliver at a health facility than mothers who did not know[24]. Other study in North Showa zone reveals that women who were knew the danger of giving birth at home were five times more likely to utilize institutional delivery service than those who were never know the danger of giving birth at home respectively[25]. This might imply those mothers who are able to recognize danger signs, knowledgeable and good perception on important of maternal health care services could have greater fear of the possible outcomes of the signs so that they would be encouraged and motivated to deliver at health facility. Moreover, maternal awareness on danger signs, women's perceived benefit of giving birth at health facility and risk of giving birth at home, outcome of pregnancy and delivery encourage timely to made decision to utilize health facility.

Women having favourable attitude towards delivery service were 9.25 times more likely to use institutional delivery than unfavourable attitude towards delivery service. This result is higher than study in Sheka zone in 2008 reveals women who had favourable attitudes towards health facility delivery service were 1.88 times more likely to give birth at health facility than those with unfavourable attitudes[22,24]. This is due to strong implementation of health extension programme in the study areas at this moment than previous time. This strong implementation of health extension worker should bring behavioural change communication (BCC) on the institutional delivery service which increases utilization of institutional delivery services.

The patterns of decision making power within the household were perceived as key determinants of the place of delivery. Mothers who decide to use institutional delivery by consulting others for decision making on delivery service were 3.9 times more likely to give birth at health facilities than mothers who could

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decide by themselves. In contrast to this result, other studies conducted in Jimma town in 2005 revealed that women who decided by themselves to have institutional delivery services were 8.25 times more likely to give birth at the health facility than women who decided by other people and Sheka zone in 2008 revealed that women who decided by themselves were 1.57 times more likely to use institutional delivery than decide by others[22,24]. This is due to women in this area have strong cultural norms to have delivered at home and culturally giving birth on the bed were forbidden in the community so that they prefer to give birth at home by sitting position on the ground and they consult others to make decisions after the labour became complicated to give birth at health facility.

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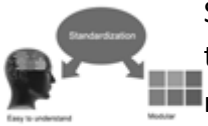


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16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. Never use online paper: If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. Pick a good study spot: To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. Know what you know: Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. Use good quality grammar: Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.



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27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

Informal Guidelines of Research Paper Writing

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

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Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address (es) of all authors.



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Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript--must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
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This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently.You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



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Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
- Despite of position, each figure must be numbered one after the other and complete with subtitle
- In spite of position, each table must be titled, numbered one after the other and complete with heading
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Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.

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Topics	Grades		
	A-B	**C-D**	**E-F**
Abstract	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
Introduction	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
Methods and Procedures	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
Result	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
Discussion	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
References	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring

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