SJ Obstetrics and Gynecology Africa
Vol. 1 No. 1 (2024): February 2024 Issue
https://doi.org/10.51168/hjr6ym73
Original Article

PREDISPOSING FACTORS TO INCREASED CASES OF ECTOPIC PREGNANCY AMONG PREGNANT WOMEN ATTENDING NDEJJE HEALTHCENTRE IV, WAKISO DISTRICT. A CROSS-SECTIONAL STUDY.

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ABSTRACT.

Background.

Purpose of the study: The purpose of the study is to determine the predisposal factors to increased cases of ectopic pregnancy among pregnant women attending Ndejje Health Centre IV Wakiso district.

Methodology:

The study employed a cross-sectional descriptive study design using a systematic sampling procedure technique as the study technique on a sample size of 50 respondents. In Semi structured questionnaire, data was entered into a computer and analyzed using SPSS and presented using the Microsoft Excel computer program in the form of tables, pie charts, and bar graphs.

Results:

(46%) belonged to the age group of 26-34 years and (78%) were married in general. Regarding Individual factors (76%) had their first coitus below 16 years of age, (N=47) had less than five sexual partners, (92%) denied this being their first pregnancy, (86%) had more than one child, (82%, N=41) had ever had a life-threatening gynecological condition and (56%) mentioned Pelvic inflammatory disease. As community-related factors included (92%) in a town setting (94%) denied cigarette smoking (74%) denied taking alcohol and all respondents (100%) denied any cultural surgical practice. Concerning community-related factors: (56%) of respondents agreed to have undergone any surgical operation, (75% N=21) mentioned cesarean section, (64%) agreed to use family planning (59.38%) mentioned injection, (100%) denied having tried to tie their tubes as a family planning method (94% N=47) denied infertility making it weaker risk factor.

Conclusion:

Pelvic inflammatory disease caused by chlamydia and gonococcal infections due to multiple sexual partners, previous gynecological surgeries, and some family planning methods like IUD are the predisposing factors to increased cases of ectopic pregnancy among pregnant women.

Recommendations:

Education of the mass on signs of pelvic inflammatory disease and the dangers of delay in seeking medical treatment. Increased funding of reproductive health and screening and treatment of other gynecological conditions.

Keywords: Predisposing Factors, Ectopic Pregnancy, Ndejje Health Centre IV, Wakiso district.
Submitted: 2024-01-01 Accepted: 2024-02-08

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BACKGROUND OF THE STUDY.

Globally, the prevalence of EP ranged from 1 to 3 %, in a study conducted in 2014 by Shetty et al, a clinical study of ectopic pregnancies in a tertiary care hospital in Mangalore, India

In another study carried out the incidence of ectopic pregnancies was 12.4 cases per 1000 pregnancies, this was conducted by Gashi et al, in their 8-year survey at Kosovo Faculty of Medicine, Palestine.

In Africa, the incidence of ectopic pregnancy was 1.43% as it was indicated by Emmanuelet al, (2020) in their study on incidence, risk factors, Clinical Presentation, and Treatment of Ectopic Pregnancy in the Limbe and Buea Regional Hospitals in Cameroon (PAMJ-CM, 2020.).
Another study conducted in Nigeria points out the incidence of EP 1.1% cases out of 98 deliveries and 5.2%

of all gynecological admissions in an appraisal of the management of ectopic pregnancy in Tertiary Hospitals (Igwegbe et al, 2013).

In Uganda, the incidence of ectopic pregnancies was 19.0 per 1000 deliveries based on research conducted by Dr. John Bosco Tezitta (2013) on Ectopic Pregnancy Incidence and Its Common Characteristics among Women Admitted to Emergency Gynecological Ward at Mulago Hospital. Kampala.

The purpose of the study was to determine the predisposition to increased cases of ectopic pregnancy among pregnant women attending Ndejje Health Center IV, Wakiso district.

METHODOLOGY.

Study design.

A cross-sectional study design was used in this study. The reason why the researcher preferred to use this design is because it facilitated the smooth sailing of various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time, and money.

Study setting.

The study was conducted in Ndejje Health Center IV, Wakiso district, roughly 11.0 KM by road from Kampala, geographical coordinates of of0°14’09.2” N 32°34’55.2” E, with several departments which include; theatre services, outpatient department, family planning, antenatal care and maternity department. The reason why the researcher selected this health center is because it receives a large number of ectopic pregnancy cases and also the place was easily accessible for the study. The study was carried out for 1 month that is to say October 2023.

Study population.

The study population comprised pregnant women attending Ndejje Health Center IV, who consented and were present to respond to the research questions.

Sample size determination.

The sample size was determined using Button’s formula below;

S= 2(QR) O

Whereby; S= sample size needed

Q= Number of days that were spent while collecting data (n=5)

R= Maximum time the interviewer used.

O= Time which the interviewer used in a single day (1 hour) S= 2x5x5x1 Therefore, the sample size of the researcher will be 50 respondents.

Inclusion criteria.

Pregnant women who sought medical services at OPD in Ndejje Health Center IV were present during the data collection period and consented to be part of the study.

Sampling technique.

A systematic sampling procedure was used in this study. The technique is preferred because it minimizes bias among the participants.

Dependent variable.

Ectopic pregnancy was the dependent variable.

Independent variables.

Individual, community-related, and health facility-related factors predisposing to ectopic pregnancies among pregnant women were the independent variables.

Data collection tool.

Semi-structured questionnaires with closed and open-ended questions written in English language and later translated into the local language (Luganda) were used as the data collection tool. The researcher preferred to use questionnaires because they save time, are favorable for both literates and illiterates and are more effective compared to other tools.

Pre-testing the data collection tool.

The questionnaire was pretested in Katooke Health Centre III, among pregnant women attending ANC aged 18-45 years but pretested results were not included in the final study. This helped me to obtain accurate results and minimize errors in the study.

Data collection procedure.

A letter that introduced the researcher to Ndejje Health Center IV was obtained from the Kampala School of

Health Sciences and was taken to the health center seeking permission to conduct the study when permission was granted, the health workers on duty introduced me to the respondents. The data collection process commenced with the respondents obtaining consent first. To ensure confidentiality, a private room within the hospital was identified where all those who met the inclusion criteria were interviewed, and the same procedure was followed until the required sample size of 50 respondents was attained.

Quality control.

The researcher recruited two research assistants in the study who translated the information into the local language (Ganda) and filled it directly on the questionnaires in English.

The data collected was checked for correctness and accuracy. Correct data was safely secured under a key and lock to ensure confidentiality.

Data analysis and presentation.

Data was analyzed and counted by tallying using a pen and sheets of paper. The results were entered into a computer and presented using a computer program, Microsoft Excel to generate tables and figures.

Ethical considerations.

A letter meant to introduce the researcher to Ndejje Health Center IV was obtained from the Kampala School of Health Sciences and was taken by the researcher to the health center seeking for permission to carry out the study. Once permission was granted, the researcher attained consent from the participants by their signing or thumb printing against a consent form. Each participant who consented was interviewed separately from a private place within the facility and any information collected was treated with sufficient confidentiality.

STUDY FINDINGS.

Demographic data.

Table 1: Shows the distribution of respondents by their social demographic characteristics. (N=50)

Parameters		Frequency	Percentage
Age	16-25 years	20	40%
	26-34 years	23	46%
	35-45 years	7	14%
Tribe	Muganda	16	32%
	Munyankole	9	18%
	Musoga	13	26%
	Acholi	2	4%
	Lango	6	12%
	Atesot	3	6%
	Jopadhola	1	2%
Religion	Anglican	11	22%
	Pentecostals	9	18%
	Catholic	15	30%
	Muslim	7	14%
	Traditionalist	2	4%
	SDA	5	10%
	Atheist	1	2%
Level of education	Primary	5	10%
	Secondary	13	26%
	College/university	30	60%
	Never went to school	2	4%
Occupation	Employed	9	18%
	Unemployed	14	28%
	Self-employed	27	54%
Marital status	Married	39	78%
	Single	8	16%
	Divorced	3	6%

From Table 1 most of the respondents (46%) belonged to the age group of 26-34 years while the least (14%) belonged to the age group of 35-45 years.
As for tribe origin, the majority of the respondents (32%) were Baganda whereas the least (2%) belonged to the Jopadhola tribe.
Concerning religion, most of the respondents (30%) were Catholics whereas only (2%) were Atheists

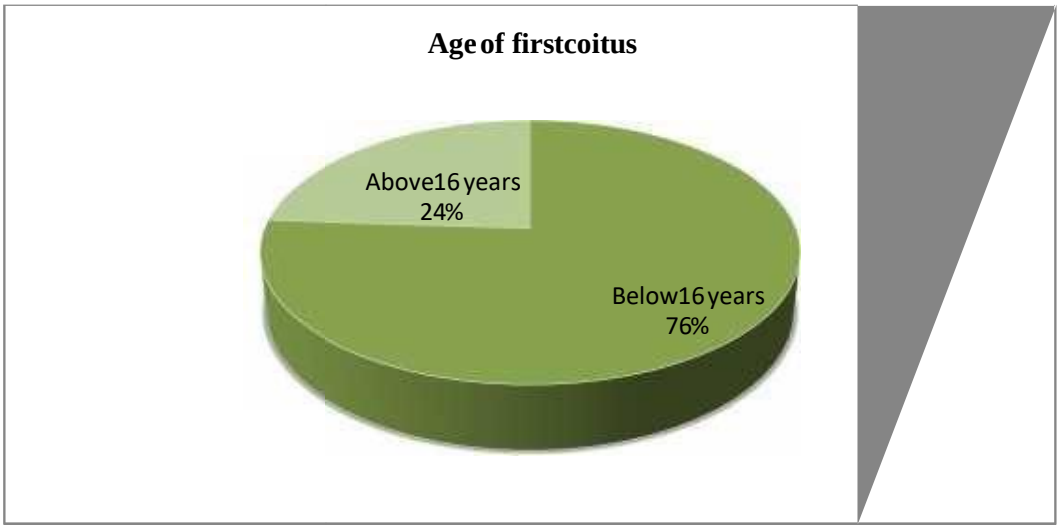
Regarding the level of education, more than half (60%) of the respondents attended college or university while the least (4%) never went to school.

As for occupation more than half (54 %) of the respondents were self-employed while the minority (18%) were employed.

The study revealed that the majority (78%) of the respondents were married whereas the minority (6%) were divorced at the time of the study.

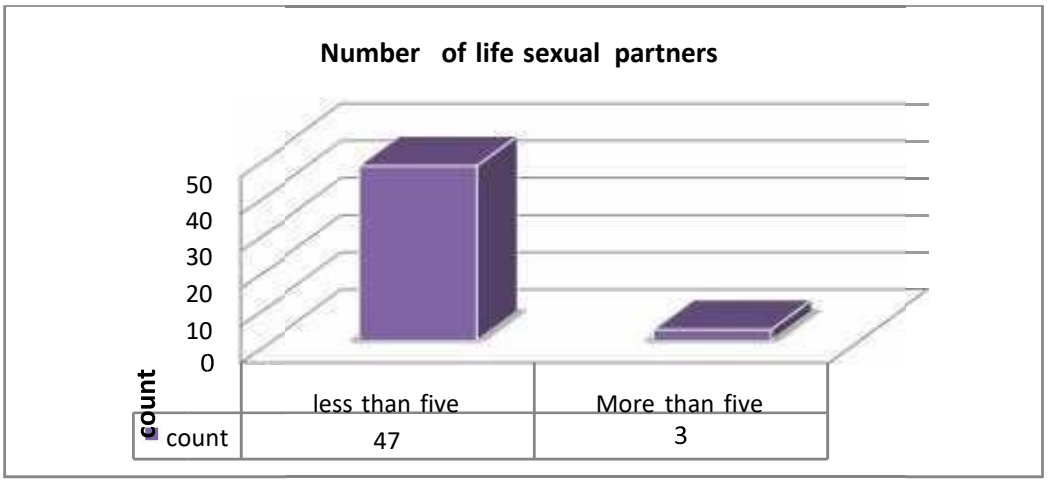
Individual factors predisposing to increased cases of ectopic pregnancy among pregnant women.

Figure 1: showing the distribution of respondents according to the age of first coitus. (N=50)



From Figure 1, the majority (76%) of the respondents had their first coitus below 16 years of age while the minority (24%) had it after the age of 16 years.

Figure 2: Shows the distribution of respondents according to several life sex partners. (N=50)



From Figure 2, almost all (N=47) of the respondents reported less than five life sexual partners while the least (N=3) had more than five life sexual partners.

Community-related factors predisposing to increased cases of ectopic pregnancy among pregnant women.

Figure 3: Shows the distribution of respondents according to their home location. (N=50)

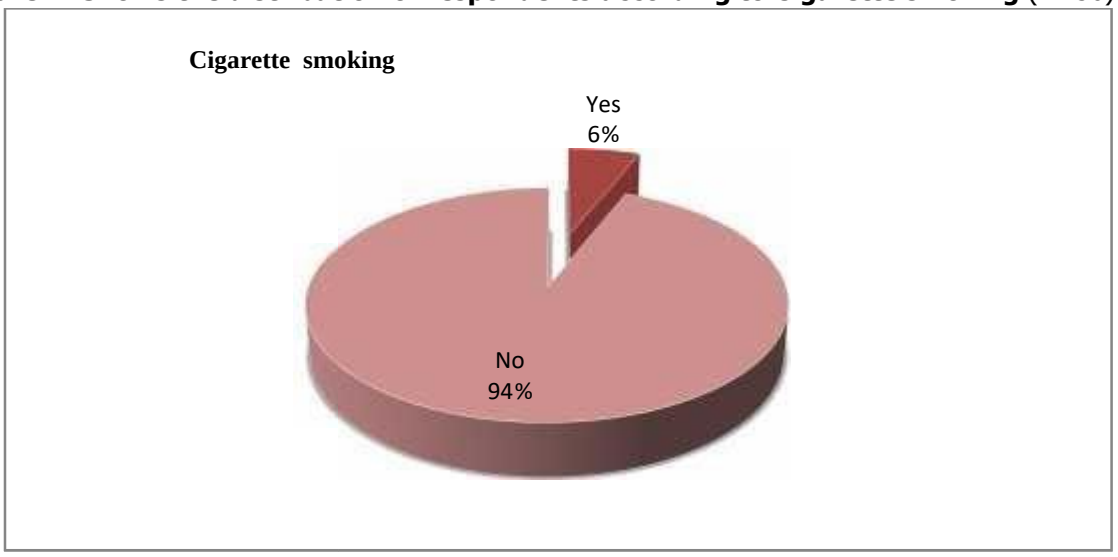
From Figure 3, the Majority (92%) of the respondents have their homes located in a town setting compared to the few (8%) who had their homes located in a village setting.

Table 2: Showing individual factors predisposing to increased cases of ectopic pregnancy among pregnant women (N=50).

Parameters		Frequency	Percentage
Was this your first pregnancy	Yes	4	8%
	No	46	92%
If not, how many children do you have	One	3	6%
	More than one	43	86%
	None	4	8%
The interval between the previous and this pregnancy	12 months	3	7
	24 months	12	26%
	More than 24 months	31	67%
Induced abortion	No	37	74%
	Yes	13	26%
life-threatening gynecological condition	No	9	18%
	Yes	41	82%
The life-threatening gynecological condition	History of pelvic surgery	3	7%
	History of puerperal sepsis	6	15%
	Ectopic pregnancy	3	7%
	Pelvic inflammatory disease	23	56%
	Ruptured ovarian cyst	2	5%
	Ruptured tuba ovarian abscess	4	10%

From Table 2, almost all (92%) of the respondents denied this being their first pregnancy whereas only (8%) reported it as their pregnancy. The majority of the respondents (86%) had more than one child whereas the least (8%) had none. More than half of the respondents (67%) had a previous pregnancy interval of more than 24 months whereas only a few of the respondents (7%) had a previous pregnancy of 12 months. The majority (74%) of the respondents denied having ever induced an abortion while the minority (26%) reported having ever induced an abortion. Most (82%) of respondents had ever had a life-threatening gynecological condition whereas a minority (18%) denied it. More than half (56%) of respondents reported Pelvic inflammatory disease as a life-threatening gynecological condition whereas a minority (5%) of the respondents reported it to be a ruptured ovarian cyst

Figure 4: Shows the distribution of respondents according to Cigarette smoking (N=50)



From Figure 4, the majority of the respondents (94%) denied cigarette smoking whereas the least (6%) reported smoking.

Table 3 shows the Community-related factors predisposing to increased cases of ectopic pregnancy among pregnant women. (N=50)

Parameters		Frequency	Percentage
Frequency of Cigarette smoking	Sometimes	1	33%
	Everyday	2	67%
alcohol intake	Yes	13	26%
	No	37	74%
Frequency of alcohol intake	Sometimes	8	62%
	Everyday	5	38%
Cultural surgical practice	Yes	0	0%
	No	50	100%
Which Cultural surgical practice	Appendectomy	0	0%
	Adnexal surgery	0	0%

From Table 3, of the 3 respondents who smoked cigarettes, more respondents (N=2) smoked every day compared to those (N=1) who smoked sometimes. The majority of the respondents (74%) denied taking alcohol while the minority (26%) agreed to take alcohol. Of the 37 participants who took alcohol, the majority (N=8) took it occasionally / sometimes whereas the minority (5%) reported taking it every day. All respondents (100%) denied any cultural surgical practice.

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https://doi.org/10.51168/hjr6ym73
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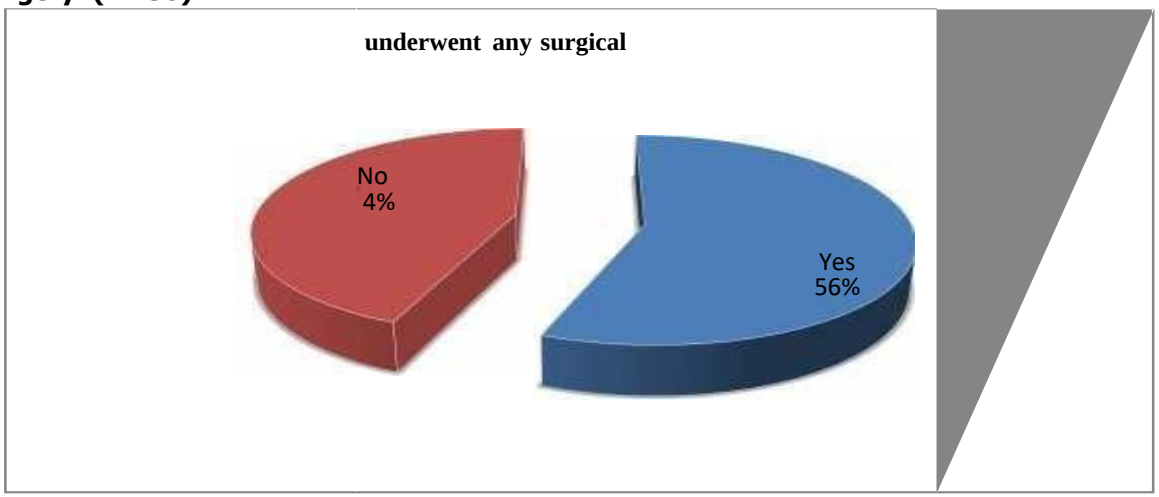
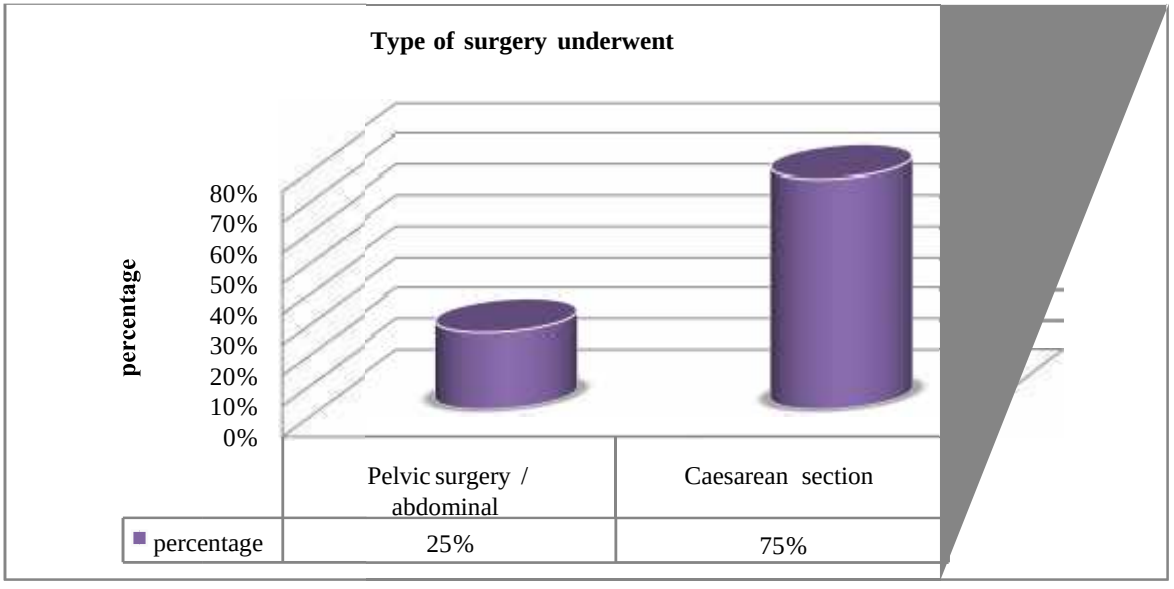
Figure 5: Shows the distribution of respondents according to those who underwent. Surgery. (N=50)



From Figure 5, more than half (56%) of respondents agreed to have undergone any surgical operation whereas the least (44%) denied having ever undergone surgical operations.

Figure 6: shows the distribution of respondents according to the type of surgery undergone. (N=28)



From Figure 6, of the 28 respondents who reported having undergone surgery, the majority (75% N=21) mentioned cesarean section while the minority (25% N=7) mentioned pelvic or abdominal surgery.

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Table 4: Health facility-related factors predisposing to increased cases of ectopic pregnancy among pregnant women (N=50).

Parameters		Frequency	Percentage
Used family planning	Yes	32	64%
	No	18	36%
Family planning used	IUD	4	12.5%
	POPs	2	6.25%
	Implant	1	3.125%
	Injection	19	59.38%
	COCs	6	18.75%
	Levonorgestrel intrauterine device	0	0%
Failure to conception in the past one year	Yes	3	6%
	No	47	94%
Period of failure to conception	One year	1	33%
	More than one year	2	67%
ever tried to tie your tubes as a family planning method	Yes	0	0%
	No	50	100%

From Table 4, the Majority (64%) of the respondents agreed to use family planning while the minority (36%) denied its use. Of the 32 respondents that use family planning, the Majority (59.38%) mentioned injection whereas the minority (6.25%) mentioned POPs. In this study, the Majority (94% N=47) of respondents denied failure to conceive whereas only 3 respondents (6%) failed to conceive in the past year and of those that failed to conceive more respondents (N=2) reported had taken more than one year whereas only one responded had taken one year. All respondents denied having tried to tie their tubes as a family planning method.

DISCUSSION.

Individual factors predisposing to increased cases of ectopic pregnancy among pregnant women.

The objective of this study was to determine individual factors predisposing to increased cases of ectopic pregnancy among pregnant women attending Ndejje Health Center IV, Wakiso district. In relation age of first coitus, the majority (76%) of the respondents had their first coitus below 16 years of age while the minority (24%) had it after the age of 16 years, this would be due to early sexual initiation and change in cultural norms, lifestyle and influence of media my finding differ from Assouni et al (2018) in whose study, the age of sexual debut for those below 16 was (29.5%) then 16 and above were (70.5%).

The study revealed almost all (N=47) of the respondents reported having less than five sexual partners while the least (N=3) had more than five life sexual partners this showed an increased risk of ectopic pregnancy among women with fewer sexual partners this is in line with Assouni et al (2018) in whose study basing on lifetime number of sexual partners those above 5 were (36.4%) while those below 5 were (63.6%)

In my study, almost all (92%) of the respondents denied this being their first pregnancy whereas only (8%) reported it as their first pregnancy and majority of the respondents (86%) had more than one child whereas the least (8%) had none and more than half of the respondents (67%) had a previous pregnancy interval of more than 24 months whereas only a few of respondents (7%) had a previous pregnancy of 12 months, multiparous women have a higher risk of ectopic pregnancy compared to nulliparous women these findings are line with Harish et al (2021), in whose findings multiparous women (59%) accounted for the maximum number of ectopic pregnancies.

The majority (74%) of the respondents denied having ever induced an abortion while the minority (26%) reported having ever induced an abortion. There's a weaker correlation between ectopic pregnancy with a history of induction of abortions, my findings are in line with Gerema et al, (2021) whose findings that a prior history of induced abortions was (3.43 %) in ectopic pregnancy cases.

Most (82%, N=41) of respondents had ever had a life-threatening gynecological condition whereas a minority

(18%) denied it, and of the 41 respondents (56%) of respondents reported Pelvic inflammatory disease as a life-threatening gynecological condition whereas a minority (5%) of the respondents reported it to be ruptured ovarian cyst. This study showed a stronger correlation between life-threatening gynecological conditions and with risk of ectopic pregnancy and my findings are in line with those done by Lawani et al (2013), in whose findings (43.4%) had pelvic inflammatory disease, as risk factors for ectopic gestation.

Community-related factors predisposing to increased cases of ectopic pregnancy among pregnant women.

The objective of this study was to determine community-related factors predisposing to increased cases of ectopic pregnancy among pregnant women attending Ndejje Health Center IV, Wakiso district. Regarding their residence, the majority (92%) of the respondents had their home located in a town setting compared to the few (8%) who had their home located in a village setting. majority of the respondents (94%) denied cigarette smoking whereas the least (6%) reported smoking, of the 3 respondents that smoke cigarettes, more respondents (N=2) smoked every day compared to those (N=1) who smoked sometimes. The majority of the respondents (74%) denied taking alcohol while the minority (26%) agreed to take alcohol. Of the 37 participants who took alcohol, the majority (N=8) took it occasionally / sometimes whereas the minority (5%) reported taking it every day. In as much as there's a high correlation between the area of residence with lifestyle, alcohol, and smoking, there is a very weak correlation between cigarette smoking and with risk of ectopic pregnancy my finding is in line with Gerema et al (2021), in who's finding only (1.7%) had an occasional history of cigarette smoking and only 18(31.1%) history of occasionally alcohol consumption before current pregnancy.

All respondents (100%) denied any cultural surgical practice. This is because different norms and cultures of study are compared to other areas of study and thus the finding differs from Li et al(2015), who found traditional risk factors for ectopic pregnancies such as previous adnexal surgery (2.09%), previous appendectomy (1.64) were among the causes of ectopic pregnancies among the respondents.

Health facility-related factors predisposing to increased cases of ectopic pregnancy among pregnant women.

The objective of this study was to determine health facility-related predisposition to increased cases of ectopic pregnancy among pregnant women attending Ndejje Health Center IV, Wakiso district. Regarding the history of surgical operations, more than half (56%) of respondents agreed to have undergone any surgical operation whereas the least (44%) denied having ever undergone surgical operations, of the 28 respondents that reported having undergone surgery, the majority (75% N=21) mentioned cesarean section while the minority (25% N=7) mentioned pelvic or abdominal surgery. There is a correlation between the history of surgery and with risk of ectopic pregnancy, more so cesarean section in comparison with pelvic or abdominal surgeries these findings are in line with Collins et al, (2018) whose findings of other identified risk factors included previous pelvic/abdominal surgery (11.30%).

The study revealed that the majority (64%) of the respondents agreed to use family planning while the minority (36%) denied its use. Of the 32 respondents that use family planning, the Majority (-59.38%) mentioned injection whereas the minority (6.25%) mentioned POPs. There is a preference of Uganda women for injection as a method of family planning because it eases the pill burden, there is some correlation between the use of contraceptives with increased risk of ectopic pregnancy. These findings agree withAssouni et al (2018), in whose finding's ectopic pregnancy with a history of previous use of IUD were (3.0%), LNG-EC (32.8%), COCs (4.5%), POP (9.0%), DMPA (19.4%), Progesterone only implant (3.0%).

The majority (94% N=47) of respondents denied failure to conceive whereas only 3 respondents (6%) failed to conceive in the past year and of those that failed to conceive more respondents (N=2) reported that had taken more than one year whereas only one responded had taken one year. There's a lower correlation between infertility with ectopic pregnancies in Uganda given the very high fertility rates in comparison to other countries and these findings are consistent with those of Moini et al, (2018) whose findings, that ectopic pregnant respondents with a history of infertility were primary (16.9%), secondary (13.3%) no infertility (69.9%) and most of them the duration of infertility (year) was1.8%±3.7 0.5. Despite the slight variance in the figures, ectopic pregnancy is higher in the fertile in comparison with those with infertility.

All respondents denied having tried to tie their tubes as a family planning method. This is because though known among the population, this method is not practiced by several people for personal reasons, and other methods of family planning are often adopted. Despite this, there is still a low correlation between this method of family planning with ectopic pregnancy and this agrees with Moini et al, 2018 whose finding the prior history of tubal surgery was (3.32%) and, prior history of tubal ligation (1.32%).

CONCLUSION.

In general, regarding Individual factors predisposing to increased cases of ectopic pregnancy among pregnant women the majority (76%) of the respondents had their first coitus below 16 years of age, almost all (N=47) of the respondents reported to have had less than five sexual partners almost all (92%)the respondents denied this being their first pregnancy, majority of the respondents (86%) had more than one child, more than half of the respondents (67%) had a previous pregnancy interval of more than 24 months, multiparous women had a higher risk of ectopic pregnancy compared to nulliparous women Most (82%, N=41) of respondents had ever had a life-threatening gynecological condition and (56%) of respondents reported it to be Pelvic inflammatory disease. However (74%) of the respondents denied having ever induced an abortion making it a weaker correlation of ectopic pregnancy.
Regarding community-related factors predisposing to increased cases of ectopic pregnancy among pregnant women, the majority (92%) of the respondents had their home located in a town setting however majority of the respondents (94%) denied cigarette smoking Majority of the respondents(74%) denied taking alcohol while minority (26%) agreed to taking alcohol thus there is very week correlation of cigarette smoking and alcohol with risk of ectopic pregnancy and all respondents (100%) denied any cultural surgical practice.

As for health facility-related factors predisposing to increased cases of ectopic pregnancy among pregnant women more than half (56%) of respondents agreed to have undergone any surgical operation, of the 28 respondents that reported having undergone surgery, the majority (75% N=21) mentioned cesarean section, the majority (64%) of the respondents agreed to use family planning and of the 32 respondents that used family planning, Majority (59.38%) mentioned injection, all respondents denied having tried to tie their tubes as a family planning method and majority (94% N=47) of respondents denied infertility making it weaker risk factor.

RECOMMENDATIONS.

Ministry health and NGOs through media should educate the masses on signs of pelvic inflammatory disease and the dangers of delay in seeking medical treatment. The government through the Ministry of Health should increase funding for reproductive health and screening and treatment of other gynecological conditions.

The hospital administration should sensitize patients about the importance of initiating early treatment of pelvic inflammatory disease.

ACKNOWLEDGEMENT.

I thank the Almighty God for the favor and grace he has rendered to me during my time in school especially the entire course of my diploma in clinical medicine and community health.

Thanks go to my supervisor Mrs. Nakasolo Sania who directed me during my study from the beginning up to the end and corrected all the mistakes to ensure perfection

I also owe sincere gratitude to Ndejje Health Centre IV administration for permitting me to carry out the study and I genuinely thank all the pregnant women who participated in the study, may God bless you all.

Great appreciation also goes to my beloved family especially my parents Mr. Kamya Kenneth and Mrs.Nabowa Margretand my wife Mrs. Namulondo Brenda for the support you have given to me may God reward you abundantly.

I also thank my friends Dr. Ssozi Wilson, Mr. Waiswa Peter, and Mr. Magambo Emmanuel for the support and encouragement they have given me.

LIST OF ABBREVIATIONS.

ANC: Antenatal Care
ART: Assisted Reproductive Technology
BMI: Body Mass Index
CDC: Center for Disease Control
MoH: Ministry of Health
LNG-EC: Levonorgestrel emergency contraceptive
IUD: Intra Uterine Device
IVF-ET: Invitro fertilization and embryo transfer
CT: Chlamydia Trachomatis
EC: Emergency Contraceptive
EC: Ectopic pregnancy
POP: Progestin Only Pills
STI: Sexually transmitted infections

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