A Cross-sectional study to determine the Attitudes of Pregnant Women attending Antenatal Clinic at Lira Regional Referral Hospital towards Physical Activity during Pregnancy.

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Abstract

Background.

Physical activity during pregnancy provides many health benefits not only to pregnant mothers but also to the fetuses. This study assessed the attitude of pregnant women towards PA in pregnancy among pregnant women attending ANC in Lira Regional Referral Hospital.

Methods.

The cross-sectional study of 152 pregnant women attending antenatal clinic visits in Lira Regional referral Hospital, northern Uganda. Data were obtained on socio-demographic characteristics of mothers' attitudes towards PA in pregnancy.

Results.

We found that 80% of pregnant mothers had a positive attitude toward physical activity during pregnancy. The attitude was associated with marital status (p=0.049), the number of children they had to care for, a busy schedule, fear of PA, and lack of information were the principal reasons not to do Physical Activity.

Conclusion.

The majority of women (80%) had a positive attitude toward PA during pregnancy

Recommendations.

Based on the findings that some small percentages had a negative attitude towards PA in pregnancy, health educators should be encouraged to avail the information to the community members, this will enable the community to develop good feelings towards antenatal exercises. Pregnant women should be encouraged to form exercise groups in their communities so they provide moral support for each other.

Based on findings from other studies that there is a low practice of PA in pregnancy, further studies should be done in Uganda to come up with the prevalence of PA during pregnancy in Uganda.

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1. Background

Women who begin their pregnancy with a healthy lifestyle (e.g., appropriate physical activity, good nutrition, nonsmoking) should be encouraged to maintain those healthy habits. Those who do not have healthy lifestyles should be encouraged to view pregnancy as an opportunity to embrace healthier routines (American College of Obstetricians and Gynecologists, ACOG 2015).

Several guidelines have been developed for physical activity in pregnant women. The American College of Obstetricians and Gynecologists guideline instructs women to engage in moderate-intensity physical exercise for at least 30 minutes a day for 5 days a week(totaling around 150 minutes/week)provided there is no pregnancy or any medical complication (American College of Obstetricians and Gynecologists, 2002). Similar to the ACOG guidelines, the South Africa Sports Medicine Association recommends pregnant women with no medical or obstetric complications participate in aerobic and strength-conditioning training at moderate intensity on most or all days of the week to maintain good fitness levels throughout the pregnancy.

Activities such as jogging, garden work, household activities, and hiking, that minimize the risk of loss of balance and fetal trauma, should be encouraged. High-risk activities such as contact and collision sports, vigorous racquet games, gymnastics and horseback riding, etc., which puts the life of the mother and the fetus at risk, should be avoided. The guideline makes clear that physical activity does not increase the incidence of adverse pregnancy and neonatal outcomes (Barsky *et al.,* 2012).

Regular performance of prenatal exercise/physical activity is reported to have a favorable effect on maternal health, reduce the risk of excessive gestational weight gain (Muktabhant, Lawrie, Lumbiganon, & Laopaiboon, 2015), prevent hypertensive disorders (Magro-Malosso, Saccone, Di Tommaso, Roman, & Berghella, 2017), enhance psychological well-being (Haakstad, Torset, & Bø, 2016), and improve physical fitness(Kramer & McDonald, 2009).

The Royal College of Obstetricians and Gynecologists (RCOG) in the UK reported that exercising during pregnancy helps to control weight gain, reduce high blood pressure, prevent gestational diabetes, and improve fitness, sleep patterns, and mood; women who maintain their physical activity regiment during pregnancy continue to exercise at a higher intensity than those who stop (RCOG 2006). Over time, these women gain less weight, deposit less fat, have increased fitness, and have a lower cardiovascular risk profile in the perimenopausal period than women who cease to exercise during pregnancy (RCOG, 2006). Obstetrician gynecologists and other obstetric care providers are advised to encourage their patients to continue or to commence exercise as an important component of optimal health (ACSM 2014).

Lack of exercise during pregnancy might result in loss of muscular and cardiovascular fitness, excessive maternal weight gain with a raised risk of gestational diabetes mellitus (GDM), varicose veins, dyspnea, lower back pain, and poor psychological adjustment (RCOG, 2006). An initial approach to becoming more physically active could be to encourage pregnant women to incorporate unstructured physical activity into daily living. Giving these women an appropriate physical activity prescription can encourage them to participate in physical activity (Colberg, 2013).

Some studies have reported that physical activity during pregnancy is generally low in African countries. In these countries, most physical activity is done during the performance of household activities which have an intensity that is below the recommended guidelines (Hjorth *et al.,* 2012). There is a need to promote physical activity in pregnancy in Africa and to conduct further research on physical activity levels during pregnancy. The purpose of this study is to ascertain the attitude of these women toward physical activity during exercise. In this regard, I want to find out the feeling reaction/ response and perception of PA during pregnancy.

2. Methodology:

Study design.

A cross-sectional quantitative design was used to assess the attitude of pregnant mothers toward antenatal exercise. Every mother who was present at the antenatal clinic during the two weeks of the study, who met the criteria and consents, was asked to respond to a researcher-administered questionnaire.

Study site and settings

The study was carried out from 14th Jan 2019 to 29th Jan 2019 in Lira District located in the Lango sub-region in Northern Uganda and is bordered by the districts of Pader and Otuke in the North and North East, Alebtong in the East, Dokolo in the South and Apac in the West. Physically, the district covers approximately a total area of 1326 km2 of which 1286.22 km2 is a land area with a total population of 408,043 of which 196,663 are males and 211,380 are females(UBOS, 2017).

In the Lira district, the study was specifically in Lira Regional Referral Hospital (LRRH) which is the biggest Hospital in Lango Sub-region with a 350-bed capacity. It serves a population of about 2.2 million people from its mandated catchment districts of the central north which include Lira, Apac, Dokolo, Amolatar, Oyam, Otuke, Kole, and Alebtong. It is the third youngest regional referral hospital in Uganda after Moroto and Mubende Hospitals. It is located on a 16.34 hectares piece of land along Kitgum Road in Adyel Division in Lira Municipality. The major services offered at the health facility include surgery, gynecology and obstetrics care, medicine, dentistry, and orthopedics with outpatient services such as immunization, HIV counseling, and testing and elimination of mother-to-child transmission (eMTCT) and antenatal care services. However, in LRRH the research is specifically carried out at the antenatal clinic on pregnant mothers.

Study population

The study population consisted of pregnant mothers attending ANC in Lira Regional Referral Hospital.

Study procedure

The researcher obtained an approval letter from the Lira University Research ethics committee and the Lira Regional Referral Hospital administration and oral permission from the ward in charge was also obtained before the eligible participants were approached for the study. A pilot study was carried out using convenience sampling on a total of five participants from which responses were obtained for one day using the developed questionnaire to enable modification of the tool to make it valid and reliable during the data collection process.

The researcher collected data every Monday to Friday for two weeks using a convenience sampling technique to select the study participants who were around on the day of data collection and consented to the study though everyone in the target group had equal chances of being included in the study and the selected individual study participants were given an interviewer guided questionnaire containing systematically arranged questions in three sections of socio-demographic, attitude which is constructed to yield close-ended responses. The participants were reassured of the confidentiality and the interviews were conducted in a private place where no other person could hear the discussion as well as questions from the questionnaire were asked in English and then translated into the local language where necessary by an interpreter. The interview sessions were taking approximately 15 minutes in the antenatal clinic.

ELIGIBILITY CRITERIA

Inclusive criteria

All pregnant mothers of 18-36 weeks of gestation without pregnancy or medical complications, who were present on the day of the study and provided informed consent to participate in the study, were included.

Exclusive criteria

Pregnant mothers a) with medical or pregnancy complications, b) below 18 weeks of gestation, c) who refused to consent to the study, d) who were disabled, and e) who were medical workers, were excluded from the study.

Sample size determination

The sample size for the study was 152. This

number was calculated from the Kish Leslie formula (1989) for a single proportion as below:

N= (Z) 2PQ, Where **Z** = the **Z**-score corresponding to 95% confidence interval is 1.96

(D) 2 P= percentage of women who are knowledgeable about PA in Africa, thus P is 47.6%

D=margin of error (+/- 5%)

Q=1-P

N = (1.96)2 x 0.476 x0.524

(0.05)2

N=383

Using the finite population factor for sample size adjustment by Glenn D. Israel 1994

$\mathbf{n = n_0 \ x \ N}$

$\mathbf{n_0 + (N\text{-}1)}$

n = 38 3 x 250

383 + (250-1)

n= 152 participants

Sampling method

The study used a non-probability convenience sampling technique to select participants for the study. Every mother present at the clinic was asked to participate in the study provided they met the inclusion criteria. The sampling method was chosen because the researcher has only two weeks to collect data.

Data collection method and Research instrument

In this research, the data were collected from 14th using a researcher-administered questionnaire which had three sections, section one captured socio- demographic characters of the respondents, section two interrogated the knowledge level regarding PA during pregnancy and section three asked about the attitude of pregnant women towards PA during pregnancy. Closed-ended questions were contained in the questionnaire to generate quantitative data.

Data management

Data entry:

The Questionnaire was filled and check by the researcher to ensure the accuracy and completeness of the information collected. And it was entered using SPSS. SPSS command was made to identify the missing data, check mistakes and make corrections during entry.

3. Data analysis

Analysis was done with the help of SPSS which will provide descriptive statistics (mean, percentage, frequency, etc.) on knowledge and attitude of mothers towards PA during pregnancy. A chi-square analysis was used to make inferences about the levels of various components of physical activity in pregnant mothers.

Measurements of variables

The dependent variable of the study is physical activity during pregnancy while the independent variables to be measured include the attitude of pregnant mothers towards physical activity during pregnancy was measured through questionnaire responses to specific questions.

The mother's attitude was measured using the questionnaire with three specific questions; their feelings and beliefs about PA during pregnancy, and what makes them feel negative or positive about PA during pregnancy.

The measurement was done using like art scale where the responses obtained from the three selected questions asked were awarded a score, then the total sum of the individual respondents is obtained out of the total number of three selected questions asked, and then the sum scores of each individual was expressed in percentage. The percentage scores calculated were graded and those who score between 50%-100% were regarded as having a positive attitude then 0%-49% were those mothers who were considered to have a negative attitude.

Quality control

Validity and reliability

The questionnaire was checked by experts including my supervisor lecturer, who assessed external and contended validity.

A pilot study was carried out using convenience sampling on a total of five participants from which responses were obtained for one day using the developed questionnaire to enable modification of the tool to make it valid and reliable.

Before data collection, the questionnaire was pretested among five antenatal mothers to check for adequacy of questions in terms of wording, clarity, and ambiguity before use in the actual

study. Pre-coding and categorization of data were done for quality data to be collected.

Ethical consideration

Approval

Ethical approval for the study was obtained from Lira University Research and Ethics committee (LUREC) and permission was sought from Lira Regional Referral Hospital administration including the in-charge of the antenatal clinic.

Consent:

A document containing the purpose of the research, the benefits of the research, the risks, and the rights of the participants was read to all respondents. They were asked to consent to the study after they have acknowledged that they understood and agreed to participate in the study. They consented by signing and or inserting a thumbprint.

Privacy protection:

Interviews took place in a private place where other people couldn't interrupt or hear what is being discussed and data was entered into SPSS and secured using a password.

Confidentiality:

Participants' initials were used instead of their full name to shield their identity and information that was given by the participants were not disclosed to any other person

4. Results:

Socio-demographic characteristics.

Socio-demographic characteristics of mothers were assessed via 9 specific questions which were administered by a researcher 152 mothers responded to those questions, 73.3% of them belonged to the age group 15-29 and 23.7% were 30 years and above. 60.5% of the participants were in between 18-29 weeks of gestation, and 39.5% of them were in between 21 and 40 weeks of gestation. The majority 85.5% of the respondents were Lango, and 14.5% were from other tribes like; Acholi, Buganda, and Itesots. 57.9% were residing in town and 42.1% were living in the villages. 94.1% of the respondents were Christians, and 5.9% were Islam. 82.9% of respondents were married, and 17.1% of them were not married. 36.8% of respondents studied up to the primary level, and 63.2% studied up to the secondary level and above. 39.5% were employed while 76 were not employed also. 81.6% were getting a monthly income of ranges 1 to 200000 Uganda shillings and 18.4% were getting above 200000 Uganda shillings.

4.1. ATTITUDE OF MOTHERS TOWARDS PHYSICAL ACTIVITY DURING PREGNANCY

Mothers feelings about their babies when doing physical activity

Mothers were asked what they feel about their unborn babies when they are doing PA, 86% participants said PA is good for their babies while 14% said PA is not good for their babies.

Mothers feeling about PA during pregnancy

Mothers were asked six questions to ascertain their feelings about PA during pregnancy, 88% of mothers agree that PA during pregnancy is good for a pregnant mother, 5% were uncertain whether it is good or bad and 8% disagreed. 80% of mothers agreed that PA during pregnancy is good for the fetus, 7% were uncertain and 13% disagreed. 72% agreed that PA during pregnancy is good for both the mother and the fetus, 13% were uncertain and 15% disagreed.32% agreed that it can cause harm to the mother, 5% were uncertain, and 63% disagreed. 24% agreed that it can cause harm to the fetus, 13% were uncertain and 63% disagreed And 27% agreed that it can cause harm to both the mother and the fetus, 7% were uncertain and 66% disagreed.

The attitude of mothers towards physical activity during pregnancy

The above (6) questions were used to probe mothers' attitudes towards physical activity and were selected, scoring one for a correct response, and zero for the incorrect response. The response of every participant was totaled and converted to percentages, mothers who scored less than 50 percent were considered as having a negative attitude, and mothers who scored 50% and above were considered as having a positive attitude.

Table 1: Showing socio-demographic characteristics of participants

VARIABLE	FREQUENCY	PERCENT
Age group		
15-29	116	76.30%
30 and above	36	23.70%
Gestational weeks		
18-29	92	60.50%
30 and above	60	39.50%
Tribe		
Lango	130	85.50%
Others	22	14.50%
Residence		
Urban	88	57.90%
Rural	64	42.10%
Religion		
Christians	143	94.10%
Muslims	9	5.90%
Marital status		
Married	126	82.90%
not married	26	17.10%
Educational level		
below secondary	56	36.80%
secondary and above	96	63.20%
Occupation		
Employed	76	50.00%
not employed	76	50.00%
Monthly income		
Shs. 200,000 and below	124	81.60%
Above Shs. 200,000	28	18.40%

80.3% of mothers showed a positive attitude towards PA during pregnancy, 19.7% showed a negative attitude towards PA during pregnancy.

Reasons for the negative attitude of mothers towards physical activity.

Mothers who had a negative attitude toward physical activity reported the reason as being; making them feel tired (18%), not having time for PA (53%), having a busy schedule (68%), not feeling like doing PA (80%), having a lot of child activities (60%), some of them are afraid of PA (93%), some cultures don't allow (57%), some of them were told that it can cause a miscarriage (30%), and some of them (33%) were told it can bring abnormality and lack of information (73%).

5. DISCUSSIONS:

Our study revealed that the majority of women (80%) had a positive attitude toward PA during pregnancy. This percentage was based on women's responses to 6 questions that assessed their attitudes. A study done in Brazil, Sao Paulo, also reported that the majority of pregnant mothers (94%) had a positive attitude toward physical activity and only about 6% had a negative attitude (Milanez, 2011). Studies done

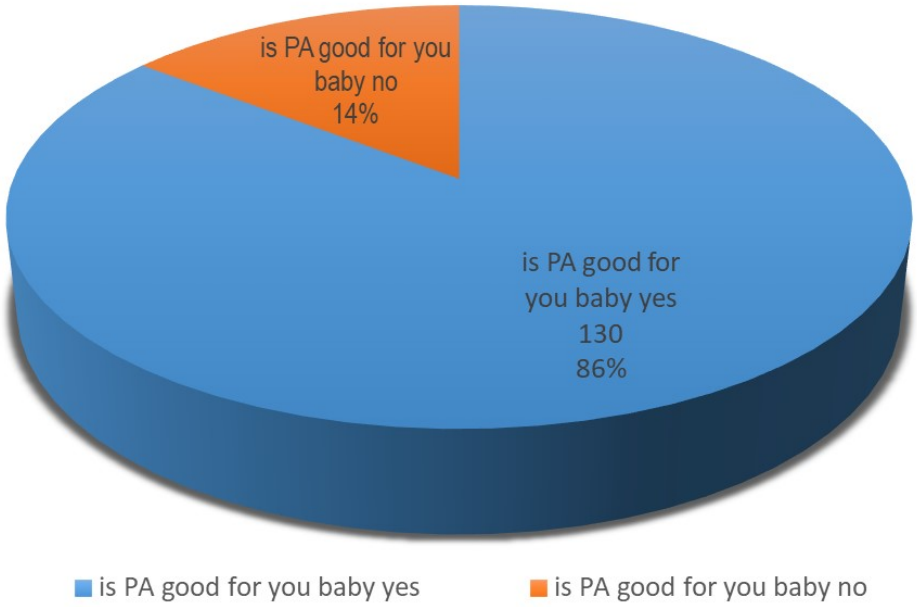

Figure 1: showing mothers feelings about their babies when they are physically active

Table 2: Indicates mother's feelings about PA during pregnancy.

VARIABLE	RESPONSE	FREQUENCY	PERCENTAGE
PA is good for the mother	Agree	133	87.50%
	Uncertain	7	4.60%
	Disagree	12	7.90%
PA is good for the fetus	Agree	122	80.30%
	Uncertain	11	7.20%
	Disagree	19	12.50%
PA is good for both mother and fetus	Agree	110	72.40%
	Uncertain	20	13.20%
	Disagree	22	14.50%
PA can cause harm to the mother	Agree	48	31.60%
	Uncertain	8	5.30%
	Disagree	96	63.20%
PA can cause harm to the fetus	Agree	37	24.30%
	Uncertain	19	12.50%
	Disagree	96	63.30%
PA can cause harm to both the mother and the fetus	Agree	27	27.00%
	Uncertain	7.2	7.20%
	Disagree	65.8	65.80%

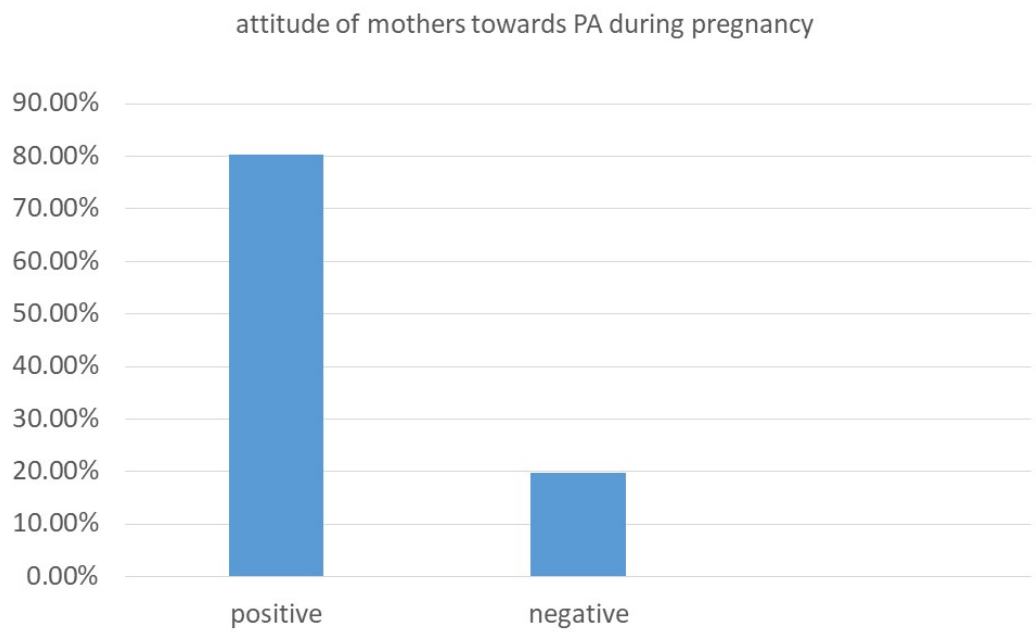

Figure 2: Shows the attitude of pregnant mothers towards PA during pregnancy

among pregnant women in Enugu state and Ile-Ife, Nigeria revealed that ~ 77% and ~84%, respectively, had positive attitudes toward antenatal PA (Mbada *et al,* 2014). In Nigerian studies, the Attitude to Antenatal Exercise Questionnaire (AAEQ) was used as an instrument for data collection.

The positive attitude to antenatal PA appears to be influenced by awareness of its benefits, as indicated in our and other studies (Mbada *et al,* 2014). Some mothers are aware that PA decreases the risk of swelling of extremities, back pain, and circulation disorders and promotes a better ability to cope with labor and delivery. A study in Sao Paulo, Brazil revealed that the positive attitude towards PA during pregnancy was due to the perception that it improves fetal health, relieves pain and discomfort, and improves well-being.

The current study found that the main reasons for negative attitudes towards PA were lack of desire to exercise, tiredness, and insufficient information on exercise. These reasons have also been reported in Nigeria (Mbada *et al.,* 2014). Other studies have reported lack of time and being uncomfortable as the principal reasons given by women for not exercising (Evenson *et al.,* 2009)

Our study has shown that a small percentage (20%) have a negative attitude toward physical activity during pregnancy. The community should be empowered with comprehensive knowledge about the effects of PA during pregnancy, this should be done through a) availing printed materials and newsletters about the benefits and safety of PA in pregnancy. b) conducting health education talks to a targets population beyond pregnant women who are the "key players," such as medical providers, family members, and social networks (Mudd *et al.*2009) this is an intervention that would provide enough information on PA during pregnancy and brings a positive attitude. To instill women's desire, counseling on PA should be encouraged among pregnant women

Although our study found good knowledge and attitude, we did not determine whether these women practice PA. Further, studies should be carried out to determine the prevalence of PA in

Table 3: showing reason for negative attitude towards physical activity during pregnancy

VARIABLE	RESPONSE	FREQUENCY	PERCENTAGE
Make me feels tired	Agree	18	60%
	Uncertain	5	16.70%
	Disagree	7	23.30%
I don't have time for PA	Agree	16	53.30%
	Uncertain	2	6.70%
	Disagree	12	40%
I have busy schedule	Agree	20	66.70%
	Uncertain	00	0%
	Disagree	10	33.30%
I don't feel like doing PA	Agree	24	80.0%
	Uncertain	3	10%
	Disagree	3	10%
I have a lot of child activities	Agree	18	60%
	Uncertain	5	16.70%
	Disagree	7	23.30%
I am afraid of doing it	Agree	28	93.30%
	Uncertain	00	0%
	Disagree	2	6.70%
culture doesn't allow	Agree	17	56.70%
	Uncertain	6	20%
	Disagree	7	23.30%
I am told it can cause a miscarriage	Agree	9	30%
	Uncertain	13	43.30%
	Disagree	8	26.70%
am told it can bring about abnormality	Agree	10	33.30%
	Uncertain	17	56.70%
	Disagree	3	10%
I don't have sufficient information	Agree	22	73.30%
	Uncertain	3	10%
	Disagree	5	16.70%

pregnancy |in Uganda. In Brazil and India, there was good knowledge and attitude toward PA during pregnancy, only 20% and 18% of women respectively were practicing PA during pregnancy (Milanez, 2011; Sujindra *et al.,* 2015)

6. CONCLUSIONS

The majority of participants had a positive attitude towards physical activity during pregnancy and it was associated with gestational age and influenced by lack of information about PA in pregnancy, the number of children they had to care for, a busy schedule, and fear of PA. Women with negative attitudes need to be encouraged by medical workers, family members, and friends, through a conference, radio, and TV talk shows such that they develop a good attitude toward PA during pregnancy since it is recommended by var-

Table 4: showing association between socio-demographic characteristics of participants and mothers'attitude towards physical activity during pregnancy.

	Positive	Negative	Pearson chi-square value	p-value
Age				
18-29	81%	19%	0.184a	0.85
30 and above	78%	22%		
Gestational weeks				
18- 29	84%	16%	1.733a	0.268
30 and above	75%	25%		
Tribe				
Lango	81%	19%	0.922a	0.502
Others	73%	27%		
Residence				
Urban	87%	13%	3.655a	0.088
Rural	75%	25%		
Religion				
Christians	82%	18%	3.687a	0.1137
Muslims	56%	44%		
Marital status				
Married	77%	23%	5.000a	0.049
not married	96%	4%		
Education level				
below secondary	79%	21%	0.160a	0.85
secondary and above	81%	19%		
Occupation				
Employed	78%	22%	0.664a	0.541
not employed	83%	17%		
Monthly income				
Below 200000 Shs	82%	18%	1.691a	0.299
above 200000 Shs	71%	29%		

ious bodies that it is good for the good health of pregnant mothers.

RECOMMENDATIONS

Based on the findings that some small percentages had a negative attitude towards PA in pregnancy, health educators should be encouraged to avail the information to the community members, this will enable the community to develop good feelings towards antenatal exercises. Pregnant women should be encouraged to form exercise groups in their communities so they provide moral support for each other.

Based on findings from other studies that there is a low practice of PA in pregnancy, further studies should be done in Uganda to come up with the prevalence of PA during pregnancy in Uganda

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Their knowledge of the research process was a structure and support to me throughout this study. Thank you very much.

8. LIST OF ABBREVIATIONS

ACOG American College of Obstetrician and Gynecologist
ACSM American College of Sports Medicine
ANC Antenatal Care
eMTCT elimination of mother to child transmission
GDM Gestational Diabetes Mellitus
LRRH Lira Regional Referral Hospital
LUREC Lira University Research Ethics Committees
MoH Ministry of Health
PA Physical activity
RCOG Royal College Obstetrician Gynecologist
SPSS Statistical Package for Social Scientists
UBOS Uganda bureau of statistics
UCG Uganda clinical guidelines
UK United Kingdom
WHO World Health Organization

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CONFLICT OF INTEREST:
None

9. References:

1) ACSM. (2014). General principles of exercise prescription. ACSM's Guidelines for Exercise Testing and Prescription.

2) American College of Obstetricians and Gynacologists. (2002). ACOG Committee Opinion No. 267. Obstet Gynecol. https://doi.org/10.1097/AOG.0000000000001102https://doi.org/10.1097/AOG.0000000000001102

3) Barsky, E., Smith, T., Patricios, J., Collins, R., Branfield, A., & Ramagole, M. (2012). South African Sports Medicine Association Position Statement on Exercise in Pregnancy. South African Journal of Sports Medicine, 24(2), 69-71. https://doi.org/10.17159/2078-516X/2012/v24i2a349

4)C.P.RibeiroandH.Milanez,"Knowledge, attitudeandpractice ofwomeninCampinas,S~aoPaulo, Brazilwithrespecttophysical exercise in pregnancy: a descriptive study," ReproductiveHealth, vol.8,no.1,p.31,2011.https://doi.org/10.1186/1742-4755-8-31PMid:22051371 PMCid:PMC3220627

5) Colberg, S. R. (2013). Prescribing physical activity to prevent and manage gestational diabetes. World Journal of Diabetes. https://doi.org/10.4239/wjd.v4.i6.256https://doi.org/10.4239/wjd.v4.i6.256PMid:24379915 PMCid:PMC3874484

6) Evenson K, Moos M, Carrier K, Siega-Riz AM. Perceived barriers to physical activity among pregnant women. Matern Child Health J. 2009;13:364-375. 45.https://doi.org/10.1007/s10995-008-0359-8PMid:18478322 PMCid:PMC2657195

7) Mudd LM, Nechuta S, Pivarnik JM, Paneth N; Michigan Alliance for National Children's Study. Factors associated with women's perceptions of physical activity safety during pregnancy. Prev Med. 2009;49:194-199.https://doi.org/10.1016/j.ypmed.2009.06.004PMid:19540874

8) Haakstad, L. A. H., Torset, B., & Bø, K. (2016). What is the effect of regular group exercise on maternal psychological outcomes and common pregnancy complaints? An assessor blinded RCT. Midwifery. https://doi.org/10.1016/j.midw.2015.10.008https://doi.org/10.1016/j.midw.2015.10.008PMid:26574050

9) Hjorth, M. F., Kloster, S., Girma, T., Faurholt-Jepsen, D., Andersen, G., Kæstel, P., ... Friis, H. (2012). Level and intensity of objectively assessed physical activity among pregnant women from urban Ethiopia. BMC Pregnancy and Childbirth. https://doi.org/10.1186/1471-2393-12-154https://doi.org/10.1186/1471-2393-12-154PMid:23244057 PMCid:PMC3543321

10) Kramer, M. S., & McDonald, S. W. (2009). Aerobic exercise for women during pregnancy.

Cochrane Database of Systematic Reviews. https://doi.org/10.1002/14651858.CD000180.pub2https://doi.org/10.1002/14651858.CD000180.pub2 PMCid:PMC7043271

11) Magro-Malosso, E. R., Saccone, G., Di Tommaso, M., Roman, A., & Berghella, V. (2017). Exercise during pregnancy and risk of gestational hypertensive disorders: a systematic review and meta-analysis. Acta Obstetricia et Gynecologica Scandinavica. https://doi.org/10.1111/aogs.13151https://doi.org/10.1111/aogs.13151PMid:28401531

12) Mbada, C. E., Adebayo, O. E., Adeyemi, A. B., Arije, O. O., Dada, O. O., Akinwande, O. A., ... Alonge, I. A. (2014). Knowledge and Attitude of Nigerian Pregnant Women towards Antenatal Exercise: A Cross-Sectional Survey. ISRN Obstetrics and Gynecology. https://doi.org/10.1155/2014/260539https://doi.org/10.1155/2014/260539PMid:25006478 PMCid:PMC4009160

13) Muktabhant, B., Lawrie, T. A., Lumbiganon, P., & Laopaiboon, M. (2015). Diet or exercise, or both, for preventing excessive weight gain in pregnancy. Cochrane Database of Systematic Reviews. https://doi.org/10.1002/14651858.CD007145.pub3https://doi.org/10.1002/14651858.CD007145.pub3PMid:26068707 PMCid:PMC9428894

14) Royal College of Obstetricians and Gynaecologists (RCOG) (2006) Exercise in Pregnancy (RCOG Statement 4). [WWW document.] URL http://www.rcog.org.uk/ womens-health/clinical-guidance/exercise-pregnancy

15) Sujindra, E., Bupathy, A., Suganya, A., & Praveena, R. (2015). Knowledge, attitude, and practice of exercise during pregnancy among antenatal mothers. International Journal of Educational and Psychological Researches, 1(3), 234. https://doi.org/10.4103/2395-2296.158347https://doi.org/10.4103/2395-2296.158347

16) The American College of Obstetricians and Gynecologists. (2015). Physical Activity and Exercise During Pregnancy and the Postpartum Period. Obstetrics & Gynecology. https://doi.org/10.1016/S0140-6736(16)31898-0https://doi.org/10.1016/S0140-6736(16)31898-0 17) UBOS (2017). Uganda Bureau of Statistics: Statistical Abstract Report for Crop Area and Production. Kampala: UBOS.

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