INCIDENCE AND TREND OF CAESAREAN SECTION AMONG WOMEN OF CHILD BEARING AGE IN GENERAL HOSPITAL IKOT EKPENE

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Abstract

The study was undertaken to determine the incidence, incidence rate and trend of Ceasarean Section (CS) among women of childbearing age in General Hospital, Ikot Ekpene, Akwa Ibom State from 2000-2009. A total of 884 folders of women who attended the hospital for the ten years period were consulted. Data were collected using CS inventory proforma (CSIP) from patient's folder in the record office. Frequencies and percentages were used to answer the research questions while Chi-square statistic was used to test null hypotheses at .05 level of significance. Graphs were used to present the data. The results showed that a total of 884 cases were recorded from 2000-2009. The overall incidence rate was 16 per 100 cases. It observed that women within 36-45 years and parity status six and above recorded the highest incidence. The trend was downward and upward in certain years but highest was in 2005 while the lowest was recorded in 2008. It was recommended that schools should intensify the teaching of reproductive health with special emphases on safe motherhood and family planning.

Keywords: Girl-child, cesarean delivery, incidence, trend, child bearing

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Safe motherhood involves saving lives and improving health of the mother. Safe motherhood, according to Federal Ministry of Health (2001) is a concept denoting a situation in which no woman going through physiological processes of pregnancy and childbirth suffers any injury or looses her life or that of her baby. Safe motherhood is a means of ensuring women's accessibility to needed care through maternal programme in order to facilitate their safety and optimal health through pregnancy and child birth (Essien, 2003). This implies that safe motherhood is a vital economic and social investment that can promote all aspects of national development. It can bring about reduced morbidity and mortality rates, thereby enhancing productivity especially among women.

Safe motherhood is a means of saving the lives of women and improving the health of million others (Jatau, 2001). Safe motherhood initiative (SMI) is aimed at preventing maternal and prenatal morbidity and mortality and enhancing the quality and safety of women's lives through the adoptation of combination of health and non-health strategies. Safe motherhood is also viewed as a collective effort by a pregnant woman herself, her immediate and extended family, her community and all health personnel at the primary, secondary and tertiary levels of health care system to ensure safety of a pregnant woman and her baby during pregnancy, delivery and after delivery.

It involves saving the lives and improving the health of mothers. Human Rights Matrix Policy Project – HRMPP (2011) viewed safe motherhood as a concept that encompasses a series of initiatives, protocols and services designed to ensure that women receive high-quality gynecological care, in order to achieve optimal health for the mother, fetus, and infant during and after pregnancy. These initiatives and services are family planning, prenatal, antenatal, and post-partum care.

Safe motherhood, an aspect of human right and social justice is being promoted by the International Human Rights Treaties (IHRT). The organization's agenda obligates national governments of member countries to address the causes of poor maternal health through their political, health and legal systems and to report compliance with treaty goals (Sterns, 1987 & UNFPA, 2003). Empowerment which is critical to sustainable safe motherhood enables women to attain their health needs, concerns and access to service with confidence and without delay, seeking accountability from services providers and programme managers. Safe

motherhood is directed towards effective continuum of care (Daly, Azefor & Nasah, 1993).

There are three main health care delivery services enlisted by safe motherhood initiatives for mothers in order to overcome maternal morbidity and mortality (WHO, 1991). These include prenatal care, obstetric care and family planning. In order to ensure the detection and rapid treatment of complications and prevention of medical problems, prenatal care is vital to mothers. Prenatal care aims at providing the pregnant mother with education on health, nutrition, proper hygiene and exercise as well as education and promotion of healthy practices; monitoring of maternal and foetal developmental progress and identification of women at high risk of complications for appropriate treatment and or referrals to appropriately equipped health facilities. The pregnant women who are at high risks of pregnancy complications are those with poor medical history, high parity level, first pregnancy, previous record of caesarean section, short birth canal, severe headache, dizziness, fatigue and difficulty in breathing, utero-viginal prolapse, high blood pressure and anaemia (Adesokan, 2010). Other high risk pregnancy – related complications during labour include prolonged labour, abnormal foetal positioning and umbilical cord hanging for more than seven days, eclampsia, chills and fever, pain in the belly and retained placenta.

The health care providers need to be acquainted with the records of their clients' (pregnant women) medical and obstetric histories as well as their current health status (WHO, 2008). In addition to the medical history, routine checks such as height, weight, blood pressure, blood tests, urine tests, pelvic examinations and immunization schedule should be carried out. It is, therefore, necessary for women including would be mothers, especially those who are pregnant to avail themselves of these pregnancy related health measures to enable them take wise decisions during their reproductive years.

One very important aspects of safe mother-hood initiative as mentioned earlier is osbtetirc care which involves ensuring safe delivery of babies by mothers and ensuring the life and health of the mother themselves. Additionally, it is the belief of every woman that she will deliver her baby through the normal route, that is, vaginal delivery. At times, some complications set in, either during pregnancy or labour, making their expectations to be unfulfilled. Some of these complications are edphalo-pelvic disproportion (CPD), malpresstation like

transverse lie, maternal or foetal distress, hemorrhage, pre eclampsia, placenta abruption or placenta *pravia* which pose as hindrances to achieving a normal vaginal delivery thereby bringing in other methods or routes of delivery.

If the normal vaginal birth becomes impossible, then other methods or routes of delivery may be employed and those methods according to Myles (2003) include symphysiotomy, vacuum extraction, forcepts delivery, episiotomy, destructive operation and caesarean section. The caesarean section (CS), a method of delivery involves the delivery of a baby through an incision in the uterine and abdominal walls. It is usually performed when a vaginal delivery would put the baby's or mother's life or health at risk. The CS, which is a form of childbirth adopted when a normal vaginal delivery becomes impossible, is the focus of the present study. By this method, a surgical operation is made through the mother's abdomen and uterus to deliver one or more babies.

Roper (1978) defined CS as an obstetric operation whereby the foetus is extracted from the uterus through an incision made in the abdominal and uterine wall. Baltzer, Bolander, Boak, Buomocore and Burke (2004), defined it as a surgical operation through the wall of the abdomen and womb for the delivery of a baby, which can be carried out either by elective or emergency procedures. In the elective procedure, the surgery is planned, at about the 38th week of gestation or at term (40 weeks); whereas in the emergency method, CS is not planned. CS is indicated if in the course of labour, a complication arises such as a cord prolapse at the first stage of labour or failure of labour to progress. Other factors include foetal distress and transverse lie of baby in labour. These conditions will prompt an emergency CS to save the life of the child, mother or both.

CS is an alternative route or an option of child birth when the normal vaginal delivery becomes impossible. It involves a major abdominal operation to extract the foetus. Aquilar (2000) opined that labour and delivery are normal biological functions which should occur without any complication, but at times, during the process of labour, some difficulties may set in, such as a disproportion between the foetus and the mother's pelvis which disturbs the normal labour process generating weakness (maternal/foetal distress). At other times too, births can be complicated by physical accidents like uterine rapture, cervical or perineal rupture which will definitely lead to a CS. Therefore, whatever complication that brings about CS, it is seen

as an alternative route or an option of child birth.

In order to save the lives of the mother and her baby and thereby reduce the occurrence of maternal mortality, CS is observed to be more on the increase now than the past three decades. In support of this, Akasheh (2001) stated that in the past three decades, there has been a progressive increase in the incidence of caesarean deliveries in modern obstetric practice as a result of complications arising during labour posing as indicators for a CS.

However, the World Health Organization (WHO), in (2002), having noticed the increasing trend in the occurrences of CS in the developed countries of the world estimated the reduction rate of CS at between 10 per cent and 15 per cent of all births in developed countries. This reduction rate has not been achieved, for instance in 2004, the CS rate was about 20 per cent in the United Kingdom; in 2005, and about 30.2 per cent in the United States. These indicate an increasing trend of CS even in the developed countries.

Conversely, in Nigerian sociology, though the trend in the incidence of CS is higher now than before, CS is still seen as a stigma. According to Kisseke (1992), mothers were stigmatized for not having delivered the child in a normal way and were therefore excluded from normal social and economic relations within the community. To such women, CS may mean much more than having saved their lives; it means that the woman has a scar, reminding her of her being incapable of delivering vaginally. For instance, typically in Annang, and Ibibio in Akwa Ibom state, women dread CS and nick-named it as "Uman Ikwa" (delivery by knife). Though the women are apprehensive of CS because of the stigma of being abnormal women, the fact remains that some of the indications for CS cannot be averted. Therefore, to save the life of the mother and the baby and thereby reduce the rate of maternal mortality, CS is the preferred option. The incidence of CS has been observed in developed and developing countries of the world.

Lucas and Gilles (2009) described incidence as the frequency of occurrences of cases of a disease or spells of illness. Bulon (2007) also defined incidence as the number of new times something new happens especially a disease. In this study, incidence of CS denotes its repeated occurrences in a particular population over a specified period and its rate can be calculated as the number of new cases of CS during a given period over the population of women at risk,

multiplied by one thousand. The formula is represented as follows:

$$\text{Incidence Rate} = \frac{\textit{Number of persons starting an illness x 1000}}{\textit{Number of persons exposed to the risk of the illness}}$$

Purpose of the Study

The purpose of the paper was to determine the incidence rate and trend of CS in General Hospital Ikot Ekpene, Akwa Ibom State from 2000-2009.

In a bid to accomplish this task, the following research questions were posed.

1. What is the incidence of CS among women of child bearing age in General Hospital Ikot Ekpene?
2. What is the incidence rate of CS among women of childbearing age in General Hospital Ikot Ekpene?
3. What is the trend of CS among child bearing women in General Hospital Ikot Ekpene?
4. What is the incidence rate of CS among CBW according to age in General Hospital Ikot Ekpene?
5. What is the incidence rate according to parity status in General Hospital Ikot Ekpene?

Hypotheses

The study tested the following hypotheses at .05 level of significance.

1. Incidence of CS is independent of age of child bearing women
2. Incidence of CS is independent of parity statuses of child bearing women

Methods

The study was a descriptive survey research designed to determine the incidence and trend of CS among CBW in Ikot Ekpene General Hospital, Akwa Ibom State. The population for the study comprised of folders of all pregnant women who attended antenatal clinic for delivery but ended up in CS between 2000-2009. The total number of folders were 884.

The research tool used for data collection was a Cesarean Section Inventory Proforma (CSIP) which provided demographic information with respect to CS patient's age, parity, level of education, location and occupation which were contained in the patients' folders and kept in the health facility. The researcher and four research assistants (Medical Record Keepers) assisted in the collection of the required data.

Frequencies and percentages were used to answer the research questions while Chi-square statistic was employed to test the hypotheses at .05 level of significance.

Figure 1: Bar Graph Showing the Incidence of CS Among Women of Child Bearing Age in General Hospital Ikot Ekpene From 2000-2009. (n = 844)

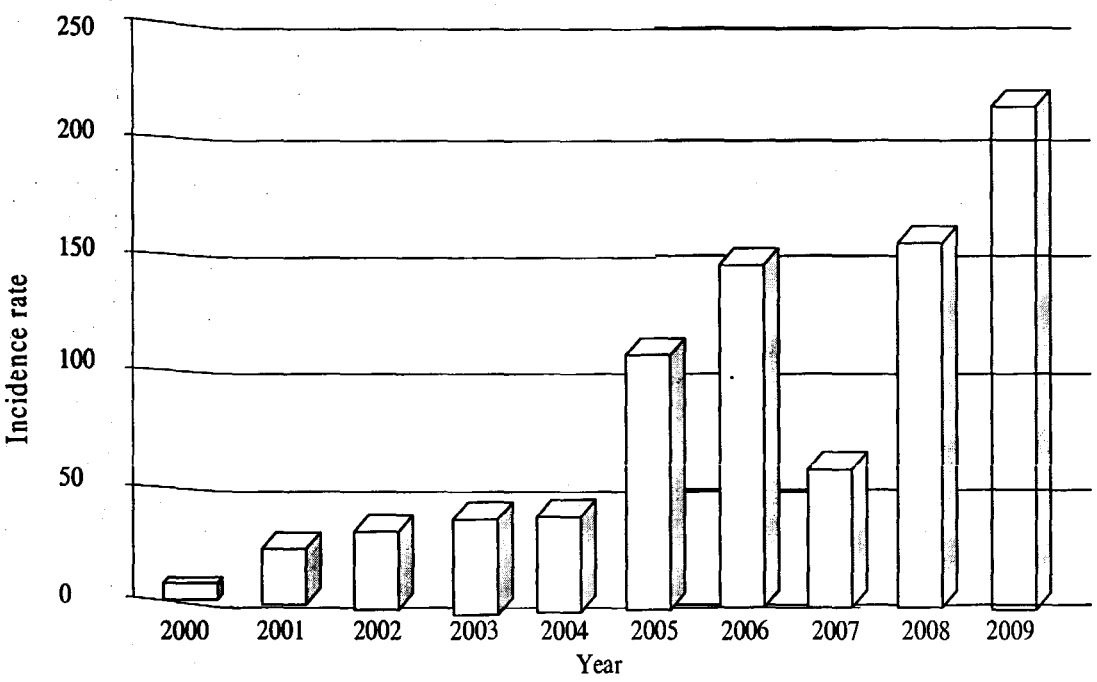
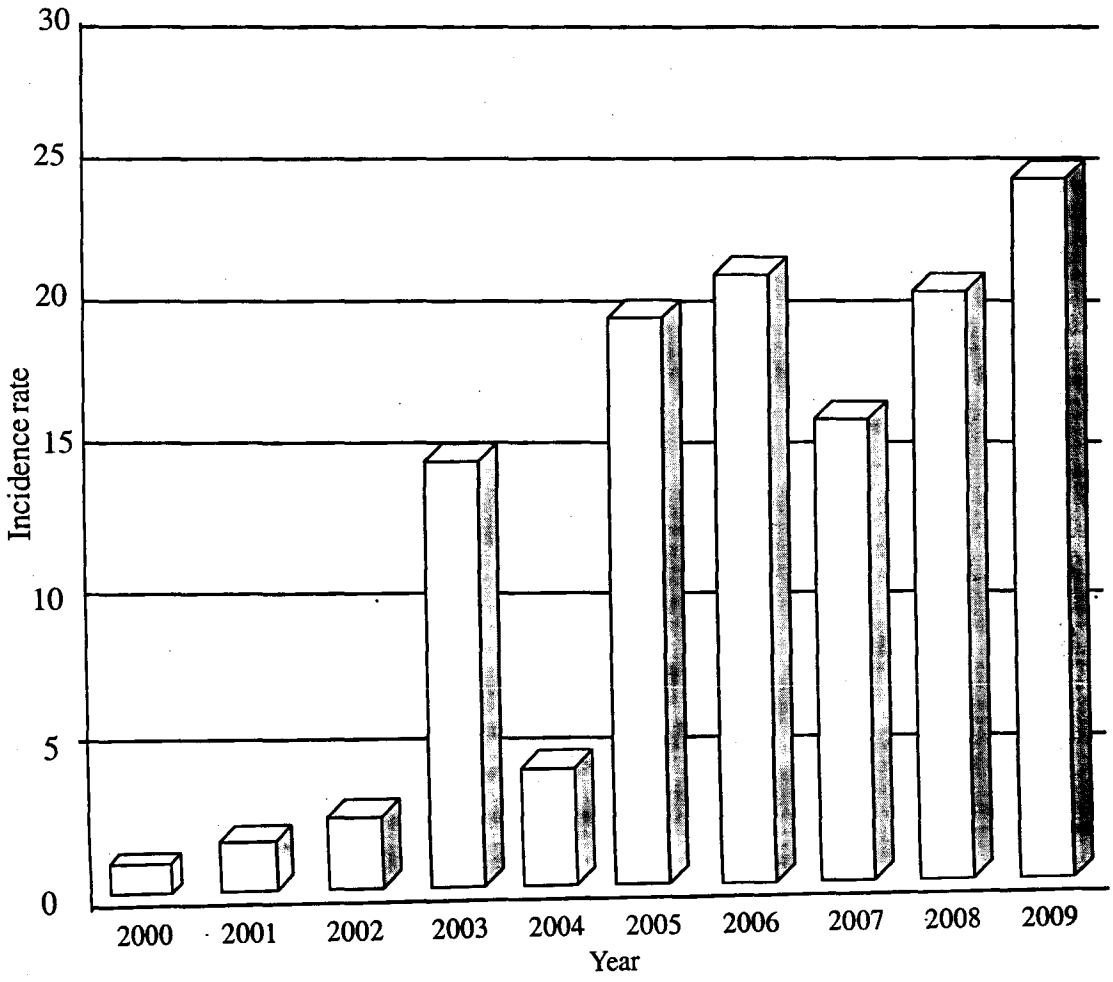


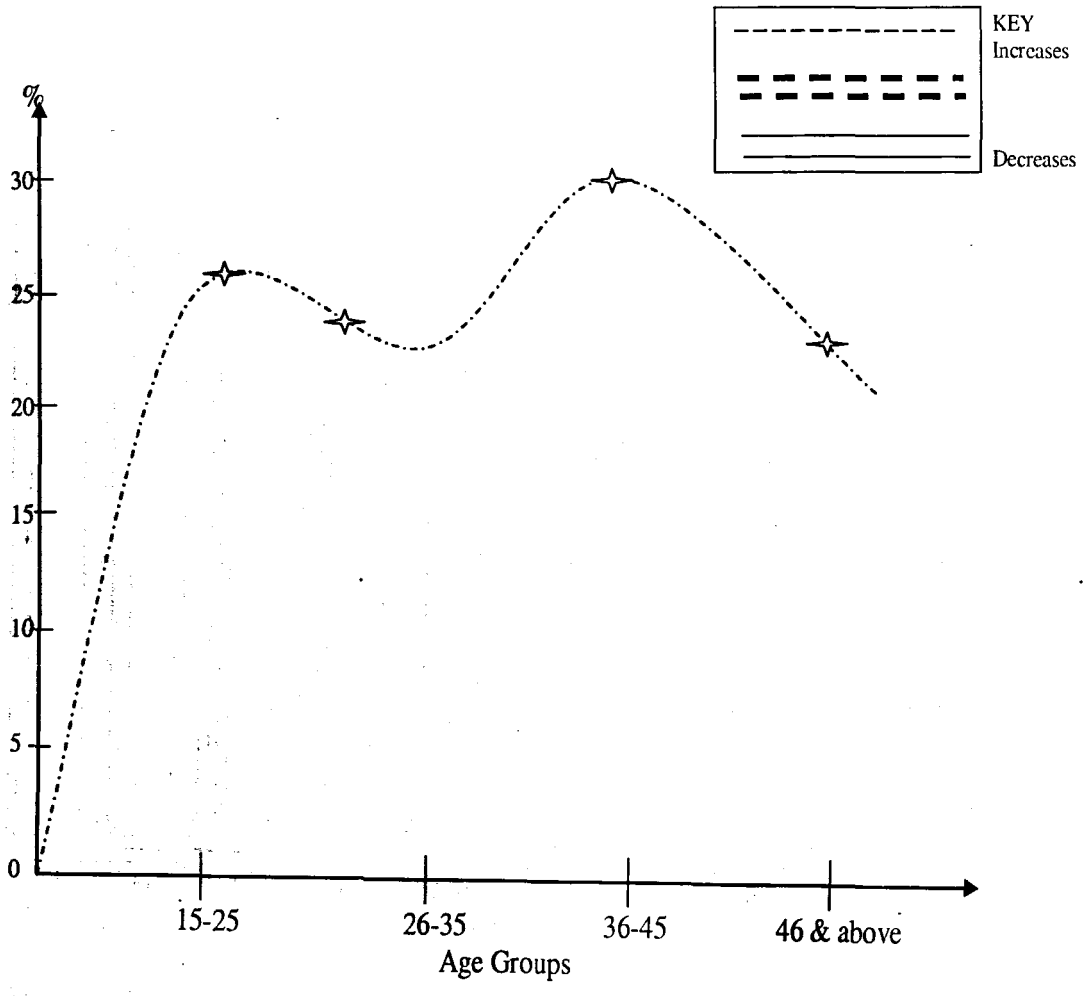
Figure 1 shows that the highest number of cases of CS occurred in 2009 (25.9%), followed by 18.9 per cent which occurred in 2008, 17.6 per cent in 2006 and 13.0 per cent in 2005. The figure further shows that 2007 recorded 7.5 per cent 2002 recorded 3.9 per cent, 2003 recorded 5.0 per cent, and recorded 5.2 per cent, and 2004 recorded 5.2 per cent. From the figure, the year 2000 recorded the lowest (0.5%) incidence of CS while the highest incidence (25.9%) was recorded in 2009.

Figure 2: The Bar Graph Showing the Incidence Rate of CS at General Hospital, Ikot Ekpene, From 2000-2009.



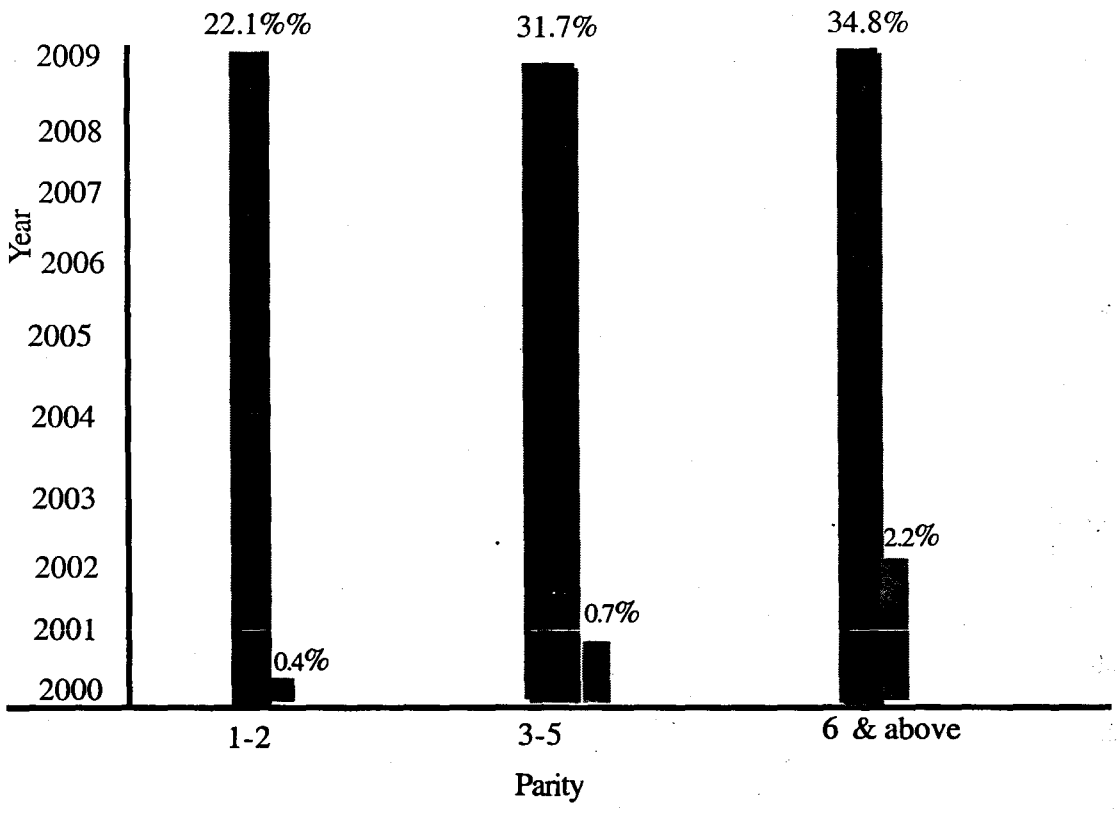
Data in figure 2 show that the highest incidence rate of 25 per cent occurred in 2009, followed by 23 per cent in 2006 and 21 per cent in 2008. The figure further shows that the incidence rate of 20 per cent was recorded in 2005, 16 per cent in 2007, and 15 per cent in 2003. The lowest incidence rate of three per cent was recorded in 2000 while the highest (25%) was recorded in 2009. The figure shows an overall incidence rate of 15.8 per cent during the ten years period.

Figure 3: Graph Showing the Incidence Rate According to Age at General Hospital, Ikot Ekpene.



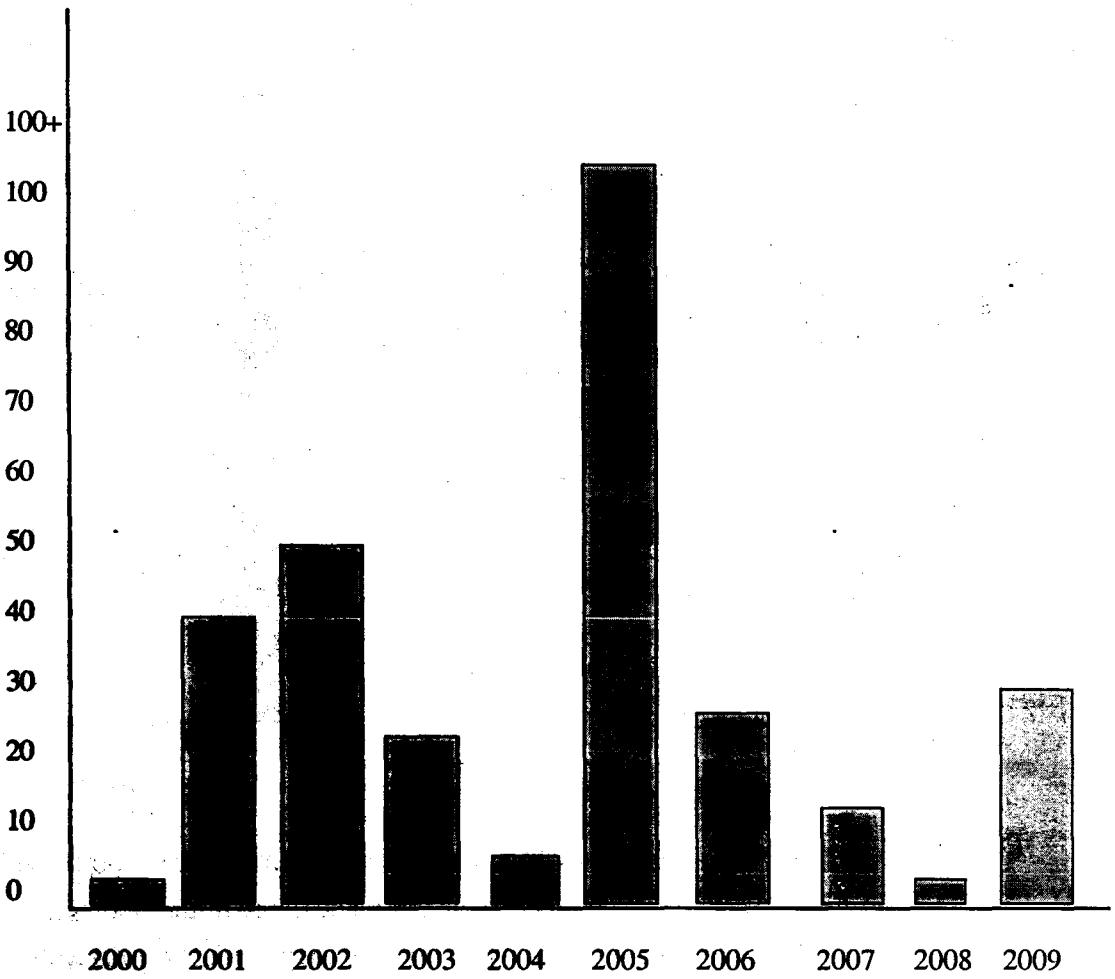
The graphs shows that age group 36-45 years had the highest incidence (28.4%) of CS, followed by age group 15-25 years (28%), and age group 46 and above (27.3%), then 26-35 years (26.0%).

Figure 4: The Graph Showing Incidence Rate According to Parity at General Hospital, Ikot Ekpene.



Data in fig 4 show that the highest incidence rate (22.1%) was recorded in 2009 with parity status 1-2 while the lowest (0.4%) was recorded in 2000. The figure further shows that the highest incidence rate of 31.7 per cent within parity status 3-5 was recorded in 2009 while the lowest rate of 0.7 per cent was recorded in 2000. Furthermore, within the parity status 6 and above, the highest incidence rate of 34.8 per cent was recorded in 2009 whereas the lowest incidence rate of 2.2 per cent occurred 2001

Fig. 5: A Histogram Indicating the Trend of CS in General Hospital, Ikot Ekpene, 2000-2009



Data in Figure 5 show that incidence of CS stood at 45 per cent in 2001. In 2002, it increased to 55 per cent by 15 per cent while in 2003 there was a downward trend to 29 per cent. The Figure further shows that in 2004, there was a further downward trend to 5 per cent while in 2005 there was an upward increase to 150 per cent while in 2006, there was another downward trend to 36 per cent. The Figure also

shows that in 2007 and 2008, there were further downward trend to 6 per cent and 2 per cent respectively while in 2009, there was another increase to 27 per cent. In overall, the Figure shows that the increase was highest in 2005 and lowest in 2008.

Discussion

Result in Figure 1 indicated that there were 884 cases for ten years (2000-2009) at General Hospital, Ikot Ekpene. The highest incidence of CS (25.9%) was in 2009, while the lowest (0.5%) occurred in 2000. The result was not unexpected in view of the available literature. The WHO (2002) noted the increase in the incidence of CS globally and estimated a reduction rate which has not been achieved. These medical factors that necessitate CS today were not recognize and detected as medical problems in the past. Some glaring medical problems as CPD, mal-presentation, eclampsia were the outstanding indications that necessitated CS. But with various researches and advancement in medical science, more medical problems are detected and identified such as, big baby, precious baby after many years of infertile marriage, post datism and others which had caused much sorrow and at times death of the mothers because these medical problems were identified as factors that necessitated CS. The discovery and identification of more medical problems seems to increase the incidence of CS on yearly basis. The increase in the incidence rate of CS was not however surprising in view of the various factors necessitating caesarean section. Althabe, Sosa, Ferando, Claudius, et al (2006) noted a wide variations in the incidence rates among countries of the world, Nigeria inclusive.

Result in Figure 3 indicated that the incidence rate of CS among the age groups 15-25 years (28.0%), 26-35 years (26.0%), 36-45 years (28.4%), 46 years and above (27.3%) were recorded in the year 2009 respectively while the lowest incidence rate of 0.8%, .3%, 1.1%, and 3.0% were recorded in the year 2000 among the different age brackets. The result was expected as it agrees with the findings of Essien (2005), that both maternal and foetal risk increase with the advancing age (that is from 35 years) and the very young (below 16 years). Myles (2003) stated that women especially those above 35 years after many deliveries are prone to more hazards and complications during labour. But on the contrary, though not a surprise, young women within 15-20 years who are within this same age bracket 15-25 years are more sexually active and more prone to teenage pregnancies with its attendant problems of

CPD due to poor anatomical development of the pelvic organs as well as age. Such deliveries will usually terminate in CS.

The hypothesis which stated that there was no significant difference in the incidence of CS among women according to age revealed that incidence of CS differed among women according to age. Age matters in the incidence of CS. Age bracket 15-25 and 36-46 are more predisposed to the incidence of CS. This findings is supported by studies of Essien (2005) which revealed that both maternal and foetal risk increase with the advancing age (from 35 years) and the very young (below 16 years).

The figure also shows that within parity 6 and above, the highest incidence rate of CS occurred in 2009 while the lowest was recorded in 2001. Perhaps what should be noted here is that more women especially educated ones would rather prefer CS to natured birth since this may occur with much less labour and delivery pains. Additionally, the increasing trend may be consisted with observation WHO (2002) that there is increasing trend of CS now than before in both developed and developing countries.

Trend of CS.

Data in Figure 5 showed that there was an upward trend of 150 per cent which was recorded in 2005 and the lowest downward trend of 2 per cent which was recorded in 2008. The result was not unexpected in view of the available literature. As Athebe, Sosa, Fernando et al (2006) observed, a wide variation in CS rates among countries of the world in the past 30 years ranging from 0.4 per cent to a continuous rise in the trend. Cunninfgham, Hevano, Bloom et al (2005) also observed an increased trend in CS mostly from 1996. Interestingly, however, this was an incident in the typical Ibibio and Annang culture that women who delivered by CS were seen as taboos. Such women were seen as abnormal women who had broken their marital vows of faithfulness and were judged by the gods "Ekpo Nka Owo" with an abnormal delivery (delivery by knife). Difficult labour was seen as punishment by the gods for wrong doing not as complications from labour. Thanks to medical science that had reduced the toll of maternal mortality through CS and many women are more knowledgeable in the causes of maternal mortality more than ever before.

There had been a progressive rise, both in the developed and underdeveloped countries. Even in General Hospital, Ikot Ekpene in Nigeria, there was a steady increase yearly except in those years that there were national or statewide strikes. However, the

World Health Organization (WHO) in 2002 having noticed the increasing trend in the occurrences of CS in the developed countries of the world estimated the reduction rate of CS at 10per cent and 15 per cent of all births in developed and developing countries. This reduction rate has not been achieved, indicating an increasing trend of CS in developed and developing countries of the world.

Recommendations

WHO recommendation of a reduction in the rate of CS is yet to be achieved, indicating an increasing tend revealed by the present study. Based on the findings of the study, some recommendations to the health educators, health care functionaries, nurses, midwives and school authorities were made as follows:

1. Based on the high incidence of CS as revealed in the study, women of childbearing age especially teenagers should be taught health education on reproductive health to reduce teenage pregnancies and its concomitant problems. This can be done through seminars, workshops, antenatal clinics.
2. Since certain age groups are more predisposed to the incidences of CS, more attention should be paid to these age brackets. Reproductive health should be taught in secondary schools and included in programmes for school counselors. The churches should adopt appropriate means of sensitizing the young girls during certain church programmes on factors necessitating CS.
3. Girl-child education should be made compulsory especially at primary and secondary school levels, while health education is taught on a wide range issues including family life education such as reproductive and sexual health. Reproductive health should be taught, enforced in schools, in the hospital, in the communities and awareness, sensitization should be created through public media. This may bring reduction in the incidence of CS and reduction in maternal mortality in our communities in the long run. Voluntary agencies (NGOs) should be involved in the sensitizing of the public on reproductive health.

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