



# International Journal of Medical and All Body Health Research



International Journal of Medical and all body Health Research

ISSN: 2582-8940

Received: 20-02-2021; Accepted: 15-03-2021

www.allmedicaljournal.com

Volume 2; Issue 1; January-February 2021; Page No. 19-26

## Perceived benefits of exercise among pregnant mothers in bomadi local government area of delta state, Nigeria

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### Abstract

This study examined perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State, Nigeria. Six research questions guided the study. The cross-sectional survey design was adopted for the study. The population of the study consisted of all pregnant women in Bomadi Local Government Area of Delta State. The multi-stage sampling technique was used to select a sample of four hundred participants for the study. Data was collected using a structured questionnaire and analyzed using simple percentage, mean, standard deviation and ANOVA at 0.05 level of significance. The finding of this study showed that the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State was 3.15, SD=0.43. The proportion of women that Engage in any planned programme of physical exercise is high and the most common exercises among pregnant women in Bomadi

Local Government Area of Delta State was stretching (M=1.87, SD=0.34) and was followed by Brisk walking/jogging (M=1.81, SD=0.39) while the least was Yoga/meditation/breathing exercise (M=1.73, SD=0.45). The result showed a non significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age ( $F=0.62$ ,  $df=2$ ,  $p>.05$ ) and based on number of children at home ( $F=0.54$ ,  $df=2$ ,  $p>.05$ ). The result showed a significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education ( $F=16.04$ ,  $df=3$ ,  $p<.05$ ). It was recommended that there should be increased awareness on the usefulness of prenatal exercise to pregnant women by NGOs.

**Keywords:** assessment, factors, risky sexual behaviours

### Introduction

Being physically active during pregnancy has many beneficial effects for the mother and the foetus. Physical activities increase woman's energetic level, improves the quality of sleep, relaxes the mind and body and enhances the body image (Pisano, 2007). Endurance, flexibility and strength training help to withstand excessive load when the body adapts to the demands of pregnancy and labour (Vepsä, 2008). Physical exercises offer social interaction in group fitness classes or by doing physical activities with a friend. Interaction and having the feeling to be part of the group is important in developing and improving identity during pregnancy. Improving identity increases motivation and interest towards physical exercises (Kujala, Taimela & Vuori, 2005). Regular exercise during pregnancy has been proven to improve physical fitness. Active women have improved aerobic fitness and muscular strength, delivered comparable size infants with significantly fewer caesarean deliveries, and recovered faster after delivery (Price, Amini & Kappeler, 2012). Artal, Catazarro and Gavard (2007) report that exercise in pregnancy may reduce the risk of developing gestational diabetes, preeclampsia and macrosomia. Adinma, Adinma, Umeononihu, Oguaka and Oyedum (2018) has it that some benefits of exercise in pregnancy are; reduction of back pain, ease of constipation, promotion of healthy weight gain during pregnancy and loss of the baby weight after delivery, improvement of mood and posture, promotion of muscle tone, strength, and endurance, may improve the ability to cope with labour.

Some pregnant women are engaged in exercise during the gestation period but are not in compliance with recommendation. It is either under or over the recommended of stipulated time for exercise during pregnancy. The American College of Obstetricians and Gynecologists (ACOG) in 2002 recommended that healthy pregnant women exercise at moderate intensity for at least 30 min on most and preferably all days of the week. The American College of Sports Medicine (ACSM) as well as the Centers for Disease Control and Prevention (CDC) recommended the same guidelines for the general population based on abundant epidemiologic and experimental evidence, which confirms that aerobic exercise of this

frequency and intensity improves cardiovascular fitness and reduces the incidence of disease (Pate, Pratt & Blair cited in Adinma, Adinma, Umeononihu, Oguaka & Oyedum, 2018). Studies by Irehovbude, Okonigene, Ikhioya and Okonigene (2017) has it that majority of pregnant women who claim to be involved in exercise do not exercise as recommended. Pregnant women in Bomadi Local Government may not be too different from previous studies in other localities. Exercise as a type of physical activity is a planned structured and repetitive bodily movement requiring physical or mental effort done to improve health (Makinde, Adeyemo & Ogundele, 2014). Scientific literature suggests that low to moderate impact exercise regime for pregnant mothers Performed for about 30 minutes on most days of the week and gradually progressed over a period of time can be followed to improve overall fitness. However during this period of exercise pregnant women engages in several physical activities that maybe convenient for them. These exercises may include aerobics exercises such as swimming, cycling, walking, dancing; core stability, pelvic floor exercises, breathing exercises, postural education and back care (ACOG, 2002). Foot & leg exercises, and pelvic tilting can be performed in sitting or half-lying positions, whereas trans-versus and pelvic floor exercises can be carried out in any position (Keefer, 2013).

Age of pregnant women largely influences her perception on the benefits of prenatal exercise. Kurz, Bondura and Khale (2016) concluded that the wide variety of lower maternal age portends negative perception of benefits of pre-natal exercise. Gaston and 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 and Gross (2014) records no relationship between the age of the woman and her exercise level during pregnancy. Peterson and Brownsen (2016) revealed that younger pregnant women participate in exercise than the older ones.

Most pregnant women that had attained formal education attach great importance to antenatal exercise. Studies report that exercise practice is significantly associated to the level of education amongst the pregnant women (Nkhata, Munalula-Nkandu & Shula, 2015). Though, level of education may statistically influence levels of knowledge on ideal exercises during pregnancy. Their information on exercise during pregnancy lacked detail and was inconsistent with little specificity. Riberio and Milanez (2011) in their study reported that most women were adequately informed about the practice of physical exercise during pregnancy on the contrary fail to participate despite their education level. Women with many children may also have a better knowledge associated with exercise during pregnancy as they have been pregnant several and as such may testify of the good benefits of exercise. Nobles (2015) has it that pregnant women with many children at home were more physical active than those without children at home and engages in more exercises as a result of prior experience. This maybe the cases of most women in Bomandi Local Government area. It is in view of the above variables that the study is designed to investigate perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State.

## Statement of the Problem

In the absence of medical or obstetrical complications, pregnant women are encouraged to continue and maintain active lifestyles during their pregnancies. Exercise has many benefits including reducing the risk for coronary heart disease, cardiovascular disease, metabolic syndrome and systemic inflammation. In pregnancy, appropriate exercise decreases the risk of developing gestational diabetes mellitus, pre-eclampsia, caesarean section rate, reduced symptoms from low back pain and improved mental state (Zavorsky & Longo, 2011).

Babies born from exercising women seem calmer, more intelligent with improved neurological and mental development and adapt faster to the outside. However, according to Piravej and Sakisirinukul (2009) most pregnant women are less active during pregnancy; the rates of activity differ by race and ethnicity in a number of ways. Personal and cultural values are believed to have an influence on the women's physical activity behaviours and little is known about how to support exercises during this period. Motolla and McLaughlin (2011) suggest that over time, the attitude towards pregnancy has changed. Going from beliefs that women should not stress their bodies unduly to accepting that exercise could positively affect the health of the mother and child is part of that change (Zavorsky & Longo, 2011). Nonetheless, studies have reported that many expectant mothers still remain inactive and do not meet sufficient exercise recommendations (Riberio & Milanez, 2011).

Pregnant women are encouraged to exercise to ensure a healthy birth. However, there is inadequate exercise practice among women in Bomadi Local Government Area. This could be as a result of inadequate knowledge of benefits of exercise during pregnancy. Where as if women are actively engaged in exercise active babies and mother are the outcome of such practices. Therefore, the researcher intends examine perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State.

## Aim of the Study

The purpose of this study is to examine perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State, Nigeria.

## Research Questions

### The study seeks to answer the following questions.

1. What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State?
2. What proportion of pregnant women exercise as recommended in Bomadi Local Government Area of Delta State?
3. What are the common exercises among pregnant women in Bomadi Local Government Area of Delta State?
4. What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age?
5. What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education?
6. What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children at home?

**Research Design:** The design for this study was a cross-sectional survey design.

**Population for the Study:** The population of the study consisted of all pregnant women in Bomadi Local Government Area of Delta State.

**Sample and Sampling Techniques:** The sample size was 400 women of child bearing age in Bomadi Local Government Area. Multistage sampling procedure was adopted for the study.

**Research Instrument:** The instrument for data collection was the questionnaire designed by the researcher titled “perceived benefits of exercise among pregnant mothers”. The instrument was made of 2 sections; section A; provided the

socio-demographic data of respondent, while section B focused on perceived benefits of exercise among pregnant mothers.

**Reliability of the Instrument:** The instrument attained a reliability coefficient of 0.74.

**Methods of data Analysis:** Data collected from this study were coded and analyzed using simple percentage (%), mean, standard deviation and ANOVA.

## Result

**Research Questions 1:** What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State?

**Table 1:** Mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State

|     |                                                                   | N=320 |     |    |    |      |      |        |
|-----|-------------------------------------------------------------------|-------|-----|----|----|------|------|--------|
| S/N | Perceived benefits of exercise among pregnant women               | SA    | A   | D  | SD | Mean | SD   | Remark |
| 1   | Exercise is enjoyable during pregnancy.                           | 156   | 121 | 37 | 6  | 3.33 | 0.75 | *      |
| 2   | Exercise in pregnancy decreases my feelings of stress and tension | 124   | 161 | 31 | 4  | 3.27 | 0.68 | *      |
| 3   | Exercise improves mental health of pregnant women                 | 120   | 151 | 37 | 12 | 3.18 | 0.78 | *      |
| 4   | Exercise help relief me of back pain and leg cramps               | 155   | 127 | 29 | 9  | 3.34 | 0.76 | *      |
| 5   | Exercise gives me a sense of personal accomplishment              | 94    | 153 | 58 | 15 | 3.02 | 0.81 | *      |
| 6   | Exercise makes me feel relaxed.                                   | 150   | 146 | 20 | 4  | 3.38 | 0.66 | *      |
| 7   | Exercising helps me control gestational diabetes mellitus         | 92    | 134 | 65 | 29 | 2.90 | 0.92 | *      |
| 8   | Exercising increases my level of physical fitness                 | 163   | 136 | 14 | 7  | 3.42 | 0.68 | *      |
| 9   | I have improved feelings of wellbeing from exercise               | 113   | 175 | 19 | 13 | 3.21 | 0.73 | *      |
| 10  | Exercise increases my stamina                                     | 134   | 138 | 33 | 15 | 3.22 | 0.81 | *      |
| 11  | Exercise improves my mood                                         | 102   | 120 | 66 | 32 | 2.91 | 0.96 | *      |
| 12  | Exercising help me sleep better at night                          | 129   | 122 | 47 | 22 | 3.12 | 0.90 | *      |
| 13  | Exercise helps me decrease fatigue.                               | 117   | 147 | 39 | 17 | 3.14 | 0.83 | *      |
| 14  | Exercise increases my physical endurance                          | 96    | 143 | 62 | 19 | 2.99 | 0.86 | *      |
| 15  | Exercising improves my self-concept                               | 76    | 146 | 73 | 25 | 2.85 | 0.87 | *      |
| 16  | Exercising increases my mental alertness                          | 118   | 141 | 46 | 15 | 3.13 | 0.83 | *      |
| 17  | Exercise is good entertainment for me                             | 117   | 123 | 57 | 23 | 3.04 | 0.91 | *      |
| 18  | Exercising increases my acceptance by others                      | 74    | 112 | 90 | 44 | 2.68 | 0.98 | *      |
| 19  | Exercise improves overall body functions for me.                  | 157   | 137 | 21 | 5  | 3.39 | 0.68 | *      |
| 20  | Exercise gives me better body shape.                              | 152   | 135 | 23 | 10 | 3.34 | 0.75 | *      |
| 21  | Exercising improves the functioning of my cardiovascular system   | 134   | 149 | 21 | 16 | 3.25 | 0.79 | *      |
| 22  | Exercise improves my flexibility                                  | 161   | 136 | 15 | 8  | 3.41 | 0.70 | *      |
| 23  | I will live longer if I exercise                                  | 115   | 133 | 45 | 27 | 3.05 | 0.92 | *      |
| 24  | Exercising is a good way for me to meet new people                | 94    | 147 | 51 | 28 | 2.96 | 0.90 | *      |
| 25  | Exercising will keep me from having hypertension during pregnancy | 104   | 161 | 42 | 13 | 3.11 | 0.78 | *      |
|     | Grand mean                                                        |       |     |    |    | 3.15 | 0.43 | *      |

Key: Criterion mean=2.5

Table 1 shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State was 3.15, SD=0.43. The most perceived benefit of exercise among pregnant mothers was that Exercising increases their level of physical fitness (M=3.42, SD=0.68) and was followed by the

perception that Exercise improves my flexibility (M=3.41, SD=0.70). The least perception was that Exercising increases their acceptance by others (M=2.68, SD=0.98).

**Research Questions 2:** What proportion of pregnant women exercise as recommended in Bomadi Local Government Area of Delta State?

**Table 2:** Frequency and proportion of pregnant women exercise as recommended in Bomadi Local Government Area of Delta State

| Frequency |                                                                     |     |     | Proportion |      |      |            |
|-----------|---------------------------------------------------------------------|-----|-----|------------|------|------|------------|
| S/N       | Proportion of antenatal women who exercise                          | Yes | No  | Total      | Yes  | No   | Difference |
| 1         | Engage in any planned programme of physical exercise                | 273 | 47  | 320        | 0.85 | 0.15 | 0.71       |
| 2         | Exercise for up to 30 minutes each session                          | 214 | 106 | 320        | 0.67 | 0.33 | 0.34       |
| 3         | Exercise up to 30 minutes per session for at least 3 days each week | 207 | 113 | 320        | 0.65 | 0.35 | 0.29       |

Key: <0.3=low proportion, >0.3 = high proportion

Table 2 shows the frequency and proportion of pregnant women exercise as recommended in Bomadi Local Government Area of Delta State. The table shows that the proportion of women that Engage in any planned programme of physical exercise is high (0.71), those that Exercise for up to 30 minutes each session was also high (0.32) where those

that exercise up to 30 minutes per session for at least 3 days each week was low (0.29).

Research Questions 3: What are the common exercises among pregnant women in Bomadi Local Government Area of Delta State?

**Table 3:** Mean and standard deviation on the common exercises among pregnant women in Bomadi Local Government Area of Delta State

| S/N | Common antenatal exercises adopted by pregnant women | Yes | No  | Total | Mean | SD   |
|-----|------------------------------------------------------|-----|-----|-------|------|------|
| 1   | Stretching                                           | 277 | 43  | 320   | 1.87 | 0.34 |
| 2   | Swimming                                             | 113 | 207 | 320   | 1.35 | 0.48 |
| 3   | Brisk walking/jogging                                | 260 | 60  | 320   | 1.81 | 0.39 |
| 4   | Stationary cycling/using of thread mill              | 149 | 171 | 320   | 1.47 | 0.50 |
| 5   | Yoga/meditation/breathing exercise                   | 232 | 88  | 320   | 1.73 | 0.45 |
| 6   | Strength training/weight lifting                     | 137 | 183 | 320   | 1.43 | 0.50 |
|     | Grand mean                                           |     |     |       | 1.61 | 0.22 |

Key: Criterion mean=1.5

Table 3 shows that the mean and standard deviation on the common exercises among pregnant women in Bomadi Local Government Area of Delta State was 1.6, SD=0.22. The most common exercises among pregnant women in Bomadi Local Government Area of Delta State was stretching (M=1.87, SD=0.34) and was followed by Brisk walking/jogging

(M=1.81, SD=0.39) while the least was Yoga/meditation/breathing exercise (M=1.73, SD=0.45).

Research Questions 4: What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age?

**Table 4:** Mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age

| S/N | Perceived benefits of exercise among pregnant women               | 20 years and below, N=21 |      | 21-40 years, N=244 |      | 41 years and above, N=55 |             |
|-----|-------------------------------------------------------------------|--------------------------|------|--------------------|------|--------------------------|-------------|
|     |                                                                   | Mean                     | SD   | Mean               | SD   | Mean                     | SD          |
| 1   | Exercise is enjoyable during pregnancy.                           | 3.14                     | 0.96 | 3.34               | 0.74 | <b>3.38</b>              | <b>0.73</b> |
| 2   | Exercise in pregnancy decreases my feelings of stress and tension | 3.14                     | 0.79 | 3.27               | 0.67 | 3.27                     | 0.71        |
| 3   | Exercise improves mental health of pregnant women                 | 3.14                     | 0.96 | 3.17               | 0.79 | 3.25                     | 0.64        |
| 4   | Exercise help relief me of back pain and leg cramps               | 3.29                     | 0.78 | 3.38               | 0.72 | 3.16                     | 0.90        |
| 5   | Exercise gives me a sense of personal accomplishment              | 2.86                     | 0.73 | 3.01               | 0.82 | 3.13                     | 0.82        |
| 6   | Exercise makes me feel relaxed.                                   | 3.24                     | 0.70 | 3.41               | 0.66 | 3.31                     | 0.63        |
| 7   | Exercising helps me control gestational diabetes mellitus         | 2.86                     | 0.73 | 2.88               | 0.97 | 3.04                     | 0.77        |
| 8   | Exercising increases my level of physical fitness                 | 3.52                     | 0.51 | 3.47               | 0.69 | 3.16                     | 0.66        |
| 9   | I have improved feelings of wellbeing from exercise               | 3.29                     | 0.56 | 3.25               | 0.73 | 3.02                     | 0.76        |
| 10  | Exercise increases my stamina                                     | 3.38                     | 0.67 | 3.21               | 0.83 | 3.20                     | 0.80        |
| 11  | Exercise improves my mood                                         | 3.24                     | 0.70 | 2.87               | 0.97 | 2.96                     | 1.00        |
| 12  | Exercising help me sleep better at night                          | 2.90                     | 1.14 | 3.14               | 0.90 | 3.09                     | 0.82        |
| 13  | Exercise helps me decrease fatigue.                               | 2.90                     | 0.54 | 3.14               | 0.84 | 3.22                     | 0.85        |
| 14  | Exercise increases my physical endurance                          | 3.24                     | 0.83 | 3.00               | 0.86 | 2.84                     | 0.86        |
| 15  | Exercising improves my self-concept                               | 3.48                     | 0.75 | 2.85               | 0.85 | 2.64                     | 0.89        |
| 16  | Exercising increases my mental alertness                          | 3.38                     | 0.74 | 3.15               | 0.83 | 2.96                     | 0.82        |
| 17  | Exercise is good entertainment for me                             | 2.95                     | 0.86 | 3.06               | 0.91 | 3.02                     | 0.97        |
| 18  | Exercising increases my acceptance by others                      | 3.00                     | 1.10 | 2.66               | 0.95 | 2.64                     | 1.08        |
| 19  | Exercise improves overall body functions for me.                  | 3.71                     | 0.56 | 3.39               | 0.68 | 3.31                     | 0.72        |
| 20  | Exercise gives me better body shape.                              | 3.48                     | 0.60 | 3.38               | 0.75 | 3.11                     | 0.74        |
| 21  | Exercising improves the functioning of my cardiovascular system   | 3.24                     | 0.89 | 3.25               | 0.75 | 3.25                     | 0.91        |
| 22  | Exercise improves my flexibility                                  | 3.38                     | 0.92 | 3.42               | 0.70 | 3.35                     | 0.62        |
| 23  | I will live longer if I exercise                                  | 3.14                     | 1.01 | 3.10               | 0.86 | 2.80                     | 1.06        |
| 24  | Exercising is a good way for me to meet new people                | 3.00                     | 1.05 | 2.94               | 0.88 | 3.04                     | 0.92        |
| 25  | Exercising will keep me from having hypertension during pregnancy | 3.05                     | 0.38 | 3.11               | 0.81 | 3.15                     | 0.76        |
|     | Grand mean                                                        | 3.20                     | 0.35 | 3.15               | 0.45 | 3.09                     | 0.39        |

Table 4 shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age were (3.20, SD=0.35), (3.15, SD=0.45), and (3.09, SD=0.39) for 20 years and below, 21-40 years and 41 years and above respectively. The key benefit for 20 years and below was that Exercise improves overall body functions for them (M=3.71,

SD=0.56), that for 21-40 years was that Exercising increases my level of physical fitness (M=3.47, SD0.69) while that for 41 years and above was that exercise is enjoyable during pregnancy (M=3.38, SD=0.73).

Research Questions 5: What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education?

**Table 5:** Mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education

| S/N | Perceived benefits of exercise among pregnant women               | Tertiary, N=217 |      | Secondary, N=78 |      | Primary, N=12 |      | No Formal education, N=13 |      |
|-----|-------------------------------------------------------------------|-----------------|------|-----------------|------|---------------|------|---------------------------|------|
|     |                                                                   | Mean            | SD   | Mean            | SD   | Mean          | SD   | Mean                      | SD   |
| 1   | Exercise is enjoyable during pregnancy.                           | 3.29            | 0.75 | 3.45            | 0.77 | 3.17          | 0.83 | 3.46                      | 0.52 |
| 2   | Exercise in pregnancy decreases my feelings of stress and tension | 3.30            | 0.61 | 3.18            | 0.85 | 3.17          | 0.72 | 3.31                      | 0.75 |
| 3   | Exercise improves mental health of pregnant women                 | 3.18            | 0.74 | 3.24            | 0.81 | 2.92          | 1.24 | 3.23                      | 0.73 |
| 4   | Exercise help relief me of back pain and leg cramps               | 3.39            | 0.69 | 3.33            | 0.82 | 3.17          | 0.83 | 2.62                      | 1.04 |
| 5   | Exercise gives me a sense of personal accomplishment              | 3.05            | 0.80 | 3.06            | 0.84 | 2.83          | 0.83 | 2.46                      | 0.78 |
| 6   | Exercise makes me feel relaxed.                                   | 3.48            | 0.55 | 3.26            | 0.71 | 3.42          | 0.79 | 2.46                      | 1.05 |
| 7   | Exercising helps me control gestational diabetes mellitus         | 3.00            | 0.88 | 2.72            | 0.95 | 2.75          | 0.97 | 2.46                      | 1.05 |
| 8   | Exercising increases my level of physical fitness                 | 3.47            | 0.60 | 3.51            | 0.58 | 3.42          | 0.79 | 2.00                      | 0.91 |
| 9   | I have improved feelings of wellbeing from exercise               | 3.29            | 0.68 | 3.22            | 0.66 | 3.17          | 0.83 | 2.00                      | 0.82 |
| 10  | Exercise increases my stamina                                     | 3.30            | 0.70 | 3.17            | 0.93 | 3.25          | 0.75 | 2.23                      | 1.24 |
| 11  | Exercise improves my mood                                         | 3.06            | 0.87 | 2.69            | 1.06 | 2.83          | 1.11 | 1.85                      | 0.80 |
| 12  | Exercising help me sleep better at night                          | 3.22            | 0.84 | 2.97            | 0.94 | 2.92          | 1.00 | 2.54                      | 1.27 |
| 13  | Exercise helps me decrease fatigue.                               | 3.22            | 0.76 | 3.01            | 0.88 | 3.33          | 0.89 | 2.31                      | 1.03 |
| 14  | Exercise increases my physical endurance                          | 3.08            | 0.76 | 2.78            | 0.99 | 3.42          | 0.90 | 2.31                      | 1.03 |
| 15  | Exercising improves my self-concept                               | 2.94            | 0.83 | 2.76            | 0.91 | 2.92          | 0.79 | 1.85                      | 0.80 |
| 16  | Exercising increases my mental alertness                          | 3.24            | 0.75 | 2.97            | 0.94 | 2.92          | 0.90 | 2.46                      | 0.88 |
| 17  | Exercise is good entertainment for me                             | 3.14            | 0.94 | 2.99            | 0.69 | 3.00          | 1.04 | 1.85                      | 0.55 |
| 18  | Exercising increases my acceptance by others                      | 2.65            | 0.98 | 2.79            | 0.96 | 2.92          | 1.00 | 2.15                      | 0.99 |
| 19  | Exercise improves overall body functions for me.                  | 3.47            | 0.62 | 3.28            | 0.68 | 3.33          | 0.89 | 2.92                      | 1.19 |
| 20  | Exercise gives me better body shape.                              | 3.41            | 0.68 | 3.27            | 0.73 | 3.50          | 0.90 | 2.38                      | 1.04 |
| 21  | Exercising improves the functioning of my cardiovascular system   | 3.37            | 0.72 | 3.24            | 0.65 | 2.17          | 1.03 | 2.38                      | 1.19 |
| 22  | Exercise improves my flexibility                                  | 3.46            | 0.68 | 3.44            | 0.57 | 3.42          | 0.51 | 2.38                      | 1.04 |
| 23  | I will live longer if I exercise                                  | 3.09            | 0.91 | 3.04            | 0.84 | 3.33          | 0.89 | 2.23                      | 1.17 |
| 24  | Exercising is a good way for me to meet new people                | 3.00            | 0.89 | 3.03            | 0.82 | 2.58          | 1.00 | 2.23                      | 1.09 |
| 25  | Exercising will keep me from having hypertension during pregnancy | 3.18            | 0.73 | 3.04            | 0.75 | 2.92          | 0.90 | 2.54                      | 1.33 |
|     | Grand mean                                                        | 3.21            | 0.37 | 3.10            | 0.44 | 3.07          | 0.53 | 2.42                      | 0.66 |

Table 5 shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education were (3.21, SD=0.37), (3.10, SD=0.44), (3.07, SD=0.53), and (2.42, SD=0.66) for tertiary education, secondary education, primary education and no formal education respectively. The key perceived benefit for tertiary education was that Exercise makes them feel relaxed (M=3.48, SD=0.55), that for secondary education was that

Exercising increases their level of physical fitness (M=3.51, SD=0.58), that for primary education was that Exercise gives them better body shape (M=3.50, SD=0.90) while that for no formal education was that Exercise is enjoyable during pregnancy (M=3.46, SD=0.52).

Research Questions 6: What are the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children at home?

**Table 6:** Mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children

| S/N | Perceived benefits of exercise among pregnant women               | More than 4 children, N=34 |      | 3-4 children, N=110 |      | 0-2 children, N=176 |      |
|-----|-------------------------------------------------------------------|----------------------------|------|---------------------|------|---------------------|------|
|     |                                                                   | Mean                       | SD   | Mean                | SD   | Mean                | SD   |
| 1   | Exercise is enjoyable during pregnancy.                           | 3.29                       | 0.84 | 3.45                | 0.74 | 3.27                | 0.74 |
| 2   | Exercise in pregnancy decreases my feelings of stress and tension | 3.26                       | 0.75 | 3.34                | 0.62 | 3.22                | 0.70 |
| 3   | Exercise improves mental health of pregnant women                 | 2.94                       | 0.65 | 3.15                | 0.78 | 3.26                | 0.80 |
| 4   | Exercise help relief me of back pain and leg cramps               | 2.88                       | 0.88 | 3.37                | 0.82 | 3.40                | 0.66 |
| 5   | Exercise gives me a sense of personal accomplishment              | 3.26                       | 0.71 | 3.03                | 0.77 | 2.97                | 0.85 |
| 6   | Exercise makes me feel relaxed.                                   | 3.21                       | 0.69 | 3.41                | 0.64 | 3.40                | 0.67 |
| 7   | Exercising helps me control gestational diabetes mellitus         | 3.00                       | 0.82 | 2.90                | 0.91 | 2.89                | 0.95 |
| 8   | Exercising increases my level of physical fitness                 | 3.35                       | 0.65 | 3.39                | 0.68 | 3.45                | 0.69 |
| 9   | I have improved feelings of wellbeing from exercise               | 3.24                       | 0.70 | 3.26                | 0.65 | 3.18                | 0.78 |
| 10  | Exercise increases my stamina                                     | 3.09                       | 0.90 | 3.16                | 0.78 | 3.28                | 0.81 |
| 11  | Exercise improves my mood                                         | 2.94                       | 0.81 | 2.80                | 0.93 | 2.98                | 1.00 |
| 12  | Exercising help me sleep better at night                          | 2.91                       | 0.75 | 3.09                | 0.85 | 3.18                | 0.95 |
| 13  | Exercise helps me decrease fatigue.                               | 2.97                       | 0.80 | 3.14                | 0.81 | 3.17                | 0.84 |
| 14  | Exercise increases my physical endurance                          | 2.97                       | 0.72 | 2.86                | 0.80 | 3.07                | 0.91 |
| 15  | Exercising improves my self-concept                               | 2.79                       | 0.95 | 2.63                | 0.80 | 3.01                | 0.87 |
| 16  | Exercising increases my mental alertness                          | 3.12                       | 0.73 | 2.97                | 0.87 | 3.23                | 0.81 |
| 17  | Exercise is good entertainment for me                             | 3.12                       | 0.73 | 3.02                | 0.91 | 3.05                | 0.95 |
| 18  | Exercising increases my acceptance by others                      | 2.91                       | 0.79 | 2.70                | 0.95 | 2.61                | 1.02 |

|    |                                                                   |      |      |      |      |      |      |
|----|-------------------------------------------------------------------|------|------|------|------|------|------|
| 19 | Exercise improves overall body functions for me.                  | 3.44 | 0.61 | 3.36 | 0.70 | 3.40 | 0.69 |
| 20 | Exercise gives me better body shape.                              | 3.12 | 0.84 | 3.30 | 0.70 | 3.41 | 0.75 |
| 21 | Exercising improves the functioning of my cardiovascular system   | 3.29 | 0.72 | 3.14 | 0.80 | 3.32 | 0.79 |
| 22 | Exercise improves my flexibility                                  | 3.29 | 0.46 | 3.40 | 0.67 | 3.43 | 0.75 |
| 23 | I will live longer if I exercise                                  | 2.91 | 0.87 | 3.04 | 0.96 | 3.09 | 0.90 |
| 24 | Exercising is a good way for me to meet new people                | 2.85 | 0.93 | 3.12 | 0.81 | 2.88 | 0.93 |
| 25 | Exercising will keep me from having hypertension during pregnancy | 3.32 | 0.64 | 3.12 | 0.77 | 3.07 | 0.80 |
|    | Grand mean                                                        | 3.10 | 0.41 | 3.13 | 0.38 | 3.17 | 0.47 |

Table 6 shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children were (3.10, SD=0.41), (3.13, SD=0.38) and (3.17, SD=0.47) for more than 4 children, 3-4 children and 0.2 children respectively. The key perceived benefit for more than 4 children was that Exercise improves overall body functions for them (M=3.44, SD=0.61), that for 3-4 children was that Exercise is enjoyable during pregnancy (M=3.45, SD=0.74) while that for 0-2 children was that Exercising increases my level of physical fitness (M=3.45, SD=0.69).

### Discussion

The results shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State was 3.15, SD=0.43. This implies that pregnant women in the study area have a positive perception towards the benefit of exercise during pregnancy. The most perceived benefit of exercise among pregnant mothers was that Exercising increases their level of physical fitness (M=3.42, SD=0.68) and was followed by the perception that Exercise improves my flexibility (M=3.41, SD=0.70). The least perception was that Exercising increases their acceptance by others (M=2.68, SD=0.98). This indicates that they have been involved in exercises during pregnancy and as such attest to it benefits. The finding of this study corroborates that of Harrison, Taylor, Shields and Frawley (2018) where pregnant women had positive attitudes towards physical activity, identifying it as important (0.80, 95% CI 0.52 to 0.98), beneficial (0.71, 95% CI 0.58 to 0.83) and safe (0.86, 95% CI 0.79 to 0.92). The findings of the resent study is also in keeping with that of Da Costa & Ireland (2013) where it was recorded higher self-efficacy for exercise during pregnancy was significantly associated with greater benefits of leisure-time physical activity during pregnancy. Also in agreement with the findings is study by Makinde, Adeyemo and Ogundele (2014) which reported that there were significant relationships between perceptions of pregnant mothers on various usefulness of prenatal exercise. Similarly, Fieril, Olsen, Glantz and Larsson (2014) recorded a positive perception towards exercise. They further disclosed that it had positive impact on body and mind and expected benefits and facilitators. The finding of this study might be due to the homogeneity of population studied in the studies. That is, both the present and the previous studies were focused on pregnant women. The findings of this study differs from that of Daşkapan, and Atalay (2013) where it was disclosed that 69.7% of respondents do not exercise and had a negative perception towards benefits of exercise. The difference between the present study and the previous ones might be due to the fact that the sample size used in the previous studies were much greater than the sample size used in the present study. These reasons might be implicated for the variations found among the different studies.

The analysis shows that the proportion of women that Engage in any planned programme of physical exercise is high (0.71), those that Exercise for up to 30 minutes each session was also high (0.32) where those that exercise up to 30 minutes per session for at least 3 days each week was low (0.29). This means that most pregnant women have been exercising as required by world standards. This also means they may give birth to healthy babies and they too can recover easily than non exercising pregnant women. The result of this study agrees with that of Harrison, et al (2018) (2012) where pregnant women exercise as recommended. However the present study differs from the study of Irehovbude, Okonigene, Ikhiya and Okonigene (2017) where it was disclosed that only 22% exercises as recommended. Also at variance with the findings is study by Bukhari, Al-Deibani, Alsalmi, Alhakami and Alsafari (2016) which reported that 65.3% of pregnant women were not exercising during pregnancy as recommended. Also in disagreement with the findings is that of Watson, Oddie and Constantinou (2015) which recorded (83 %) were unaware of the recommended exercise guidelines and as such were not exercising as recommended. The reason attributed for this difference might be due to the fact that currently there is more advancement in technology and knowledge is on the increase.

The findings shows that the most common exercises among pregnant women in Bomadi Local Government Area of Delta State was stretching (M=1.87, SD=0.34) and was followed by Brisk walking/jogging (M=1.81, SD=0.39) while the least was Yoga/meditation/breathing exercise (M=1.73, SD=0.45). This means that pregnant women engage in stretching, jogging, and yoga/meditation/breathing exercises during pregnancy. This finding confirms the report of Adinma, Adinma, Umeononihu, Oguaka and Oyedum (2018) that, several pregnant (63.5%) had engaged in walking as a form of exercise, while (18.3%), (6.1%), (3.5%), (0.9%), (0.9%) had engaged in dancing, jogging, skipping, swimming and jumping respectively. The finding of this study corroborates the supposition of Mbada, Adebayo, Adeyemi, Arije, Dada, Akinwande, Awotidebe and Alonge (2014) that, relaxation and breathing (59.8%), back care (51.3%), and muscle strengthening (51.3%) exercises were the most commonly performed exercises by pregnant women. The similarity in findings may be due to the homogeneity of population studied in the studies and the present study.

The results shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age were (3.20, SD=0.35), (3.15, SD=0.45), and (3.09, SD=0.39) for 20 years and below, 21-40 years and 41 years and above respectively. The result of the one way ANOVA showed that there is no significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age (F=0.62, df=2, p>.05). This implies that age of pregnant mothers does not significantly influence their perception towards benefits of

during pregnancy. The finding of this study is in line with Watson, Oddie and Constantinou (2015) where it was disclosed that age had no significant influence of age on perceived benefits of exercise ( $p < 0.001$ ). The finding of this study is at variance with that of Mbada, Adebayo, Adeyemi, Arije, Dada, Akinwande, Awotidebe and Alonge (2014) where it was reported that attitude was influenced by age ( $P < 0.05$ ). The difference in the previous studies and the present study might be due to the widespread of health information dissemination in recent times through the mass media and social media.

The analysis shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education were (3.21, SD=0.37), (3.10, SD=0.44), (3.07, SD=0.53), and (2.42, SD=0.66) for tertiary education, secondary education, primary education and no formal education respectively. The result of the one way ANOVA showed that there is a significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education ( $F=16.04$ ,  $df=3$ ,  $p<.05$ ). This means that educational attainment has a significant influence perceived benefits of exercise among pregnant mothers. This means that the higher the level of education the better the perceived benefits of exercise among pregnant mothers. This finding is not different from that of Ogodo, Elom, Ilo, Orji, Nwimo and Afoke (2016) where it was disclosed that there are significant differences on the perception of benefit of prenatal exercise among pregnant women in Abakaliki, Ebonyi State based level of education. Similarly, studies of Rezaeyan, Morteza, Khedri and Mehrabi (2016) also reported that educational classes of pregnancy exercise had a positive effect on the performance of pregnant women. Also Ribeiro and Milanez (2011) recorded a significant associations between positive perception of physical exercise benefits during pregnancy and education level ( $p = 0.0014$ ). In the same vain Sabiri, Oloo, Issah and Vurigwa (2018) reported a strong association between the level of education and, perception ( $X^2 (3, N=306) =39.109$ ,  $p=0.02$ ) in the role of exercise during pregnancy. The similarity in studies could be as a result of the widespread of health information dissemination in recent times through the mass media, social media and increase in ante natal coverage. However studies were not found by the researcher that disagrees with the findings.

The analysis shows that the mean and standard deviation on the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children were (3.10, SD=0.41), (3.13, SD=0.38) and (3.17, SD=0.47) for more than 4 children, 3-4 children and 0-2 children respectively. The result of the one way ANOVA showed that there is no significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on number of children at home ( $F=0.54$ ,  $df=2$ ,  $p>.05$ ). This implies that mothers that have children at home and those that do not have at home have similar view on the perceived benefits of exercise. The finding of this study is at variance with that of Nkhata, Munalula-Nkandu and Shula (2015) where it was recorded that the number of pregnancies was positively associated to the women's exercise practice ( $p$ -value 0.01) during pregnancy. Also in disagreement with the findings is study by Mottola and Campbell (2003) which reported that having children (OR = 1.67; 1.05, 2.67) was

associated with quitting exercise during pregnancy. Similarly, Nkhata, Nkandu, Shula and Mweshi (2016) also reported a significant relationship between attitude to exercise in the pregnant women and the number of pregnancies ( $p$ -value 0.001). The difference in results of previous studies and the present study may be due to geographical locations at which the studies were carried out.

## Conclusion

It was concluded based on the findings of the study that, pregnant mothers in Bomadi Local Government Area of Delta State perceived benefits of exercise positively. The proportion of women that Engage in any planned programme of physical exercise was high. The most common exercises among pregnant women in Bomadi Local Government Area of Delta State were stretching, brisk walking/jogging and yoga/meditation/breathing exercise. There is no significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on age and number of children at home. There is a significant difference in the perceived benefits of exercise among pregnant mothers in Bomadi Local Government Area of Delta State based on level of education

## Recommendations

Based on the findings of this study, the following recommendations were made:

1. Healthcare personnel should organise programmes to increased awareness on the usefulness of prenatal exercise to pregnant women.
2. Pregnant mothers should be encouraged to walk around some little distances at home as a form of exercise, since this had been recommended in the past for the pregnant mothers in Nigeria; it can also be recommended for future use.
3. Obstetric care providers should always discuss exercise with their patients and provide accurate, adequate and relevant information on exercise.
4. Health care providers should be abreast with the latest recommendations on exercise as only then can they give appropriate exercise prescription.

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