Attitude to Antenatal Exercise among Pregnant Women in Enugu State

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Abstract

A cross sectional descriptive survey was conducted to determine the attitude of pregnant women towards antenatal exercise in Enugu state, Nigeria. The study population consisted of all pregnant women that attended antenatal care services in Nsukka Local Government Area of Enugu state from January to August 2016. Two stage sampling procedure employing simple random and purposive sampling were used to select 204 pregnant women used for the study. Researchers structured and validated questionnaire Attitude to Antenatal Exercise Questionnaire (AAEQ) was the instrument for data collection. Frequencies and percentages were used to answer the research questions while chi-square statistics was used to test the null hypotheses at .05 level of significance. Results of the study indicated that majority of pregnant women (77.2%) had positive attitude to antenatal exercise. No significant difference existed in their attitude based on age (χ^2=10.749, p = .105) while significant differences existed in their attitudes based on level of education (χ^2=42.702, P= .001), parity (χ^2=15.249, P = .040) and occupation (χ^2=25.585, p= .038). The authors recommended that antenatal exercise classes should be conducted for all childbearing mothers irrespective of their parity, occupation or educational level so as to increase their knowledge and influence their attitudes for better practice of antenatal exercise.

Key words: Attitude, antenatal exercise, pregnant women

Introduction

Exercise is a fundamental component of antenatal care. However, women's physical activity lessens as the perception of risk in pregnancy is high (Motolla & Mclaughlin, 2011). According to Down, Chasan-Taber, Evenson, Leiferman & Yeo, (2012), lifestyle intervention targeting physical activity have the potential to prevent gestational diabetes, pre-eclampsia and excessive gestational weight gain in pregnant women. The International Association of Diabetes and Pregnancy Study Group Consensus Panel (2010) reported that it is estimated that 18 percent of all pregnant women will be diagnosed with gestational diabetes mellitus (GDM). Excessive gestational weight gain is a risk factor for GDM while pre-eclampsia is one of the hypertensive disorders that women with GDM can develop. In light of the increasing prevalence of these disorders, and their relationship to increasing obesity rates, the need to identify strategies that might prevent their onset as well as their short and long-term sequel for the mother and the offspring becomes critical (Evenson & Wen, 2010).

Antenatal exercises are those activities that are performed by pregnant women to improve their strength and fitness. During pregnancy, there are several changes in the pregnant women's body due to effects of hormones of pregnancy. Increased progesterone and relaxin (hormones of pregnancy) during pregnancy reduce support and increased mobility in structures to which muscles and tendons are attached. Examples include softening of the cervix, mobility of the symphysis pubis, relaxation of the joints of the pelvis and lower back especially the sacroiliac joints (Ribeiro & Milanez, 2011, Dignon & Reddington, 2013). Other changes occur in different organs of the body causing some discomfort in the pregnant women. Some of the minor discomforts in pregnancy include; low back pain, loss of balance, weakness of the pelvic floor muscles, urinary incontinences, sciatica among others. These discomforts can be relieved through appropriate antenatal exercises.

The American Congress of Obstetrician and Gynaecologists (2015) recommended that pregnant women can exercise moderately for 30 minutes on most days of the week. This report further stated that most distinct changes in pregnancy are increased weight gain, and a shift in the centre of gravity that results in lordosis. Strengthening of the abdominal and back muscles could minimize the risk of the shift in the centre of gravity and other discomforts associated with this shift.

Some of the exercises recommendations during pregnancy include; breathing exercise, aerobics, pelvic floor exercise, brisk walking, and indoor stationary cycling among others (Nkhata, Nkadu Schula & Mweshi, 2016). However, pregnant mothers should consult with their health care providers before engaging in some of these exercises. Breathing exercise ensures a steady intake of oxygen as well as prepares the woman for the need to maintain uniform and rhythmic breathing during labour. Pelvic floor exercise reduces the possibility of urinary incontinence or difficulty with postpartum urination and helps prevent the prolapse of the uterus (Down et. al., 2012). Another importance of the pelvic floor exercise is their active contraction to enhance enjoyment during coital activity and reflex contraction during orgasm (Evenson & Wen, 2010). Aerobics such as brisk walking and cycling improves cardiovascular fitness and endurance (Ribeiro & Milanez, 2011). The effects of these exercises on the foetus are also enormous.

Contrary to belief that exercise increase risks associated with pregnancy, Evenson and Wen (2010) asserted that these beliefs have not been proved scientifically and that not only is exercise during pregnancy safe but it is beneficial for both the mother and for the baby. According to Nkhata, Nkandu and Schula (2015), babies born from exercising women seem calmer, more intelligent with improve neurological and mental development and adapt faster to the outside. These benefits from exercise notwithstanding, pregnant women in the study area seem not to be engaging in most of these exercises. Abugu, Abah, Ekong, Echezona, Ugwu and Ejeh (2016) reported that low proportion (pelvic floor exercise - 27.8%, static cycling-19.7%, swimming - 9.2%) of pregnant women in Enugu State engaged in some of these exercises during pregnancy. This could be as a result of their beliefs and attitudes towards antenatal exercise.

Attitude is disposition or state of mind. Attitude to antenatal exercise, therefore means the pregnant women's disposition towards antenatal exercise. This disposition can be favourable or unfavourable, positive or negative. Attitude influences behavioural change. Behavioural change is difficult in individuals who have the appropriate knowledge and skills to perform the behaviour but are still unable to do so due to competing barriers (Duncombe, Wertherm, Skouteris & Kelly, 2007). Studies suggest that perceived barriers which can affect attitude to antenatal exercise include physical discomfort from nausea, fatigue, beliefs such as embarrassment about appearances, uncertainty about how to exercise safely during pregnancy, concern about injury, lack of or incorrect information from healthcare providers, lack of care due to child care commitments (Evenson, Moos, Carnet,& Siena-Rizl, 2008; Vladutiu, Evenson & Marshall, 2010; Leifermann Swibas, Marshall, & Dunn, 2011). Other factors that affect attitude to antenatal exercise could be number of children, mothers' occupation, age and educational level. These later factors will be investigated in this study.

Enugu State is one of the 36 states in Nigeria located in the south east region of the country. The only reported exercise practice in the area was brisk walking - 52.5 per cent (Abugu et., al, 2016). According to Sujindra, Bupathy and Pravena (2015), attitudes towards antenatal exercise during pregnancy have changed dramatically over the past two decades. It is unclear whether same can be said of pregnant women in Enugu State because of the scarce literature on the subject matter. This then necessitates the need to study attitude of pregnant women towards antenatal exercise in Enugu State. Findings from the study will be beneficial to pregnant women, health care providers, policy makers, health educators and the general public. Consequently, the purpose of this study was to find out the attitude of pregnant women towards antenatal exercise in Enugu State. Specifically, the study investigated the attitude of pregnant woman towards antenatal exercises according to age, educational level parity and occupation. The study also hypothesised that there was no significant difference in the attitude of pregnant women towards antenatal exercise based on age, level of education, parity and occupation.

Method

The study adopted cross sectional survey research design. Population for the study consisted of all the 2,008 pregnant mothers registered and attending antenatal clinic in the 16 health facilities that offer antenatal care services in Nsukka LGA from January to August 2016 (Office of the Monitoring and Evaluation Unit, Health Department Nsukka LGA). There are 50 health care facilities in the three development centres in Nsukka LGA out of which 16 offer antenatal care services. A sample size of 204 respondents was chosen, representing approximately 10 per cent of the population. A two-stage sampling procedure was used to arrive at the sample. First stage involved drawing six

health facilities (two from each development centre) from the existing 16 health facilities that offer antenatal care services using simple random sampling of balloting without replacement while second stage involved the use of purposive sampling technique on antenatal clinic days to select 34 pregnant women each from the six sampled health facilities. This procedure produced 204 pregnant mothers for the study.

A researchers' structured questionnaire termed Attitude to Antenatal Exercise Questionnaire (AAEQ) was used for data collection. The instrument comprised two sections. Section A solicited information on personal data of the respondents' age, educational level, parity and occupation while section B sought information on attitude to antenatal exercise. The instrument was a four-point scale of strongly agree, agree, disagree and strongly disagree. Face validity of the instrument was established by three experts in Health Education, University of Nigeria Nsukka. The AAEQ was administered to 20 women that attended antenatal care clinic in District Hospital Enugu Ezike after which split half was used to determine reliability of the instrument. Spearman Brown correlation coefficient was utilized to determine reliability coefficient which yielded .71. Data were collected by the researchers and research assistants during antenatal clinic days at the sampled health facilities. Informed consent was obtained verbally from the respondents prior to administration of the instrument. Completed copies of the instruments were collected on the spot after completion to ensure maximum return rate. Out of 204 copies distributed and retrieved, 194 were properly filled and used for data analysis. The data were coded and analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 21. In determining the attitude of respondents, strongly agree and agree were collapsed to represent agree while disagree and strongly disagree were collapsed to represent disagree. A response of agree to positive statement was interpreted as positive attitude while disagree was interpreted as negative attitude. The reverse was the case for negative statement. Afterwards, frequency and percentage were used to answer research questions. Chi-square statistic was used to test the null hypotheses at .05 level of significance and appropriate degree of freedom.

Results

Table 1
Demographic Characteristics of Respondents (n = 194)

Characteristics	**F**	**%**
Age		
Less than 30 years	90	46.4
30years and above	104	53.6
Level of education		
No formal education (NFE)	10	5.2
Primary education (PE)	28	14.4
Secondary education (SE)	66	34.0
Tertiary education (TE)	90	46.4
Parity		
One pregnancy	50	25.8
Two to four pregnancies	114	58.8
Five and above pregnancies	30	15.5
Occupation		
House wife	59	30.4
Civil servant	49	25.3
Self employed	56	28.9
Schooling	30	15.5

Table 1 shows the demographic characteristics of respondents. More than half of the respondents were aged 30 years and above (53.6%), most had tertiary education (46.4%), two to four pregnancies (58.6%) and were housewives (30.4%).

Table 2
Attitude of Pregnant Women towards Antenatal Exercise (n = 194)

S/N	Statements	Age < 30 (n=90)		Age ≥ 30 (n=104)		χ^2val	P val
		F	%	F	%		
1	Exercise during pregnancy is necessary	86	95.5	98	94.2	5.521	.137
2	Exercise during pregnancy facilitates normal delivery	78	86.6	86	82.7	4.634	.201
3	I feel like exercising during pregnancy	66	73.3	66	63.4	4.852	.183
4	Exercise during pregnancy should be encouraged	52	57.8	66	63.5	12.299	.006*
5	Exercise during pregnancy facilitates rapid postnatal recovery	70	77.8	100	96.2	26.443	.000*
	Overall attitude (%)		**78.2**		**80.0**	**10.749**	**.105**

*significant at p< .05

Table 3
Attitude of Pregnant Women to Antenatal Exercise Based on Age (n = 194, df=3)

S/N	Statements	Response: Agree		Disagree		Decision
		F	%	F	%	
1	Exercise during pregnancy is necessary	184	94.8	10	5.2	
2	Exercise during pregnancy facilitates normal delivery	164	84.6	30	15.4	
3	I feel like exercising during pregnancy	132	68.0	62	31.9	
4	Exercise during pregnancy should be encouraged	118	60.9	76	39.2	
5	Exercise during pregnancy facilitates rapid postnatal recovery	170	77.6	24	12.3	
	Overall attitude (%)		**77.2**		**22.8**	Positive

Table 2 above shows that majority of pregnant women (77.2%) in Enugu state has positive attitude towards antenatal exercise.

Table 3 above shows that 80.0 per cent of pregnant women aged 30 years and above and 78.2 per cent of those aged less than 30 years demonstrated positive attitude towards antenatal exercise. However, the table shows an overall chi-square of 10.749 with a corresponding p-value of .105 which is greater than .05 at 3 degrees of freedom. Therefore, the null hypothesis of no significant difference in the attitude of pregnant women towards antenatal exercise is not rejected. This implies that attitude of pregnant women was the same among those aged below 30 years and those 30 years and above.

Table 4
Attitude of pregnant women towards Antenatal Exercise based on Level of Education (n = 194, df=9)

S/N	Statements	Level of Education								χ^2val	P. val
		NFE (n=10)		PE (n=28)		SE (n=66)		TE (n=90)			
		f	%	F	%	F	%	F	%		
1	Exercise during pregnancy is necessary	10	100	28	100	62	94.0	84	93.3	26.507	.002*
2	Exercise during pregnancy facilitates normal delivery	10	100	24	85.8	46	69.7	84	93.4	50.993	.000*
3	I feel like exercising during pregnancy	10	100	12	42.9	42	63.6	68	75.5	42.328	.000*
4	Exercise during pregnancy should be encouraged	10	100	8	28.6	42	63.6	58	64.5	69.765	.000*
5	Exercise during pregnancy facilitates rapid postnatal recovery	10	100	20	71.4	62	94.0	78	86.6	23.917	.004*
	Overall attitude (%)		**100**		**65.74**		**76.9**		**82.6**	**42.702**	**.001***

Key: NFE=Non-formal education, PE=Primary education, SE=Secondary education, TE=Tertiary Education. *significant at p< .05

Table 4 reveals that 100 per cent of pregnant women with no formal education, 82.6 per cent with tertiary, 76.9 with secondary and 65.7 per cent with primary demonstrated positive attitude towards antenatal exercise. On the test of hypotheses, the table shows an overall chi square of 42.702 with a corresponding p-value of .001 which is less than .05 level of significance. The null hypothesis is rejected. This implies that the attitude of pregnant women differed according to their level of education.

Table5
Attitude of Pregnant Women to Antenatal Exercise based on Parity(n= 194, df=6)

S/N	Statements	Parity						χ^2 value	P. value
		one delivery (n=50)		2-4 deliveries (n=114)		≥ 5 (n=30)			
		F	%	F	%	F	%		
1	Exercise during pregnancy is necessary	48	96.0	106	93.0	30	100	20.306	.002*
2	Exercise during pregnancy facilitates normal delivery	46	92.0	88	77.2	30	100	15.870	.014*
3	I feel like exercising during pregnancy	36	72.0	76	66.7	20	66.6	9.643	.141
4	Exercise during pregnancy should be encouraged	30	60.0	74	64.9	14	46.7	13.567	.035*
5	Exercise during pregnancy facilitates rapid postnatal recovery	38	76.0	102	89.4	30	100	16.859	.010*
	Overall attitude (%)		**79.2**		**78.2**		**82.7**	**15.249**	**.040***

**significant at p< .05*

The above table reveals the differences in attitude based on parity. From the table, 82.7 per cent of pregnant women with five and above deliveries, 79.2 per cent of those with one delivery and 78.2 per cent of those with two to four deliveries demonstrated positive attitude towards antenatal exercise. However, test of hypotheses shows an overall chi square of 15.249 with a corresponding p-value of .040 less than .05 level of significance. The null hypothesis of no significance difference is rejected implying that attitude of pregnant women towards antenatal exercise differed according to parity.

Table 6
Attitude of Pregnant Women to Antenatal Exercise based on Occupation (n=194, df=9)

S/N	Statements	Occupation								χ^2val	P. val
		House wife (n=59)		Civil servant (n=49)		Self employed (n=56)		Schooling (n=30)			
		F	%	F	%	F	%	F	%		
1	Exercise during pregnancy is necessary	54	91.5	48	98	52	92.9	30	100	20.933	.013*
2	Exercise during pregnancy facilitates normal delivery	51	86.4	39	79.6	48	85.8	26	86.7	12.767	.174
3	I feel like exercising during pregnancy	32	54.3	26	53.1	48	85.7	26	86.7	31.363	.000*
4	Exercise during pregnancy should be encouraged	30	50.9	27	55.1	39	69.7	24	73.3	25.982	.002*
5	Exercise during pregnancy facilitates rapid postnatal recovery	42	74.6	47	95.9	51	91.1	28	93.4	36.878	.000*
	Overall attitude (%)		**71.5**		**76.3**		**85.04**		**88.02**	**25.5846**	**.038***

**significant at p< .05*

In Table 6 above, 88.02 per cent of pregnant women who are schooling, 85.04 of those who are self-employed, 76.3 per cent of those who are civil servant and 71.5 per cent of those who are house wife demonstrated positive attitude towards antenatal exercise. On the test of hypotheses, the table shows an overall chi square of 25.585 with a corresponding p-value of .038 less than .05 level of significance implying that attitude differed according to occupation.

Discussion

The findings from our study showed that more than half of the study participants (53.6) were aged 30 years and above while most (46.4%) had tertiary education as their highest level of education. More than half of the participants (58.8%) have between two to four pregnancies and 30.4 percent were mostly housewives. This demographic distribution is in contrast with the study by Sujindra, Bupathy, Sugenya and Preveena, (2015) where 63 percent of the mothers have undergone only primary education and 74 percent of them were home makers. In this study, only 46.4 per cent had undergone tertiary education. However, similar demographic distribution with the present study is seen in a study by Mbada et. al, (2014) where 70 percent were employed and had undergone tertiary education and also a study by Nkhata et. al, (2015) where most had maximum of three pregnancies (41%) as in the present study.

Table 2 reveals that most of the pregnant women studied had positive attitude to antenatal exercise (77.2%). The finding is not surprising owing to the general understanding on the importance of exercise to health. This finding is consistent with the finding of Mbada et. al., (2014) where majority of the study samples reported positive paradigm shift in attitudes towards exercise during pregnancy. It is also consistent with studies done in other parts of the globe (Put, Chuang & Chan, 2015 and Sujindra et. al., 2015).

However, the problem is that the positive attitude shown in this study might not be translated to effective exercise practices. Abugu et, al., (2016) reported that less than half of the study participants practiced most of the exercises studied in Enugu state. Put, Chuang and Chan (2015) reported in their study that although Chinese pregnant women had favourable attitude towards antenatal exercise, few exercised in reality. The main reason for reduced exercise in the above study was fatigue and concern

about foetal growth. This finding necessitates the need for constant health education on the benefits of exercise in pregnancy so as to translate this positive attitude revealed in the study to practice and improve feto- maternal condition.

The findings in table 3 revealed that slightly higher proportion of pregnant women aged 30 years and above (80%) had more positive attitude than those less than 30 years, (78.2%). However, this slight difference is not significant ($\chi^2 = 10.799$, P =.105 < .05). This finding is in contrast with the finding by Mbada et. al., (2014) in which pregnant women less than 30 years reported more favourable attitude (59.4%) than those aged 30 years and above (40.6%). Also, the difference in Mbada was significant at .05 level of significance. This contradiction in the two findings could be attributed to the difference in geopolitical zones of the country where the studies were carried out.

In table 4, 100 per cent of pregnant women with no formal education and 82.6 per cent of those with tertiary, 76.9 with secondary and 65.7 with primary education showed positive attitude to antenatal exercise. There is significant difference in their attitude based on educational level. This finding is not surprising because educational level of women is capable of increasing their experiences thereby influencing their attitude. The finding is in contrast with that of Sujindra et. al., (2015) who found no significant difference in the attitude of mothers based on educational level in their study in India. This difference could be attributed to different settings where the two studies were conducted.

Table 5 shows attitude based on parity. From the table, 82.7 per cent of multiparous women with five and above number of deliveries, 79.2 per cent of those with one delivery and 78.2 per cent of those with two to four deliveries demonstrated positive attitude towards antenatal exercise. This finding could be attributed to increased experience in pregnancy related issues among multiparous women than nuliparous or primiparous women. Mbada et al (2014) reported equally higher attitude among multiparous women than other women. However, the difference in this study was significant (p = .040) unlike that of Mbada that reported no significance difference (p = .275) based on parity.

Table 6 shows that higher proportion of pregnant women who are schooling (88.02%) and self-employed (85.84%) demonstrated positive attitude than civil servants (76.3%) and housewives (71.5%). This difference was significant (p = .038). This finding is consistent with the finding of Mbada et. al., (2014), and at variance with that of Put, Chuang and Chan, (2015). This could have resulted from similarities and differences of those studies with the present one.

Conclusion

The present study investigated the attitude of pregnant women towards antenatal exercise in Enugu state. Antenatal exercise was described to be very necessary in the health of pregnant women and their foetus. The present study revealed that majority of pregnant women had positive attitude to antenatal exercise. No significant difference existed in the attitude based on age while significant differences existed in attitudes based on level of education, parity and occupation.

Recommendations

1. There should be regular health education classes during antenatal sessions on the importance, benefits and contraindication to antenatal exercise for pregnant women by health educators and other health care workers in the antenatal clinics.
2. Exercise classes for instance pelvic floor exercise, breathing exercise, aerobics and indoor stationary cycling should be conducted for all childbearing women irrespective of parity, occupation or level of education. This is to improve their knowledge and influence their attitude towards antenatal exercise.
3. This study is an eye opener on what the attitude of pregnant women on antenatal exercise in the study area could be. Due to the benefits accruing from exercise in pregnancy, it is important to explore further on the perceived barriers to antenatal exercise among this group of people so as to propose possible solution that will lead to appropriate behaviour change which is the main aim of health education.

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