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Research Article

ECTOPIC PREGNANCY SOCIO-CULTURAL INFLUENCE, ECONOMIC IMPLICATION AND MANAGEMENT CHALLENGES: 5 YEAR PROSPECTIVE REVIEW IN NDUTH

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Abstract

Background: Ectopic pregnancy still stands a major health challenging, life threatening gynecological emergency in the developing world. The objective is to explore the risk factors, cost and management challenges, as to reducing high socio-economic burden. **Method**: This is a retrospective study of ectopic pregnancies managed in Niger Delta University Teaching Hospital(NDUTH) Okolobiri, Bayelsa State, Nigeria, from1st january 2009-31st December 2013, based on medical records retrieved and entered using a data- entry forms designed for this study. Data were analyzed with Epi info 2007 version 7.1.4.0. **Results**: 130 cases of ectopic pregnancy, 326 cases of other gynecological surgeries and 2815 cases of delivery were recorded. Ectopic pregnancy contributed to 39.88% of the gynecological surgeries, incidence rate of 4.6% of all deliveries. Mean age of the patients was 29 years, PID was recorded in 84(64.62%), Abdominal massage before admission was 85(65.45%) and abortion in 101(77.78%). Ruptured ectopic was found in 113(87.60%), blood transfusion in 122(93.85%) and antibiotic treatment in 117(90.09%). Abdominal pain was the commonest 126 (96.92%), while amenorrhea was found 119(91.53%), 22(16.92%) were haemodynamically unstable. Life saving emergency laparatomy was performed in 86(67.72%), all patients had laparatomy, no laparoscopic or conservation management employed and no incidence of maternal demise. **Conclusion**: The result reaffirmed our presumption of EP and hope, the information summarized may trigger better approach to health care issues by the appropriate authorities to ensure better health standard and some reforms in our socio-cultural practice and behaviors.

Keywords: Ectopic pregnancy, Laparotomy, Complications, Transfusion, Abdominal massage, Antibiotic, cost, Okolobiri.

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INTRODUCTION

Ectopic pregnancy stands as one the rare medical condition that is still on the increase irrespective of resent advancement in medical technology worldwide. It is a condition of immense socio-economic and gynecological importance, most particularly in the developing world, due to high level of maternal morbidity with its resultant economic effect and mortality mostly in the developing world, its role in family disintegration and instability as a result of the lost. Ruptured ectopic pregnancy is a potential medical emergency literature has shown that, it is the leading cause of maternal mortality in the first trimester and account for 10-15% of all maternal deaths [1,2]. An ectopic pregnancy is when the fertilized ovum or embryo implants outside the uterine cavity, likely in the fallopian tubes, ovary, abdominal cavity etc. Generally not viable except few and counts for significant source of fetal wastage and has been associated with recurrence and impairment of subsequent fertility [3,4] . Most patients present with ruptured and haemodynamic compromised state [5]. Despite the fact that many literatures have discussed the risk factors time and time again [2]; yet, the true incidence of ectopic pregnancy is difficult to ascertain: except where proper medical records are kept in the developed world, however this cannot be the position in the developing world [7,11]. It occurrence also varies from countries to countries, and even within a country. Considering the possible shortcomings in documentation and reporting, as well as the possibility of affected women not seeking or reaching healthcare facilities, a clear consensus of the incidence of ectopic pregnancy and its relative contribution to maternal morbidity and mortality in low and medium-income countries is lacking Hamura NN et al [6]. Much have been said about medical complication of ectopic pregnancy, yet little attention has been devoted to the socio-economic burden of ectopic pregnancy, which requires adequate attention in the developing world ,where almost all the maternal complications and mortality is frequent. Prevalence is about 1:100 intrauterine pregnancies, the most frequent location 98% is the fallopian tube [2,9]. Recent studies have shown a gradual overall increase in incidence worldwide [2,4,7]. However, the case fatality rate has decreased drastically in the developed world; including European countries, North America, Australia Jurkovic D et tal [2] , reason: due to enhanced diagnostic capabilities, and patients awareness of their health state. The relative increase despite improved Medicare can be attributed to so many other factors such as increase pelvic inflammatory diseases, ovulation induction, assisted reproductive technology, improved diagnostic techniques, previous abdominal surgeries, previous ectopic, history of infertility, race, age above 35 years [7,8,9]. Others factors; more peculiar to the developing world are multiple sexual partners, early sexual life, lack of condom use, other sexually transmitted diseases, polygamy, unsafe abortion,multiparity,puerperal sepsis,endometriosis[4,6,10].Those life-threatening conditions more commonly occur in some countries in Africa, Asia alike e.g. Nigeria, Guinea, Pakistan etc, where the incidence varies from 0.9%-4.38% [7,11,12]. Diagnostic possibilities commonly available are physical examination, patient history, serum beta human chorionic gonadotropin(B-HCG), culdocentesis (paracentesis), ultrasound and laparoscopy, laparotomy. Unfortunately in our centre and most centers in Nigeria including other Sub-Saharan Africa ultrasound and laparoscopy are rarely available [4,9,13]. Hence; emergency explorative laparotomy has been the option of choice in most settings for a definitive confirmatory diagnosis and treatment; since most patients are in haemodynamic compromised state on admission. Whereas; the main treatment of choice is laparoscopic surgery in the developed countries [15]. Reasons;

laparoscopic treatment of tubal pregnancy offers numerous advantages, by reducing operating time, blood loss, complication with surgery, hospital stay and improves cosmetic result [2,3,15]. Laparoscopic conservative approach offered includes; linear salpingotomy, resection of involved segments with end to end anastomosis, laser salpingectomy.[1,15] Medical treatment of chronic ectopic without laparotomy has been done successfully[1,2]..It is evident, that approximately ¼ of the patients may be infertile, 10% may have repeat EP [2,34], reasons maybe similar to what caused the previous ectopic pregnancy, or degree of tubal damage during surgeries, patients with collateral tubes blocked earlier. An early diagnosis is very important, as it gives the medical professionals more room for optimal management, since ectopic pregnancy is major health and socio-economic problem among young women of reproductive and productive age. The aim of the study was to determine the various risk factors, other socio-economic and cultural factors enhancing the late presentation, life-threatening episodes and ways of minimizing cost and morbidity. Hence we can make recommendations on new strategies of intervention in the south-south Nigeria.

METHODOLOGY:

This retrospective study comprises women who were either suspected or diagnosed of ectopic pregnancy and were admitted into gynecological unit of department of Obstetrics and Gynecology, Niger Delta University Teaching Hospital(NDUTH) Okolobiri, Bayelsa State, Nigeria. The study period stressed from 1st January 2009-31st. December 2013. Ward admissions, theatre operation registers were searched for the identities of the patients and the list sent to the medical records department for retrieval of the case files. The account department was also approached to collect data for payment made for the surgeries and the pharmacy department to ascertain the price of most frequently used medication. The data includes; Age, parity, previous ectopic, abortion, PID, employment status, previous surgery, pre-post operative PCV level, blood loss, blood transfusion, complication, type of surgery, nature of presentation, antibiotic treatment, abdominal massage prior to admission and duration of hospital stay. The total gynecological surgeries excluding abortions related interventions and total birth records for the study period were collected. The study was approved by the hospital's Research and Ethical Committee, patient's identity and privacy of information was treated with upmost secrecy. During the study period a total of 130 patients were diagnosed and admitted, there was no exclusion criteria since the study involved all the patients who were treated after admission. Initial history taken, investigation was carried out: which includes; pregnancy test, ultrasound in some cases, physical examinations and culdocentesis or paracentesis. After which provisional diagnosis was made; other investigations includes full blood count, blood group, retroviral screening, urine analysis, clothing parameters, before surgical procedure was performed, specimen usually sent for histopathological examination. The patient's records were entered into a pre-designed questionnaire. Statistical analysis was performed using the Epi info 2007 version 7.1.4.0. All these cases were treated by open abdominal surgeries (Laparatomy) since, laparoscopic interventions has not been in place for now and follow up for one month was carried out post operatively [7,11].

RESULTS:

The mean age of 29.2±5.7 years, with the range of 15-45 years in Table 1.The highest incidence of ectopic pregnancy occurred in the 26-30 year age group in Table 1. Those with lower educational background (primary-secondary) level accounted for 90(69.23%), while 11(8.46%) had no formal education.76 (58.46%) were married, and 85(76.92%) had no pensionable employment in Table 1. Most of the patient were suspected of EP through patient history and physical examination 117(90.09%), 96(73.92%) had positive pregnancy test result, while 83(63.91%) was proved by ultrasound in Table 2. Risk factor like previous history of PID in 84(64.68), abortion was recorded in 101(77.7%), previous history of abdominal surgery in 39(30.03%), while previous ectopic pregnancy was recorded in 7(5.39%). Most of the patients had abdominal massage 85(65.45%) all in Table 3.The commonest presenting complain was abdominal pain 126(97.2%), amenorrhea was 119 (91.63), Dizziness and fainting attack was present in 79(60.83%), Fever was present in 39(30.03%), whereas shock was observed in 22 (16.94%) of the patients in Table 4. On examination, abdominal tenderness commonest elicited feature presented in 115(88.55%), adnexal tenderness was presented in 35 cases (26.95%), adenexal mass was found in 15(11.55%), abdominal distension was demonstrated in 100(77.0%), Cervical excitation 20(15.40%) in Table 4. Due, to the environmental factors and intraoperative findings, majority of the patients had antibiotic treatment 117(90.09%), with those having combined Cephalosporin and Metronidazole iv. for 7 days 42(32.34%) in Table 7. A minimum blood loss recorded was 100mls with two patients 2 (1.54%), while maximum 2700ml in a patient 1(0.77%) shown in Graphic 1. The least preoperative PCV was 10% in 1(0.77%) case, while the highest was PCV of 24% in 13(10.01%) in Graphic 2. The least postoperative PCV was 25% recorded in 2(1.54%) of the patients, while the highest PCV was 29% recorded in 35(26.95%) of the patients in Graph 3. Graphic 4; illustrates blood transfusion which of the mean of 2.97±1.44 units of blood, the lowest was 1 unit of blood 8(6.16%), and the highest was 6 unit of blood 6 (4.62%) of the patient. The Table 8.; shows the type of surgical procedures performed Among the patients 84 patient (64.68) % had unilateral salpingectomy, 10 patients (7.70.8%) had unilateral salpingectomy with adjacent tubal ligation, 15 patients (11.55%) had unilateral salpingo-oopherectomy, 8 patients (6.16%) had Unilateral salpingo-opherectomy with opposite tubal ligation, it was due to the adhesion involving the ovary while the 1 patient (0.77%) case of abdominal pregnancy was evacuated. Complications encountered intra-operatively and post-operatively are anemia 113(87.01%), fever 73(56.21%), wound breakdown 9(6.93%), re-operation 4(3.08%), injury to other organs 8(6.16%) in Table 6. The financial implication involved in these patients is illustrated in Table 5; which gives an estimated cost of direct medical cost per patient at about $ 484.49 US dollars. The cost is based on an estimate for a surgery, with 2unit of blood transfusion and antibiotic treatment for at least 3 days and average hospital stay of seven days in the hospital. The other forms of cost were not considered as they vary tremendously from cases and persons.

Table 1.Sociodemographic characteristics of patient

Age	Frequency	Percent	Cum. Percent
15-20	7	5.38%	5.38%
21-25	29	22.33%	27.71%
26-30	46	35.42%	63.13%
31-35	31	23.87%	87.00%
≥36-	17	13.09%	100.00%

Education			
Higher	29	22.31%	22.31%
Formal	11	8.46%	30.77%
Primary/secondary	90	69.30%	100.00%

Marital status			
Single	54	41.58%	48.58%
Married	76	58.46%	100.00%
Occup.Status			
Employed	25	6.15%	6.15%
Unemployed	105	80.85%	100.00%
Total	130	100.00%	100.00%

Occupation	Frequency	Percent	Cum. Percent
Applicant/Student	20	15.40%	15.40%
Business	54	41.58%	56.98%
Civil Servant/Professionals	21	16.177%	73.15%
Farmer/House wife	31	23.87%	97.02%
Manager/Admin.	4	3.08%	100.00%

Table 2. Mode of discovery and diagnostic method

Mode of discovery	Frequency	Percent
Paracentesis/Culdocentesis	32	24.64%
Pregnancy test	96	73.92%
Ultrasound	83	63.91%
Explorative laparotomy	21	16.17%
History/Examination findings	117	90.09%

Table 3. Risk factors found in patients with EP.

Abdominal massge	Frequency	Percent	Cum. Percent
No	45	34.88%	34.65%
Yes	85	65.45%	100.00%
History of abd. surgery			
No	91	70.00%	70.00%
Yes	39	30.00%	100.00%
History of PID			
No	46	35.38%	35.38%
Yes	84	64.62%	100.00%
No of abortion			
0	29	22.31%	22.31%
≤3	95	73.15%	95.46%
≥4	6	4.62%	100.00%
No of ectopic pregn.			
1	7		5.39%

Table 4.Presenting complains and examination findings

Presenting complains		
Abdominal pain	126	97.02%
Amenorrhoea	119	91.63%
Bleeding per vag.	60	46.20%
Spotting bleeding	25	19.25%
Vomiting	6	4.62%
Fainting/dizziness	79	60.83%
Shock	22	16.94%
Fever	39	32.77%

Examination findings		
Abdominal distension	100	77.00%
Abdominal mass	15	11.55%
Abdominal tendernes	115	88.55%
Bleeding	35	26.95%
Cervical excitation	20	15.40%
Adnexal tenderness	35	26.95%
shock	22	16.94%
Total	130	100.00%

Table 5. Medical cost per patient for 7 days

Type of expenditure	Unit cost($)	Estimated total cost($)
Theatre fee	278	278
Bed fee	45.37	45.37
Consumable	12.35	12.35
Blood transfusion	43.21	86.42
Investigations	9.26	9.26
Other drugs(Inf./analg.)	12.35	12.35
Antibiotic(average of 3 days)	13.58	40.74
Total	414.12	484.49

Note: This is an estimated cost, calculated at an exchange rate of ₦162=$1.00 at the time of this write-up.

Table 6. Intra-operative and postoperative complication

Complications	Frequency	Percent
Injury to other organs	8	6.16%
Wound breakdown	9	6.93%
Reoperation	4	3.08%
Fever	73	56.21%
Anemia	113	87.01%
Anesthestic problems	1	15.38%

Table 7 Antibiotic therapy (Ceftriazone/Ampiclox+Metronidazole) in days

Antibiotics	Frequency	Percent	Cum. Percent
combine 1 day	10	8.55%	8.55%
3 days	13	11.11%	19.66%
7days	42	35.90%	55.56%
No antibiotics	1	0.85%	56.41%
Triple 7 days	14	11.97%	68.38%
Single 1 day	32	27.35%	95.73%
3 days	5	4.27%	100.00%

Table 8 Type of operation

Type of operation	Frequency	%	Cum. %
Salpingectomy unilat	84	65.12 %	65.12%
Salpingectomy +tub.lig.	10	7.75%	72.87%
Salpingoophorectomy	15	11.63 %	84.50%
Salpingoophorectomy+tub.lig.	8	6.20%	90.70%
Abdominal Preg.evacuation	1	0.78%	91.47%
Salpingectomy+Adhaesiolysis	5	3.88%	95.35%
Salpingostomy	5	3.88%	99.22%
Hysterectomy	1	0.78%	100.00 %

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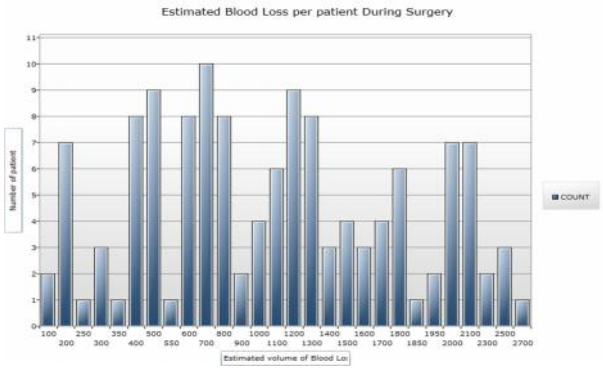
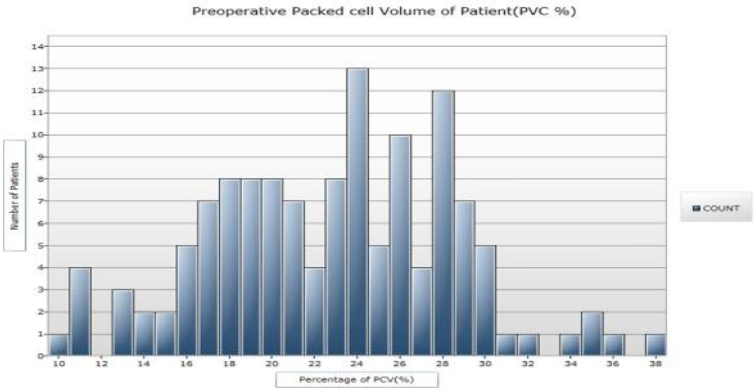
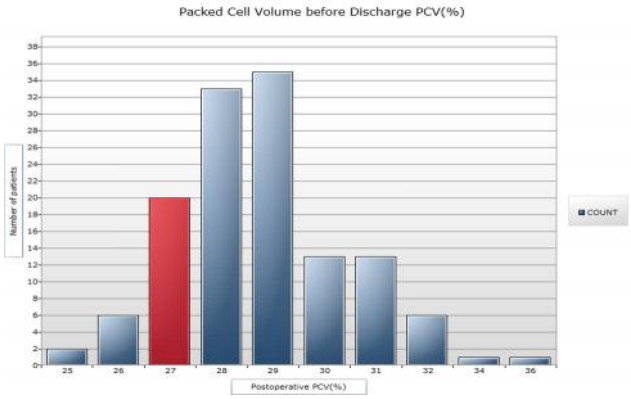


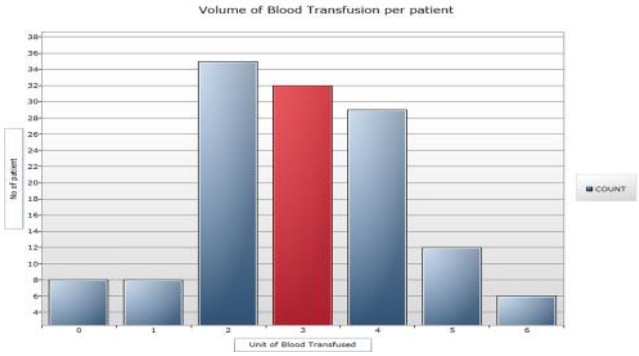
Graph 1.Blood loss during surgeries of EP.



Graph 2 .Preoperative PCV



Graph 3.Postoperative PCV



Graph.4 Blood transfusion per patient

DISCUSSION

The management of ectopic pregnancy of recent has received great improvement and innovation in the developed countries, which has greatly reduced the scale of morbidity and mortality. Apparently; this cannot be applied to those low income countries; mainly in Africa and some part of Asia: struggling with series of social-economic, political burdens, with an escalating level of inequality and corruption. The advances in technology has given these countries rooms for many management options, with less morbidity, cost and time saving, like the use of minimal invasive surgical techniques, expectant management to medical treatment of ectopic pregnancy. Ectopic pregnancy still remains a life-threatening gynecological emergency, which often result to severe long term maternal morbidity, even mortality in the developing world. In this review, all patients suspected, or diagnosed with ectopic pregnancy were treated by an emergency or explorative laparotomy and salpingectomy was performed in majority of the cases as was found in most reports from sub-

Sahara African and in some Asian countries. Medical treatment was not initiated because majority presented with rupture EP, patients compliance, early intact, proper monitoring system are all lacking for medical treatment of EP, since method requires all these conditions. The incidence of ectopic pregnancy recorded in this study was 4.6%; closely similar with the 4.26% reported in Kano, Nigeria [17]. Whereas, it was much higher than 1.5% reported in Finland, 2.1% in Abakiliki, Nigeria, 1.2% and 1.02 reported in Ife and Ilorin respectively.[18] The occurrence of acute life-threatening emergency from ectopic pregnancy is very high in this review, similar to other studies in the country and in the sub-Sahara region[5,7,19,20] ; 113(87.01%) had emergency laparotomy because patients were predominantly haemodynamically unstable; and usually arrived in the hospital with ruptured ectopic pregnancy as a result of lateness in seeking health care service. The reasons for the late presentation is as a result of Type 1 and 2 delays; contributing factors includes poverty, educational disadvantage, lack of adequate information, education from health services providers, inadequate provision of universal family planning programme in the rural communities, cost of medical bills and strong belief in traditional-African medical practice, Traditional Birth attendant, Spiritual home, and frequent abdominal massage once a woman feels unwell or misses her period.[5,13,21] The high incidence of acute life-threatening in this study, maybe as a result of the different levels of delay frequently encountered, which must have contributed immensely in the high level of tubal rupture. The 87% recorded is slightly lower than, what was reported by Patrick T et al in Conakry Guinea 92%, 90% in Le Dantec university hospital, Dakar and 97% reported in the University teaching hospital Ile-Ife in Nigeria.[3,18] The various types of delays are identifiable in our study, as most of the patients were less educated, substantial proportion are rural dwellers with very poor income status; majority of them are not meaningfully employed, lack of good transport facilities coupled with substandard or bad roads; unavailability to provide fund for the necessary investigation and treatment fee was is a big constrain.[2,14,21,22] Information from the account department of our hospital estimated the average operational fee of between $250-300 US dollars (mean=$278) see Table 5. The cost of EP is considered to include the following cost categories: 1) direct medical cost, 2) direct non-medical cost, and 3) indirect (productivity) cost. Among this variety of expenditure incurred; by the patient, only the direct medical cost can be roughly quantified. A gross breakdown of the total estimated direct medical cost of EP includes; operational fee, investigations, drugs, bed fees, consumables, transfusion. Transfusion of an average 1 unit/patient and miscellaneous cost per patient for a week 7.7±2.38 day's hospitalization was $449-$470 US dollars. The figure shown do not reflect the true picture of the economic damage EP befalls the patient, as the cost and the other factors involved varies from hospital to hospital, states to state and even between government hospitals and the privately owned healthcare centers. This singular reasons of financial constrain plays major role in the process of delays in seeking medical care.[6,23,24] The direct non-medical costs includes; recurrent expenditures like patient transport, patient upkeep while seeking healthcare: while the indirect cost will includes: lost of work, or productivity, family disintegration, instability in some cases. It is also considered to involve both family and government cost, as the government provide the necessary environment and manpower for the treatment of EP. These factors create a strong challenge to an average Nigerian family, since currently there is no universal free Medicare. Despite the immediate fear of fatal outcome, the financial effect on this socio-economically low class of patients; with no constant daily income or whose daily income in average is below $5.00 US dollars cannot be

disregarded. The incapacitation incurred during the long stay in the hospital, which stands in this study to a mean average of 7.7±2.4 days with a minimum of 4 days and a maximum of 18 days, coupled with the postoperative bed rest at home; could be detrimental to some families. Also judging on the immediate and long term implications involved; countries like Nigeria with a resource constrained setting, and poor maternal health indexes;[7,25,26] requires an early diagnosis and better option of treatment which would greatly reduce the cost, the morbidity, as well as better fertility outcome of individuals[22,23,24]. Early use of plasma B-HCG, ultrasonography and laparoscopy decreases the morbidity and mortality associated with ectopic pregnancy, would allowed conservative tubal surgery when indicated[1,23,27].

The incidence of EP was highest in the 26-30 years group see Table 1, this relatively is the peak sexual active years of women, so it is not accidental, that EP incidence is higher [7,28]. In contrary to other studies reported by Lawani et al, Abakiliki, Nigeria, the incidence of EP among married women was higher 76 (58.46%), to single women 39 (30.00%) [7].The reason may be due to cultural factors, where polygamy in this region is much higher than the country's average, so the role of multiple sexual partners is much evident. Multiparty with an average of 2.98±2.18 child, pregnancy rate of 4.98±2.69 and unsafe , and other forms of abortion rate was 1.45±1.2 was reported, with concomitant degree of complications; Since abortion is illegal in Nigeria; young women tends to implore all means to get rid of pregnancies with aids of, crude, unskillful personnel [20,29]. Some of the implications of recurrent unsafe abortion, delivery in our environment are post abortion and puerperal sepsis, which may affect the tubes and adnexa in future pregnancy [28]. The incidence of abortion in this study was 95 (73.15%) which reflects the sexual activity of the age group, the lack of knowledge or use of modern contraceptive methods, and low socio-economic state of the women. Other major factor, with tremendous influence on EP is pelvic inflammatory diseases PID and sexually transmitted diseases STDs found to be relatively high in this study 84 (64.60%).This could be related to early sexual activities and other risky sexual behavious in this part of the world. Fewer patients had history of previous ectopic pregnancy 7(5.39%), while previous abdominal surgeries were recorded in 39(30.00%). The other known risk factors were not peculiar to the patients treated in this study; Assisted reproductive technology, ovulation induction, smoking etc see Table 3[1,3,30]. The increased risk factors for the EP recorded is relatively similar to those in the developed world, whereas in those countries with the advent of newer diagnostic ,treatment modalities, general healthcare awareness, provision of better healthcare and better living standard; most of these issues are attended to with urgency. Hence drastic reduction in morbidity and mortality rate has been recorded between 0.5-2%; whereas the reverse is the case in those low income, less privileged society like ours, were most EP cases occurs as a life-threatening emergencies, with maternal mortality rate close to 5-16% or more [31,32,33]. Despite; the availability of modern diagnostic technology, like ultrasound, serial urine and blood beta human chorionic gonadotropin(ß-hCG) assay, and other methods for early detection and treatment [15,25]. None of our patients benefited from this conservative or medical treatment. Reasons; attributable to lack of adequate manpower, infrastructures for patient monitoring, diagnosis, finance, late presentation as 96(95.1%) came with ruptured ectopic pregnancy [5,13]. A single abdominal pregnancy was reported, which was discovered accidentally during a routine medical check-up at about 16th.week of gestation and was evacuated, heterotrophic pregnancy was not seen [1,27]. Many patient were resuscitated and blood transfusion was initiated 99 (98.01%); despite all the dangers involved with blood transfusion in this contemporary age, with lots of blood

related infections like the HIV-AIDs, Hepatitis, and the tremendous cost, scarcity and difficulty in procuring blood [7,12]. Anemia was reported in 98 (97.03%) on admission, the average blood transfusion was 2.97±1.44 std. units, with a total blood transfusion of 260 units at about $44-50 US dollars per unit of blood; summoning to approximately $69.350 US dollars. Among other complications fever was 39(32.77%),plus other environmental and intraoperative finding of adhaesions which necessitated antibiotic therapy for 117(90.09%) patients at an estimated daily cost of $13.58 US dollars per treatment for a mean of 3 days, summed to $40.74/ patient in Table 5; which has exposed the patient to more financial hardship. In the management; apart from resuscitation, blood transfusion, antibiotic therapy, all patient had laparotomy, of which ½ was emergency, and the other ½ was emergency explorative laparatomy closely similar to other studies done in the country [11,13,17]. Although many factors do influence the prevalence of the EP in this environment, yet a definitive reason could not be ascertained. There was no significant change in incidence as the years progresses unlike what is obtained from different literature with a steady yearly increase [7, 9, and 17]. Complications encountered postoperatively were anemia which necessitated more blood transfusion, infection, wound breakdown, injuries to the ovary and in 3(2.52%) re-operation was made and all these increased the hospitalization, direct medical cost and the non-direct medical cost. Other socio-cultural factors that displayed strong negative impact on the cost and outcome EP, was the cultural influence of patronizing traditional birth attendant and abdominal massage, 85(65.12%) which has not just caused unnecessary delay in presentation, but in most cases caused the rupture of EP and also increases medical cost, severity, increase morbidity and sometimes mortality. It is an enormous socio-economic burden, coupled with the other medical and psychological trauma involved [3, 15]. Maternal mortality was not recorded, unlike a similar study done in the region by Selelye F et al [31] where the maternal death was recorded to be 38 (3.1%). There were no limitation in this studies since all the cases recorded during the period where included.

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CONCLUSION: The management of ectopic pregnancy requires multidisciplinary approach; Mostly life-threatening in the developing world like Nigeria, require immediate attention from the health workers, governmental apparatus and the family due to the socio-cultural, economic implications involved. A better pragmatic approach in the management is evident both from the government, the communities and from service providers. Health education on safer sex, provision of better family planning services to the general public, from secondary education level is imperative. Therefore provision of modern endoscopic minimal invasive surgery, organized national blood transfusion and bank programme, basic infrastructures, job creation and better health polices will be highly welcomed. The study has shown not only the high incidence, but has also high lightened some negative economic impact of EP in the society. Invariably fulfillment of some of this intervention would significantly reduced those life-threatening episode experienced in the developed world.

Conflict of Interest: There was no evidence of conflict of interest regarding the study.

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