
**PERCEIVED BENEFITS OF EXERCISE AMONG PREGNANT MOTHERS IN
UNIVERSITY OF CALABAR TEACHING HOSPITAL, CALABAR, CROSS
RIVER STATE**

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ABSTRACT: *Purpose: The main focus of this study was the perceived benefits of exercise among pregnant mothers in University of Calabar Teaching Hospital, Calabar, Cross River State. In order to successfully carry out the study, objectives and research questions with corresponding hypothesis¹ were formulated to guide the study. Literature was reviewed based on the research variables, Methods: The research instrument used in collecting data for analysis was a questionnaire which was administered on one hundred and fifty (150) pregnant mothers' in University of Calabar Teaching Hospital who served as sample for the study. Their responses were analyzed using frequencies, percentage and Pearson product moment correlation analysis and the following results were obtained. Result: The study reveal that majority of the respondents 97(64.7%) asserted that they have never heard about specific exercise for pregnant mothers while 53(35.3%) said they have. Majority of the respondents 84(56%) asserted that they like antenatal exercise because it improves easy delivery during labor while 66(44%) of the respondent said no. None the less, 43(28.7%) of the respondents said yes that ignorance affect the benefit of exercise for pregnant mothers' while 107(71.3%) said no, it doesn't. Conclusion: The study revealed that the respondents' knowledge of benefits of exercise was good. However despite the above, minority of the respondents still demonstrated poor knowledge and unfavorable attitude which may be due to those factors identified as hindrance to the benefit of exercise.*

KEYWORD: perceived benefit, exercise, pregnant mothers

INTRODUCTION

Background of the study

Universally, and in contemporary societies like Nigeria pregnancy being an important phase in the life of women has been found from previous studies to be a risk factor associated with decreased physical activity. Nevertheless, women also wish to be physically active during pregnancy as it is expected of every healthy pregnant women to do 30 minutes or more of light or moderate physical activities or exercise on most days

of the week if it is impossible to do it in all days of the week (American College of Obstetricians and Gynecologists (ACOG), 2012). This also shows that pregnant mothers need exercises because of its importance to increased blood circulation in the body system of a pregnant mother.

Physical activity and exercise are important components of a healthy lifestyle. According to the World Confederation for Physical Therapy (WCPT, 2011) exercise in pregnancy enables pregnant women to develop, maintain and restore maximum movement and functional ability throughout their pregnancy. Exercise is defined as a planned, structured, and repetitive subset of physical activity that improves or maintains physical fitness, overall health or well-being as an intended intermediate or final objective (WCPT, 2011). Exercise during pregnancy is associated with reduced back pain improved sleep and improved health perception as shown by results from few randomized controlled trials which examined the efficacy and safety of exercise during pregnancy.

Historically, pregnancy was regarded as a state of confinement. More recently, however, results from researches demonstrated many potential health benefits of aerobic and strength-conditioning exercise in pregnancy and the postpartum period. It is now considered safe, and even advisable, for otherwise healthy pregnant women to initiate or continue an active lifestyle during pregnancy. Lack of exercise during pregnancy might result in loss of muscular and cardiovascular fitness, excessive maternal weight gain with a raised risk of GDM, varicose veins, dyspnea, lower-back pain and poor psychological adjustment. Previous studies have reported that exercise during the second half of pregnancy could reduce the severity of lower back pain. A study was carried out to evaluate a population of pregnant women and results suggest that the practice of water-based physical activity is beneficial to pregnant women, although it was not associated with any increase in quality of life.

Although exercise programs during pregnancy after childbirth is designed to minimize impairment and helps the woman maintain or regain function while she is preparing for the arrival of the baby and then caring for the infant, it is submitted that pregnant women are not meeting the exercise recommendations of previous studies (De-Barros, Lopes, Francisco, Sapienza & Zugaib, 2010). This is linked to numerous factors such as the beliefs and attitudes of pregnant women with respect to exercise in pregnancy, level of knowledge, level of education, safety concern of the pregnant woman especially a precious pregnancy and her physician, race/ethnicity, and previous involvement in regular exercise (Mbada, Adebayo, Adeyemi, Arije & Dada, 2014). Studies have also shown that pregnant women's perception and attitude towards exercise in pregnancy was influenced mostly by tiredness, lack of feeling to exercise, and insufficient information on exercise. Similar findings have been reported by other authors (Cioffi, Schmied, Dahlen, Mills & Thornton, 2014).

Furthermore, knowledge about benefit and contraindication to antenatal exercise significantly influences the perception and attitude of the women towards exercise in pregnancy. There is ample and consistent evidence that physical activity and exercises in women of reproductive age may be a promising approach for the prevention of excessive

weight gain, gestational diabetes mellitus and subsequent complication suffered by children born from pregnancies (Ferraro, Rutherford, Keely, Dubois & Adamo, 2015). This finding of previous studies revealed that there is significant association between adequate knowledge of antenatal exercises and perceived benefits of exercise during pregnancy among women of reproductive age (Abedzadeh, Saberi & Sadat, 2015).

Since pregnancy is an ideal time for behaviour modification and for adopting a healthy lifestyle because of increased motivation and frequent access to medical supervision. Patients are more likely to control weight, increase physical activity, and improve their diet physician recommends that they do so. Therefore, motivation counseling tools have been used successfully for diet and exercise counseling. Therefore, pregnancy is a good time to develop healthy lifestyle habits including regular exercise and good nutrition. Besides, based on the mentioned benefits of pregnant women's exercise, the objective of the present study was to assess the perceived benefits of exercise among pregnant mothers in University of Calabar Teaching Hospital (UCTH), Calabar, and Cross River State, Nigeria.

Purpose of the study

The purpose of this study was to assess the perceived benefits of exercise among pregnant mothers in University of Calabar Teaching Hospital (UCTH), Calabar, Cross River State, Nigeria.

Specific Objectives

1. Assess the level of knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar.
2. Determine pregnant mothers' perception of the benefits of exercise during pregnancy.
3. Ascertain the factors influencing the perception of the benefits of exercise among pregnant women in UCTH, Calabar.

Research questions

1. What is the level of knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar?
2. What is the perception of the benefits of exercise among pregnant mothers' in UCTH, Calabar?
3. What are the factors influencing the perception of the benefits of exercise among pregnant women in UCTH, Calabar?

Research hypothesis

There is no significant relationship between level of knowledge of the importance of exercise among pregnant mothers and perception of the benefits of exercise among pregnant mothers' in UCTH.

Scope of the study

This study is limited to University of Calabar teaching hospital and is also concerned on assessing knowledge, perception, and the factors influencing the perception of the benefits of exercise among pregnant women in UCTH, Calabar?

Importance

The findings from this study would help students, individuals, families, communities, hospitals and the nation at large to have more insight into the knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar. The findings would highlight more information on the perception of the benefits of exercise among pregnant mothers' in UCTH, and also among undergraduate nursing students in University of Calabar, Calabar.

The findings of this study would also sensitize people towards changing their opinions towards the factors influencing the perception of the benefits of exercise among pregnant women in UCTH.

This study would provide baseline data for other researchers and also the benefits of exercise among pregnant women in UCTH, Calabar, in the nearest future.

Limitation of the study

The limitation of this study was the challenge of collecting information from respondents as some respondents were reluctant to give their information for confidential purposes. However, this was overcome by the researchers who administered the questionnaire face-to-face to the respondents who filled and submitted them at the spot.

LITERATURE REVIEW

The Level of Knowledge of the Importance of Exercise among Pregnant Mothers

Knowledge has been variously defined. Hornby (2006) describes knowledge as information, understanding and skills that one gains through education or experience. Knowledge is critical to man's quality of life because everything that is done depends on knowledge. Knowledge is the sum of conceptions, views and propositions which have been established and tested. In the context of this study, knowledge refers to the act of having adequate information and understanding of the concept of focused antenatal care services. This knowledge can be obtained through health education, electronic media, prints and health education programmes. It could be in realization of the above assertion that Magadu, Maduse & Rodignes (2006) maintained that knowledge of pregnant mothers is a major factor in determining the extent of utilization of benefits of exercise. According to them, the educational status of pregnant mothers is an influencing determinant in the effective utilization of maternal and child health (MCH) services. Igbokwe (2008) indicated that urban and rural locations have great impact on the utilization of the benefit of exercise. Expectant mothers in the urban area utilize antenatal services better than their counterparts in the rural area who have the problems of accessibility to MCH services; some pregnant mothers in the rural area may have basic knowledge of the importance of antenatal services but due to problems of accessibility to health facilities will hinder them from such services (Igbokwe, 2008). Also inadequate knowledge concerning health related matters usually lead to negative attitude towards the health issue. It is positive when a person develops a strong attraction of likeness for the situation, objectives or other persons or groups while it is negative when the person

develops dislike for such situations, objectives, group or any other identifiable aspects of our environment (Igbokwe, 2012).

Pregnant Mothers' Perception of the Benefits of Exercise During Pregnancy

Pregnant women generally experiences physical, psychological and physiological changes during pregnancy which often results in decreased in physical activity and thereby place them at a risk of several chronic diseases and a times, it can lead to mortality. Prenatal exercise is of great benefit to both the mother and the foetus in order to reduce risks of disorders associated with pregnancy on them (Clap & Rizzle, 2016). Exercise refers to structured form of physical activity usually for reasons of gaining or maintaining fitness and it produces a versatile range of physical, physiological, biochemical and psychological changes, and the nature and magnitude of these changes depend on the type, frequency of the exercise, exercise intensity, duration of exercise performed especially during the prenatal period (Udoh, 2001). Exercise has been scientifically known for promoting the circulation of blood to both the pregnant women and the vital organs of the foetus. Exercise improves muscle tone, thus enhancing safe and normal delivery (Fraser & Cooper, 2014).

Pre-natal exercise is described as physical activity performed by pregnant women in order to improve their health before delivery (Schuurmans, Senikas, & Lalonde, 2014). It has many benefits such as improvement of cardiovascular fitness, easier and less complicated birth (Clapp, 2000). Simkin, Whalley, & Keppler (2015) emphasized that the best amount and type of exercise for pregnant women is dependent on overall health, the risk level of the pregnancy, the level of her fitness and her activity level before becoming pregnant. Physical changes accompanied with pregnancy directly affect the pregnant women's tolerance for exercise. Hormonal changes cause the ligament to relax and the joints to become more mobile. The center of gravity shifts because of the enlargement of the abdomen. When pregnant women engages in frequent physical exercise, it will helps to maintain and tones the muscle of the body, makes the pregnant woman to be strong, agile and give the woman the endurance needed during labour. Samselle (2012) listed some conditioning exercises that are introduced to take care of the muscles that pregnancy affects most by pregnancy. These exercises are meant to help the pregnant women make good use of all their muscles during birth, and to increase the speed of post-partum recovery. The conditioning exercise includes pelvic floor exercise (kegel or super kegel exercise) which aim at maintaining the tone of the muscles especially the pelvic muscles, improve circulation, and provide a good support for the uterus and other organs. Another exercise is pelvic tilting which strengthen the abdominal muscles, improve posture and relieves backache.

Simkin, Whalley & Keppler (2015) stated that pre-natal exercise programme for pregnant women should include at least five minutes of warm up (slow, smooth movements and stretching); a period of sustained, vigorous aerobic exercise lasting approximately fifteen minutes; and at least five minutes of cool-down consisting of mild activity until the heart rate returns to normal. The kind of aerobic exercise that is best for pregnant mothers is a low impact exercise which includes brisk walking, swimming, and cycling. In this study prenatal exercise is described as physical effort performed by the pregnant mothers in order to improve their health before delivery.

Perception refers to how a person sees a situation or the feeling an individual has about a thing. However, according to Wehmeier (2011) perception is defined as an idea, or an image one has as a result of how one sees or understands a thing or situation. In this study, perception could be used to mean the view of pregnant women on the benefits of pre-natal exercise. Benefit in this study is the ability of prenatal exercise to produce good health results for the pregnant women and the foetus. A Pregnant woman is a woman that is carrying a developing embryo or foetus in her womb. The age range of child bearing women according to WHO/UNFPA/UNICEF/World Bank Statement (2002) is 15-49 years. When a woman is pregnant she is exposed to so many health risks, not only the pregnant women, the child in her womb is also exposed to so many health risks. Because of this, it is necessary for all the pregnant women to be monitored by gynecologists at the antenatal clinic. Antenatal clinic is any branch of health services that takes care of pregnant women. Any clinic that takes proper care to the pregnant women prior to delivery is known as antenatal clinic (Pearsall, 2015). In this study antenatal clinic monitors the health of a woman during pregnancy, as well as the health and development of the baby.

The Factors Influencing the Perception of the Benefits of Exercise among Pregnant Women

Women in Gaston & Cramp (2011) suggested that some factors such as age, ignorance, culture and belief and level of education may influence perception of pregnant women on prenatal exercise. Age of pregnant women largely influences her perception on the benefits of prenatal exercise. Kurz, Bondura & Khale (2016) concluded that the wide variety of lower maternal age portends negative perception of benefits of pre-natal exercise. Gaston & Vamos (2012) showed that younger women participate in high levels of prenatal exercise; than the older women. They also stated that women under 24 years are likely to meet the American College of Obstetricians and Gynecologist (ACOG) guideline more than pregnant women over 25 years of age. Rose et al, (2015) affirmed that pregnant women between ages of 26-35 year engage in prenatal exercise than younger pregnant women. Clarke & Gross (2014) records no relationship between the age of the woman and her exercise level during pregnancy. Peterson & Brownsen (2016) revealed that younger pregnant women participate in exercise than the older ones.

Level of education is also a factor that may influence the perceived benefits of pregnant mother's exercise. Good level of education empowers the pregnant women to make crucial decisions and perceive the benefits of prenatal exercise. Senanoyake (2016) submitted that educated women are more likely to derive more health benefits associated with physical exercise as they are more aware of these benefits. Gaston & Vamous (2012) found out that women with higher education will engage in prenatal exercise. But Clarke & Gross (2014) found no association between the perceived benefits of prenatal exercise and level of education of pregnant women. Mottola & Campbell (2003) asserted that there is higher participation in physical activity or exercise with higher education. Also Peterson & Brownsen (2016) concluded that educated pregnant women are more likely to meet the moderate or vigorous physical activity recommendations. Gaston & Cramps (2011) stated that higher education of pregnant women is predictors of higher exercise participation during pregnancy. Mbada, *et al* (2015) also concluded that there is

significant influence between the perceived benefits of prenatal exercise and level of education.

Summary of Literature Review

Based on the knowledge of pregnant women towards exercises indicates that knowledge of pregnant mothers is a major factor in determining the extent of utilization of benefits of exercise. According to them, the educational status of pregnant mothers is an influencing determinant in the effective utilization of maternal and child health. For perceived benefit studies have shown that prenatal exercise is of great benefit to both the mother and the foetus in order to reduce risks of disorders associated with pregnancy on them (Clap & Rizzle, 2016). and the nature and magnitude of these changes depend on the type, frequency of the exercise, exercise intensity, duration of exercise performed especially during the prenatal period

For factors influencing perceived benefits includes age, ignorance, culture and belief and level of education may influence perception of pregnant women on prenatal exercise. Age of pregnant women largely influences her perception on the benefits of prenatal exercise. Kurz, Bondura & Khale (2016) concluded that the wide variety of lower maternal age portends negative perception of benefits of pre-natal exercise. Gaston & Vamos (2012) showed that younger women participate in high levels of prenatal exercise; than the older women. They also stated that women under 24 years are likely to meet the American College of Obstetricians and Gynecologist guideline more than pregnant women over 25 years of age.

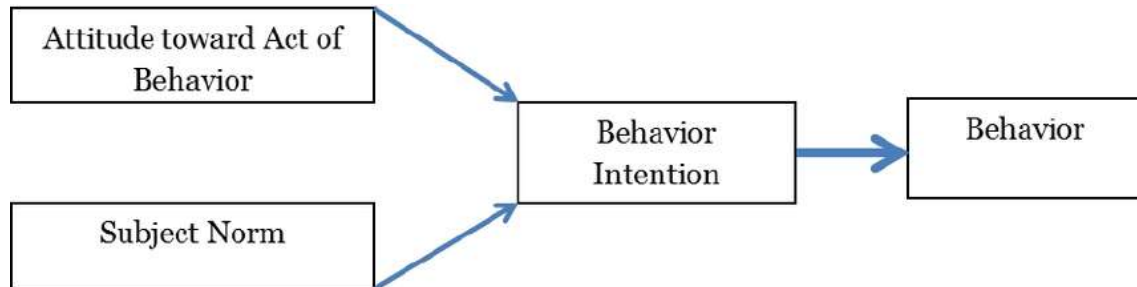
THEORETICAL FRAMEWORK

The study employs the theory of reasoned action. The theory of reasoned action (TRA) is a model for the prediction of behavioural intention, spanning predictions of attitude and predictions of behavior. The theory was developed by Martin Fishbein and ICek Ajzen (1975, 1980) developed from social psychological setting, the components of TRA are three general constructs:

- Behavioral intention (BL) attitude (A) and subjective norm (SN). TRA suggests that a persons' behavioural intention depends on the person's attitude about the behaviour and subjective norm (A + SN). If a person intends to do a behaviour then it is likely that the person will do it.
- A person's volitional (voluntary) behaviour is predicted by her attitude toward that behaviour and how she thinks either people would view them if they performed the behaviour. A person's attitude, combined with subjective norms forms her behavioural intention.

In this work, if members of the community and pregnant women believe and view antenatal exercises to be the best for the pregnant women, they will likely see the need for the pregnant women to have adequate antenatal exercise and post antenatal exercises in the hospital/clinics and to deliver their babies in the clinics and hospital, but if they see no need for this and based on other mothers not delivering in the hospital/clinics and not doing the exercise, the pregnant women will see no need of utilizing the clinics for

their exercises and needs. But, if adequate information is given Pre-natal exercise is described as physical activity performed by pregnant women in order to improve their health before delivery this will go a long way to help them and also increase their relaxation period during the first phase of delivery.



Theory of Reason Action by Martin Fishbein & Icek Ajzen (1975, 1980)

METHOD

Research design

The research design adopted for this study was the descriptive design which enabled the researcher to assess the perceived benefits of exercise among pregnant mothers in University of Calabar Teaching Hospital (UCTH), Calabar, Cross River State, Nigeria.

Research setting

The setting for the study is Calabar and the site is University of Calabar Teaching Hospital (UCTH), Calabar. Calabar is the capital of Cross River State and a one-time Capital of Nigeria. As the first capital of Nigeria, Calabar remain an important city in the history of Nigeria. Located on a peninsula between Calabar River and the great Kwa River, Calabar lies between 4°58 North of the equator and 8°17 East of the Greenwich Meridian with an estimated population of about 1.293million people (National Population Census, 2006). Calabar possesses common boundary to the South with Equatorial Guinea, to the East with Oron Local Government Area in Akwa Ibom State, to the West with Akpabuyo Local Government Area and to the North with Odukpani Local Government Area. Calabar is an Island situated 87km from Uyo, the capital of Akwa Ibom State. It is separated from nearby highland areas by rivers and broad stretches of low, wet land and mangroves swamps. Calabar is inhabited by the Quas and the Efiks. However, due to migration and urbanization, people from other tribes such as the Ibibios, Ibos, Yorubas, Hausa and people from other tribes now resident in the city. It is a peaceful city with tourist attractions such as Marina Resorts and Tinapa. The people are traders, fishermen and civil servants by occupation. The main religions are christianity and traditional beliefs.

The Site of the study is UCTH, Calabar was established in 1979. The hospital is a tertiary health facility located in Calabar Municipal Council Area along UNICAL Hotel Road by the west, bounded in the North by Edim-Otop community, in the East by Satellite town and in the South by University of Calabar (UNICAL), Calabar. It serves as a training Centre for medical, nursing and paramedical personnel and also a research centre. The

hospital is also made up of twenty-five (25) wards and units, with 392 bed complements and 118 cots, amongst which are Casualty Ward; Diarrhoea Treatment and Training Unit (DTTU); Eye Ward; Ear, Nose and Throat (ENT) Ward; Male Medical Ward; Male Surgical Ward; Female Medical Ward; Female Surgical Ward; Paediatric Medical Ward; Paediatric Surgical Ward; Male Orthopaedic Ward; Female Orthopaedic Ward; Cardiothoracic Ward; Intensive Care Unit (ICU); Gynaecological ward; Ante-natal Ward; Post-natal Ward; Labour Ward; Special Care Baby Unit (SCBU); and Sick Baby Unit (SBU).

Research population

Target population

The target population of the study consisted of all registered pregnant women who booked in the University of Calabar Teaching Hospital (UCTH). This summed up to 531 registered pregnant women.

Accessible population

The accessible population was 150 registered pregnant women from all the wards/units in UCTH, Calabar. This covered pregnant women who were in the wards as at the time this study was carried out in UCTH.

Sample and sampling technique

The sampling technique used was convenient sampling to enable the researcher select the one hundred and fifty (150) patients that will constitute the sample for this study. The sample size for this study was 150 respondents, the sampling technique adopted for this study was the simple random sampling technique where 50 respondents were selected from three wards making a total of 150 using balloting system of Yes or No. who picked yes were used for the study.

Validity of instrument

Face validity and content validity of the research instrument was established by the researcher. In order to achieve this, the researcher constructed the instrument reflecting the variables under investigation. Also, the items in the instrument were based on the specific objectives, and the researcher gave the developed tool to the supervisor for modification of items, assessment and approval of the instrument.

Reliability of the instrument

Reliability refers to the consistency with which an instrument measures what it is supposed to measure. The reliability was done using test-retest method. Here the researcher gave 20 questionnaires to registered women in General Hospital, Calabar who were not part of the study. Thereafter, the same sets of questionnaires were administered to the same respondents after three (3) week and the two tests were correlated using Pearson product moment correlation coefficient and the reliability co-efficient of 0.76 was gotten as shown below;

Table 1: Test re-test reliability of the Knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar? (n=20)

Variable	No. of items	Testing	X	SD	r
Knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar?	6	1 st	19.72	1.98	0.98
		2 nd	20.90	2.48	
Perception of the benefits of exercise among pregnant mothers' in UCTH, Calabar?	6	1 st	20.42	3.10	0.85
		2 nd	22.81	3.78	
Factors influencing the Perception of the benefits of exercise among pregnant mothers' in UCTH, Calabar?	5	1 st	21.68	3.14	0.76
		2 nd	18.78	1.90	

Procedure for data collection

The questionnaire were administered to the subjects face to face with the help of a research assistant. One hundred and fifty (150) questionnaires were administered and same number was retrieved.

Procedure for data analysis

Data collected through the questionnaire were analyzed using descriptive statistics (simple percentages and frequency tables), while the hypothesis was tested using Pearson product moment correlation analysis of the relationship between knowledge of importance of exercise and pregnant women perception towards the benefit of exercise in UCTH? Significant at .05, df 148, critical $r = 0.178$

Ethical consideration

The researchers introduced themselves by presenting a copy of letter of introduction they obtained from ethical committee and the topic for the research was introduced and instructions given on how the questionnaires should be filled. The researchers reassured the participants that all information must be only for academic purpose and clients' names will not be indicated so as to maintain confidentiality and privacy. The consent of the respondents was adequately gained by giving them adequate information to enable them to express their feelings.

RESULTS**Socio-demographic data**

The socio-demographic data of respondents is presented as shown in Table 1.

Table 2: Socio-demographic data of respondents

	Frequency	Percentage
Age: Below 15 years	21	14
16-17 years	36	24
18- 19 years	55	36.7
20-24 years	38	25.3
	150	100
No. of children:		
1-4 children	64	42.7
5-7 children	52	34.7
8- above	34	22.6
	150	100
No. of Children alive:		
1-2 children	34	22.7
3-4 children	56	37.3
5-8 children	38	25.3
9-12 children	22	14.7
	150	100
Marital status:		
Married	88	58.7
Single	34	22.7
	150	100
Highest level of education:		
Never been to school	13	8.7
Primary school	37	24.7
Secondary school	46	30.6
Tertiary	50	36.0
	150	100
No, of Children delivered in:		
Government Hospital/Health	114	76
Centre Traditional delivery home	36	24
	150	100

The Socio demographic data of respondent as presented in table 1 indicate that 21(14%) of the respondents were below 15 years by age, 36(24%) were 16-17 years of age, 55(36.7%) were 18-19 years old, and 38(25.3%) were 20-24 years old. 64(42.7%) had 1-4 children, 52(34.7%) had 5-7 children and 34(22.6%) had 8-above children. On the number of children alive, 34(22.7%) had 1-2 children, 56(37.3%) had 3-4 children, 38(25.3%) had 5-8 children, and 22(14.7%) had 9.12 children. On their marital status, 88(58.7%) were married, 34(22.7%) were single and 28(18.6%) were widows. 13(8.7%) had not been to school before, 37(24.7%) had primary school education. 46(30.6%) had secondary school education while 50(36%) had tertian education. On their place of

delivery services, 114(76%) delivered in a government hospital/health center while 36(24%) delivered at a traditional delivery home.

RESULT FOR RESEARCH QUESTIONS

Research question I

What is the level of knowledge of the importance of exercise among pregnant mothers in UCTH Calabar?

This research question is answered using frequencies and percentages as presented in table 3.

Table 3: LEVEL OF KNOWLEDGE OF THE IMPORTANCE OF EXERCISE AMONG PREGNANT MOTHERS IN UCTH

LEVEL OF KNOWLEDGE OF THE IMPORTANCE OF EXERCISE AMONG PREGNANT MOTHERS IN UCTH	Yes	No
Have you ever heard about specific exercise for pregnant mothers?	53 (35.3)	97 (64.7)
Are you aware of antenatal clinic where exercise are carried out?	89 (59.3)	61 (40.7)
Have you ever carried out exercise as a pregnant mother?	27 (18)	123 (82)
Have you heard or had an idea about exercise in the traditional birth attendance been good for pregnant mothers?	36 (24)	114 (76)
Does exercise seem stressful to pregnant mother?	47 (31.3)	103 (68.7)
During antenatal clinic nurses allow you to know about different exercises that should be carried out by a pregnant mother?	106 (70.7)	44 (29.3)

Note: numbers in parentheses are percentages

Results in table 3 indicate that 97(64.7%) of the respondents said no that they have never heard about specific exercise for pregnant mothers while 53(35.3%) said yes. 89(59.3%) said yes that they are aware of antenatal clinic where exercise are carried out while 61(40.7%) said no. 27(18%) said yes that they have heard or had an idea about exercise

in the traditional birth attendance been good for pregnant mothers while 123(82%) said no. 36(24%) said yes that exercise seem stressful to a pregnant mother while 114(76%) said no. 47(31.3%) said yes that exercise is very stressful for pregnant mothers while 103 (68.7%) said no. 106(70.7%) said yes that during antenatal clinic nurses allow you to know about different exercises that should be carried out by a pregnant mother while 44(29.3%) said no.

From the above results, it can be said that Benefit of exercise are utilized to pregnant mother' knowledge in University of Calabar Teaching Hospital, Calabar.

Research question 2

What is the perception of the benefit of exercise among pregnant women in UCTH?

This research question is answered using frequencies and percentages as presented in table 4.

Table 4: PREGNANT MOTHERS' PERCEPTION OF THE BENEFITS OF EXERCISE DURING PREGNANCY.

PREGNANT MOTHERS' PERCEPTION OF THE BENEFITS OF EXERCISE DURING PREGNANCY	Yes	No
I do not like antenatal exercises because of its complications to pregnancy.	53 (35.3)	97 (64.7)
I like antenatal exercise because it improves easy delivery during labor	84 (56)	66 (44)
I love going to hospital because the nurses will explain the different types of exercises good for pregnant mothers	98 (65.3)	52 (34.7)
I love antenatal exercise because it improves sleep	88 (58.7)	62 (41.3)
Most women love antenatal exercise because it offers an appropriate method to each individual	99 (66)	51 (34)
Most women choose the wrong method of antenatal exercise because of <i>improper</i> counseling based on culture, religion and ignorance	86 (57.3)	44 (42.7)

Results in table 4 indicate that 53(35.5%) of the respondents said yes that they do not like antenatal exercises because of its complications to pregnancy, while 97(64.7%) said no. 84(56%) Said yes that they like antenatal exercise because it improves easy delivery during labor while 66(44%) said no. 98(65.3%) said yes that they love going to hospital because the nurses there will explain the different types of exercises good for pregnant mothers while 52(34.7%) said no. 99(66%) said yes that they love antenatal exercise because it improves sleep while 51(34%) said no. 99(66%) said yes that Most women **love** antenatal exercise because it offers an appropriate method to each individual while 51(34%) said no. 86(57.3%) said yes that Most women choose the wrong method of

antenatal exercise because of *improper* counseling based on culture, religion and ignorance while 64(42.7%) said no.

The result presented above therefore shows that pregnant mothers have a positive perception of antenatal exercise and are ready to utilize its different methods.

Table 5: FACTORS INFLUENCING THE PERCEPTION OF THE BENEFITS OF EXERCISE AMONG PREGNANT WOMEN IN UCTH, CALABAR

FACTORS INFLUENCING THE PERCEPTION OF THE BENEFITS OF EXERCISE AMONG PREGNANT WOMEN	Yes	No
Poor Level of Health Education	98 (65.3)	52 (34.7)
Culture and belief	38 (52.3)	112 (74.7)
Age	89 (59.3)	61 (40.7)
Access to health center and clinics	94 (62.7)	56 (37.3)
Ignorance	43 (28.3)	107 (71.3)

Note: numbers in parentheses are percentages

Result in table 5 indicates that 98(65.3%) of the respondents said yes to Poor Level of Health Education been one of the factors influencing the benefit of pregnant women exercises while 52(34.7%) said they are not. 38(25.3%) said yes Culture and belief affects the benefit the pregnant mothers derived from exercise while 112(74.7%) said No it doesn't. 89(59.3%) said age affect the pregnant mothers exercise while 61(40.7%) said no. 94(62.7%) said yes that they have access to health center and clinics while 56(37.3%) said they do not. 43(28.7%) said yes that ignorance affect the benefit of exercise for pregnant mothers' while 107(71.3%) said no, it doesn't.

Results for research hypotheses Hypothesis 1

There is no significant relationship between level of knowledge of the importance of exercise among pregnant mothers and perception of the benefits of exercise among pregnant mothers' in UCTH.

This hypothesis is tested using Pearson product moment correlation analysis as presented in table 6.

Table 6: PEARSON PRODUCT MOMENT CORRELATION ANALYSIS OF THE RELATIONSHIP BETWEEN LEVEL OF KNOWLEDGE OF THE IMPORTANCE OF EXERCISE AMONG PREGNANT MOTHERS AND PERCEPTION OF THE BENEFITS OF EXERCISE AMONG PREGNANT MOTHERS' IN UCTH?

Variables	$\sum x$	$\sum x^2$	$\sum xy$	R
Knowledge of importance of exercise	4313	25671		
108288	0.277			
Perception of the benefits of exercise		3744	96634	

Significant at .05, df 148, critical r = 0.178

Result in table 6 indicates that a calculated r-value of 0.277 was obtained. This value when compared to the critical r-value of 0.178 at .05 probability level and 148 degrees of freedom was found to be higher. On the basis of this observation, the null hypothesis is rejected, meaning that there is a significant relationship between knowledge of importance of exercise and perception of the benefits of exercise among pregnant mothers' in UCTH?

DISCUSSION

What is the level of knowledge of the importance of exercise among pregnant mothers in UCTH, Calabar?

The study from table 3, item 7 reveals that majority of the respondents 97(64.7%) asserted that they have never heard about specific exercise for pregnant mothers while 53(35.3%) said they have. In item 8, Majority of the respondent 89(59.3%) said yes that they are aware of antenatal clinic were exercise are carried out while 61(40.7%) said no. in item 9, 27(18%) of the respondents said yes that they have heard or had an idea about exercise in the traditional birth attendance been good for pregnant mothers while 123(82%) said no. The study also revealed in item 10, that 36(24%) respondents said yes that exercise seem stressful to a pregnant mother while majority of the respondents 114(76%) said no. in item 11, 47(31.3%) of the respondents said yes that exercise is very stressful for pregnant mothers while 103 (68.7%) said no. in item 12, Majority of the respondents 106(70.7%) said yes that during antenatal clinic nurses allow you to know about different exercises that should be carried out by a pregnant mother while 44(29.3%) of the respondents said no.

What is the perception of the benefits of exercise among pregnant mothers' in UCTH, Calabar?

The study from table 4, item 13 reveals that 53(35.5%) of the respondents said yes that they do not like antenatal exercises because of its complications to pregnancy, while majority of the respondents 97(64.7%) said no. in Item 14, majority of the respondents 84(56%) asserted that they like antenatal exercise because it improves easy delivery during labor while 66(44%) of the respondent said no. Also in item 15, 98(65.3%) of the respondents asserted that they love going to hospital because the nurses there will explain the different types of exercises good for pregnant mothers while 52(34.7%) of the

respondents said no. in item 16, Majority of the respondents 99(66%) said yes that they love antennal exercise because it improves sleep while 51(34%) said no. in item 17, 99(66%) of the respondents asserted that Most women **love** antenatal exercise because it offers an appropriate method to each individual while 51(34%) said no. Never the less in item 18, 86(57.3%) said yes that Most women choose the wrong method of antenatal exercise because of *improper* counseling based on culture, religion and ignorance while 64(42.7%) of the respondents said no.

The study of Fraser & Cooper, 2014, in line with the study also stated that Exercise has been scientifically known for promoting the circulation of blood to both the pregnant women and the vital organs of the foetus. Exercise improves muscle tone, thus enhancing safe and normal delivery. Pre-natal exercise is described as physical activity performed by pregnant women in order to improve their health before delivery (Schuurmans, Senikas, & Lalonde, 2014). It has many benefits such as improvement of cardiovascular fitness, easier and less complicated birth (Clapp, 2000). This is also in line with item 15, Simkin, Whalley, & Keppler (2015) emphasized that the best amount and type of exercise for pregnant women is dependent on overall health, the risk level of the pregnancy, the level of her fitness and her activity level before becoming pregnant. Physical changes accompanied with pregnancy directly affect the pregnant women's tolerance for exercise. Hormonal changes cause the ligament to relax and the joints to become more mobile.

What are the factors influencing the perception of the benefits of exercise among pregnant women in UCTH, Calabar?

The Study from 5, item 19 reveals that majority of the respondent 98(65.3%) asserted that Poor Level of Health Education been one of the factors influencing the benefit of pregnant women exercises while 52(34.7%) said they are not. In item 20, 38(25.3%) said yes Culture and belief affects the benefit the pregnant mothers derived from exercise while 112(74.7%) said No it doesn't. Also from item 21, reveals that 89(59.3%) of the respondents asserted that age affect the pregnant mothers exercise while 61(40.7%) said no. in item 22, Majority of the respondent 94(62.7%) said yes that they have access to health center and clinics while 56(37.3%) said they do not. None the less in item 23, 43(28.7%) of the respondents said yes that ignorance affect the benefit of exercise for pregnant mothers' while 107(71.3%) said no, it doesn't.

In correspondent to the study, Gaston & Cramp (2011) suggested that some factors such as age, ignorance, culture and belief and level of education may influence perception of pregnant women on prenatal exercise. Age of pregnant women largely influences her perception on the benefits of prenatal exercise. Kurz, Bondura & Khale (2016) concluded that the wide variety of lower maternal age portends negative perception of benefits of pre-natal exercise.

Also Senanoyake (2016) in correspondent to the study submitted that educated women are more likely to derive more health benefits associated with physical exercise as they are more aware of these benefits. Gaston & Vamous (2012) found out that women with higher education will engage in prenatal exercise. But Clarke & Gross (2014) found no association between the perceived benefits of prenatal exercise and level of education of pregnant women. Mottola & Campbell (2003) asserted that there is higher participation

in physical activity or exercise with higher education. Also Peterson & Brownsen (2016) concluded that educated pregnant women are more likely to meet the moderate or vigorous physical activity recommendations.

The relationship between level of knowledge of the importance of exercise among pregnant mothers and perception of the benefits of exercise among pregnant mothers' in UCTH?

Result in table 6 indicates that a calculated r-value of 0.277 was obtained. This value when compared to the critical r-value of 0.178 at .05 probability level and 148 degrees of freedom was found to be higher. On the basis of this observation, the null hypothesis is rejected, meaning that there is a significant relationship between knowledge of importance of exercise and perception of the benefits of exercise among pregnant mothers' in UCTH

CONCLUSION

The study revealed that the respondents' knowledge of benefits of exercise was good. However despite the above, minority of the respondents still demonstrated poor knowledge and unfavorable attitude which may be due to those factors identified as hindrance to the benefit of exercise. Effort should be made to address those falls to improve their knowledge.

Recommendations

Considering the result of findings, it was recommended among others that:

1. Women should be careful when planning to engage in these activities (exercise), mainly when starting only during pregnancy.
2. Attention should also be paid in avoiding exercise in supine position during the second half of pregnancy in order to prevent hypotension and avoid the Valsalva maneuver throughout the pregnancy.
3. Women should start with 15 min of exercise three times a week and gradually increase to 30 min four times a week at low-to moderate intensity.
4. Active women at the University of Calabar Teaching Hospital may keep their routine exercise or perform at least moderate-to vigorous exercise four times a week in sessions of 30 min or more.
5. Nurses in the area should also include benefits of exercise in their health talks during antenatal clinic to prevent the negative perception about pregnant mothers'.

Implications for nursing practice

The overall finding obtained from the result revealed pregnant women knowledge based on the benefits of exercise. However, there still exist poor knowledge. This calls for intensive awareness creation on the benefits of exercises among pregnant mothers' for these women during ANC visit. Also workshop and retraining on component of exercises should be conducted for nurses in UCTH to update their knowledge and careful monitoring and supervision in order to improve on those observed weaknesses which posed as barriers to utilization of exercise among pregnant women.

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