

**ASSESSMENT OF AWARENESS OF PELVIC INFLAMMATORY
DISEASE AMONG FEMALE MEDICAL STUDENTS IN**

KAMPALA INTERNATIONAL UNIVERSITY-

WESTERN CAMPUS

BY:

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**A RESEARCH REPORT SUBMITTED TO THE FACULTY OF CLINICAL
MEDICINE AND DENTISTRY IN PARTIAL FULFILMENT OF THE
AWARD OF A DEGREE IN BACHELOR OF MEDICINE AND
BACHELOR OF SURGERY OF KAMPALA INTERNATIONAL
UNIVERSITY**

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OCTOBER 2014

DECLARATION

I Nassozi Jalilarah, solely declare that this is my work and its not reproduction of someone else work and it has never been produced.

Sign..... date.....

APPROVAL

SUPERVISOR:

I Saima Husenain hereby declare that this research has been done under my supervision and guidance

Signed.....

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DEDICATION

I DEDICATE MY WORK TO MY DEAR PARENTS MR.MULINDWA MUWONGE AND MS NANYANZI AIDAH, MY SISTERS BETTY LUKWAGO , MULINDWA JAMILA AND NAKAJJUGO AIDAH FOR ALL YOUR LOVE AND SUPPORT, I WOULDN'T BE WHERE I AM WITHOUT OUT YOUR ENDLESS SUPPORT

ACKNOWLEDGEMENT

First and foremost to the Almighty God for giving me life, grace, strength and love through this tiresome work.

Much regards to my supervisor, for her relentless, endearing and positive mentorship, guidance and support on this research project.

My Friends, Charlene Gumbo, Pear Wanjiru, Mutesasira Sharon, Namugenyi Christine, Alex Fondo Iha, Mekenye Jared Otieno, Denis Nkonge Mbae, Magoba David, thank you for your encouragement and support.

To Kabata Pritch Kagera for all the advise, time and work you have done inorder to help me succeed in life, thank you a lot.

ABSTRACT

Pelvic inflammatory disease affects more than one million women worldwide and the rate is highest with teenagers and first time mothers. PID causes over 100,000 women to become infertile each year . The objective of the study was to determine the level of awareness of P.I.D among female students in KIU-WC who are pursuing bachelors of medicine and surgery in the age range of 18-30 years.

A cross-sectional study was done and random sampling method and 200 participants were randomly selected and were given standardized questionnaires

The results obtained showed there is increased awareness about P.I.D among the students with increasing exposure to medical knowledge i.e 6th year students were well informed about P.I.D than the 2nd year students.

It was concluded that government and all health facilities need to improve the awareness of P.I.D. among the population and also improve the availability of S.T.Is treatment.

LIST OF ABBREVIATIONS

PID- PELVIC INFLAMMATORY DISEASE

KIU-WC KAMPALA INTERNATIONAL UNIVERSITY WESTERN CAMPUS

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CHAPTER ONE

1.1 INTRODUCTION

Pelvic Inflammatory Disease (PID) refers to an inflammatory condition in the female reproductive system above the internal os of the cervix. It can be due to a bacterial, fungal or viral infection though bacterial infection is more common. Organisms that are notable in PID conditions are, *Neisseria gonorrhoeae* and *Chlamydia trachomatis*, even normal vaginal flora can be involved. The infection can be due to a single species of organisms or a co- infection of many different organisms.

World Health Organisation (WHO) estimates that worldwide over 340 million new cases of four curable STIs (gonorrhoea, chlamydia, syphilis, and trichomoniasis) occurred in 1999 in men and women age 15-49. In sub-Saharan Africa, the WHO Global programme estimated the prevalence of STIs at 208 million cases, with an annual incidence of 65 million (WHO, 1995)

A study in 1994 in hospitals in Uganda showed that 10 percent of out-patient attendees were due to STIs (Roseberry et al., 1994). Another population study in a community trial in Rakai, Uganda, found a prevalence of 15.6% for HIV, 9.4% for syphilis, 25.0 % for trichomoniasis, 1.1% for gonorrhoea, 2.2% for chlamydia and 51.2% for bacterial vaginosis, at a baseline control group (Wawer et al., 1999).

According to data from the Mulago STD clinic, the prevalence of HIV among STD clients remains much higher than in the general population. While the HIV prevalence has stabilised around 6.4% in the general population since 2000, among STD clients it has remained high, ranging between 19 and 23.7% (MOH, 2003b).

There are limitations and constraints associated with making an etiological diagnosis based on laboratory evidence, apart from research settings, most of the diagnosis and management of STD patients is based on the syndromic approach.

PID could be a result of an untreated sexually transmitted disease, abortion childbirth, miscarriage or post pelvic operations. It can be diagnosed using laparoscopy, pelvic scans and histology smears. However there are other conditions that have to be considered when diagnosing the disease and they include appendicitis, ectopic pregnancy, hemorrhagic or ruptured cyst and twisted cyst.

PID can be cured but its effects can be permanent hence early treatment and regular screening of individuals at a high risk of STIs is important since gonococcal infections are asymptomatic. Treatment generally involves antibiotic therapy and the drugs are given either orally or intravenously. Untreated or late treated PID has serious complication such as infertility, ectopic pregnancy chronic abdominal pain.

Prevention strategies include avoiding STIs and early treatment of the symptoms for any STI or PID which include; pain during intercourse, abnormal vaginal discharge and fever.

1.2 PROBLEM STATEMENT

In general, infertility can be attributed to the female partner one third of the time, the male partner one third of the time, and both partners in the remaining one third. This approximation emphasizes the importance of evaluating both members of the couple before instituting therapy (William's gynaecology).

In Uganda the rate of infertility is high and the most probable cause is risky behaviours which people always engage in, this has led to people acquiring different infections which have led to P.I.D , a disease people hardly know anything about.

Early identification of the disease is a major prerequisite to prevention and controlling of the disease, however with the various myths and inadequate information about the disease many people are at a high risk.

1.3 JUSTIFICATION

According to the 2004-05 Uganda HIV/AIDS Sero-Behavioural Survey, the prevalence of STIs and related risk behavior was high. In the same survey, only 9 percent of women and 15 percent of men reported condom use during the preceding 12 months, 14 percent of youth age 15-24 reported started having sex before age 15. Sixty-three percent of females and 47 percent of males 18-24 years had had sex before age 18, and only 29 percent of females and 33 percent of males used a condom at initiation of sex. Multiple sexual partners were common and **No table of figures entries found.** reported multiple sexual partners

Despite the above troubling information there has not been any reported study in Uganda on the awareness of PID among the youth. This research will therefore serve to add knowledge on the awareness of this debilitating disease that has great impact on both the spread of HIV and infertility.

1.4 OBJECTIVES

1.4.1 GENERAL OBJECTIVE

Determine the status of awareness of Pelvic Inflammatory Disease among the female medical students in Kampala International University-Western Campus

1.4.2 SPECIFIC OBJECTIVES

1. To evaluate the knowledge of the students about the PID
2. To identify the predisposing factors to PID among the students
3. To identify the prevention approaches of PID

CHAPTER TWO

2.1 LITERATURE REVIEW

Pelvic inflammatory disease refers to inflammation of the female uterus, fallopian tubes, and ovaries. It leads to scar formation within the organs affected with adhesions to nearby tissues and organs. PID can refer to viral, fungal, parasitic or bacterial infection though bacterial infections are the commonest. PID is classified according to affected organs, the stage of the infection, and the organism(s) causing it. The possible causes of P.I.D include; lymphatic postpartum, miscarriages, abortions intrauterine device, hematogenous spread, sexually transmitted infection.

2.2 EPIDEMIOLOGY

In the United States more than 750,000 women are affected by PID each month, and the rate is highest with teenagers and first time mothers. PID causes over 100,000 women to become infertile each year (STD facts-Pelvic Inflammatory Disease. 2007). Individual cases of PID can be due to either a single organism or a co-infection of many different species. The organisms involved in PID include *N. gonorrhoea* in 40-60% of women with acute salpingitis, *C. trachomatis* is estimated to be the cause in about 60% of cases of salpingitis(Lauren Nathan; DeCherney, Alan H.; Pernoll, Martin L. (2003). *Current obstetric & gynecologic diagnosis & treatment*) organisms that are considered normal vaginal flora can be involved all leading to PID. In one study 10% of women had asymptomatic *Chlamydia trachomatis* infection and 65% had asymptomatic infection with *Neisseria gonorrhoeae* ((Lauren Nathan; DeCherney, Alan H.; Pernoll, Martin L. (2003). *Current obstetric & gynecologic diagnosis & treatment*) . It was noted in one study that 10-40% of untreated women with *N. gonorrhoea* develop PID and 20-40% of women infected with *C. trachomatis* developed PID(Cecil essentials of medicine. Philadelphia: W.B. Saunders (2001)) PID is the leading cause of infertility one single episode of PID results in infertility in 13% of women

2.3 DIAGNOSIS

PID Symptoms range from subclinical (asymptomatic) to severe. They include fever, lower abdominal pain, abnormal discharge, painful intercourse, or irregular menstrual flow (Lauren Nathan; DeCherney, Alan H.; Pernoll, Martin L. (2003). *Current obstetric & gynecologic diagnosis & treatment*)

Regular Sexually Transmitted Infection testing is important for prevention, and treatment should be immediately started because of the complications that may

result from delayed treatment. Definitive criteria include: histopathologic evidence of endometritis, thickened filled fallopian tubes, or laparoscopic findings. Gram-stain/smear becomes important in identification of rare and possibly more serious organisms. It is important to note that even asymptomatic PID is very dangerous and can cause serious complications (*Cecil essentials of medicine*. Philadelphia: W.B. Saunders (2001)).

Upon [gynecologic ultrasound](#), a potential finding is *tubo-ovarian complex*, which is edematous and dilated pelvic structures as evidenced by vague margins, but without abscess formation. ([Tuboovarian complex](#) by Emily C. Wasco and Gillian Lieberman MD. Beth Israel Deaconess Medical Center. October 17, 2003)

When making a PID diagnosis, appendicitis, ectopic pregnancy, septic abortion, hemorrhagic or ruptured ovarian cysts or tumors, twisted ovarian cyst, degeneration of a myoma, and acute enteritis must be considered. Pelvic inflammatory disease is more likely to occur if a person has a past history of pelvic inflammatory disease, recent sexual contact, recent onset of menses, or an IUD in place, untreated sexually transmitted disease. No single test has adequate sensitivity and specificity to diagnose pelvic inflammatory disease (Clinical inquiries. Which tests are most useful for diagnosing PID? *J Fam Pract*).

A sensitive serum pregnancy test should be obtained to rule out ectopic pregnancy. Pelvic and vaginal ultrasounds are helpful in the differential diagnosis of ectopic pregnancy of over six weeks. Laparoscopy is often utilized to diagnose pelvic inflammatory disease, and it is imperative if the diagnosis is not certain or if the patient has not responded to antibiotic therapy after 48 hours (Clinical inquiries. Which tests are most useful for diagnosing PID? *J Fam Pract*).

2.4 PROGNOSIS

Although PID itself may be cured, the effects of the infection may be permanent hence prevention and early treatment are the best options. Regular screening of individuals at risk of getting the infections is the best way of preventing the condition so as to maintain viable reproductive capabilities.

If the initial infection is mostly in the lower tract, after treatment the person may have few difficulties unlike when its in the fallopian tubes or ovaries, because more serious complications are more likely to occur.

2.5 COMPLICATIONS

PID can cause scarring inside the reproductive organs, which can later cause serious complications, including chronic pelvic pain, infertility, ectopic pregnancy and other dangerous complications of pregnancy. Occasionally, the infection can spread to in the peritoneum causing inflammation and the formation of scar tissue on the external surface of the liver (Fitz-Hugh-Curtis syndrome).

2.6 TREATMENT

Treatment depends on the cause and generally involves use of antibiotic therapy. If the patient has not improved within two to three days after beginning oral treatment with the antibiotics, they should return to the hospital for further treatment. Drugs are given orally and/or intravenously. Hospitalization may be necessary if the patient has Tubo-ovarian abscesses; is very ill, immunodeficient, pregnant, or incompetent; or because a life-threatening condition cannot be ruled out. Treating partners for STIs is a very important part of treatment and prevention. Anyone with PID and partners of patients with PID since six months prior to diagnosis should be treated to prevent reinfection. Psychotherapy is highly recommended to women diagnosed with PID as the fear of redeveloping the disease after being cured may exist. It is important for a patient to communicate any issues and/or uncertainties they may have to a doctor, especially a specialist such as a gynecologist, and in doing so, to seek follow-up care. A systematic review of the literature related to PID treatment was performed prior to the 2006 [CDC](#) sexually transmitted infections treatment guidelines. Strong evidence suggests that neither site nor route of antibiotic administration affects the short or long-term major outcome of women with mild or moderate disease. Data on women with severe disease was inadequate to influence the results of the study (Walker CK, Wiesenfeld HC (2007). "Antibiotic therapy for acute pelvic inflammatory disease: the 2006 Centers for Disease Control and Prevention sexually transmitted diseases treatment guidelines").

Many randomized trials have demonstrated the efficacy of both oral and parenteral regimens.(Effectiveness of inpatient and outpatient treatment strategies for women with pelvic inflammatory disease: results from the Pelvic Inflammatory Disease Evaluation and Clinical Health (PEACH) Randomized Trial. Am J Obstet Gynecol 2002). (Ness RB, Hillier SL, Kip KE ea. Bacterial vaginosis and risk of pelvic inflammatory disease. Obstet Gynecol 2004), (Smith KJ, Ness RB, Wiesenfeld HC, et al. Cost-effectiveness of alternative outpatient pelvic inflammatory disease

treatment strategies. Sex Transm Dis 2007) Clinical experience should guide decisions regarding transition to oral therapy, which usually can be initiated within 24–48 hours of clinical improvement.

2.7 PREVENTION

- Use of barrier methods like condoms or abstinence to prevent acquiring sexually transmitted diseases.
- Seek medical care immediately if symptoms of PID, sexually transmitted infections appear, or if suspecting that a current or former sex partner has, or might have had a sexually transmitted infection.
- Getting regular gynecological (pelvic) exams with STI testing to screen for symptomless PID
- Discussing sexual history with a trusted physician in order to get properly screened for sexually transmitted diseases.
- Getting a STI history from your current partner and insisting they be tested and treated before intercourse and if found positive they should be treated to avoid reinfection or infecting other people.
- Diligence in avoiding vaginal activity, particularly intercourse, after the end of a pregnancy (delivery, miscarriage, or abortion) or certain gynecological procedures, to ensure that the cervix closes (Smith KJ, Cook RL, Roberts MS (2007). "Time from sexually transmitted infection acquisition to pelvic inflammatory disease development: influence on the cost-effectiveness of different screening intervals).

CHAPTER THREE

3.0 METHODOLOGY

3.1 DESIGN

Both descriptive and analytical study designs was be used.

3.2 STUDY AREA/POPULATION SIZE

The study was conducted among medical students at Kampala International University-Western Campus .They were medical students from first year up to sixth year. Kampala International University is located approx. 65km along Mbarara-Kasese highway in Ishaka town in Bushenyi distric-Uganda. The campus has a capacity of about 500 female students. The random sampling method was used and questionnaires were given to 40 people per class.

3.3 STUDY POPULATION

Female Medical Students in KIUTH

3.4 TARGET POPULATION

Female medical students pursing MBChB in KIUTH

3. 5 DETERMINATION OF SAMPLE SIZE

The sample size was determined using the ROBERT V.KREJCIE AND DARYLE W.MORGAN table;

$$s = \frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)}.$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level

(3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

Table for Determining Sample Size from a Given Population

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

3.6 INCLUSION AND EXCLUSION CRITERIA

Only students between the age range of 18-30 and who had spent a year or so in the school were selected for participation. Students who were not in the age range

of 18-30 and those had been in the school for less than a year were excluded from participating in the research.

3.7 DATA COLLECTION TECHNIQUES

The type of data collected was both statistical and descriptive. The statistical data contained the quantitative type of data which is numerically expressed for example how many students had ever had P.I.D, how many knew what P.I.D is, e.t.c This helped me to compare data and analyze the factors that have enhanced the spread of the disease and how informed the students were about PID.

The descriptive data elaborated more about the disease; it was about what the students thought the role of African medicine was in the treatment of P.I.D.

Data was collected through direct interactions with all the participants during the interviews, by giving out the questionnaires to the female students undertaking medicine and surgery course.

INTERVIEW

The target group was the students in medical school. This was done in the form of standardized questionnaires, which helped me get values which will be used to compare and analyze the data.

The questions are going to be both open ended and close ended, this will enable me to get information over a wide area through open ended questions and the closed ended questions will make comparison of data easier

3.8 DATA MANAGEMENT

3.8.1 ANALYSING DATA

The data was analyzed by use of a computer program Microsoft excel and then reflected by use of graphs after which it was interpreted.

3.8.2 DISSEMINATION OF RESULTS

A report was written and copies were given to the university administrators and local government for possible implementations of the findings.

A copy of the report was given to the hospital where data was collected from.

3.9 LIMITATIONS TO THE STUDY

- Lack of cooperation from the people I was collecting data from.
- Lack of enough time.
- Lack of money to finance the research
- Students were deliberately giving wrong answers

3.10 ETHICAL CONSIDERATIONS

Permission was sought from the research ethics council of Kampala International University- Western Campus

I was given an introductory letter to the hospital where I collected data from.

I exercised autonomy so that participants agreed to be part of the research when they have been given the necessary information.

I did not give my opinion to the participants regarding the answers they should give

CHAPTER FOUR

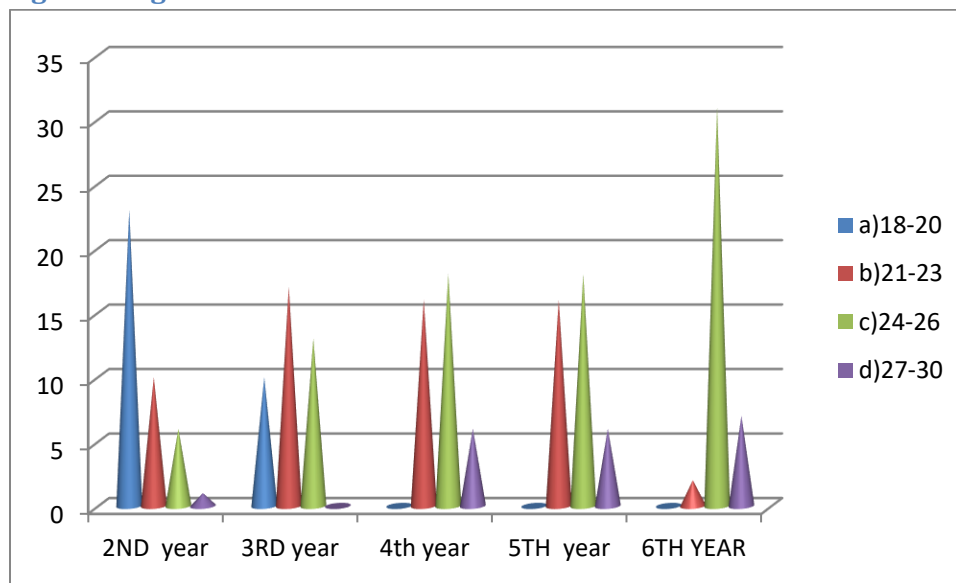
4.0 RESULTS

4.1 Demographic data

Table 1: Age distribution in different classes

Age	2 nd year	3 rd year	4 RD year	5th year	6 TH year	Total participants
a)18-20	23	10	0	0	0	33
b)21-23	10	17	16	16	2	61
c)24-26	6	13	18	18	31	86
d)27-30	1	0	6	6	7	20

Figure 1: Age distribution in the different classes



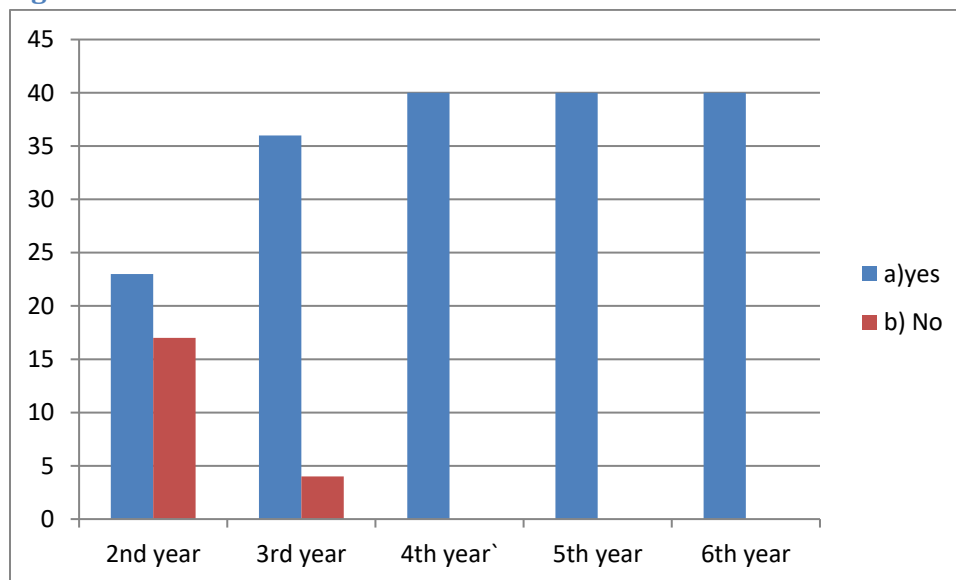
Students within the age range of 24-26(43%) had the highest percentage followed by those in the age range of 21-23(30.5%), 18-20(16.5%) and 27-30(10%) years.

4.2 Knowledge of P.I.D

Table 2: Have you ever heard about P.I.D.

		2nd year	3rd year	4th year`	5th year	6th year	Total participants
Ever heard about P.I.D	a)yes	23	36	40	40	40	179
	b)NO	17	4	0	0	0	21

Figure 2: those who have ever heard of P.I.D



89.5% of the students said yes with only 10.5% saying no.

2nd year students 57.5% said yes while 42.5% said no

90% of the 3rd year students said yes while 10% said no

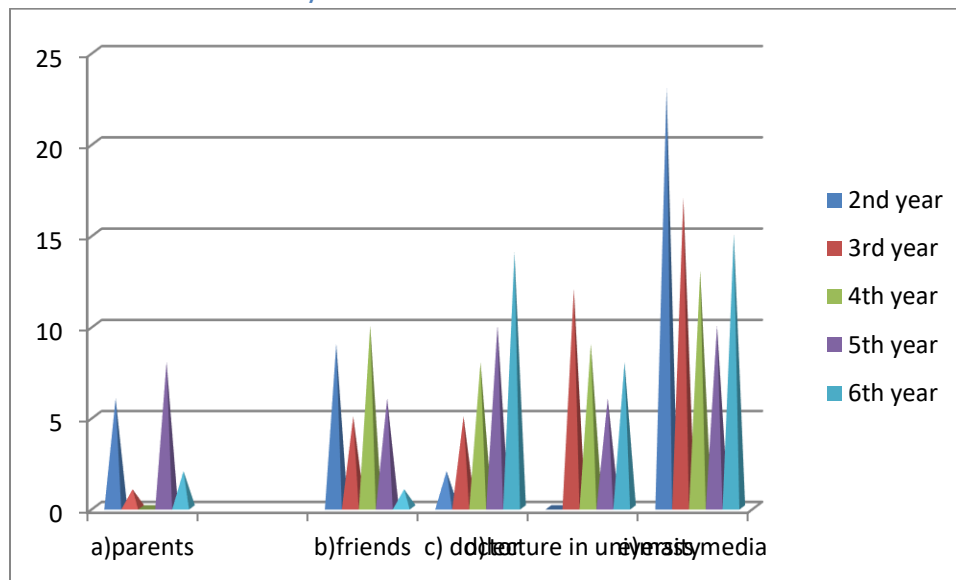
All the students in 4th year, 5th year and 6th year said yes.

4.3 SOURCE OF INFORMATION

Table3: student's source of information about PID

	2nd year	3rd year	4th year	5th year	6th year	Total participants
a)parents	6	1	0	8	2	18
b)friends	9	5	10	6	1	31
c) doctor	2	5	8	10	14	39
d)lecture in university	0	12	9	6	8	35
e)mass media	23	17	13	10	15	78

FIGURE 3: From whom/where did hear about P.I.D first?



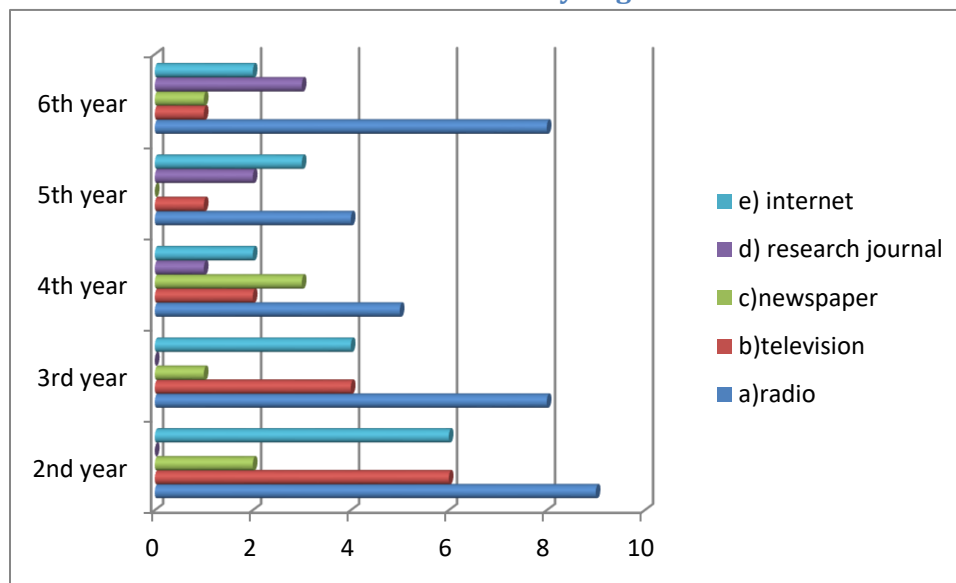
Mass media had the biggest percentage (39%) followed by lecture in university (17.5%) , friends (15.5%), doctors(14.5%) and lastly parents(8.5%)

4.4 WHICH FORM OF MASS MEDIA

Table 4: which form of mass media did the students get the information from.

	2nd year	3rd year	4th year	5th year	6th year	Total participants
a)radio	9	8	5	4	8	34
b)television	6	4	2	1	1	14
c)newspaper	2	1	3	0	1	7
d)research journal	0	0	1	2	3	6
e)internet	6	4	2	3	2	17

FIGURE 4: Which form of mass media did you get information from?



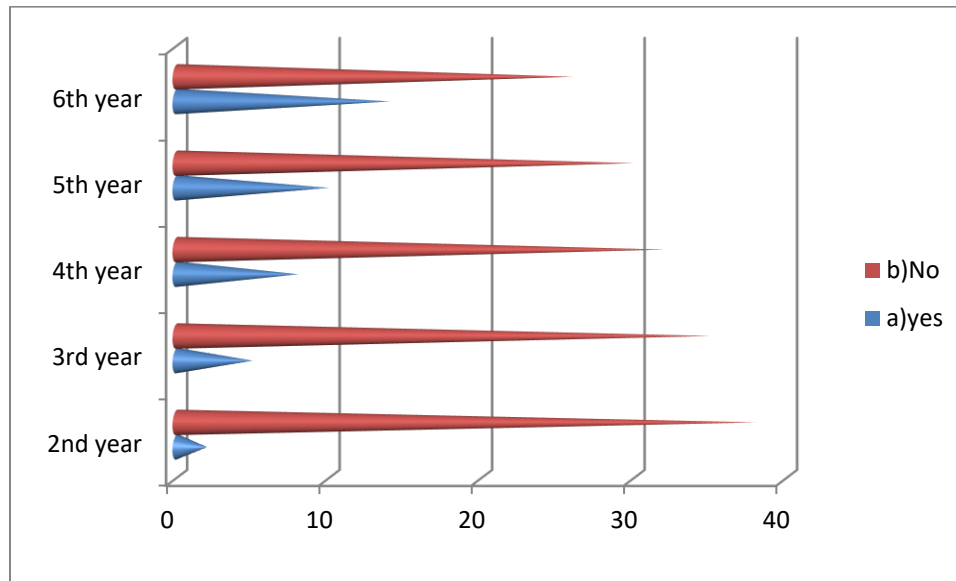
Radio had the highest percentage (43.6%), then followed by internet (21.8%), television (18%), newspapers(9%) and research journal (7.7%).

4.5 HISTORY OF P.I.D

Table 5: students with a history of PID

Those with history of P.I.D	Total participants	2 nd year	3 rd year	4 th year	5 th year	6 th year
yes	19.5%	5%	12.5%	20%	25%	35%
no	80.5%	95%	87.5%	80%	75%	65%

FIGURE 5: have ever suffered from P.I.D?



19.5% of the students said they had ever suffered from P.I.D and the rest (80.5%) had never suffered from P.I.D.

The biggest percentage Of students with a history of PID were the 6th year students (35%) followed by the 5th year (25%), 4th year(20%), 3rd year(12.5%) and 2nd year(5%).

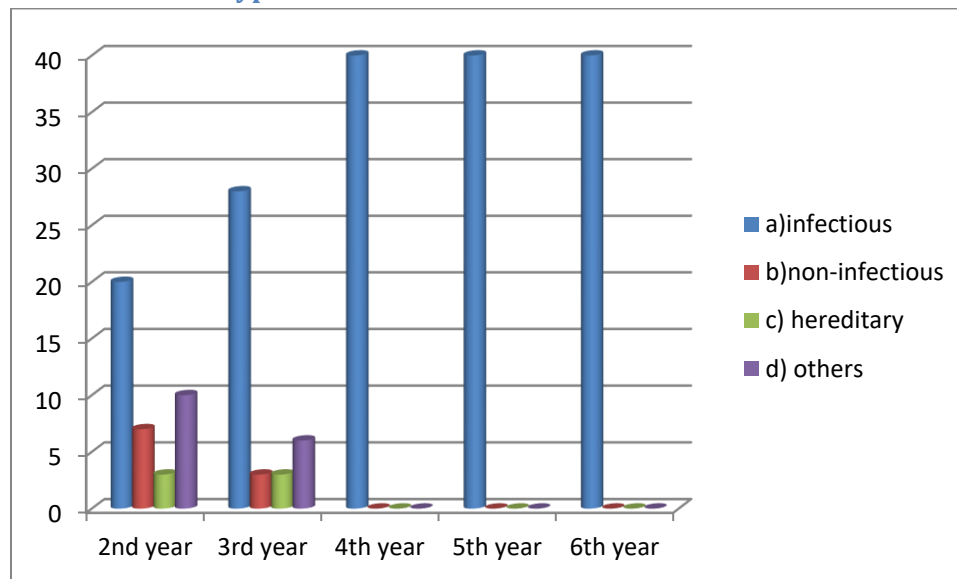
The study found that the higher the class level the more they had suffered from P.I.D.

4.6 TYPE OF DISEASE

Table 6: which type of disease is P.I.D

		TOTAL STUDENTS	2 nd year	3 rd year	4 th year	5 th year	6 th year
TYPE OF DISEASE	a)infectious	84%	50%	70%	100%	100%	100%
	b)non-infectious	5%	17.5%	7.5%	0	0	0
	c)hereditary	3%	7.5%	7.5%	0	0	0
	d) others	8%	25%	15%	0	0	0

FIGURE 6: What type of disease is P.I.D?



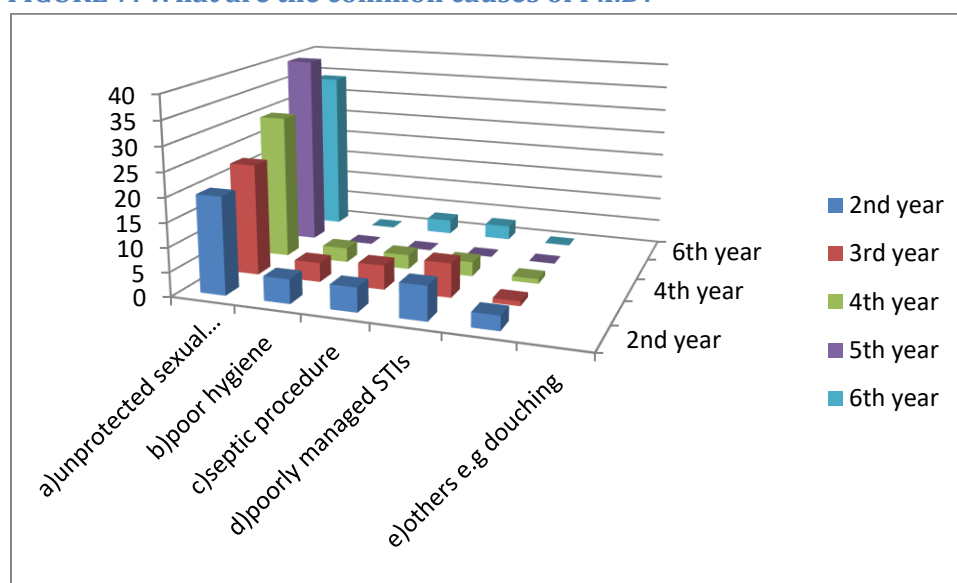
84% Of the students said P.I.D is an infectious disease with the majority from 6th year (100%), 5th year (100%) and 4th year (100%) followed by 3rd year (70%) and 2nd year (50%).

4.7 CAUSES OF PID

Table 7: common causes of P.I.D

Causes/year	2 nd year	3 rd year	4 th year	5 th year	6 th year	Total participant
a)unprotected sexual intercourse	20	23	30	40	34	147
b)poor hygiene	5	4	3	0	0	12
c)septic procedure	5	5	3	0	3	16
d)poorly managed STIs	7	7	3	0	3	20
e)others e.g douching	3	1	1	0	0	5

FIGURE 7: What are the common causes of P.I.D?



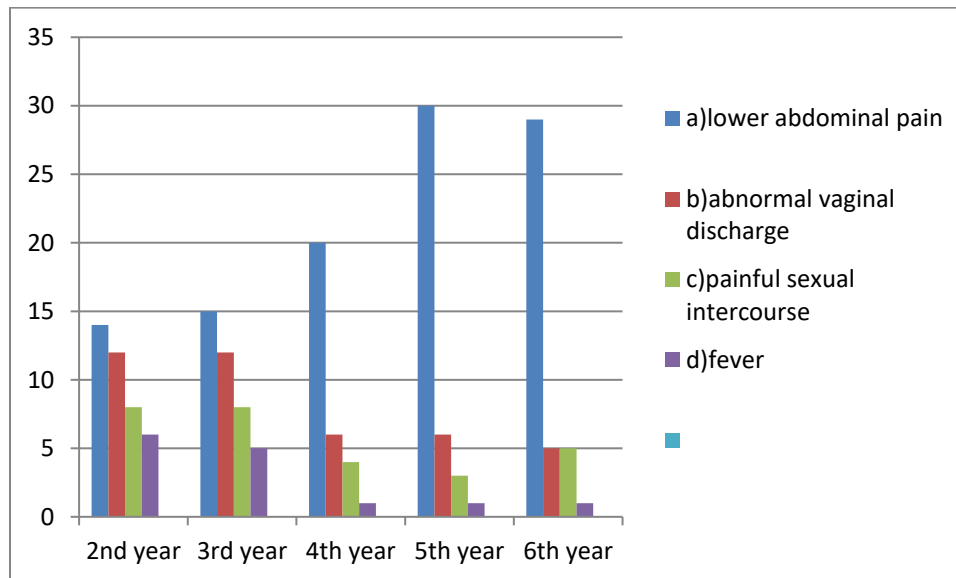
73.5% named unprotected sex as the commonest form of transmission with poorly managed STIs(10%) ranked second followed by septic procedure (8%), poor hygiene(6%) and others like douching (2.5%).

4.8 MANIFESTATIONS

Table 8: Common manifestations of P.I.D.

Manifestations/year	2 nd year	3 rd year	4 th year	5 th year	6 th year	Total participants
a)lower abdominal pain	14	15	20	30	29	108
b)abnormal vaginal discharge	12	12	10	6	5	45
c)painful sexual intercourse	8	8	9	3	5	33
d)fever	6	5	1	1	1	14

FIGURE: 8 what are the common manifestations of P.I.D?



54% of students said lower abdominal pain was the commonest manifestation, while 30% said abnormal vaginal discharge and 16% noted painful sexual intercourse (16.5%) and fever had 7%.

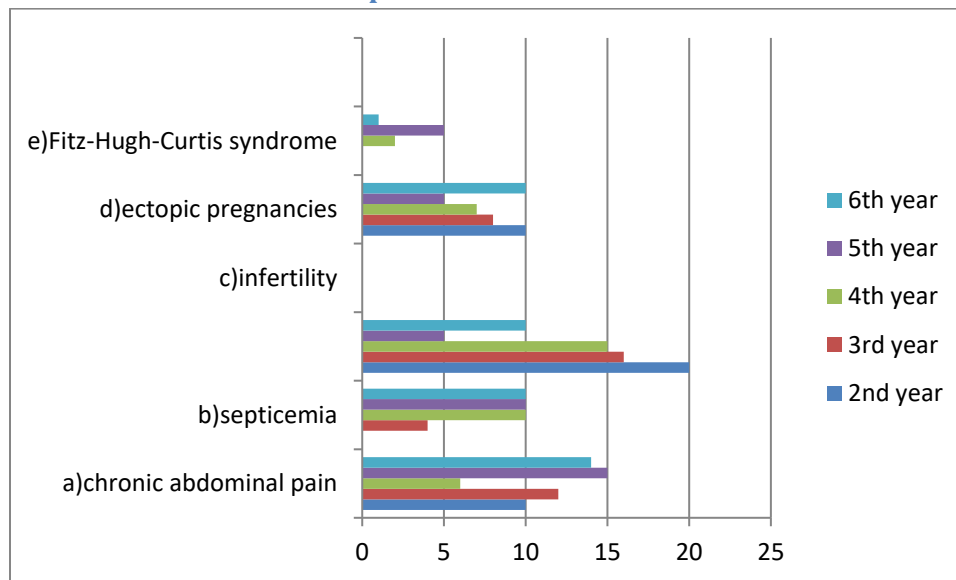
The results in the different classes still followed the same pattern of ranking with lower abdominal pain being rank the highest followed by abnormal vaginal discharge, painful sexual intercourse and fever

4.9 COMPLICATIONS

Table 9: common complications of P.I.D.

Complications/year	2 nd year	3 rd year	4 th year	5 th year	6 th year	Total participants
a)chronic abdominal pain	10	12	6	15	14	57
b)septicemia	0	4	10	10	5	29
c)infertility	20	16	15	5	10	66
d)ectopic pregnancies	10	8	7	5	5	35
e)Fitz-Hugh-Curtis syndrome	0	0	2	5	6	13

FIGURE 9: Commonest complications of P.I.D



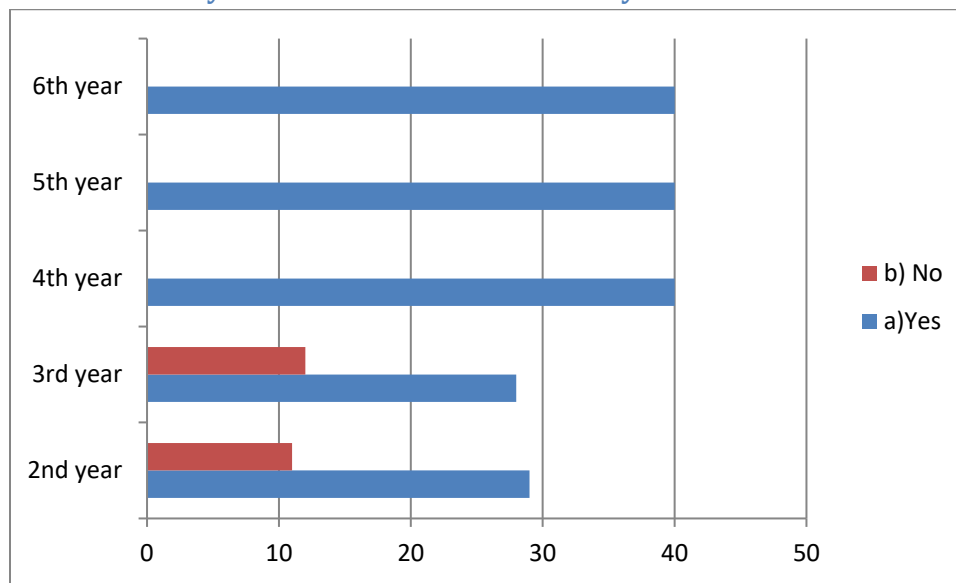
Infertility (33%) was ranked number one, followed by chronic abdominal pain (28.5%), ectopic pregnancy (17.5%), septicemia(14.5%) and Fitz-Hugh-Curtis syndrome.

4.10 ROLE OF PID INFERTILITY

Table 10: can P.I.D cause infertility?

		2nd year	3rd year	4th year	5th year	6th year	Total participants
DOES P.I.D CAUSE INFERTILITY	a)Yes	29	28	40	40	40	177
	B)No	11	12	0	0	0	23

FIGURE 10: Do you think P.I.D causes infertility



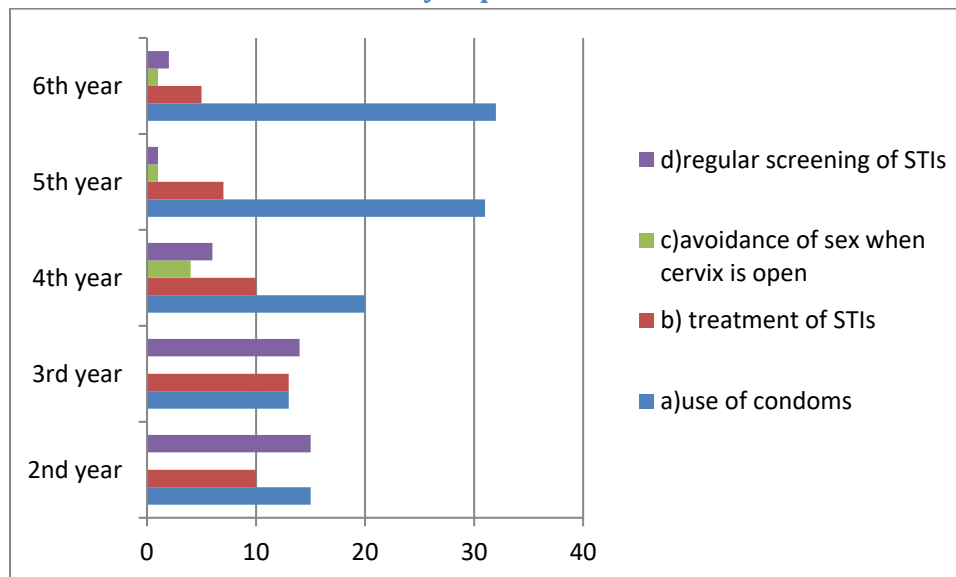
88.5% of the students said yes with only 11.5% saying no. the majority where from the 4th year(100%) , 5th year(100%) and 6th year(100%) of study with those from 2nd year(72.5%) and 3rd year(70%) of study being the least

4.11 PREVENTION OF P.I.D

TABLE 11: Best way to prevent P.I.D.

	2nd year	3rd year	4th year	5th year	6th year	Total participants
a)use of condoms	15	13	20	31	32	111
b) treatment of STIs	10	13	10	7	5	45
c)avoidance of sex when cervix is open	0	0	4	1	1	6
d)regular screening of STIs	15	14	6	1	2	38

FIGURE 11: What is the best way to prevent P.I.D?



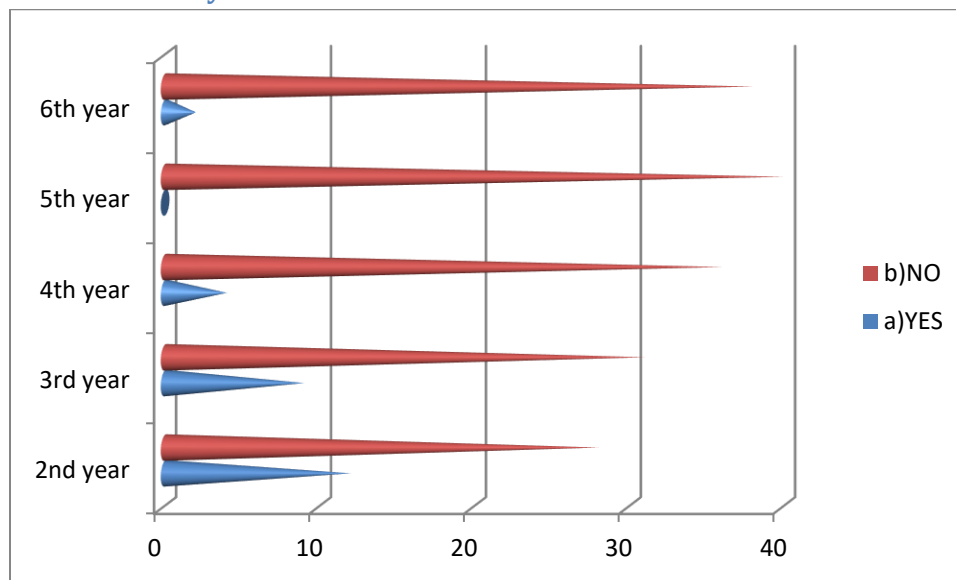
Unprotected sex (55.5%) was chosen by the majority followed by treatment of STIs (22.5%), regular screening of STIs (19%) and avoidance of sex when cervix is open (3%), as the best preventive measures of P.I.D.

4.12 ROOM FOR AFRICAN TRADITION MEDICINE IN TREATING P.I.D

Table 12: is there room for African traditional medicine in treatment of P.I.D

		2 nd year	3 rd year	4 th year	5 th year	6 th year	Total participants
ROOM FOR AFRICAN TRADITION	a)YES	12	9	4	0	2	27
	b)NO	28	31	36	40	38	173

FIGURE 12: Do you think there is room for African traditional medicine in treatment of P.I.D



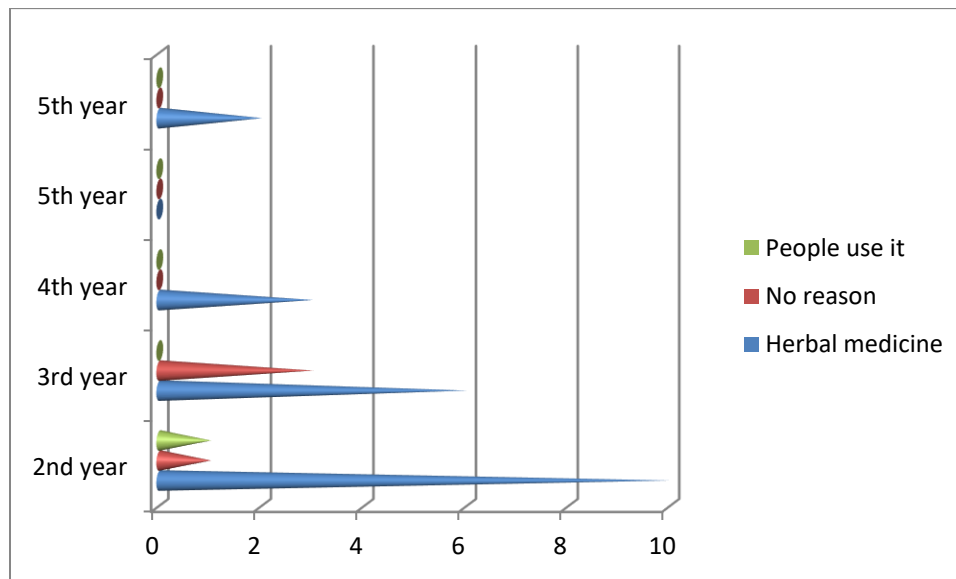
13.5% said yeas while 86.5% said no. the majority who said yes where 12 students from 2nd year, 9 from 3rd year, 4 from 4th year, 2 from 6th year and none from fifth year.

4.13 Reason why African traditional medicine has room for treatment of P.I.D.

Table 13: reasons for use of African traditional medicine in treatment of P.I.D

	2nd year	3rd year	4th year	5th year	5th year
Herbal medicine	10	6	3	0	2
No reason	1	3	0	0	0
People use it	1	0	0	0	0

Figure13: reason for use of traditional medicine in treatment of P.I.D.



10 people from 2nd year said its herbal medicine, 6 people from 3rd year, 3 people from 4th year, and 2 from 2nd year.

2 people said people use it and it works for them.

4 people didn't give any reason.

CHAPTER FIVE

Discussion of results

5.1 Demographic data

The research was done among female medical students at Kampala international university-western camps. A sample of 200 students was used within the age range of 18-30 from the 2nd -6th year of study. 40 questionnaires were distributed randomly to the students in the respective classes.

2nd year students were mostly in the age range of 18-20 (57.5%), 21-23(25%) ,24-26 (15%), 27-30(2.5%).

3rd year students were mostly in age range 21-23(42.5%), 24-26 (32.5%)18-20(15%), and none in the age range of 27-30

4th year students 24-26(45%), 21-23(40%), 27-30(15%)and none in18-20.

5th year students 24-26(45%), 21-23(40%), 27-30(15%)and none in18-20.

6th year students age ranges 24-26 (77.5%),27-30(17.5%)21-23(5%) and none in the age range of 18-20.

5.2 Knowledge of P.I.D

89.5% of the students claimed to have heard about P.I.D with the highest percentage recorded from 6th, 5th and 4th year which was 100%, and 90% in 3rd year and 57.5% in second year.

5.3 Source of information

(39%) claimed mass media was their source of information parents were ranked last with 8.5% as the source of information.

2nd year student's results: mass media (57.5%), friends (22.5%), parents (15%), doctor (5%) and none from lecture in university.

3rd year student's results: mass media (42.5%), lecture in university (30%) friends (12.5%), doctor (12.5%) and parents (2.5%).

4th year student's results: mass media (32.5%), friends (25%), lecture in university (22.5%), doctor (20%) and none from parents.

5th year student's results: mass media (25%), doctors (25%), parents (20%), lecture (15%) and friends (15%).

6th year student's results: mass media (37.5%), doctor (35%), lecture in university (20%), parents (5%) and friends (2.5%).

This is alarming because it shows a failure on the side of parent to have sex education talks with their children which is essential in the prevention of the common predisposing factors to P.I.D among the teen such as early sex and abortions because P.I.D is more common in the teenagers and new mothers(["STD Facts — Pelvic inflammatory disease \(PID\)"](#)).

5.3 Form of mass media

Radio had the biggest percentage (55.5%), followed by internet (19.5%), television (12.5%), newspapers (9%) and lastly research journals (3.5%).

2nd year student's results: radio (39.1%), internet (26%), television (26%) newspaper (8.7%) and none from research journal.

3rd year student's results: radio (47%), television (23.5%), internet (23.5%) newspaper (6%) and none from research journal.

4th year student's results: radio (38.5%), newspapers (23%), internet (15.4%), television (15.4%) and research journal (7.7%)

5th year student's results: radio (40%), internet (30%), research journal (20%), television (10%) and none from newspapers

6th year student's results: radio (53.3%), research journal (20%) internet (13.3%), television (6.7%) and newspapers (6.7%)

5.4 Those who have ever suffered from P.I.D

19.5% had ever suffered from P.I.D and the highest number was among the 6th year students with 35% having been infected before, with the 5th year (25%), 4th year (20%), 3rd year(12.5%)and finally 2nd year(5%). The majority of 6th year six students fall in the age range of 24-26 years.

5.5 Type of disease P.I.D is

84% of students identified P.I.D as an infectious disease which according to one study is a result of single or co-infection. The commonest organisms being N.gonorrhea in 40-60% and C.trachomatis which is 60% though it can either be viral or fungal infection. ("[STD Facts — Pelvic inflammatory disease \(PID\)](#)"). Retrieved 2007-11-23)

5.6 Commonest form of transmission

73.5% of the students picked unprotected sex as a number one cause of P.I.D followed by poorly managed STIs.

2nd year student ranked unprotected sex (50%) first followed by poorly managed STIs (17.5%), septic procedures (12.5%), poor hygiene (12.5%) and others (7.5%).

3rd year students ranked unprotected sex (57.5%) first followed by poorly managed STIs (17.5%), septic procedures (12.5%), poor hygiene (10%) and others (2.5%).

4th year students ranked unprotected sex (75%) number one followed by poorly managed STIs, poor hygiene and septic procedures all had (7.5%) each and others (2.5%).

All 5th year students said the commonest cause is unprotected sex.

6th year students results: unprotected sex (85%), poorly managed(7.5%)and septic procedures(7.5%) .

The two points go hand in hand with unprotected sex predisposing to STIs which are highly associated with P.I.D (Sutton MY, Sternberg M, Zaidi A, St Louis ME, Markowitz LE (December 2005). "[Trends in pelvic inflammatory disease hospital discharges and ambulatory visits, United States, 1985–2001](#)"). This was followed by poorly managed STIs (10%), septic procedures (8%), poor hygiene (6%) and others (2.5%)

5.8 Commonest manifestations of P.I.D

54% of students ranked lower abdominal pain as the commonest manifestation followed by abnormal vaginal discharge (20.5%), painful sexual intercourse (14%) and fever (7%).

5.9 Commonest complications of PID

Chronic pain was the second commonest complication (28%), 6th year(24.6%), 5th year (26.3%), 4th year (10.2%), 3rd year(21%) 2nd year(17.6%) , infertility came first(33%), 30.3(2nd year), 24.2% (3rd year), 22.7%(4th year), 7.6% (5th year), 15.15%(6th year), ectopic pregnancy , septicemia and Fitz-Hugh-Curtis syndrome.

5.10 Does P.I.D affect fertility?

88.5% of the students answered yes and they believed P.I.D causes infertility this is justified because it's known that 13% of the women who get P.I.D end up with infertility ([Tuboovarian complex](#) by Emily C. Wasco and Gillian Lieberman MD Beth Israel Deaconess Medical Center. October 17). In the 6th, 5th and 4th year classes they had biggest percentage with 100% in each class saying yes and only 70% in third year and 72.5% in second year.

5.11 Best ways of preventing P.I.D.

Use of barrier methods such as condoms, with 55.5% of students selecting it as the most preferred mode of prevention with 28% from 6th year, 27.9% from 5th year, 18% from 4th year, 11.7% from 3rd year and 13.5% from 2nd year, followed by treatment of STIs (22.5%) with 22.2% from 2nd year, 3rd year (28.9%), 4th year(22.2%), 5th year(15.5%), 6th year(11.11%), regular screening of STIs(19%) with 39.5%(2nd year), 36.9%(3rd year),15.8%(4th year), 2.6%(5th year) and5.3%(6th year) and finally avoidance of sex when the cervix is open 3% with 66.7%(4th year) 16.7% from both 5th and 6th year students.

5.12 Is there room for African traditional medicine in treatment of P.I.D?

13.5% of the students believed African traditional medicine had a role in the treatment of P.I.D. Of these 44.44% were from second year, 33.3% from third year, 14.8% from fourth year, no one from fifth year and 7.4% from 6th year.

5.13 Reasons for use of African traditional medicine

77.8% of the students who believed there is role of African medicine in treatment of PID were of the view that, there are many herbal remedies for infectious diseases including STIs since before the invention of modern medicine patients were being treated using natural remedies.

Of these students 9. 5% were from 6th year, 14.3% from 4th year, and 28.6% from 3rd year and 47. 6% from second year.

Chapter six

6.0 Conclusion and recommendations

6.1 CONCLUSION

In conclusion the level of awareness about P.I.D increased with increased exposure to medical knowledge. The level of awareness of P.I.D was higher among the 6th year students compared to the 2nd year students.

The incidence of having suffered from P.I.D increased with increased level of education with the highest incidence among the 6th year and the least incidence among the 2nd year students.

The commonest source of information is radio

6.2 RECOMMENDATIONS

The government should increase its efforts in sensitizing people about the causes, manifestations treatment and prevention of P.I.D through radio programs since it's the commonest source of information.

The school curriculum should contain sex education to help improve student's knowledge about STIs.

KIU-TH should open up STIs clinic in order to effectively manage and treat patients with STIs.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

I Nassozi Jalilarah a 6th year medical student doing a research about the awareness of Pelvic Inflammatory Disease among female medical students in KIU-WC, all information obtained shall be kept strictly confidential and used only for academic purposes.

INSTRUCTION

Don't write your name anywhere

Tick/Circle the appropriate answer

Fill in the blank spaces when necessary

1. Age

- a) 18-20 b) 21-23 c) 24-26 d) 27-30 e) above 30**

2. Year of study:

- a)1st b) 2nd c) 3rd d)4th e)5th f)6th**

3. Have you ever heard of pelvic inflammatory disease?

- a) Yes b) No**

4. If yes from whom/where did you first get the information from?

a) Parents

b) Friend

c) Doctor

d) Lecturer in university

e) Mass media

5. If from mass media, what form of mass media

- a) Radio**
- b) Television**
- c) Newspaper**
- d) Research article/journal**
- e) Internet**

6. Have you ever suffered from P.I.D?

- a) Yes**
- b) No**

7. What type of disease is P.I.D?

- a) Infectious disease**
- b) Non-infectious disease**
- c) Hereditary disease**
- d) Other**

8. What is the most common form of transmission of P.I.D?

- a) Unprotected sexual intercourse**
- b) Poor hygiene**
- c) Septic procedure**
- d) Poorly managed STIS**
- e) Others e.g douching**

9. What are the common manifestations of P.I.D which you know?

- a) Lower abdominal pain**
- b) Abnormal vaginal discharge**
- c) Painful sexual intercourse**
- d) Fever**

10. What are the complications of P.I.D?

- a) Chronic abdominal pain**
- b) Septicemia**
- c) Infertility**
- d) Ectopic pregnancies**
- e) Fitz-Hugh-Curtis syndrome**

11. Does P.I.D affect fertility?

- a) Yes**
- b) No**

12. What is the best way of preventing P.I.D?

- a) Use of condoms**
- b) Early treatment of STIs**
- c) Avoidance of sex in conditions when cervix is open like menstruation period, after delivery and abortions**
- d) Regular screening for STIS**

13. According to you is there room for traditional African medicine to treat P.I.D?

- a) Yes**
- b) No**

14. if yes, kindly explain your answer.

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