PATTERN OF GYNAECOLOGICAL ADMISSIONS IN AMINU KANO TEACHING HOSPITAL: A THREE YEAR REVIEW.

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ABSTRACT:

Concept: Gynaecological admissions form a large proportion of the number of admissions in any Obstetrics and Gynaecological department of our hospitals.

Aims and Objectives:

This study was conducted in gynaecology ward of AKTH, Kano to review the gynaecological admissions, mortality and efficiency of hospital facility utilization over a period of 36 months (January 2006 to December 2008).

Methodology: This is a retrospective review of all patients admitted into the gynecology ward between January, 2006 and December, 2008. Information obtained on socio-dermographic characteristics, diagnosis, hospital stay, bed occupancy, etc were collated and analysed.

Results: There were 1717 admissions over the study period, out of which 1225 (71.3%) were emergencies and 494(28.7%) were elective admission for surgery giving an emergency/elective ratio of about 2.5:1.

There were 50.5 patients per bed per year with bed occupancy of 13.8%.

The commonest diseases responsible for gynaecological admission were abortions (23.1%), followed by medical complications of early pregnancy (19%), gynaeclogical malignancy (11.4%), ectopic pregnancy (6.7%), infertility (5.2%) and pelvic inflammatory disease (3.5%).

All the deaths occurred in the emergency group (2.4%). The highest fatality was contributed by gynaecological malignancies, which accounted for 71.4 % of all gynaecological deaths with carcinoma of the cervix as the leading cause (33.2%), followed by ovarian cancer (28.6%). Postabortal sepsis was the third most common cause, contributing 16.7% fatality.

Conclusion: Management should improve admission policy, understanding of patient needs in order to increase acceptance of our services.

Key Words: Bed occupancy, gynaecological admissions, AKTH, Kano.

INTRODUCTION:

Maternal mortality is an indicator of health care quality. A woman's chance dying from pregnancy and childbirth in Nigeria is 1 in 18[9] .

Every year, women around the world experience unsafe abortion, unnecessarily risking their lives and health.

The WHO defines unsafe abortion as a procedure to terminate an unintended pregnancy undertaken either by individuals lacking the necessary skills or in environment that does not meet basic medical standards, or both[10] .

The WHO has provided an estimate that about 19 millions unsafe abortions take place each year worldwide, 68000 unsafe abortion-related deaths occur annually , which accounts for 13% of maternal mortality[10]. Unsafe abortion is closely associated with poverty, social inequity, denial of women's human rights. Globally, 85% of deaths due to unsafe abortions are in countries of Sub-Saharan Africa and South Central Asia, where abortions are highly restricted by law and socially stigmatized, and in countries with low income[10].

The rate of admission to the hospital for complications of unsafe abortion was estimated in Nigeria as 6 per 1000 women aged 15-44 years, in Northern Africa 12 per 1000, Eastern Africa 10

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per 1000, in Southern Africa 4.8 per 1000 women and in South-Central Asia 4 per 1000 women[10]. In Africa, one-fourth of those having unsafe abortions are very young women aged 15-19 with low income and poor access to family planning facilities[11] .

The majority of injuries and abortion related deaths could be prevented through provision of sex education, effective management of postabortal complications and review of abortion laws, Obstetricians and Gynaecologists have a leadership role to play in this direction[12] .

Gynaecological malignancy is a major cause of in-hospital death. Carcinoma of the ovary is the fourth most common cancer among women and continues to be a leading cause of death from gynaecological malignancies worldwide[13]. Its high case-fatality rate reflects a delay in diagnosis. Patients often present with non-specific symptoms and diagnosis is generally made when the disease has advanced[14]. The majority of patients diagnosed with advanced cancer have five-year survival of only 28%[15] . Women diagnosed with early stage have better survival rates compared with those diagnosed in later stages. Early detection of the disease presents a challenge to the gynaecologist to achieve dramatic reduction in mortality due to these neoplasms[16]. The most commonly studied methods of early detection and screening are Ca125 and ultrasound. Transvaginal ultrasound is sensitive but not specific for differentiating benign from malignant disease. The use of colour Doppler may improve specificity. Though, studies have not demonstrated a clear effect of screening with transvaginal ultrasonography or Ca125 on mortality from ovarian cancer, as ultrasound often fails to differentiate between benign and malignant lesions, serum Ca125 level is raised only in 50% of stage I cases. In addition, levels can be raised in many other malignancies and benign conditions, such as benign ovarian cyst and endometriosis[15,16,17] .

Cervical carcinoma is the second most frequent cancer in women aged 35-45 years, responsible for 466000 deaths per year worldwide[18]. However, in Nigeria squamous cell carcinoma of the cervix is the commonest female malignancy and ovarian cancer ranks second to cervical cancer[18]. This is due to the fact that in many developed countries there are cervical screening programs, helping to reduce the incidence and mortality from cervical cancer by early detection and treatment of premalignant cervical epithelial condition, as carcinoma of the cervix is associated with a long premalignant stage. The developing countries have only 5% of global resources for cancer control and limited means of treatment[19]. However, cervical cytology still has significant limitations since cytomorphological criteria are unable to predict progression to invasive cancer in individual with a precancerous lesion[20]. This suggests the need for an adjunct to Papanicolaou smear to improve sensitivity and specificity of screening for cervical cancer. Liquid-base cytology has improved the diagnosis and reduced the need for repeat smears, as it provides cleaner preparations, which are easier to read and allow quick processing of slides. Automated processing of cytology slides, using computerized processing has been developed. Such technology has the potential to make screening more efficient, presenting the most abnormal appearing cells to the cytoscreeners[20].

Combined use of liquid-based cytology, Polymerase-chain reaction (PCR) of papillomavirus infection and immunochistochemical assay of p16 were found to be more effective in diagnosis of cervical dysplasia and carcinoma[21] .

AIMS AND OBJECTIVES

The aims and objectives of the study are to evaluate the common causes of gynaecological admissions, causes of mortality among the patients, bed occupancy and to compare the mortality and bed occupancy during the study period.

MATERIALS AND METHODS

Aminu Kano Teaching Hospital is a 500 bed hospital established in 1988. The Aminu Kano Teaching Hospital, Kano is one of the tertiary health facilities in Kano and patients from other hospitals and clinics are referred there. It also serves as a referral center for other neighboring states of Bauchi, Katsina and Jigawa.

The gynaecological ward has 14 beds. Admissions are mostly through the gynaecological emergency and gynaecology out-patient clinics.

The study population included all patients admitted to the gynaecological ward of Aminu Kano Teaching Hospital over the period of 36 months (January 2006 to December 2008).

There were 2120 admissions and discharge in the gynaecological ward over the study period. One thousand seven hundred and nineteen (81.1%) patients had complete record and they formed the basis of the analysis.

Information was obtained on socio-demographic variables, such as age and tribe. The definitive diagnosis for each patient was used and coded according the International Statistical Classification of Disease, Injuries and Deaths (ISCD-10-16)[25]. The length of hospital stay, number of patients per bed per year, bed occupancy using the formula of Bureau of Health Statistics and pattern and outcome of admissions were analyzed and compared between the years[26] . Data was analyzed using basic statistics and Epi Info version 3.4.1 (2007) Software program.

RESULTS

A total of 2120 patients were admitted into gynaecological ward over the three year period. One thousand seven hundred and nineteen (81.1%) patients with complete record were analysed.

Majority of the patients 1235 (71.9%) were within the age group of 20-40 years with a mean±SD of 31.49 years±11.59 years. Most of the women 79.9% were Hausa/Fulani, followed by10.8% were Igbos, 3.9% were Yorubas and 5.4% were of other tribes (Table 1).

The majority of patients 1225(71.3%) were admitted as an emergency, while 494(28.7%) were electively admitted for surgery, giving an emergency/elective ratio of about 2.5:1. The length of hospital stay was between 1 to 30 days with a mean±SD of 6.0±5.7 days.

There were 50.5 patients per bed per year with bed occupancy of 13.8 %. As the number of gynaecological admissions progressively increased from 472 (27.5%) in 2006, 557(32.4%) in 2007, to 690(40.1%) in 2008, the number of patients per bed per year also increased from 41patient per bed in 2006, 49.1 in 2007 to 61.1in 2008. The bed occupancy, which represents the efficiency of bed use and hospital facilities in gynaecological ward also increased from 11.29% in 2006, 13.44% in 2007 to 16.75% in 2008.

The commonest disease responsible for gynaecological admissions was medical complications in early pregnancy which accounted for 21.4% of admissions, followed by abortions (20.5%). Other conditions that were admited were: uterine fibroids 214 (12.4%), gynaecological malignancies197 (11.4%), ectopic pregnancy 116 (6.7%), infertility 89 (5.2%), PID 61(3.5%), septic abortion 45 (2.6%), uterovaginal prolapse 31(1.85%). Less frequent conditions that were admitted were recurrent pregnancy loss (1.8%), Gestational Trophoblastic Disease (2.3%), Vesicovaginal fistulae (1.3%) and vaginal septum (0.9%).

The highest fatality was contributed by malignancies, accounting for 71.4% of all gynaecological deaths with carcinoma of the cervix as the leading cause 14 (33.2%), followed by ovarian cancer 12 (28.6%). Postabortal sepsis was the third most common cause contributing 7 cases (16.7%).

TABLE 1:
SOCIO-DEMOGRAPHIC CHARACTERISTICS.

AGE	NUMBER	Percentage (%)
1-10	16	0.9
11-20	203	11.8
21-30	785	45.7
31-40	450	26.2
41-50	162	9.4
51-60	63	3.7
61-70	27	1.6
71-80	12	0.7
81-90	1	0.1
Total	1719	100.0
Mean ± SD 31.49± 11.59		

TRIBE	NUMBER	PERCENTAGE (%)
Hausa/Fulani	1373	79.9
Igbo	186	10.8
Yoruba	67	3.9
Others	93	5.4
Total	**1719**	**100.0**
Mean hospital stay±SD	6.0±5.7days	

TABLE 2:
COMMON CAUSES OF MORTALITY

VARIABLE	NUMBER	PERCENTAGE (%)
Carcinoma of the cervix	14	33.2
Ovarian malignancy	12	28.6
Septic abortion	7	16.7
Medical complications	4	9.5
GTD	2	4.8
Vulva Ca	2	4.8
RVD	1	2.4
Total	**42**	**100.0**

TABLE 3:
CAUSES OF GYNAECOLOGICAL ADMISSIONS.

VARIABLE	NUMBER	PERCENTAGE (%)
Complications of early pregnancy		
Abortions	353	20.5
Ectopic	116	6.7
Medical complications	326	21.4
GTD	40	2.3
Septic abortion	45	2.6
Neoplasms		
Uterine fibroid	214	12.4
Ovarian cyst	43	2.5
Cervical Ca	121	7.0
Ovarian Ca	52	3.0
Endometrial Ca	16	0.9
Vulvar Ca	8	0.5
Disease of the Genito-urinary system		
Infertility	89	5.2
VVF	22	1.3
Utero-vaginal prolapsed	31	1.8
Vaginal septum	16	0.9
Perineal repair	17	1.0
BTL	8	0.5
Asherman's syndrome	27	1.6
Cervical incompetence	31	1.8
Rape	12	0.7
PID	61	3.5
DUB	29	1.7
Total	**1719**	**100.0**

DISCUSSION

Most of our gynaecological admissions are of acute nature (71.3%) with emergency /elective admission ratio of 2.5:1, which is higher than in similar study in Nigeria, but almost the same as in Kenya (80%)[8,22] .

It represents acute needs of our patients, requiring immediate attention, such as complications of early pregnancy. The findings were supported by the fact that majority of our patients in this study (71.5%) were within the reproductive age group of 20-40 years.

Miscarriage was the most common complication of pregnancy which accounted for a high proportion (20.5%) of gynaecological admissions in our center. Most abortions that occurred in our review were spontaneous and were in the first trimester, while induced abortions accounted for 2.6% of admissions.

The third major indication for admission was uterine leiomyomas. The incidence of uterine fibroids found in this study was 12.4% and was higher than as reported from Enugu (9.8%) and OOTH (8.5%), though the true incidence of uterine fibroids in any community is speculative, as the majority of cases are symptomless and undiagnosed[24].

Infertility was observed in 5.2% of cases in this review and it was the sixth commonest cause of gynaecological admissions. Tubal blockage was the most common cause of infertility. Also there is a well recognized association between pelvic inflammatory disease and infertility. Pelvic inflammatory disease remains an important and widespread problem in our environment. In this study it contributed 3.5% of gynaecological admissions. It is often as a result of sexually transmitted infections. The long term complications of PID, such as infertility, chronic pelvic pain and ectopic pregnancy constitute the bulk of the gynaecological workload in our clinics. Therefore public health education, prompt diagnosis and early treatment of PID, will undoubtly prevent the long term sequelae of PID in our environment.

Our study reported mortality of 2.4%. It was lower than 3.1% reported from OOTH. Squamous cell carcinoma of the cervix was the commonest gynaecological cancer in the Northern part of Nigeria, leading to 33.2% of death in our institution and was similar to the earlier AKTH

report[18]. It is therefore advocated that cervical cancer screening be incorporated into Reproductive Health programs.

Ovarian cancer was the second commonest malignancy in our environment, accounting for 28.6% of deaths, while in the industrialised countries and in the report from OOTH it was the commonest cause of death. The lower incidence in the Northern Nigerian women was explained by longer period of breastfeeding and higher parity, suppressing ovulation. Though most ovarian tumours are discovered late, when they have spread widely. This is due to inaccessibility of the ovary for screening.

Endometrial cancer and other malignant neoplasms were less common, as it is widely reported, these diseases are diseases of affluent societies and consistent with reports from other regions in Nigeria and other developing countries[18].

Unsafe abortion remains a major cause of maternal mortality in Nigeria. In our center it is the third leading cause of death, accounting for 2.6% of gynaecological admissions and 16.7% of maternal deaths. It is however lower than reports from OOTH (30.4%) and in the Niger Delta (22.6%). The high mortality may be due to the fact that induced abortions are illegal in Nigeria. Complications of abortions are avoidable causes of maternal deaths. Therefore some steps can be taken to reduce the mortality, associated with abortions. These include sexual education, improved knowledge and use of modern contraception, continuous training of doctors on the basic principles of postabortal care.

In our study the mortality increased in 2008 compared to 2006 and 2007. Though the number of the patients managed over the period of 2006 markedly increased also, as AKTH is the tertiary health facilities in Kano. It serves as a referral center not only for other hospitasl and clinics in the town but also for other neighboring states.

The average length of stay of six days, with 13.83 % bed occupancy was reported in this study. It is consistent with the present health care service delivery policy with the shift to acute care management policy, increased patient output and reduction of the average length of hospital stay. However the findings in this study indicated a suboptimal utilization of an inpatient health facility over the past three years. The higher cost of services, compared to state hospitals, could contribute to lower number of admissions.

In conclusion this study has identified that complications of early pregnancy and malignancies are the major causes of gynaecological admissions and gynaecological malignancies are the major causes of mortality in our Gynaecology ward

REFERENCES

1. Shaw D. Women's right to health and the millennium Developmental Goals: Promoting partnership to improve access. *Int J Gynaecol Obstet*. 2006; 94(3): 11-16.
2. Cook REJ, Ngwena CG. Women's access to health care: The legal frame work. *Int J Gynaecol Obstet*. 2006; 94(3):216-26.
3. Hoope-Bender PT, Liljestrand J, Mac Danagh S. Human resources and access to maternal health care. *J Gynaecol Obstet*. 2006; 94(3): 226-34.
4. Improving patient safety: risk management for maternity and gynaecology. *RCOG*. 2005; 2: 34-43.
5. Matsasens T, Moodly J. Adverse events in gynaecology at King Edward Hospital, Durban, South Africa. *J Obstet Gynaecol*. 2005; 25(7): 676-80.
6. Heinonen S, Tyrvainen E, Penttinen J, Saarikoski S, Rukokonen E. Need for critical care in gynaecology: a population-based analysis. *Critical care*. 2002; 6: 371-5.
7. Heather AA, Dorcherthy T, Traynor I, Gilmore DH, Jardine AG, Knill-Jones R. Specialist nurse supported discharge in gynaecology: A randomized comparison and economic evaluation. *Euro J Obstet Gynaecol Reprod Biol*. 2007; 130(2): 262-70.
8. Mustpha A, Odusoga L. Pattern and outcome of gynaecological admissions at a Nigerian teaching Care Centre. *Trop J Obstet Gynaecol*. 204; 21(1): 52-5.
9. Galadanchi HS, Ejembi CL, Iliyasu Z, Alagh B, Umar US. Maternal health in Nortern Nigeria-a far cry from ideal. *Trop J Obstet Gynaecol*. 2004; 21(S1):S23-8.
10. Susheele S. Hospital admissions resulting from unsafe abortion: estimates from 13 developing countries. *Lancet*. 2006;

368(9550): 1887-1892.

11. Igberage GO, Ebeigbe PN. Exploring the pattern of complications of induced abortion in a rural mission tertiary hospital in the Niger Delta. *Trop Doct*. 2008; 38(3): 146-8.
12. Gasman N, Blandon MM, Crane BB. Abortion, social inequity and women's health: Obstetrician-gynaecologists as agents of change. *Int J Obstet Gynaecol.* 2006; 94(3): 310-16.
13. Odukogbe AA, Adebamowo CA, Ola D, Olayemi O, Oladukun A, Adawole IF(et al). Ovarian cancer in Ibadan: characteristics and management. *Obstet Gynaecol*. 2004; 24(3): 294-7.
14. Hanoch J. Improoving the prognosis of ovarian cancer. In: Progress in Obstetrics and Gynaecology 16. Studd J (editor). Elsevier UK. 2005. P 357-67.
15. Partride E, Kreimer A, Greenlee R, Williams C, Xu JL, Church T. Results from four Rounds Of Ovarian Cancer Screening in a Arandomized Trial. *Obstet Gynaecol*. 2009; 113(4): 775-82.
16. Ovarian cyst in postmenopausal women. *RCOG*. 2003; 34: 358-64.
17. Mutch DG. Ovarian cancer: To screen or not to screen. *Obstet Gynaecol*. 2009; 113(4): 772-74.
18. Galadanchi HS, Mohammed AZ, Uzoho CC, Jido TA. Gynaecological malignancies seen in a Tertiary Health Facility in Kano, Northern Nigeria. *Trop J Obstet Gynaecol*. 2003; 20(2): 105-8.
19. Mohamed AZ, Galadanchi HS, Ochicha O, Omale AE, Jido TA. Cytopathological findings on cervical smears in Aminu Kano Teachiing Hospital, Kano. *J Med Women Associat Niger*. 2002; 1(1): 51-3.
20. Progress in Cervical screening. *RCOG*. 2006; 7: 596-603.
21. Dana MC, Kalouyan M, Disaia PJ. Colposcopy to evaluate abnormal cervical cytology in 2008. *Am J Obstet Gynaecol*. 2009; 200(5): 472-80.
22. Wamwana EB, Ndavi PM, Gichangi PB, Karanja JG, Muia EG, Jaldesa GW. Socio demographic characteristics of patients admitted with gynaecological emergency conditions at the provincial general hospital, Kakamega, Kenya. *East Afr Med J*. 2006; 83(12): 659-65.
23. Dutta S, Biswas R, Lahiri A. A study on bed utilization in the gynaecological ward of a district hospital in west Bengal. *Indian J Public Health*. 2005; 49(4): 263-4.
24. Okezie O, Ezegwui HU. Management of uterine fibroids in Enugu, Nigeria. *J Obstet Gynaecol*. 2006; 26(4):363-65.
25. ICD-10 Procedure Coding System (ICD-10-PCS). 2007.
26. Bed occupancy rates in Health Facilities. In: Health Statistics-Technical Assistance Tools of the trade. Pennsylvania Department of Health. 2009. Available from: .health.state.pa.us.