

**SELF-EFFICACY BELIEFS AND GENERAL MOTIVATION AS DETERMINANT TO EXERCISE BEHAVIOUR BY PREGNANT WOMEN ATTENDING ANTENATAL CLINICS IN THE UNIVERSITY COLLEGE HOSPITAL, IBADAN**

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**ABSTRACT:** *This study examined self-efficacy beliefs and general motivation as determinant to exercise behaviour by pregnant women attending antenatal clinics in the University College Hospital, Ibadan. Descriptive survey research design was used to collect data from respondents. The sample comprised 250 respondents who were selected from the antenatal Clinic in University College Hospital Ibadan. The results revealed that self-efficacy beliefs and general motivation are determinants of exercise behaviour among the pregnant women. It is therefore recommended that more efforts should be made towards educating pregnant women especially those who are not yet participating in physical activities during pregnancy.*

**KEY WORDS:** efficacy, knowledge, belief, antenatal.

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## **INTRODUCTION**

The initiation of behaviours represents individuals' intended actions. People act on intention if certain personal and environment factors align, but essentially need motivation to feel efficacious about the intended behaviour. To be motivated to engage in behaviour has traditionally been considered an important determinant of individuals' ability. There are two major types of motivation: self-determination and non-self-determination. The distinction between them lies in the degree of internalization of the process that governs the regulation of an intended behaviour. Pelletier (2007), who cited Bandura (1986), opined that self-efficacy reflects one's confidence in the ability to execute behaviour in a given situation. This supports the premise that confidence in the ability to enact behaviour positively predicts subsequent and successful enactment (Bandura, 1997). Due of the reciprocal and continual relationship between self-efficacy and behaviour, self-efficacy is often interpreted to be a strong determinant of long-term behaviour change.

Exercise, in its part, has become a vital part of many women's lives. However, theoretic concerns have been raised about the safety of some forms of exercise during pregnancy, because of the psychological changes associated with pregnancy and the precautions admonished (American College of Obstetricians and Gynaecologists (ACOG), 1994). Thus, physicians should screen for any contra-indication to exercise and encourage patients on the appropriate one. Adequate

hydration and ventilation are also important, to prevent possible teratogenic effects of overheating. However, there are theoretic concerns regarding the effects of exercise on pregnant women. Some of the contra-indications of exercise during pregnancy are; pregnancy-induced hypertension, pre-term rupture of foetal and maternal membranes, pre-term labour in prior or current pregnancy, Incompetent cervix or cerclage placement, persistent second or third trimester bleeding, placenta previa and intrauterine growth retardation.

For non-pregnant women, regular exercise is generally acknowledged by people indeed, and is recommended as an integral part of daily life for many women in developed countries (ACOG, 1994). Current data regarding the impact of exercise on the mother, foetus and course of pregnancy are scanty, and the few available are often equivocal or contradictory. Although guidelines on exercise are available, they are usually conservative and frequently based on controversial opinions (ACOG, 1994). They prescribe different exercise suitable for each stage of pregnancy (Dereck, 1998). This contradicts the remote belief of exercise being bad for pregnant women (Majorie, 2006), which stemmed from the perception that continuous, regular and vigorously sustained exercise throughout pregnancy adversely affect neuro-developmental outcome in offspring at 5 years of age.

According to Moronkola (2003), it is expedient to know that participation in active physical activities promotes sound health and long productive work. The author further opines that participating in fitness, physical or exercise activities enshrines good gait and pleasing appearance, removes excess fat, enhances muscle tone and well-built bones and ligaments, allows muscles and joints to work at ease and maximum efficiency. However, to engage in physical activities or exercises that promote health, motivation and self-efficacy are crucial. Personal experience revealed that in spite of exposure and health education, some pregnant women still repel exercise and see it as a stressor or an unnecessary thing to engage in. This is the premise for initiating this study, to investigate the role of self-efficacy beliefs and general motivation as they affect exercise behaviour of pregnant women who attend antenatal clinics in University College Hospital, Ibadan, and the benefits/importance of exercise behaviour during pregnancy.

## **METHODOLOGY**

The study was guided by eight research questions and hypotheses each, with limitations such as some respondents refusing to participate and others wrongly filling or discarding the questionnaires encountered in its course. Also, in the course of the study, four theories associated with human motivation, namely; instinct theory, drive theory, arousal theory and incentive theory, were applied. Instinct theory takes its origin in the fact instinct is an innate or genetically predetermined disposition to behave in a particular way when confronted with certain stimuli. Drive theory is homeostasis-inclined (equal state or equilibrium) and deals with internal state of tension or arousal of an individual, for which physiologists are interested in how organisms react to changes in their internal states, such as temperature changes and hunger. Arousal theory is an advancement of the drive theory, and deals with possibility of organisms desire to maintain balance in arousal (drive), by having an optimal level of arousal that is nether too high nor too low, while

incentive theory deals with the perceived benefit of an action or behaviour that usually comes from external stimuli in the environment that “pull” the organism in particular directions.

The research design was a descriptive survey, while the study population comprised of all pregnant women attending antenatal Clinic in University College Hospital, Ibadan, at the time of the study, with the sample population being 250 and obtained by employing a purposive sampling technique. The study instrument is a questionnaire of two sections, A (socio-demographic) and B (Likert-based options on alternate choice of belief and extent of exercise), while the instrument was validated by supervisor and other academics in the department and reliability confirmed by conducting a prior study in a neighbouring tertiary health facility, in conformity with Thoma and Nelson (2000). Similarly, the instrument was administered personally by the researcher and assisted by 4 trained assistants, after an Introductory letter for identification had been from the Department of Human kinetics and Health Education, University of Ibadan and the respondents had consented to participate, while data was analyzed using MS Excel analyzer and presented in tables as frequencies and percentages.

## RESULTS

**Table 1: Socio-demographic characteristics of respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Age range (years)</b>		
18-22	6	2.4
23-28	77	30.8
29-34	91	36.4
35-40	72	28.8
41-45	4	1.6
<b>Religion</b>		
Christianity	195	78
Islam	52	20.8
No response	3	1.2
<b>Level of education</b>		
SSCE	26	10.4
NCE/OND	53	21.2
Degree/HND	133	53.2
Masters	33	13
Others	5	2
<b>No of children</b>		
None	107	43.8
1	56	22.4
2	64	25.6
More than 2	20	8.0
No response	3	1.2
<b>Marital Status</b>		

Single	5	2.0
Married	245	98.0
<b>Occupation</b>		
Traer	72	28.0
Artisan	2	0.8
Civil servant	112	44.8
Unemployed	43	17.2
Professional	9	3.6
No response	12	4.8

Table 1 above presents the socio-demographic characteristics of the respondents. It shows that 6(2.4%) were between 18 to 22 years old, 77(30.8%) were 23-28 years of age, 91(36.4%) were 29-34 years old, 72(28.8%) were 35-40 years of age and 4(1.65) were 41-45 years of age, while 195(78%) were Christian and 52(20.8%) were Muslim, but 3(1.2%) did not respond to their religious affiliation. Also, 26(10.4%) had secondary school education. 53(21.2%) had NCE/OND qualifications, 133(53.2%) were degree holders, 33(13.2%) had master's degree and 5(2.0%) had other quantifications, while 5(2%) were single and majority, 245(98%0 were married. finally, 107(43.8%) had no child, 56(22.4%) had 1 child, 64(25.6%) had 2 children, 20(8%) had more than 2 children while 3 (1.2%) did not respond to the question and 72(28.8%) were traders, 2(0.8%) were artisans, 112(44.8) were civil servants, 43(17.2%) were unemployed at the time of data collection, 9(3.6%) were professionals (bankers, lawyer, etc.) and 12(4.8%) did not state their occupation.

**Table 2: Gynaecological history of respondents**

Variables	Frequency	Percent
<b>Number of previous pregnancies</b>		
One	88	34.2
Two	56	22.4
Three	62	24.8
More than 3	38	15.2
No response	6	2.4
<b>Past illness</b>		
Pregnancy Induced hypertension	26	10.4
Diabetes in pregnancy	3	1.2
Threatened abortion	33	13.2
Placenta previa	4	1.6
No response	184	73.6

Table 2 above is the gynaecological history of the respondents and shows that 88(34.2%) had been pregnant once, 56(22.4%) twice, 62(24.8%) three times and 38(15.2%) had been pregnant more than three times and 6(2.4%) did not responded, while 26(10.4%) have had pregnancy-induced hypertension, 3(1.2%) have had diabetes in pregnancy, 33(13.2%) have had threatened abortions, 4(1.6%) have had placenta previa and three-fifth, 184(73.6%) gave no response.

**Table 3: General Motivation Scale**

Variables	DNA(f%)	A(f%)	CA(f%)	NR(f%)	Attitude (%)	
					+ve	-ve
In general, I exercise I force myself to do it	117 (46.8)	78 (31.2)	12 (4.8)	43 (17.2)	46.8	53.2
I exercise just for the pleasure I derive from it	57 (22.8)	125 (50.0)	22 (8.8)	46 (18.4)	58.8	41.2
I exercise so I can have safe delivery	8 (3.2)	170(68.0)	34 (13.6)	38 (15.2)	81.6	18.4
I exercise because of its importance to good health	12 (4.8)	135(54.0)	78 (31.2)	25 (10.0)	85.2	14.8
Health activity is part of my life goals	19 (7.6)	133 (53.2)	59 (23.6)	39 (15.6)	76.8	23.4
I exercise because other people say I should	154 (61.6)	456 (18.4)	11 (4.4)	39 (15.6)	61.6	38.4
					<b>68.5</b>	<b>32.5</b>

**DA= do not agree, A= agree, CA= completely agree, NR= no response**

In table 3 above, the respondent's motivation towards exercise during pregnancy was assessed. Most prominently, it reveals that 68.5% of the respondents are generally positively motivated to perform exercises in pregnancy while 31.5% are not.

**Table 4: Self-efficacy belief**

Variables	CC(f%)	C(f%)	NC(f%)	NR(f%)	Attitude (%)	
					+ve	-ve
I believe in my ability to exercise	84(33.6)	123(49.2)	9(3.6)	34(13.6)	82.8	17.2
I know I can be physically active if I exercise	92(36.8)	120(48.0)	7(2.8)	31(12.4)	84.8	15.2
I exercise because I value the benefits of exercise	90(36.0)	121(48.4)	24(9.6)	15(6.0)	84.4	15.6
I will exercise regularly throughout the period of pregnancy	57(22.8)	123(49.2)	32(12.8)	38(15.2)	72.0	28.0
					<b>81.0</b>	<b>19.0</b>

CC: completely confident, C: confident, NC: not confident, NR: no response

Table 4 above shows that the vast majority of the respondents (81.0%) believe they can exercise and derive positive effects from exercise, but 19.0% have negative self-efficacy beliefs about exercise.

**Table 5: Exercise Behaviour**

Variables	DNA(f%)	A(f%)	CA(f%)	NR(f%)	Attitude (%)	
					+ve	-ve
I exercise whenever I am pregnant	52(20.8)	162(64.8)	8(3.2)	26(10.4)	68.0	32.0
I walk to places nearby	12(4.8)	161(64.4)	51(20.4)	26(10.4)	84.8	15.2
I participate in appropriate activities	31(12.4)	156(62.4)	31(12.4)	32(12.8)	74.8	25.2
I undertake physical activity 15 minutes daily	95(38.0)	95(38.0)	34(13.6)	26(10.4)	51.6	48.4
I do not want to exercise because I do not want to lose my pregnancy	170(68.0)	39(15.6)	14(5.6)	27(10.8)	78.8	21.2
					<b>71.6</b>	<b>28.4</b>

From the table above (table 5), it can be summarized that majority of the respondents have positive practice behaviour about exercise in pregnancy (meaning they would exercise or already exercising during pregnancy) while 28.4% have negative exercise behaviour.

**Table 6: Correlation between self-efficacy beliefs and exercise behaviour**

Self-efficacy beliefs (I believe in my ability to exercise)	Exercise behaviour (I exercise whenever I am pregnant)			Total	X <sup>2</sup>	df	P-value
	DNA	A	CA				
Complete confident	22	54	4	<b>80</b>	<b>9.306</b>	<b>4</b>	<b>0.054</b>
Confident	25	97	0	<b>122</b>			
Not at all confident	1	8	0	9			
<b>Total</b>	<b>48</b>	<b>158</b>	<b>4</b>	<b>211</b>			

DNA: do not agree, A: agree, CA: completely agree

From table 6 above, the calculated chi-square value was found to be 9.306 at 4 degree of freedom, the p-value =0.054, which implies weak significant relationship between the test variables. Therefore null hypothesis is not accepted, and an alternative hypothesis stating that self-efficacy beliefs significantly contribute in University College Hospital is adopted.

**Table 7: Correlation between motivation and exercise behaviour**

Motivation (I exercise because of its importance to good health)	Exercise behaviour (I exercise whenever I am pregnant)			Total	X <sup>2</sup>	df	p-value
	DNA	A	CA				
Do not agree	8	4	0	12	14.881	4	0.005
Agree	32	97	4	133			
Completely agree	10	46	4	60			
<b>Total</b>	<b>50</b>	<b>147</b>	<b>8</b>	<b>205</b>			

Table 7 above has a calculated Chi-square value of 14.881 at 4 degree of freedom, the p-value = 0.005, ( $p < 0.05$ ). There is strong significant relationship between the test variables, therefore, the null hypothesis is not accepted.

**Table 8: Correlation between educational status and exercise behaviour**

Educational status	Exercise behaviour (I exercise whenever I am pregnant)			Total	X <sup>2</sup>	Df	p-value
	DNA	A	CA				
SSCE	2	13	1	16	9.787	8	0.28
NCE/OND	15	29	4	48			
Degree/HND	29	89	3	121			
Masters	5	27	0	32			
Others	1	4	0	5			

The table 8 above show a chi-square value of 9.787 and a p-value of 0.280 ( $p > 0.05$ ). Therefore, no significant relationship exists between the test variables and the null Hypothesis is accepted.

**Table 9: Correlation between past medical history and exercise behaviour**

Medical History	Exercise behaviour (I exercise whenever I am pregnant)			Total	X <sup>2</sup>	df	p-value
	DNA	A	CA				
PIH	4	10	0	14	3.08	4	0.54
Threatened abortion	8	18	2	23			
Placenta previa	0	4	0	4			
<b>Total</b>	<b>12</b>	<b>32</b>	<b>2</b>	<b>46</b>			

From the above, the calculated Chi-square value is 3.080 at 4 degree of freedom, the p-value = 0.054. There is weak significant relationship between the test variables, therefore, null hypothesis is not accepted.

**Table 10: Correlation between occupation and exercise behaviour**

Occupation	Exercise behaviour (I exercise whenever I am pregnant)			Total	X <sup>2</sup>	df	p-value
	DNA	A	CA				
Trader	11	40	1	<b>52</b>	21.145	8	0.007
Artisan	2	0	0	<b>2</b>			
Civil servant	18	87	3	<b>108</b>			
Unemployed	16	23	0	<b>39</b>			
Professional	5	4	0	<b>9</b>			
<b>Total</b>	<b>52</b>	<b>154</b>	<b>4</b>	<b>210</b>			

From the above, the calculated chi-square value was found to be 21.145 at 8 degree of freedom, the p-value = 0.007 ( $p < 0.05$ ). There is strong significant relationship between the test variables, therefore the null hypothesis is not accepted.

## DISCUSSION

**Correlation between self-efficacy beliefs and exercise behaviour:** There is weak positive correlation between self-efficacy beliefs and exercise behaviour among pregnant women in study area. Majority of the pregnant women strongly believed that they are capable and delivered in their ability to exercise. This finding supports that of (Bandura, 1986) as cited by Pelletier (2007), that Self-Efficacy reflects one's confidence in the ability to execute a behaviour in a given situation.

**Correlation between motivation and exercise behaviour:** There is very strong positive relationship between motivation and exercise behaviour of pregnant women. This finding is in tandem with the "8 rules for safe Exercise in Pregnancy" as published by (Majorie, 2006) and that of (Moronkola, 2003) in "Essays on issues in Health".

**Correlation between educational status and exercise behaviour:** There result showed that education has a positive influence on exercise behaviour of pregnant women. It shows that the women had been exposed one way or other to exercise.

**Correlation between past medical history and exercise behaviour:** The finding shows that past medical history has positive influence on exercise behaviour of pregnant women. Those who have or had suffered a medical or surgical case in the past were reluctant to exercise. This supports the observation of Majorie (2006) who opined that pregnant women should consult their doctor to be certain of the required exercise.

**Correlation between occupation and exercise behaviour:** The finding shows that the type of job determines their exercise behaviour, as the result shows that the Civil Service have the level of explosive and understanding on the importance of recreation. This agrees with Moronkola (2003) who opined that workers should engage in physical activities which include sports, gymnastic group and team games.



## CONCLUSION

This study examined self-efficacy beliefs and general motivation as determinants to exercise behaviour of pregnant women attending antenatal clinic in University College Hospital, Ibadan. Findings reveal the following;

- Self-efficacy beliefs contribute to exercise behaviour of pregnant women attending antenatal.
- General motivation is a determinant to exercise behaviour of pregnant women.
- Level of education does not determine the exercise behaviour of pregnant women.
- Religion does not affect exercise behaviour of pregnant women
- Past determines exercise behaviour of pregnant women attending antenatal clinic.
- Type of job or occupation determines exercise behaviour of pregnant women.

### It is thus recommended that:

- Enlightenment programs should be put in place by the government to health-educate the women on the importance of exercise during pregnancy.
- Women of all age groups should be encouraged to participate in physical activities.
- Physical activities should be inculcated in the routine programmes carried out at the antenatal clinic throughout the federation, in order to enable the pregnant women to enjoy safe and discomforts-free pregnancy and delivery.

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**Authours' contribution**

The research was conducted by all the authours, who also read the manuscript and approved of it.

**Conflicting interest**

There is no known conflict of interest.