
**COLLEGE OF HEALTH SCIENCES**

**SCHOOL OF NURSING AND MIDWIFERY**

**POSTGRADUATE PROGRAM**

# Intention Towards Antenatal Physical Exercise Among Pregnant Women at Health Center in Gulele Sub City, Addis Ababa, Ethiopia, 2024; Cross-Sectional Study

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# MASTER OF SCIENCE RESEARCH PROJECT SUBMISSION FORM

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## LIST OF ACRONYMS AND ABBREVIATION

ACOG ...…….. American College of Obstetrics and Gynecology

ANC ……... Antenatal Care

ANEx ……... Antenatal Exercise

CI ……. Confidence Interval

EDHS ....…… Ethiopian Demographic Health Survey

ETB ……. Ethiopian Birr

HMIS ……. Health Management Information System

MMR ……. Maternity Mortality Rate

MOH …… Ministry of Health

OR …… Odds Ratio

PA ……. Physical Activity

PBC ……. Perceived Behavioral Control

P ……. Prevalence

SDG ……. Sustainable Development Goal

SPSS ……. Statistical Package for Social Science

TBP ……. Theory of Planned Behavior

WHO ……. World Health Organization

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# ABSTRACT

**Background:** Regular physical activity throughout pregnancy provides advantages for women's bodies and minds as well. It is well documented that its effect is in the risk reduction of pre-eclampsia, diabetes, and other sedentary-related health problems. The intention to engage in prenatal physical exercise is a strong predictor of physical activity throughout pregnancy, which is a beneficial behavior for prenatal mothers.

**Objective**: to assess the level of intention towards prenatal physical exercise and associated factors among pregnant women attending antenatal care at the health center in Gulele sub city, Addis Ababa, Ethiopia,2024.

**Methods:** An institutional-based cross-sectional study was conducted by using systematic random sampling method from February to Murch 2024. Online Kobo toolbox and SPSS version 27 were used for data collection and analysis respectively. Binary and multivariable logistic regression was used for analysis, and statistical significance was declared at a P value <0.05 in multivariable logistic regression and the Odds ratio was used to determine the effect of association between dependent and independent variables with 95% CI.

**Results:** With a response rate of 98.2%, the level of intention to do antenatal physical exercise during pregnancy was 59.9%. Source of information from mass media(AOR=2.65, 95% CI(1.33-5.27), women's attitude (AOR = 3.14, 95% CI(1.35-7.30), having five or more prenatal care (AOR= 4.75, 95% CI (1.26-17.84), pre-pregnancy physical exercise habits (AOR= 2.60, 95% CI (1.28-5.28), adequate supporting facility (AOR =3.47, 95% CI(1.71-7.02), and have no enough time (AOR=0.28, 95% CI (0.13-0.62) were posetively associated with antenatal physical exercise intention .

**Conclusion and recommendation:** The WHO recommends moderate physical exercise for pregnant women without contraindications. Only 59.9% of the participants intended to do prenatal physical exercise. Before-pregnancy physical exercise, increased frequency of prenatal care visits, having a favorable attitude, and teaching in media have a positive influnce on the intention to practice antenatal physical exercise. Therefore maternity care providers and other responsible bodies should promote healthy behavior change programs to improve pregnant mother's attitude and awareness to do physical exercise.



**Keywords:** Antenatal physical exercise, Intention, Pregnant women, and Antenatal care

# 1. INTRODUCTION

## 1.1. Background

Encouraging a healthy lifestyle and receiving more health messages are vital things for pregnancy (1). In many countries exercise is now a vital part of prenatal care and a crucial part of women's life (2). Being physically active during pregnancy is a preventive health behavior and it is highly predicted by intention toward physical exercise(3). Personal health habits influence life quality, both physical and mental health, and they control over 50% of illnesses(4).

Physical activity is a natural action generated by the contraction of skeletal muscles that require energy expenditure to improve and maintain cardio-respiratory fitness (5). Meanwhile, exercise is (a planned, systematic, and intended movement to maintain or increase physical fitness), work, family care, and leisure time activities(6). Thus, in this study, antenatal physical exercise is defined as any kind of physical exercise that is considered safe for pregnant women. These specific physical exercises include aerobics, cycling, stretching, relaxation, muscle strengthening, pelvic floor, abdominal and back care exercise, swimming, and breathing exercise(7). In the event that there are no obstetric or medical complications, the World Health Organization (WHO) currently advises simple to moderate aerobic exercise, resistance training, gentle stretching, balance exercises, or pelvic floor muscle training for expectant mothers for a minimum of 150 minutes per week (or 30 minutes per day)(5,8). Additionally, the International Federation of Gynecology and Obstetrics (FIGO) advised, that walking (brisk), stationary cycling, swimming, aerobic exercises, and yoga be safe during pregnancy(9).

Antenatal physical exercise is the best strategy for promoting health and preventing diseases, significantly lowering the risk of chronic metabolic diseases during pregnancy (8). Various studies suggest that regular physical activity during pregnancy is safe for the fetus's growth and the mother's health, and it also has favorable impacts on the body and mind of the pregnant woman(10,11). Antenatal Aerobic physical exercise should be encouraged with some modification due to physical and metabolic changes and fetal requirements after evaluation by obstetricians - Gynecologists and other obstetrics care providers. Because it results in increased benefits and minimizes risk for most pregnant women and the fetus (12).

Regular antenatal exercise has benefits for mothers such as; decreasing the early onset of cardiovascular diseases by preventing the risk of preeclampsia two times (5,13,14). Preventing and treating pregnancy-induced diabetes mellites and glycemic control achieved only by exercise, needing less insulin, and completely avoiding the requirement for insulin in comparison to diet(5,11). Reduce the risk of excessive prenatal weight gain and decrease the chance of cesarean delivery by 15%, operational vaginal delivery, and sleeping disorder(5,15). Additionally, it decreases lower back discomfort and pelvic pain and improves maternal quality of life and mental health status(5,16,17). And helps pregnant mothers to ready their bodies for a simpler and shorten duration of labor and recovery process(18,19). Specifically modified yoga during pregnancy appears to help lower women's anxiety during labor and decrease depressive symptoms(20).

Antenatal physical exercise also has positive health effects on the fetus, which include, decreased delivery of a large-for-gestational-age baby by 31%, decreased obesity at birth and during the early children period(21). And enhances the function of the cardiac autonomic nervous system for fetus and neonate(14,22,23). Enhance newborns appear to have better neurological and mental development, be calmer, leaner, cleverer, and score much higher on tests of general intelligence and oral language(21,23).

Intention expresses both a deliberate purpose to carry out conduct and a person's driving force behind it(24). Exercise between pregnancies may improve fitness, mood, and weight loss, and women's intention or willingness to begin exercising during pregnancy and after delivery is crucial to supporting lifelong health habits during pregnancy(25). Different studies show that maternal beliefs about the outcome, social perspective, and behavioral controls towards the intention to engage in physical exercise during pregnancy was significantly positively correlated with intention to antenatal physical exercise(26–30). Also, lack of sufficient resources, required skills, and a favorable environment affect intention towards antenatal physical exercise behavior(31). A pregnant woman who had strong beliefs regarding the benefits and positive outcomes of physical exercise had higher levels of intention to engage in antenatal exercise(30).

## 1.2. Statement of problem

According to evidences, there is a lack of adherence to exercise during pregnancy, and only 15%-38% of pregnant mothers are follow physical activity guidelines while 60% of pregnant mothers were inactive during prenatal period(32). Globally, 88.9% of women in China, 78.5% of women in Ireland, 60% of women in the US, 58% of women in Malaysia, 52.4% of women in the UK, and 16.4% of women in Saudi Arabia did not exercise while pregnant (17,33–35). and in Ethiopia, 63.94% of pregnant women do not fulfill antenatal physical exercise guidelines recommended by the WHO (36). In the world, pregnant women spend more than half of their time living a sedentary behavior (physically inactive) or do not meet the WHO physical exercise guidelines during pregnancy (7,37). Research indicates that during pregnancy, many women value rest more than exercise and activity(28). Intention to participate in the behavior has a direct impact on behavior change and person have intention can effectively practice behavior in any scenario by setting goals(38).

A pregnant woman's quality of life and level of regular antenatal exercise practice is negatively impacted by pregnancy-related changes such as pelvic and back pain, urine incontinency, edema, an unsteady gait, lower limb discomfort, diastasis rectus (39–43). The most common reason for the low level of regular antenatal exercise practice is a lack of intention toward antenatal exercise(30). Pregnant women's perception of being already active and antenatal physical exercise is harmful to her and their baby, the effect of an uncomfortable environment, psychological discomfort, lack of time, advice, information, and social support result in low intention to do antenatal physical exercise during pregnancy (44,45).

Furthermore, pregnancy-related medical conditions due to antenatal physical inactivity might cause fetal pathologies such as:- limited intrauterine growth, decreased amniotic fluid, premature placental separation, premature birth, and perinatal mortality(46). Increased gestational weight retentions during pregnancy or fetal overweight have more than 40% risk of childhood obesity(47). Maternal and neonatal morbidity and death were elevated as a result of the above mentioned risk factors as well as additional unquantifiable and avoidable pregnancy-related problems(48). Whereas noncommunicable disease disorders such as

pregnancy-induced diabetes mellitus, hypertensive disorder, and mental health disorder are related to maternal deaths(48,49).

Consequently, WHO created an action plan to decrease physical inactiveness during pregnancy for a minimum of ten percent up to 2025 and fifteen percent up to 2030 (50). In Ethiopia, the direct cause of sedentary life (physically inactive) during pregnancy is not well understood. However, evidence suggested that most of pregnant mothers believed that antenatal physical exercising would be harmful to the developing fetus and others had not received any counseling regarding antenatal exercise during prenatal care (ANC) (51). Physical exercise behavior of pregnant women would be highly predicted by their intention to exercise(52). This suggests figuring out how to increase pregnant Ethiopian women's intention to engage in antenatal physical exercise. Despite the fact that a single study on pregnant women's intentions for physical activity was conducted in Debre Markos, north Ethiopia. The study solely assessed the degree of intention to engage in walking-based physical exercise. But not including activities that are advised during pregnancy (such as pelvic floor exercises, back care exercises, and breathing exercises etc). Therfore, the purpose of this study is to assese the level of intention to prenatal physical exercise and diterminat factors of pregnant women who had prenatal care at the health center in Gulele Sub-city, Addis Ababa, Ethiopia, 2024.

## 1.3. Significance of the study

The importance of studying the difference in antenatal exercise during pregnancy lies in its potential to help pregnant women avoid complications associated with physical inactivity during pregnancy. It is possible to improve exercise habits during pregnancy and create a tailored health education program based on the research findings. This study will play an important role in improving maternal health care service by including or promoting antenatal exercise behavior change during pregnancy. It generates information for health care providers about intention towards antenatal physical exercise behavior and factors that influence intention to do exercise during pregnancy and identifies important misunderstandings of pregnant women about maternal and fetal outcomes of antenatal exercise during pregnancy. To create opportunities for pregnant women, exercise regularly. furthermore, this study's findings are used as evidence for antenatal exercise counseling for pregnant mothers.

The result of this study is used as the baseline and gives insight for healthcare providers, academic institutions, and policymakers concerned with maternity care to plan for the future and develop or incorporate important antenatal exercise principles and guidelines for maternity care service during pregnancy. Finally, this study's findings can be used as a baseline to conduct a large-scale study on intention towards prenatal exercise and associated factors among pregnant mothers in Ethiopia.

# 2. LITERATURE REVIEW

## 2.1. General concept of antenatal physical exercise

Aerobic physical activity is a rhythmic movement of large muscles of the body like the legs and arms to raise the heart rate enough, sweat, and talk normally, but cannot sing (53). Examples of moderate antenatal physical exercise are: general gardening (digging, weeding, or raking) and brisk waking and a minimum of 150 minutes by dividing into 30-minute per day workouts for five days a week(12). But if the beginner of antenatal exercise starts by five minutes and increases the duration of exercise and intensity gradually for each week until stays active or can perform 30 minutes per day(53). A pregnant woman can keep doing physical exercise if she is active before pregnancy with the approval of a gynecologist-obstetrician and other maternal health caregiver, But may need to increase eating more calories food if starting antenatal physical exercise when weight loss(54).

### 2.1.1. Contraindication of moderate antenatal physical activity

All pregnant women have no the following contraindications involved in antenatal physical exercise during pregnancy(54). Pregnant women having **Absolut contraindications**(Preterm labor, excessive vaginal bleeding, third-trimester placenta previa, rupture of membrane, severe hypertension, intrauterine growth restriction, cervical incompetency, triplite, and greater multiple pregnancies, uncontrolled metabolic disorder, thyroid disease, and other serious and systemic disorders like cardiovascular disease and respiratory disease may continue their usual living activities  but should not be involved in more difficult activities(54).

**Relative contraindications** of prenatal physical exercise during pregnancy include respiratory and cardiovascular disorders, spontaneous preterm births, malnutrition, anemia with symptoms, eating abnormality, recurrent abortion, third-trimester twin pregnancy, gestational hypertension, and other medical disorders) the women should be assessed by a gynecologist and obstetrician before doing moderate to strenuous intensity antenatal physical activity(54).

### 2.1.2. Type of physical activitys which are not recommended during pregnancy

Physical activities to be avoided during pregnancy are the risk for danger of falling and physical contact which may result in fetal injury. Examples of physical activity not recommended during pregnancy are: - non-stationary cycling, horseback riding, gymnastics or Olympic lifts, downhill skiing, and ice hockey. Other sports that increase the risk of the hit in the abdomen of pregnant women should be avoided are: - soccer, boxing, basketball, skydiving, unmodified yoga or Pilates, scuba, and activities above 6000 feet (54). Warning signs during antenatal exercise and stopping regular exercise when the following sign present: vaginal bleeding, feeling faint or dizzy, chest or calf pain and swelling, shortness of breathing before starting exercise, muscle weakness, a gush of aminotic fluid, and regular contraction of the uterus(12).

## 2.2. Literature review related to intention towards antenatal physical exercise

Performing Antenatal physical exercise had many benefits to the maternal health during pregnancy, to the baby, and positive health effects after pregnancy(3). Intention to prenatal physical exercise is a positive predictor of antenatal exercise behaviors during pregnancy (33).

A comparative cross-sectional study conducted on beliefs towards prenatal exercise among Australian and Chinese pregnant women shows that the mean intention to do antenatal exercise is 5.7 in Australian and 4.9 in Chinese pregnant women(55).

A cross-sectional quantitative study in China on intention towards PA during pregnancy with 477 participants found that 63.9% have a positive intention to physical exercise during pregnancy(26).

Another cross-sectional survey conducted in Taiwan to determine pregnant women's intention to be involved in regular antenatal exercise shows that 64.2% of the participants intended to do regular antenatal physical exercise until delivery, and the variation in intention to do regular exercise was 59% (27).

A related study in Ethiopia about intention towards antenatal physical exercise and factors associated by using planned behavior theory (TPB) shows that the variance from the factor of intention to antenatal physical exercise was 79% and the mean value of intended to do antenatal physical exercise was 3.8 (29).

## 2.3. Associated factors of intention to antenatal physical exercise

Behavioral intention to antenatal physical exercise is affected by motivational factors such as: - the attitude of the individual towards the behavior going to perform or adapt, social support, and perception of the individual about regular antenatal exercise as easy or difficult to perform when pregnancy (29,56). It may also influenced by sociodemographic factors, obstetrics factors, and knowledge about antenatal physical exercise (29).

### 2.3.1. Sociodemographic characteristics

A study in Iran found that antenatal physical activity barriers and associated factors during pregnancy show that participants having low education levels were significantly associated with antenatal physical inactivity during pregnancy(57).

A study conducted in Debre Markos, south Ethiopia shows that The intention to engage in prenatal physical activity was positively correlated with educational level. The intention to engage in antenatal exercise was 0.43 (B = 0.43:95% CI 0.25–0.61) times higher among pregnant women with primary level education than among those without formal education(29).

Another community-based cross-sectional study found in Araba-Minch, Ethiopia showed that participants' husbands having primary education levels were negatively associations with engaging in antenatal exercise. and occupation status showed significant associations with initiating antenatal exercise(58).

### 2.3.2. Obstetrics factors

According to a cross-sectional study done in Scotland on intentions toward antenatal physical exercise and resting throughout pregnancy based on planned behavior theory show that Gestational age of pregnancy had a significant negative association with intention towards prenatal physical activity ($\beta$= -0.23, p=0.01) (28).

A cross-sectional study in Iran found antenatal physical activity barriers and associated factors during pregnancy show that high body mass index, and fear of pregnancy-related symptoms and complications such as: - nausea and vomiting, swelling or heaviness, and drowsiness associated with physical inactivity during pregnancy(57).

A study conducted in Debre Markos, south Ethiopia shows that pregnancy gestational age was positively correlated with intention towards regular antenatal physical exercise. In which participants during $2^{nd}$ and $3^{rd}$ trimester 0.19 (B = 0.19; 95% CI 0.04–0.33) times and 0.17 (B = 0.17; 95% CI 0.02–0.32) times intention towards antenatal exercise than participants in early pregnancy(29).

A community-based study found in Araba-Minch, Ethiopia on prenatal exercise and associated factors among pregnant women shows that a participants having miscarriage history are negatively associated with engaging in antenatal exercise(58).

### 2.3.3. Awareness and knowledge of prenatal physical exercise

Pregnant women worry about sports and exercise during their pregnancy, due to a lack of knowledge about antenatal exercise, including when, what types of exercise are recommended, and how to perform them. Because their behavior is influenced by false information, these false beliefs cause pregnant women to lead an inactive lifestyle(59).

A crosssectional studies in germeny show that past physical exercise behavior may directly affect intentions to do antenatal exercise and/or actual antenatal exercise behavior during pregnancy(31).

A hospital-based cross-sectional study in brazile showed that the participants having exercising habits before pregnancy and enough antenatal exercise guidance during ANC were significantly and positively associated with engaging in antenatal exercise (OR= 6.45; CI 95% 4.64–8.96) and, (OR=2.54; CI 95% 1.80–3.57) respectively(60).

A study in Iran found on antenatal physical exercise barriers and factors associated with pregnancy show that participants having pre-pregnancy exercise habits and lack of knowledge about antenatal exercise were significantly associated with antenatal physical exercise when pregnancy (57).

According to a mixed study on unproven antenatal physical activity obstacles during pregnancy conducted in South African pregnant mothers show that, insufficient knowledge on antenatal physical exercise intensity and dosage from healthcare providers was found to have a negative correlation with antenatal physical exercise (61).

A cross-sectional study found in South Africa on antenatal physical activity among pregnant women shows that (70.2%) of participants use radio, television, and other media to receive information about antenatal physical exercise during pregnancy(62).

A community-based study found in Araba-Minch, Ethiopia on prenatal physical exercise and associated factors among pregnant women shows that participants who lack recommendations and enough information about antenatal exercise by health care providers were negatively associated with initiating antenatal exercise. And participants having inadequate knowledge about antenatal exercise were negatively associations with engaging in antenatal exercise(58). However, participants having pre-pregnancy regular exercise habits have significant associations with initiating antenatal physical exercise (58).

### 2.3.4. Attitude towards antenatal physical exercise

A metanalysis study conducted in the United Kingdom found that Attitude towards antenatal physical exercise is significantly associated with positive intention towards antenatal physical exercise ( p= 0.001, 95% CI (0.43- 0.72)(30).

A randomized control trial study in Denmark on the effects of enablers of physical exercise among pregnant mothers shows that well-being of fetal and maternal health decreased pregnancy-related discomfort, duration of labor and delivery, and physical appearance and fitness improvement were important enabler factors of antenatal physical exercise during pregnancy(63).

A comparative study conducted in Pennsylvania titled Antenatal Physical Exercise Predictors in Obese and Normal Women During Pregnancy shows that belief in controlling weight, enabling perceived beliefs of controlling nausea and fatigue during the first trimester were significant factors for antenatal physical exercise during pregnancy(4).

According to a comparative cross-sectional study on prenatal physical exercise beliefs between Chinese and Australian pregnant women, attitudes toward prenatal physical exercise

in Australia were significantly correlated with intentions to engage in prenatal physical exercise (p = 0.006, 95% CI 0.089, 0.543) (55).

According to a cross-sectional study done in Debre Markos, south Ethiopia, intention to engage in physical activity during pregnancy increased by 0.45 times (B = 0.45; 95% CI 0.33–0.57) and was substantially correlated with attitude toward such exercise (29).

A community-based study found in Araba-Minch, Ethiopia on prenatal physical exercise and associated factors among pregnant mothers shows that participants who have a fear of antenatal exercise associated with women and fetal risk significant associations to initiate antenatal exercise(58).

### 2.3.5. Barriers for intention towards antenatal physical exercise during pregnancy

A systematic review of the relationship between intention and behavior reveals that people with higher conscientiousness were more likely to follow through on their initial plans to engage in physical activity than people with lower conscientiousness. Additionally, people with higher extraversion may support their intentions to exercise by choosing to be in active environments as opposed to people who are more introverted(64).

According to a study, exercise attendance is largely determined by an individual's openness to new knowledge and perceptions of its benefits. People who score well on conscientiousness are also self-disciplined and meticulous in executing well-planned activities, or behavioral intents. However, a lower conscientiousness score is linked to a lower intention to exercise and a lower capacity for exercise planning(65).

A study conducted in Scotland on intentions toward antenatal exercise and rest during pregnancy shows that a positive attitude towards antenatal physical exercise is significantly associated with positive intention towards antenatal exercise(28).

A comparative study conducted in Pennsylvania about Antenatal Physical Exercise in Obese and Normal Women during Pregnancy shows that belief in having support during the first trimester was a significant factor for antenatal physical exercise during pregnancy(4).

The results of a cross-sectional study comparing Australian and Chinese pregnant women's beliefs regarding antenatal physical exercise indicate that the former group's intention to engage in antenatal physical exercise was negatively correlated with their perception of not having enough time to do so ($p < 0.001$)(55).

A systematic review study conducted in Pakistan and South Africa, entitled Antenatal Physical Activity and Influencing Factors among Pregnant Women shows that factors such as affordability and availability of safe environments, gyms, and fitness centers for antenatal exercise and family and field support are factors encouraging physically active during pregnancy. Whereas the perception of pregnant women toward antenatal physical exercise shows that cold weather and neighborhood conditions encourage them to be physically inactive during prenatal period (11).

A cross-sectional study that was carried out in Iran on Antenatal Physical Exercise Barriers and Factors Among Pregnant women found that lack of support from family and friends, motivation, time, regular schedule, adequate facilities, and air pollution were significant factors associated with physically inactive during prenatal period (57).

A mixed study conducted in South Africa on unproven factors to antenatal physical exercis intention towards antenatal exercise, such as lack of time and energy, pregnancy-related fatigue, and discomfort, were a limiting factors to antenatal physical exercise among pregnant women(61)

## 2.4. Conceptual framework

The concepts of Intention toward antenatal physical exercise and associated factors are adapted from the literature of Zhu G, et al, 2020 in China; Zheng H, et al, 2020., and Addis A, et al,2022 in Ethiopia(26–31,65); And modified based on the research objective. This conceptual framework considers sociodemographic variables, obstetrics variables, awareness and knowledge towards antenatal physical exercise, attitude towards prenatal physical exercise, and barrier to antenatal physical exercise intention-related variables as a predictor variable. And intention to antenatal physical exercise is considered as a dependant variable.

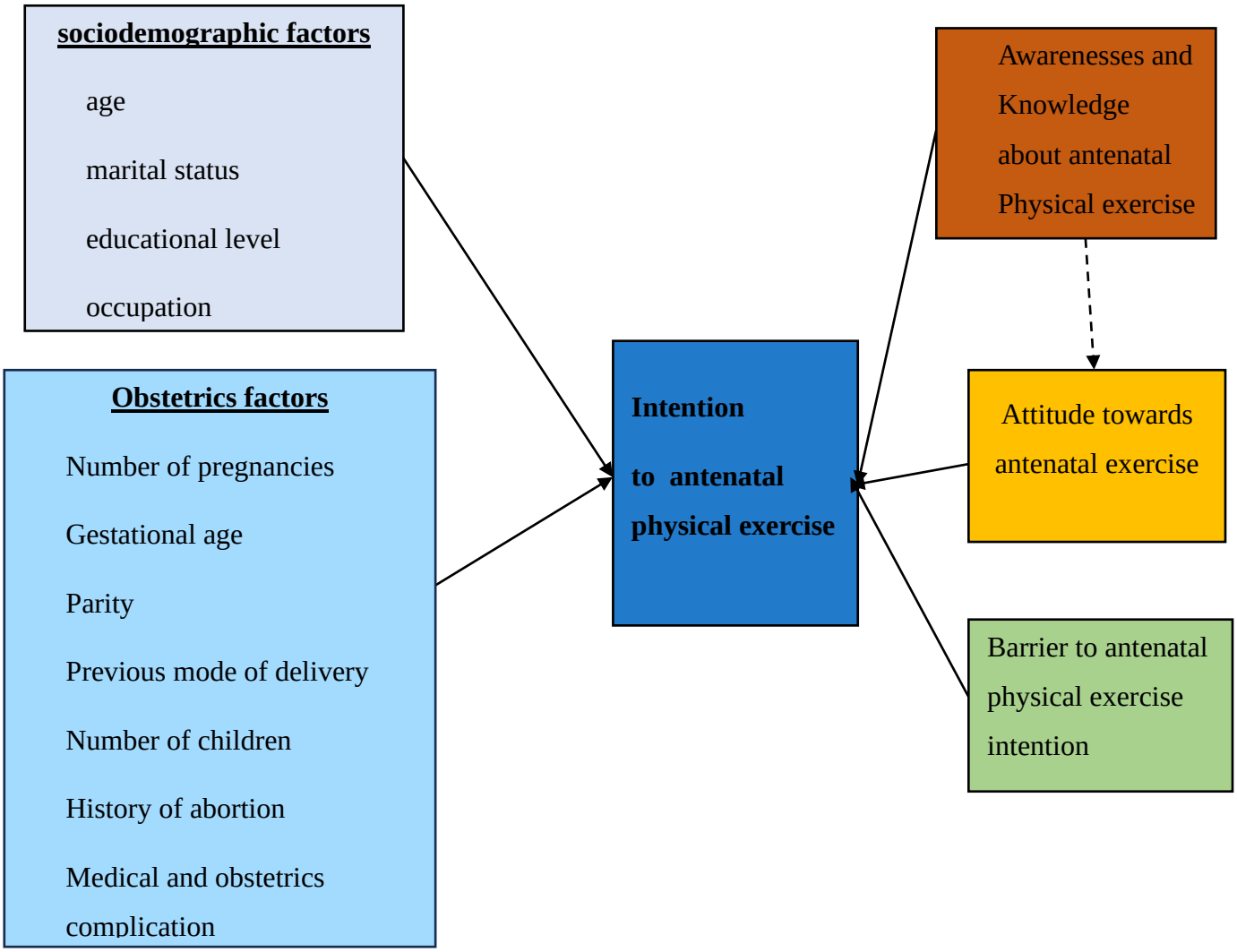


**Figure 1**: A conceptual framework on intention to physical exercise and associated factors for ANC attending pregnant mothers at a health center in Gulele sub city Addis Ababa, Ethiopia.

# 3. OBJECTIVE

## 3.1. General objective

To assess the level of intention to antenatal physical exercise and associated factors among pregnant mothers at a health center in Gulele sub city, Addis Ababa, Ethiopia,2024.

## 3.2. Specific objective

**3.2.1.** To describe the level of intention to antenatal physical exercise among pregnant mothers at a health center in Gulele sub city, Addis Ababa, Ethiopia,2024

**3.2.2.** To differentiate the factors affecting intention to antenatal physical exercise among pregnant mothers at a health center in Gulele sub city, Addis Ababa, Ethiopia,2024.

# 4. METHODS AND MATERIALS

## 4.1. Study area and period

The study was conducted at selected health centers in the Gulele sub-city one of the sub-cities in Addis Ababa, placed at the northern boundary of Addis Ababa city. It is located in the north direction at Entoto Park, in the west direction at Kolife and Addisketema Sub City, in the south direction at Addisketema Sub City, and the east direction at Yeka Sub City. It has 10 woredas and 10 health centers in the sub-city. According to the Gulele Sub-City Health Office, the total population of the selected sub-city in 2023–2024 was estimated to be 417,920. Out of the total population, 213,396 (51.2%) are female and 144,767 (34.64%) are of reproductive age. Of these, 9738 are the total estimated number of pregnancies annually, of which 9456 are the estimated number of pregnancies visited at the health center of Gulele Sub City. The study was conducted at selected health institutions in Gulele Sub City, Addis Ababa, Ethiopia, from February 26 to March 28, 2024.

## 4.2. Study design

Institutional-based cross-sectional research design was used to conduct the study.

## 4.3. Population

### 4.3.1. Source population

All pregnant women who were attending ANC at Health Centers in Gulele Sub City during data collection time.

### 4.3.2. Study population

All pregnant women who have ANC follow-up at selected four health centers in Addis Ababa during the data collection period.

## 4.4. Eligibility criteria

### 4.4.1. Inclusion Criteria

Pregnant mothers who had greater than 12 weeks of gestational age and attended antenatal care follow-ups in selected health centers during the data collection period.

### 4.4.2. Exclusion Criteria

Pregnant mothers were unable to be interviewed due to seriously ill and physical or mental problems during the period of data collection.

All pregnant women who have medical and obstetrics contraindications to do antenatal physical exercise during the period of data collection.

< 18 years old pregnant women, due to ethical issues. Because not allowed to give consent to less than 18 based on the Ethiopian constitution.

## 4.5. Sample size determination

The sample size (n) was determined by using a single population mean and double population mean formula considering the following assumption n=339 from previously researched sample size in Ethiopia

Zα/2 = Confidence interval (95%) =1.96

SD=Standard deviation =2

SE=Standard error of mean standard deviation/ Square root of n

=2/ Square root of 339=2/18.412= 0.109

n previous study sample size

Precision = Zα/2 × standard error of mean = 1.96×0.109=0.214

Non-response rate 5%

Sample size (n) = (Zα/2)2 × (SD)2 /(precision)2 = ((1.96)2× (2)2) / (0.214)2=334//.

double population mean formula n= 2× (Zα/2 +Zβ)2×$\sigma$/( $\triangle$)2

**Table 1:** minimum sample size calculation for factor analysis

| characters | Zα/2 | Power=80 % | Variance=$\sigma$ | $\triangle$=effect of interest | n=sample size |
|---|---|---|---|---|---|
| the primary level of education | 1.96 | 0.84 | 0.79 | 0.43 | n=67 |
| attitude | 1.96 | 0.84 | 0.79 | 0.34 | n=107 |
| 3rd trimester gestational age | 1.96 | 0.84 | 0.79 | 0.17 | n=430 |

Assuming 5% non-response rate the final sample size(n)= 430+ 22, n=452//

## 4.6. Sampling procedure

**Firstly,** purposefully selected the Gulele sub-city from 11 sub-cities as a study area because of had limited time and money to include the remaining sub-city. Then among the ten health centers in the Gulele sub-city, four health centers (Selam, Shegole, Addisugebaya, and Hidase) were selected by a simple random sampling technique using the lottery method for the study and the average number of ANC follow-ups per month was 500, 480, 612, and 524 respectively by using three consecutive monthly report.

**Secondly,** eligible participants were selected at every kth interval using systematic random sampling in the selected health institution. By the assumption of N (estimated average monthly ANC follow-up in selected health centers, which was 2116 from the Gulele sub-city health office 2016 report) and n (required sample size = 452, which gives a sampling interval (k) of 5): k=N/n = 2116/452 = 5. The first five women were selected by the lottery method for each health center from the first five women to start data collection. The participants were recruited every 5 intervals from the women who had been ANC for each health center until the desired sample size was achieved. When there was an unwillingness of a participant, the immediate next eligible person was considered a participant.

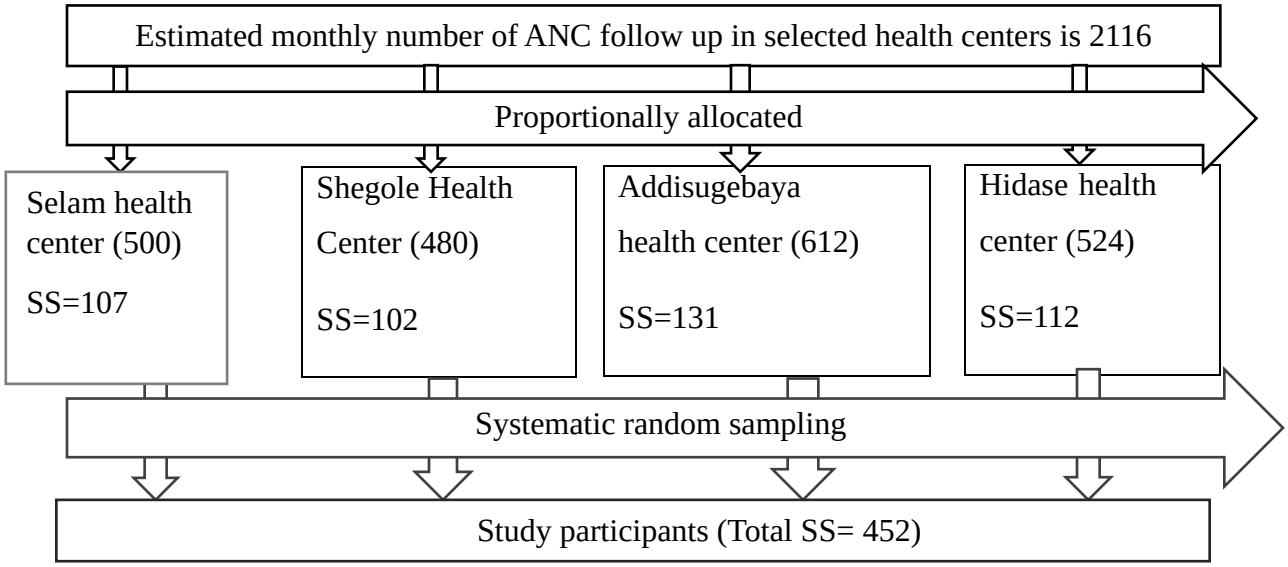


**Figure 2:** Schematic presentation of sampling techniques for pregnant mothers who had antenatal follow-up at selected health institutions in Gulele Sub City, Addis Ababa, Ethiopia, 2024.

**Note:** SS (Sample size)

## 4.7. Variables

### 4.7.1. Dependent variables

Intention to antenatal physical exercise

### 4.7.2. Independent variables

**Demographic variables**

Age

Marital status

Educational level

Occupation

**Obstetrics variables**

Number of pregnancies

Parity

Gestational age

Number of antenatal care visits

Previous mode of delivery

Number of children

History of abortion

Medical and obstetrics history

**Awareness and knowledge**

**Attitude**

**Barrier of intention**

## 4.8. Operational definition

**Physical exercise:** is a type of physical activity that involves purposeful, organized, structured, and repetitive skeletal motions of the body performed to enhance one or more aspects of physical fitness(12).

**Antenatal physical exercises:** a physical activity carried out by women to enhance their physical and mental health during pregnancy and avoid pregnancy-related diseases(66).

**Intention to antenatal physical exercise**: readiness/willingness to do antenatal physical exercise (to be physically active), is measured by 4 items having a 5-point Likert scale with a total score between four and twenty. participants who scored greater than 60%(score 12 and greater) indicated intended to do antenatal physical exercise and participants who scored less than 60%(scored less than 12) indicated unintended to do antenatal physical exercise (26,29,67).

**Attitudes:** attitude towards antenatal physical exercise or how actions will influence outcomes. it is measured by 8 items having a 5-point Likert scale with a total score between 8 and 40. participants who scored greater than 60% (score 24 and greater) indicated a **Favorable attitude** toward antenatal physical exercise and participants who scored less than 60% (scored less than 24) indicated an **unfavorable attitude** towards antenatal physical exercise(67).

**Adequate Knowledge**: Participants achieved higher than or equal to the mean score of knowledge questions by providing accurate answers to 19 of the questions(29).

**Inadequate Knowledge**: Participants scored lower than the mean score despite providing accurate answers to 19 knowledge questions (29).

**Moderate exercise for pregnant women (WHO):-** Gentle stretching, and balance, or Pelvic floor muscle training for pregnant women at least 150 minutes per week (or 30 minutes per day) during their pregnancies and postnatal period if no obstetric or medical complications(5,8)**.**

## 4.9. Data collection tools and procedure

This study used A structured questionnaire to collect the data which was adapted from previous similar and related studies (26–31,65) and modified based on the research objective. The data collection tool has; sociodemographic variables, obstetrics variables, awareness and knowledge regarding prenatal physical exercise, attitude regarding prenatal physical exercise, barriers of intention to antenatal physical exercise, and level of intention to do prenatal physical exercise during the prenatal period. four nurses who have experience were recruited for data collection. The supervisor was MSc midwive who had experience in supervision. The data was collected by face-to-face interviewing method. Every participant was invited as

a study subject After a brief explanation of the aim. The collection was based on the desire to take part in the study from February to March 2024.

## 4.10. Data quality assurance

Two MSc midwives, two gynecologists, and two public health specialists translated the English version of the questionnaire into Amharic and back into English to ensure uniformity. The supervisor and data collector received one day of training using training manuals covering the study's objectives, the data collection process, and the instruments available. Before data collection, they also received an orientation on ethical standards and data management. 23 (5%) of the sample population at Churcher Health Center participated in the pretesting of the questionnaire. And was modified based on the pretest. Throughout the course of gathering the data, the investigator confirmed daily that the information was sufficient and comprehensive. and made the necessary corrections in light of the issues found. The researcher was also keeping an eye on and assessing the general quality control procedure of data collecting.

## 4.11. Data management and analysis

SPSS version 27 was used to verify, code, clean, and analyze. The researcher carried out the data analysis. Descriptive statistics & logistic regressions were computed. Tables, graphs, and charts are used in descriptive statistics to display the data. To find the relationship between the factors influencing antenatal exercise intention and intention, logistic regression analysis was performed. To evaluate the relationship by adjusting for confounders, factors with P-Value <0.25 in the binary logistic regression analysis were included in a multivariable logistic regression. P-value <0.05 was used for statically significance declaration with 95% CI, and To ascertain the impact of the relationship between dependent variables and independent factors, Odd Ratio was utilized.

## 4.12. Ethical consideration

The Addis Ababa University College of Health Science, School of Nursing, and Midwifery Ethics Committee provided an approval letter and ethical clearance. I received an official letter from the Addis Ababa Health Bureau to get permission and a support letter from the Gulele sub-city health office to collect data at selected health centers. Each participant gave their verbal agreement before the interview began. The data collected from participants was kept confidential and assigned by code without their names. It was revealed to only researchers.

## 4.13. Dissemination of results.

First, to partially meet the requirements for the Master of Maternity and Reproductive Health Nursing degree, the results of this study will be given to the Department of Midwifery at Addis Ababa University (College of Health Science). And submitted to Addis Ababa University, the Gulele Sub-City Health Office, the Addis Ababa Health Bureau, and responsible bodies. Lastly, to publish the result of this finding in international and national peer-reviewed journals, we will make all possible efforts.

# 5. RESULTS

## 5.1. Socio-demographic characteristics

Among 452 pregnant women invited for a study participant. and the response rate was 98.2% or only 444 pregnant women consented and interviewed. The participant's mean age was 27.56 (SD ±5.153) years with 19 and 40 years a minimum and maximum ages respectively and most of 381(85.8%) of the study participants were aged between 20 and 34 years(**Table 2**).

Table 2: Socio-demographic characteristics of pregnant women attending ANC in Gulele sub city at health centers, Addis Ababa, Ethiopia, 2024.

| **Variables** | **Categories** | **Frequency (%)** |
|---|---|---|
| Women's Age (n=444) | 19 | 12 (2.7%) |
| | 20-34 | 381(85.8%) |
| | 35-49 | 51(11.5%) |
| Marital status of women (n=444) | Married | 380 (85.6%) |
| | single | 44 (9.9%) |
| | Others (a) | 20 (4.5%) |
| The educational level of women (n=444) | Unable to read and write | 30 (6.8%) |
| | Able to read and write | 22 (5%) |
| | primary school (1-8) | 126 (28.4%) |
| | High school (9-12) | 110 (24.8%) |
| | College or above | 156 (35.1%) |
| Husband education level (n=380) | Unable to read and write | 18 (4.7%) |
| | Able to read and write | 18 (4.7%) |
| | primary school (1-8) | 83 (21.8%) |
| | High school (9-12) | 119 (31.3%) |
| | College or above | 142 (37.4%) |
| Women's Occupational Status (n=444) | Housewife | 145 (32.7%) |
| | Private employee | 64 (14.4%) |
| | Government employee | 74 (16.7%) |
| | Self-employee | 86 (19.4%) |
| | student | 35 (7.9%) |
| | Others (b) | 40 (9%) |
| Husband Occupation level (n=380) | Daily laborer | 33 (8.7%) |
| | Private employee | 75 (19.7%) |
| | Government employee | 85 (22.4%) |
| | Self-employee | 177 (46.6%) |
| | Others(c) | 10 (2.6%) |

**Notes**: Others (a) include: divorced, widowed, and cohabited. Others (b) include jobless, daily laborers, and beggars. Others (c) include: jobless, students, and beggars

## 5.2. Obstetrical characteristics

Among the total respondents, more than three-fourths (78.1%) have no obstetrics and medical complications in the current pregnancy.

Table 3: Obstetrical characteristics of pregnant mothers in Gulele sub city, Addis Ababa, Ethiopia, 2024.

| Variables | Category | Frequency (%) |
|---|---|---|
| gravidity | Primigravida | 212(47.7%) |
| | Multigravida | 232(52.3%) |
| Gestational age | 2nd trimester | 204(45.9%) |
| | 3rd trimester | 240(54.1%) |
| Number of ANC visit | One | 56(12.6%) |
| | Two to four | 227(51.1%) |
| | Five or above | 161(36.3%) |
| Pregnancy status of women | Planed and wanted | 341(76.8%) |
| | Unplanned but wanted | 75(16.9%) |
| | Unplanned and unwanted | 28(6.3%) |
| Parity | Nulliparas | 12(5.2%) |
| | Paras | 220(94.8%) |
| Previous mode of delivery | Spontaneous delivery | 199(76.2%) |
| | Instrumental delivery | 28(10.7%) |
| | Cesarian section delivery | 34(12.3%) |
| Number of children at home | None | 13(5.9%) |
| | One child | 111(50.5%) |
| | Two or more | 106(43.6%) |
| Had abortion history | Yes | 101(43.5%) |
| | No | 131(56.5%) |

## 5.3. Awarenesses and Knowledge about antenatal physical exercise

Among the total respondents, 76.4% have information about physical exercise during pregnancy. Almost all(96.5%) of the respondents who had information were correctly answering walking exercise is important during the antenatal period**.**

Only half of the respondents (52%) were practicing prenatal physical exercise during the current pregnancy. Regarding knowledge of pregnant mothers about prenatal physical exercise benefits for mothers and their fetuses during pregnancy, from the total respondents, (86.9%) and 77% correctly know prenatal physical exercise during the prenatal period is important for mothers and fetuses respectively. Of the study participants, (79.7%) and 66% were correctly answering prenatal physical exercise during pregnancy can prevent pregnancy-related complications and fetal distress during labor respectively. Among the total respondants 57.7% and 49.5% were correctly answering that antenatal physical exercise is important for reducing high blood pressure and risk of gestational diabtes malitus during pregnancy respectively. On the other hand 83.1% and 63.7% of the study participants were knowing antenatal physical exercise is unsafe in the supine position and if having vaginal during pregnancy respectively.

The mean score of the total respondent's knowledge was found to be 11.88±3.87; it ranges from 2 up to 19. More than three-fourths(73.2%) (95% CI, 69, and 77) of the participants had adequate knowledge of prenatal physical exercise.

Table 4: Awarenesses and Knowledge about prenatal physical exercise among pregnant mothers in Gulele sub-city, Addis Ababa, Ethiopia, 2024.

| **Variables** | **Category** | **Frequency** (%) |
|---|---|---|
| Have information about antenatal physical exercise (n=444) | Yes | 339 (76.4%) |
| | No | 105 (23%) |
| Type of antenatal physical exercise heard (n=339) | walking | 206 (60.67%) |
| | Breathing and relaxation | 61 (18%) |
| | Pelvic floor exercise | 40 (11.69%) |
| | Ankle and toe raising | 20 (5.94%) |
| | Others (a) | 13 (3.71%) |
| Had a physical exercise habit before pregnancy(n=444) | Yes | 240 (54.1%) |
| | No | 204 (45.9%) |
| Level of physical activity habit before pregnancy by self-evaluation (n=240) | low | 27 (11.3%) |
| | Moderate | 207 (86.3%) |
| | High | 6 (2.5%) |
| Type of physical activity exercised before pregnancy(n=240) | walking slowly | 117 (48.8%) |
| | swimming | 68 (28.3) |
| | Walking quickly | 124 (51.7%) |
| | Climbing hill | 59 (24.6%) |
| | Running slowly | 25 (10.4%) |
| | Others (b) | 41 (17.1%) |

**Note**: Others( a) include ( daily activity at home and childcare) and (b) include(cycling, gymnastics and other sports)

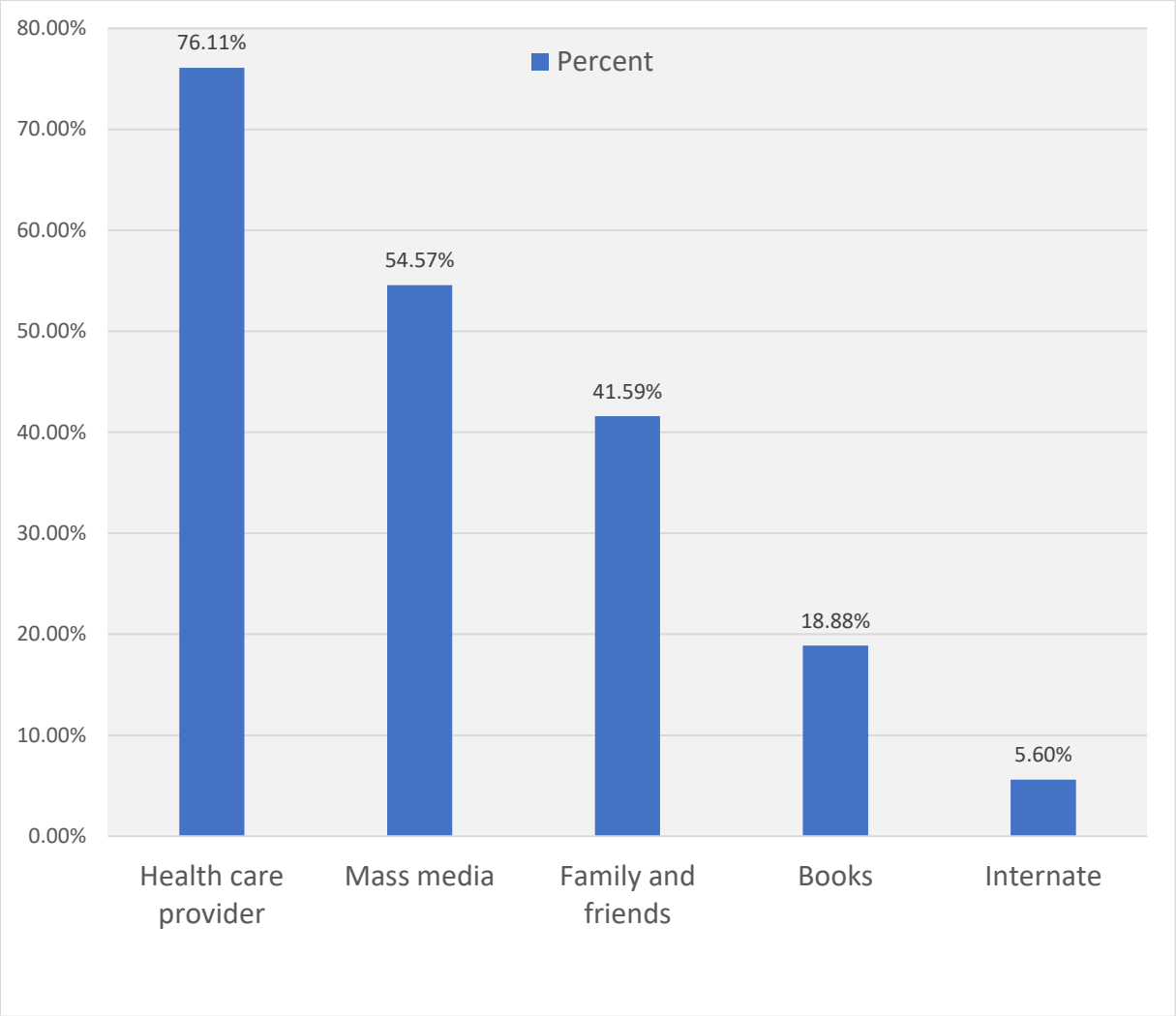


**Figure 3**: Source of information about prenatal physical exercise among pregnant mothers having ANC follow-up at the health center in Gulele Sub-city, Addis Ababa, Ethiopia,2024 (n=339)

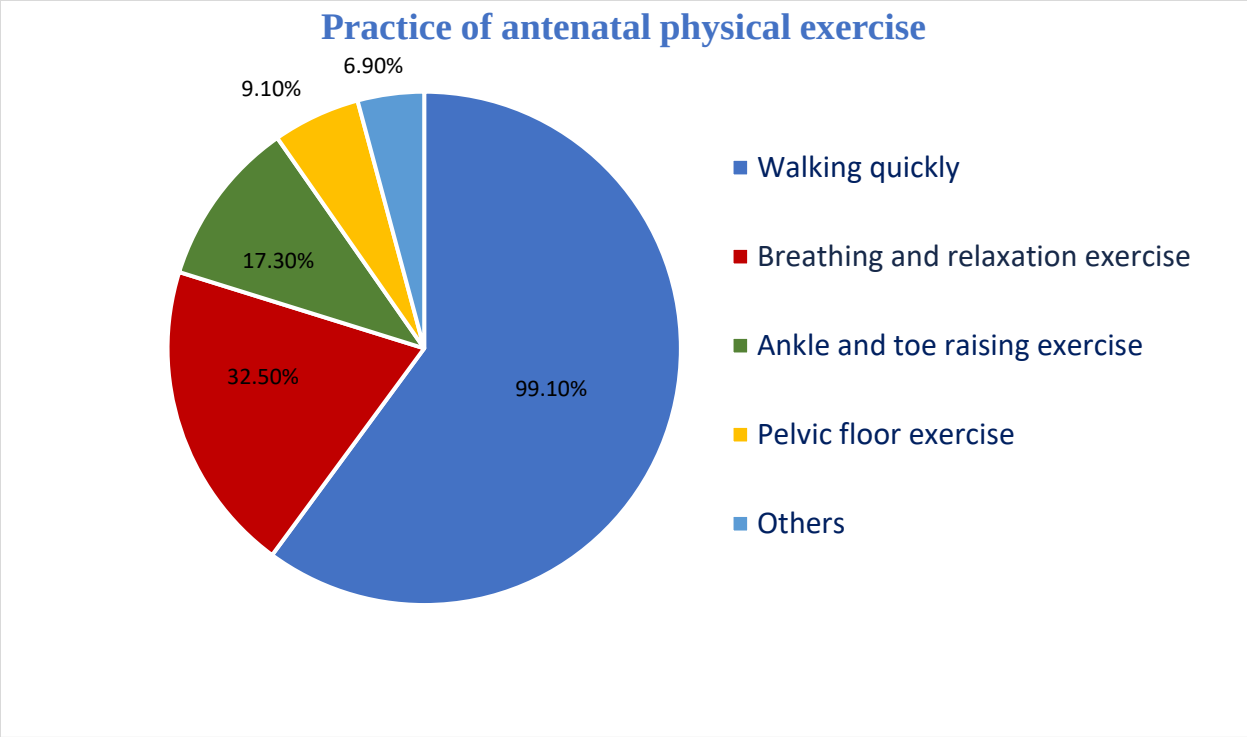


**Figure 4::** type of prenatal physical exercise practiced during current pregnancy among pregnant mothers having ANC follow-up at the health center in Gulele sub city, Addis Ababa, Ethiopia, 2024 (n=231).

**Note:** Others include(walking slowly, climbing hills, swimming, cycling, and daily activities at home).

## 5.4. Attitude towards antenatal physical exercise

This study examined pregnant mothers' attitudes toward prenatal physical exercise during the prenatal period. Even though more than half (57.9%) and 28.8% of the total respondents agreed and strongly agreed that physical exercise is essential during pregnancy respectively. But more than half of the total respondents, 36.9% and 26.8% of women strongly disagree and disagree that antenatal physical exercise is suited for your culture respectively. Among the total respondents, the mean score of attitudes to antenatal physical exercise was found to be 27.75±5.534; it ranges from 8 up to 40. The majority of the respondents, 73.4%, 95%CI, (69,78) had favorable attitudes to antenatal physical exercise.

Table 5: Attitude towards antenatal physical exercise among prenatal mothers in Gulele sub city, Addis Ababa, Ethiopia, 2024 (n=444)

| **Variables** | **Category** | **Frequency (%)** |
|---|---|---|
| Physical exercise is likely during pregnancy | Strongly disagree | 10 (2.3%) |
| | Disagree | 23 (5.2%) |
| | Neutral | 41 (9.2%) |
| | Agree | 128 (28.8%) |
| | Strongly agree | 242 (54.5%) |
| Antenatal exercise doesn't harm mother and fetus | Strongly disagree | 32 (7.2%) |
| | Disagree | 120 (27%) |
| | Neutral | 70 (15.8%) |
| | Agree | 133 (30%) |
| | Strongly agree | 89 (20%) |
| Antenatal physical exercise will decrease pregnancy-related discomfort | Strongly disagree | 16 (3.6%) |
| | Disagree | 47 (10.6%) |
| | Neutral | 92 (20.7%) |
| | Agree | 187 (42.1%) |
| | Strongly agree | 102 (23%) |
| Antenatal physical exercise will control weight and get back in shape | Strongly disagree | 17 (3.8%) |
| | Disagree | 95 (21.4%) |
| | Neutral | 105 (23.6%) |
| | Agree | 143 (32.2%) |
| | Strongly agree | 84 (18.9%) |
| Antenatal physical exercise will rapid post-natal recovery | Strongly disagree | 14 (3.2%) |
| | Disagree | 55 (12.4%) |
| | Neutral | 90 (20.3%) |
| | Agree | 176 (39.5%) |
| | Strongly agree | 109 (24.5%) |
| Pregnant women should perform exercise under the guidance of healthcare professionals | Strongly disagree | 44 (9. 9%) |
| | Disagree | 95 (21.4%) |
| | Neutral | 48 (10.8%) |
| | Agree | 151 (34%) |
| | Strongly agree | 106 (23.9%) |

## 5.5. Barriers for intention towards antenatal physical exercise during pregnancy

Table 6: barriers for intention towards antenatal physical exercise among pregnant mothers in Gulele sub city, Addis Ababa, Ethiopia, 2024(n=444)

| **Variables** | **Category** | **Frequency** (%) |
|---|---|---|
| Having adequate supporting facilities for physical exercise | Yes | 243 (54.7%) |
| | No | 201 (45.3%) |
| Having a safe supporting facility to do physical exercise | Yes | 229 (51.6%) |
| | No | 215 (48.4%) |
| Having good family/friend support during the current pregnancy | Yes | 271 (61%) |
| | No | 173 (49%) |
| Doing everything according to the plane | Yes | 297 (66.9%) |
| | No | 147 (31.3%) |
| often forgot to put things back in their proper place | Yes | 184 (41.4%) |
| | No | 260 (58.6% |
| Having enough time to do antenatal exercise | Yes | 299 (67.3%) |
| | No | 145 (32.7%) |
| Having a workload at home | Yes | 214 (48.2%) |
| | No | 230 (51.8%) |
| Often tired during the current pregnancy | Yes | 327 (73.4%) |
| | No | 117 (16.6%) |

## 5.6. Level of intention towards antenatal physical exercise.

Regarding the intention of women to do antenatal physical exercise, among the study participants, 40.5 percent strongly agreed that doing antenatal physical exercise (for a minimum of 30 minutes every day or 3 days/150 minutes per week) by the program would be likely during their current pregnancy and 42.8 percent were agreed to will try to do antenatal physical exercise within the remaining next month (for a minimum of 30 minutes every day or 3 days/150 minutes per week) during their current pregnancy. However, 30.4 and 31.5 percent of respondents disagreed with intending to do regular programmed antenatal physical exercise and decided to do antenatal physical exercise during their current pregnancy respectively. Among the total respondents, the mean score of intention to antenatal physical exercise was found to be 13.28±3.61; it ranges from 4 up to 20 and (95%CI,(12.95, 13.62). In general more than half of the participants(**Figure 3**).

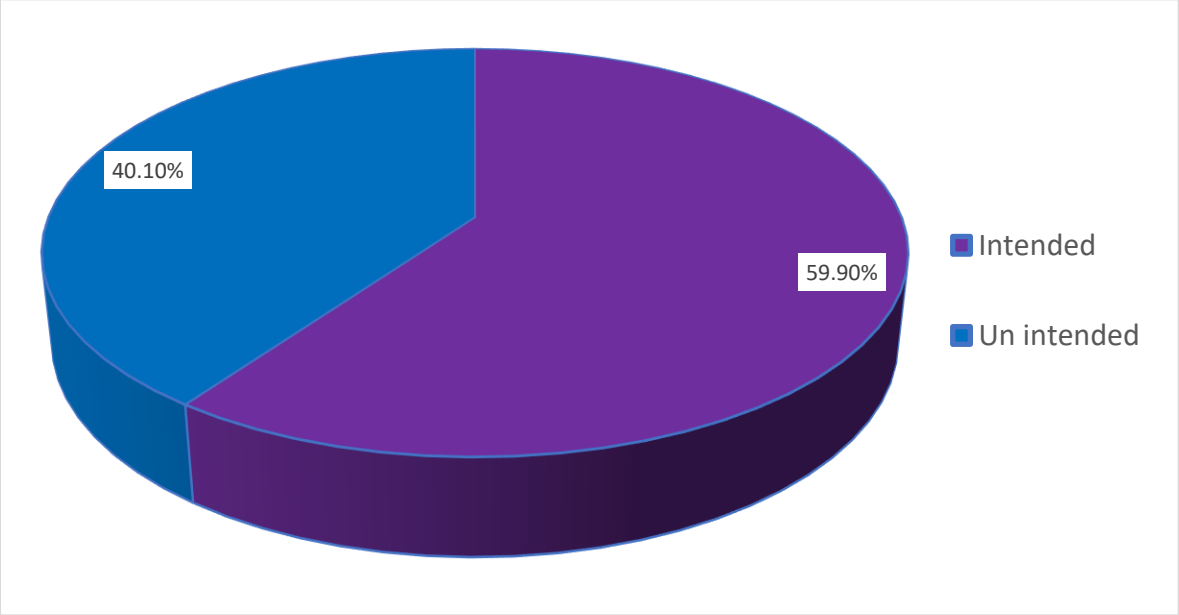


**Figure 5:** level of intention to do antenatal physical exercise Among pregnant mothers having ANC follow-up at a health center in Gulele Sub-city, Addis Ababa, Ethiopia(n=444).

## *5.7.* Factors associated with intention to do antenatal physical exercise

Bi-variable logistic regression analysis was used to determine the relationship between each independent variable and the intention to engage in antenatal physical activity during pregnancy. In bi-variable logistic regression, the attitude of women, knowledge of women, women, and partner education level, gestational age and the number of antenatal(ANC)visits, information get from health care providers and mass media, access to facility, family and friend support, having enough time, and history of physical exercise habit were candidate variables (factors) to added into multivariate logistic regression model with a P-value of less than 0.25. Among the candidate variables, the following variables remained significantly associated with intention to physical activity during pregnancy in a multivariate logistic regression model with a P value of less than 0.05 (**Table 7).** The odds of intention to antenatal physical exercise among participants who view prenatal physical activity favorably were 3.14 times higher than those having an unfavorable attitude to antenatal physical exercise [AOR = 3.14, 95% CI(1.35-7.30); P= 0.008]. Participants who have an adequate supporting facility and did not have enough time to do antenatal physical exercise were 3.47 times higher than those who have no adequate supporting facility [AOR =3.47, 95% CI(1.71-7.02); P=0.008], and 72% less intended than those who had enough time for antenatal physical exercise[AOR=0.28, 95% CI (0.13-0.62); P=0.001] respectively. Similarly, the odds of intention to do antenatal physical exercise among respondents who have gotten information about antenatal exercise from mass media were 2.86 times higher than those who had not got information from mass media [AOR=2.86, 95% CI(1.48-5.54); P=0.005]. And respondents who had physical exercise habits before pregnancy and who had five or more antenatal care (ANC) visits were 2.60 times higher than those who had no physical exercise habits before pregnancy [AOR= 2.60, 95% CI (1.28-5.28); P=0.001], and 4.75 times higher than those who have one antenatal care (ANC) visit[AOR= 4.75 ( 1.28- 17.84); P=0.021] respectively.

Table 7: Bivariate and multivariate examination of the variables linked to pregnant women's intention to engage in antenatal physical activity throughout their pregnancy in Gulele sub city, Addis Ababa, Ethiopia, 2024.

| **Variables** | **Level of intention** | | **COR (95% C.I)** | **AOR (95% C.I)** |
|---|---|---|---|---|
| | **Intended** | **Un intended** | | |
| **Women knowledge** | | | | |
| Inadequate | 42(35.3%) | 77(64.7%) | 1 | 1 |
| Adequate | 224(68.9%) | 101(31.1%) | 4.07(2.61-6.33) | 1.14(0.48-2.69) |
| **Women attitude** | | | | |
| Unfavorable | 35(29.7%) | 83(70.3%) | 1 | 1 |
| Favorable | 231(70.9%) | 95(29.1%) | 5.77(3.63-9.15) | **3.14(1.35-7.30)**** |
| **Counseled by a healthcare provider** | | | | |
| No | 43(53.4%) | 38(46.6%) | 1 | 1 |
| Yes | 189(73.3%) | 69(26.7%) | 2.42(1.22-3.43) | 1.61(0.75-3.46) |
| **Having an adequate support facility** | | | | |
| No | 73(36.3%) | 128(63.7%) | 1 | **1** |
| Yes | 193(79.4%) | 50(20.6%) | 6.77(4.43-10.34) | **3.47(1.71-7.02)**** |
| **Have good family and friend support** | | | | |
| No | 77(44.5%) | 96(55.5%) | 1 | 1 |
| Yes | 189(69.7%) | 82(30.3%) | 2.87(1.93-4.27) | 1.26(0.61-2.60) |
| **Having enough time** | | | | |
| No | 44(30.3%) | 101(69.7%) | 0.15 (0.10-0.23) | **0.28(0.13-0.62)**** |
| Yes | 222(74.2%) | 77(25.8%) | 1 | **1** |
| **Had physical exercise habit** | | | | |
| No | 88(43.1%) | 116(56.9%) | 1 | 1 |
| Yes | 178(74.2%) | 62(25.8%) | 3.78(2.54-5.65) | **2.6(1.28-5.28)**** |
| **Mass media used** | | | | |
| No | 91(57.2%) | 68(42.8%) | 1 | **1** |
| Yes | 143(79.4%) | 37(20.6%) | 2.89(1.79-4.66) | **2.65(1.33-5.27)**** |
| **Women's level of education** | | | | |
| Unable to read and write | 11(36.7%) | 19(63.3%) | 1 | 1 |
| Able to read and write | 9(40.9%) | 13(59.1%) | 1.20(0.39-3.70) | 1.65(0.18-14.90) |
| Primary school (1-8) | 63(50%) | 63(50%) | 1.73(0.76-3.92) | 1.69(0.32-8.89) |
| High school (9-12) | 68(61.8%) | 42(38.2%) | 2.80(1.03-2.93) | 2.00(0.35-11.35) |
| College or above | 115(73.7%) | 41(26.3%) | 4.85(2.13-12.98) | 2.07(0.36-12.04) |
| **Number of ANC visits** | | | | |
| One | 21(30.9%) | 47(69.1%) | 1 | 1 |
| Two-four | 76(45.2%) | 92(54.8%) | 1.85(1.02-3.36) | 0.63(0.20-2.05) |
| Five or more | 169(81.3%) | 39(18.7%) | 9.70(5.21-18.05) | **4.75(1.26-17.84)*** |

***** statistically significant at $P < 0.05$

**statistically significant at $p < 0.01$

Note: COR(Crud odd ratio), AOR(Adjusted odd ratio), C.I(Confidence interval)

# 6. DISCUSSION

Despite pieces of evidence showing that those who engage in greater or equal to 60% intention to do physical exercise were intended (care out) their intention(67). This study found that from 444 women who have ANC follow-up, 59.9% of participants intended to do antenatal physical exercise, and the participant's mean intention to do antenatal physical exercise was 13.8. This study similar to one carried out in China (63.9%)(26) and in Taiwan, 64.2%(27), participants have been intended to take part in physical exercise during pregnancy. The similarity of these findings might be gestational age of most participants in all studies was in the third trimester. As the pregnancy advances from the first to the second and third trimesters, the likelihood of engaging in physical exercise increase (68).

However, this study's finding is Higher than research conducted in Ethiopia, debre markos where the mean intention was (3.8) (29). The majority of study participants' possession of completed college or higher may have contributed to their higher degree of intention, the potential for Higher educated women are more likely to know about or have easier access to information on physical activity during pregnancy(69). It might be due to the gestational age of all participants in this study being greater than 12 weeks and due to the media coverage difference.

This study was also higher than a comparative study done between Australians and Chinese the mean intention was (5.7) and (4.9) respectively(55). Time differences and cultural background difference could be the cause of this discrepancy, especially in traditional Chinese cultural taboos of pregnant women viewed as pregnant women being very vulnerable, and so needing to be safe and get a lot of rest (55). And the higher level might be due to considering all pregnant women's gestational age greater than 12 weeks as a participant but the other study considers only gestational age between 18-26 weeks.

In this study, intention for antenatal physical exercise was significantly greater among those who had favorable attitudes to antenatal physical exercise. This result is consistent with research conducted in the United Kingdom, Denmark, Pennsylvania, Australia, China, and Ethiopia(4,29,30,55,58,63). This might be because pregnant mothers have confidence in their capacity to engage in physical activity throughout the duration of their pregnancy(70). If a pregnant woman thinks exercising is a manageable task, she can consider it a pleasurable experience (30).

The intention to do antenatal physical exercise was significantly higher among pregnant women who have adequate support facilities to do antenatal physical exercise. This result was in line with a systematic review study carried out in South Africa and Pakistan, which demonstrates the importance of elements including accessibility to safe spaces, gyms, and fitness centers, as well as affordability, for prenatal exercise during pregnancy(11). This might be a pregnant woman's view that she has more control over her exercise behavior because she believes there are enough resources and opportunities available, and there are fewer anticipated obstacles (30). In addition, intention for antenatal physical exercise was significantly higher among participants who got information about antenatal physical exercise from mass media, had five or more antenatal care (ANC) visits, and had physical exercise habits before pregnancy. This study agrees with another that was carried out in South Africa on antenatal physical activity among pregnant women shows that (70.2%) of participants use radio, television, and other media to receive information about antenatal exercise during pregnancy(62), Iran (57), Brazil (60), and Ethiopia in Arba Minchi (58). This might be due to reduced physical activity during pregnancy was most commonly attributed to a lack of understanding or information about antenatal exercise(71). Additional explanation could be that intentions and/or actual actions are directly and causally influenced by past behavior(30). If pregnant women have more ANC follow-up, Healthcare professionals can offer pertinent information and chances to talk about how to get past obstacles to exercising during pregnancy, such as lack of time, exhaustion, and physical limits (27). On the other hand, in this study participants who had not enough time to do antenatal physical exercise were 72% less intended than those who had enough time for antenatal physical exercise. This result was consistent with a comparative study that was done on Australian and Chinese pregnant women showing that Australian pregnant women's perception of lack of time to do antenatal physical exercise was negatively associated with the intention for antenatal physical exercise (55). This may show that lack of time is a barrier to willingness for antenatal physical exercise(55).

# 7. STRENGTHS AND LIMITATIONS OF THE STUDY

## 7.1. Strength of the study

- This study tried to investigate variables, that were not addressed by another study.
- This study used a larger sample size compared to previous studies conducted in Ethiopia about the intention of antenatal physical exercise during pregnancy.
- To our knowledge, this study is the only study in Addis Ababa and it tried to address the limitation of the study conducted in Debre Markos' northern part of Ethiopia.

## 7.2. Limitation of the study

- A temporal relationship is not seen in this study because of its cross-sectional design.
- Only pregnant mothers who have ANC follow-ups at public health institutions were included in this study but not considering private health institutions, this leads to a lack of generality or representativeness.

# 8. CONCLUSION AND RECOMMENDATION OF THE STUDY

## 8.1. Conclusion

In this study, only 59.9% of the participants intended to do antenatal physical exercise. This may related to a gap of awareness in health behavioral change. because almost grater than hree-fourths of the respondents get information from mass media intended to perform physical exercise during their pregnancy.

The number of antenatal care (ANC) visits, source of information from mass media, adequate supporting facilities, women's attitude, lack enough time, and having prepregnancy physical exercise habits were factors significantly influencing intention to antenatal physical exercise during pregnancy

## 8.2. Recommendation

The following suggestions should have been made for each accountable body by the study's findings:-

**For Ethiopia's federal ministry of health**

Should design strategies to prepare clinical practice guidelines for antenatal physical exercise and health education programs to provide accessible and affordable health promotion about antenatal physical exercise for every pregnant woman to improve women's antenatal exercise behavior during pregnancy.

Involvement of the other sectors in increasing their intention to do antenatal physical exercise promotion information and activities health (this health) issue effect in any of the organization that women are working.

**For Gulele sub-city health office**

Should be promoted regarding the advantages, restrictions, and kinds of physical activity during pregnancy to improve antenatal physical exercise behavior during pregnancy.

**For institutions and professionals**

Health institutions and midwives or other maternity care providers should arrange health education programs including prenatal physical activity to enhance prenatal exercise behavior in pregnant mothers having prenatal care.

**For academicians and future researchers**

Academics who work in the field of maternity care should educate their students and maternity care professionals about the advantages and risks of engaging in physical activity during pregnancy.

Future researchers use this study's findings as a baseline and should do large-scale data by including private health institutions to increase generalizability. And should work on the applicability of the type of exercise in the context of our countries.

- Generally, this study indicates the need for integrated intervention to change pregnant mothers' prenatal physical exercise behavior by improving the accessibility and affordability of mass media and supporting facilities, women's attitudes, experience of physical exercise, and health-seeking behavior during pregnancy.

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# 10. ANNEXES

## ANNEX I– Information Sheet

### ADDIS ABABA UNIVERSITY

### COLLEGE OF HEALTH SCIENCE

### SCHOOL OF NURSING AND MIDWIFERY

Here, I am undersigned, and at Addis Ababa University College of Health Science, Department of Nursing and Midwifery, I will be doing research on the intention towards regular antenatal physical activity among attending ANC clinic women at the health center in Gulele Sub City, Addis Ababa, Ethiopia. You will be selected as a study participant, and all things you must know related to the study before getting your permission or consent to participate will be listed as follows:

**Objective:** To assess the level of intention towards regular prenatal exercise and factors affecting pregnant women at a health center in Gulele sub-city, Addis Ababa, Ethiopia.

**Significance of the study**: The findings of this study will be an input for concerned bodies in the decision-making process around pregnant women's willingness towards antenatal physical activity. It is used as an input for health promotion and education programs for different stakeholders, organizations, and the community to be aware of the importance and effectiveness of physical activity and how to avoid antenatal exercise during pregnancy.

**To be included Participants**: all pregnant women who will be attending antenatal care and volunteer to participate in the study.

**Confidentiality**: All information will be given by the participant, kept secret, and only revealed to the researcher. And assigned by code instead of registering by name on the question sheet.

**Benefits and risks of the study:** This study will be carried out using a face-to-face interviewer-administered questionnaire. When you participate in the study, which does not bear any psychological or physical trauma, Furthermore, when you do not know, the response to the question will not be forced. By participating in the study, you will not receive

payment. Giving information for asked questions is used to improve the health condition of pregnant and postnatal women.

Principal investigator name: Gedefaye Tesfahun Date: _____ Signature: _____

Address of PI: Mobile: **+251915628760**

E-mail: **gedefayetesfahun@gmail.com**

Name of data collectors: _____ Date _____ Signature _____

Name of supervisor: _____ Date _____ Signature _____

## ANNEXES II: Consent Form

# ADDIS ABABA UNIVERSITY

# COLLEGE OF HEALTH SCIENCE

# SCHOOL OF NURSING AND MIDWIFERY

Good morning/afternoon. My name is _____, and I am _____. I am studying the level of intention towards antenatal physical activity and factors affecting pregnant women who are attending antenatal care on behalf of **Gedefaye Tesfahun**, who is a master's student at Addis Ababa University, College of Health Science, Department of Nursing and Midwifery. I would like you to respond to questions only if you wish. I guarantee the confidentiality of the information you will provide. Your name will not be written on the questionnaire to ensure your confidentiality. Make sure that there is no harm because of being involved in this study. You have the full right to totally or partially decline the interview. I need your honest answers to the interview questions you want to respond to. This would help us to draw genuine conclusions and recommendations that would be helpful for stakeholders who are concerned about improving maternal health service facilities.

**Consent**

I have fully understood the contents and agreed to participate in this research.

Yes----------

No----------

Thank you for giving us your consent.

NAME OF DATA COLLECTER---------- SIGN----------DATE----------

## Annex III: Questionnaire

**Instruction**: Choose the answer for questions that do need direct answers. Write the answer in the space provided for a direct answer.

**Note**: **Note**: Inclusion criteria: If the woman responds "Yes" to any of the following questions she is not eligible to participate in the study, go to the next candidates.

| s.no. | Question | Option |
|---|---|---|
| 1 | Is your gestational age less than 12 weeks completed (less than 3 months complete)? | 1. Yes<br>2. No |
| 2 | Have you been interviewed by me on this issue before? | 1. Yes<br>2. No |
| 3 | Have you been medically advised to minimize physical exercise by health care providers? | 1. Yes<br>2. No |

Questionnaire ID._____

Part 1. Socio-demographic characteristics

| s.no. | Question | Option |
|---|---|---|
| 101 | Age | _____ |
| 102 | Current marital status | 1. Married<br>2. Divorced<br>3. Widowed<br>4. Single<br>5. Cohabited |
| 103 | Your level of education | 1. Unable to read and write<br>2. Able to read and write<br>3. primary school (1-8)<br>4. High school (9-12)<br>5. College or above |

| | | |
|---|---|---|
| 104 | What is your husband's level of education? | 1. Unable to read and write<br>2. Able to read and write<br>3. primary school (1-8)<br>4. High school (9-12)<br>5. College or above |
| 105 | Occupational status | 1. Housewife<br>2. Daily laborer<br>3. Private-employee<br>4. Government employee<br>5. Student<br>6. Self-employ<br>7. Others specify…… |
| 106 | What is your husband's occupation? | 1. Daily laborer<br>2. Private-employee<br>3. Government employee<br>4. Student<br>5. Self-employee<br>6. other specify---------- |

**Part 2: Questions related to obstetric History**

| | | | |
|---|---|---|---|
| 201 | How many times in total did you become pregnant? | 1. One<br>2. Two and more | Skip to |
| 202 | What is your gestational age status in completed weeks? | _____ | |
| 203 | Status of pregnancy? | 1. Planned and wanted (intended)<br>2. Unplanned but wanted (mistimed)<br>3. Unplanned and unwanted | |
| 204 | How many antenatal care visits did you have in the current pregnancy? | _____ | |
| 205 | Have you ever had a history of miscarriage? | 1. Yes<br>2. No | |

| | | | |
|---|---|---|---|
| 206 | How many times in total did you give birth? | 1. None<br>2. One and more | If none skip to Q 210 |
| 207 | The number of children? | _____ | |
| 208 | If the answer for Q 206 is One or more, what was the previous mode of delivery? (more than one answer is possible). | 1. Spontaneous vaginal delivery<br>2. Instrument-assisted vaginal delivery<br>3. Cesarian section delivery | |
| 209 | If the answer to Q 201 is One or more, Which obstetric complications happened in the previous pregnancy?<br><br>(more than one answer is possible). | 1. None<br>2. Preterm delivery<br>3. Vaginal bleeding<br>4. Premature rupture of membrane<br>5. Gestational diabetes maltose<br>6. Gestational hypertension<br>7. Fetal macrocosmic<br>8. Others specify_____ | |
| 210 | Which obstetrics or medical complications happened in the current pregnancy?<br><br>(more than one answer is possible). | 1. None<br>2. Gestational diabetes maltose<br>3. Chronic diabetes maltose<br>4. Gestational hypertension<br>5. Chronic Hypertension<br>6. Fetal macrocosmic<br>7. Anemia<br>8. Others specify_____ | |

**Part 3: Awareness and knowledge about antenatal physical exercise**

**1.1. A question related to access to information about antenatal physical exercise**

| S. no | Questions | Alternative responses | Skip to |
|---|---|---|---|
| 301 | Have you ever heard about antenatal | 1. Yes | If no skip |

| | | | |
|---|---|---|---|
| | physical exercises? | 2. No | to 304 |
| 302 | If your answer to Q301 is yes, where did you learn (get the information) about it? (possibly more than one answer). | 1. Healthcare provider<br>2. Mass media<br>3. Family or friend<br>4. Books<br>5. Internet (social media, google)<br>**6.** Others specifay…… | |
| 303 | If the answer to Q301 is yes, which type of antenatal physical exercises are heard?<br><br>(possibly more than one answer). | 1. Walking<br>2. Dancing<br>3. Relaxation /Breathing<br>4. Pelvic Floor Exercises<br>5. Swimming<br>6. Ankle and toe exercise<br>7. Others specifay….. | |
| 304 | Have you ever had a physical exercise habit before pregnancy? | 1. Yes<br>2. No | If no skip to 307 |
| 305 | How do you rate your level of physical activity before pregnancy? | 1. Low<br>2. Moderate<br>3. High | |
| 306 | Which one is the preferred mode of physical exercise before pregnancy? (It is possible to give more than one answer) | 1. Walking slowly | |
| | | 2. Dancing | |
| | | 3. Prenatal exercise class | |
| | | 4. Swimming | |
| | | 5. Walking quickly | |
| | | 6. Climb hill | |
| | | 7. Running slowly | |
| | | 8. Running quickly | |
| | | 9. Others specify | |
| 307 | Did you have a physical exercise habit during your current pregnancy? | 1. Yes<br>2. No | |

| | | | |
|---|---|---|---|
| 308 | If Q307 is yes, which type of exercise did you exercise? (It is possible to give more than one answer) | 1. Walking<br>2. Running<br>3. Cycling<br>4. Relaxation and breathing exercises<br>5. Swimming<br>6. Ankle and toe raising<br>7. Pelvic floor exercise<br>8. Others | |

**1.2. Questions related to knowledge about the benefits and contraindications of antenatal physical exercise.**

**Instruction: The following questions are related to the knowledge of antenatal physical exercise. Respond "yes," "no," or "I don't know" to the benefits of physical exercise during pregnancy.**

| S. no | **Questions** | **Alternative answers** |
|---|---|---|
| | **A. Questions related to the benefits of physical exercise during pregnancy for mothers and fetus** | |
| 309 | Physical exercise during pregnancy is important for mothers | 1. Yes<br>2. No<br>3. Uncertain |
| 310 | Physical exercise during pregnancy can prevent pregnancy-related complications. | 1. Yes<br>2. No<br>3. Uncertain |
| 311 | Physical exercise during pregnancy can reduce fatigue and stress. | 1. Yes<br>2. No<br>3. Uncertain |
| 312 | Physical exercise during pregnancy can reduce depression. | 1. Yes<br>2. No<br>3. Uncertain |
| 313 | Physical exercise during pregnancy can reduce the risk of high blood pressure. | 1. Yes<br>2. No<br>3. Uncertain |
| 314 | Physical exercise during pregnancy can reduce the risk of diabetes | 1. Yes |

| | | |
|---|---|---|
| | mellitus. | 2. No<br>3. Uncertain |
| 315 | Physical exercise during pregnancy can reduce the chance of cesarean sections. | 1. Yes<br>2. No<br>3. Uncertain |
| 316 | Physical exercise during pregnancy can help cope with labor and delivery pain | 1. Yes<br>2. No<br>3. Uncertain |
| 317 | Physical exercise during pregnancy is important to the fetus. | 1. Yes<br>2. No<br>3. I don't know |
| 318 | Physical exercise during pregnancy reduces the risk of preterm birth. | 1. Yes<br>2. No<br>3. Uncertain |
| 319 | Physical exercise during pregnancy reduces fetal distress during labor. | 1. Yes<br>2. No<br>3. Uncertain |
| 320 | Physical exercise during pregnancy reduces the risk of fetal macrosomia. | 1. Yes<br>2. No<br>3. Uncertain |
| **B. Questions related to contraindications of physical exercise during pregnancy** | | |
| 321 | Physical exercise in the supine position is a contraindication during pregnancy. | 1. Yes<br>2. No<br>3. Uncertain |
| 322 | Vaginal bleeding during pregnancy is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |
| 323 | Severe anemia during pregnancy is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |

| | | |
|---|---|---|
| 324 | Uncontrolled type 1 DM during pregnancy is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |
| 325 | Uncontrolled hypertension during pregnancy is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |
| 326 | Severe headache during pregnancy is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |
| 327 | If premature rupture of membrane or/and labor is a contraindication for physical exercise. | 1. Yes<br>2. No<br>3. Uncertain |

**Part 4: Questions related to maternal attitude towards antenatal physical exercise.**

| s.no | Questions | alternative |
|---|---|---|
| 401 | Do you believe physical exercise is essential during pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 402 | Do you believe physical exercises are likely during pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 403 | Do you believe antenatal exercise doesn't harm you or your baby? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 404 | Do you believe antenatal physical exercise will decrease | 1. Strongly disagree |

| | | |
|---|---|---|
| | pregnancy-related discomfort? | 2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 405 | Do you believe antenatal physical exercise will help you to control weight and get back in shape? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 406 | Do you think antenatal physical exercise will help rapid post-natal recovery? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 407 | Do you believe pregnant women should perform exercise under the guidance of health care professionals? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |
| 408 | Do you believe antenatal exercise suits your culture? | 1. Strongly disagree<br>2. Disagree<br>3. Neutral<br>4. Agree<br>5. Strongly agree |

**Part 5: Barriors to intention to do antenatal physical exercise during pregnancy**

| | | |
|---|---|---|
| 501 | Do you have access to and offer facilities for antenatal exercise? | 1. Yes<br>2. No |
| 502 | Do you have a comfortable environment to do antenatal exercise? | 1. Yes<br>2. No |

| | | |
|---|---|---|
| 503 | Did you have good family/friend support during this pregnancy? | 1. Yes<br>2. No |
| 504 | Did you do everything according to the plan? | 1. Yes<br>2. No |
| 505 | Did you often forget to put things back in their proper place? | 1. yes<br>2. No |
| 506 | Did you have enough time to do antenatal exercise? | 1. yes<br>2. No |
| 507 | Did you have a workload at home? | 1. yes<br>2. No |
| 508 | Did you often feel tired during this pregnancy? | 1. Yes<br>2. No |

**Part 6: measure of intention to do physical exercise during the antenatal period**

**Note:** brisk Walking, Relaxation and breathing exercises, Ankle and toe raising, Pelvic floor exercise, swimming, stationary cycling, dancing, etc.) are types of antenatal physical exercises during the antenatal period

| s. no | Questions | Alternative answer |
|---|---|---|
| 601 | Have you intended to do regular programmed antenatal physical exercise (at least 30 minutes every day or 3 days/150 minutes per week) in the current pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Uncertain<br>4. Agree<br>5. Strongly agree |
| 602 | Have you decided to do antenatal physical exercise (at least 30 minutes every day or 3 days/150 minutes per week) in your current pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Uncertain<br>4. Agree<br>5. Strongly agree |
| 603 | Will you try to do antenatal physical exercise within the next month (for at least 30 minutes every day or 3 days/150 minutes per week) during your current pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Uncertain |

| | | |
|---|---|---|
| | | 4. Agree<br>5. Strongly agree |
| 604 | Would you like to do antenatal physical exercise (at least 30 minutes every day or 3 days/150 minutes per week) by program during your current pregnancy? | 1. Strongly disagree<br>2. Disagree<br>3. Uncertain<br>4. Agree<br>5. Strongly agree |

**Thank you**

# የአማረኛ መጠይቅ

# የአዲስ አበባ ዩኒቨርሲቲ

# ጤና ሳይንስ ኮሌጅ

# የነርሲንግ እና ሚድዋይፈር ትምህርት ክፍል

ይህ መጠይቅ የተዘጋጀው በኢትዮጵያ አዲስ አበባ ከተማ በጉለሌ ክፍለ ከተማ በሚገኙ ጤና ጣቢወች የቅድመ ወሊድ እንክብካቤ የሚከታተሉ የነፍሰ ጡር እናቶች ስለቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ የማድረግ ያላቸውን የዓላማ ደረጃን እና ተያያዥ ምክንያቶችን የዳሰሳ ጥናት ለማድረግ ነው ። ለዚህ ጥናት እንደ ተሳታፊነት ተመርጠዋል እና የእርስዎን ተሳትፎ ፈቃድ ወይም ስምምነት ከማግኘት በፊት, ከጥናቱ ጋር በተገናኘ ማወቅ ያለብዎት ሁሉም አስፈላጊ መረጃዎች እንደሚከተለው ይዘረዘራሉ;

**ዓላማ**፡-በጉለሌ ክፍለ ከተማ፣ አዲስ አበባ፣ ኢትዮጵያ ውስጥ በሚገኙ ጤና ጣቢወች የቅድመ ወሊድ እንክብካቤ የሚከታተሉ የነፍሰ ጡር እናቶች ስለቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ የማድረግ ያላቸውን የዓላማ ደረጃን እና ተያያዥ ምክንያቶችን የዳሰሳ ጥናት ለማድረግ ነው ።

**የጥናቱ አስፈላጊነት** ፡- የምርምር ግኝቱ በነፍሰ ጡር እናቶች ላይ ለቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ዝግጁነት በውሳኔ አሰጣጥ ሂደት ለሚመለከተው ፖሊሲ አውጪዎች ግብአት ሊሆን ይችላል። እንዲሁም ህብረተሰቡ የአካል ብቃት እንቅስቃሴን አስፈላጊነት እንዲገነዘብ እና በእርግዝና ወቅት የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴን ችግሮችን እንዴት ማስወገድ እንደሚቻል በጤና ትምህርት መርሃ ግብሩ ውስጥ በተለያዩ አደረጃጀቶች ግብአት ሆኖ ያገለግላል።

**የሚካተቱ ተሳታፊዎች**፡- ሁሉም ነፍሰ ጡር እናቶች በቅድመ ወሊድ ክትትል የሚያድርጉ እና በጥናቱ ላይ ለመሳተፍ ፈቃደኛ የሆኑ።

**ሚስጥራዊነት**:- ሁሉም የሚሰጡት መረጃ በሚስጥር ይጠበቃል እና ለማንኛውም ሶስተኛ ወገን ተደራሽ አይሆንም። ማንነት እንዳይታወቅ ስም በጥያቄ ወረቀቱ ላይ አይመዘገብም።

**የጥናቱ አደጋዎች እና ጥቅሞች**፡-ጥናቱ የሚካሄደው በቃለ መጠይቅ ጠያቂ አዬራጊ መጠይቅ ነው። አሰራሩ ምንም አይነት አካላዊ እና ስነልቦናዊ ጉዳቶችን አያሥከትልም። በተጨማሪም ለማያውቁት መረጃ ምላሽ ለመስጠት አይገደዱም። በጥናቱ ላይ ለመሳተፍ ምንም አይነት ክፍያ የለም ነገር ግን በጥናቱ ላይ መሳተፍ እና ለጥያቄዎች መረጃዎን መስጠት ነፍሰጡር እና የወለዱ እናቶች ጤናን ለማሻሻል ለሚደረገው ጥረት ትልቅ አስተዋፅኦ ይኖረዋል።

የዋና መርማሪ (PI) ስም፡ ግደፋየ ተስፋሁን ቀን፡ _____ ፊርማ _____ አድራሻ፡ ሞባይል፡ +251915628760

ኢ-ሜይል ፡ gedefayetesfahun@gmail.com

የመረጃ ሰብሳቢ ስም _____ቀን ____ ፊርማ _____

የተቆጣጣሪ ስም _____ ቀን _____ ፊርማ _____

**የስምምነት ቅጽ**

**የአዲስ አበባ ዩኒቨርሲቲ**

**ጤና ሳይንስ ኮሌጅ**

**የነርሲንግ እና ሚድዋይፈር ትምህርት ክፍል**

እንደምን አደሩ/አረፈዱ ። ስሜ _____ እባላለሁ የምሰራው በ _____ ነው

የቅድመ ወሊድ ክትትል በሚከታተሉ ነፍሰ ጡር እናቶች ሥለ ቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ የመሥራት አላማ ደረጃና ተያያዥ ምክንያቶቹ በተመለከተ ጥናት በአዲስ አበባ ዩኒቨርሲቲ የጤና ሳይንስ ኮሌጅ የድህረ ምረቃ ተማሪ በሆነው በገደፋዬ ተስፋሁን ስም እየሠራን ነው። እና ከፈለጋችሁ ብቻ ምላሽ እንድትሰጡኝ እፈልጋለሁ። ያሚያቀረቡት መረጃ በሚስጥር እንደሚጠበቅ አረጋግጣለሁ። ሚስጥራዊነትዎን ለማረጋገጥ ስምዎ በመጠይቁ ላይ አይጻፍም። እርስዎ በዚህ ጥናት ውስጥ ስለሚሳተፉ ምንም አይነት ጉዳት እንደሌለ ያረጋግጡ። በቃለ መጠይቁ ሊይ በከፊልም ይሁን ሙሉ በሙሉ አለመሳተፍ የሚችሉ ሲሆን ቃለ መጠይቁ የሚወስደው ጊዜ 30 ደቂቃ ነው። በቃለ መጠይቁ ለመሣተፍ ፈቃደኛ ከሆኑ የሚሰጧቸው ምላሾች ለኢትዮጵያ የጤና ጥበቃ ሚኒስቴር እና የጤና አገሌግልት መስጫዎች ማሻሻያ የሚግዙ ትክክለኛ ዯምዲሜዎችና አስተያየቶች ሊይ ለመድረስ አስፈሊጊ በመሆኑ እባክዎ መመለስ ለሚፈሌጓቸው ጥያቄዎች ትክክለኛ ምላሾችዎን ይስጡን።

**የመጠይቁን ሙሉ ይዘቶች ተገንዝቤ በዚህ የምርምር ጥናት ላይ ለመሳተፍ ፈቃደኛ ነኝ።**

አዎ----------

አይ----------

ፍቃደኛ ስለሆኑ እናመሰግናለን።

የመረጃ ሰብሳቢው ስም - ምልክት - - - ቀን --- ----------

## መጠይቅ

**መመሪያ** ፡ ከመረጡት መልስ ጋር ትይዩ የተሰጠውን የኮድ ቁጥር አክብብ ቀጥተኛ መልስ ለሚሰጧቸው ጥያቄዎች፣ቀጥተኛ መልስ ለማይሰጣቸው መልሱን በተዘጋጀው ቦታ ላይ ይፃፉ።

**ማስታወሻ. የማካተት መስፈርቱ ለሚከተሉት ጥያቄወች መልሱ "አዎ" ከሆነ መጠይቁን ያቁሙ እና ወደ ቀጣዩ እጩዎች ይሂዱ.**

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| 1 | እርግዝናዎ 12 ሳምንት(3 ወር አልሞላውም)? | 1. አዎ<br>2. ሞልቶል |
| 2 | በዚህ ጉዳይ ላይ ከተወሰነ ጊዜ በፊት ከእኔ ጋር ቃለ-መጠይቅ አድርገው ያውቃሉ? | 1. አዎ<br>2. አላደረግሁም |
| 3 | እንቅስቃሴዎን እንዲቀንሱ በጤና ባለሙያዎች ተነግሮዎታል? | 1. አዎ<br>2. የለም |

**ኮድ**_____

**ክፍል 1 ስለ ማህበራዊ ስነ ህዝባዊ ባህሪያት ለተመለከቱ ጥያቄዎች**

| ተ/ቁ | ጥያቄ | አማራጭ |
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| 101 | እድሜዎ ስንት ነው? | _____ |
| 102 | የጋብቻ ሁኔታዎ ምንድን ነው? | 1. ያገባች<br>2. የፈታች<br>3. ባልዋ የሞተባት<br>4. ያላገባች<br>5. አብራ የምትኖር(ሳይጋቡ) |
| 103 | የእርስዎ የትምህርት ደረጃ ምንድን ነው? | 1. ማንበብ እና መጻፍ አልችልም<br>2. ማንበብ እና መጻፍ የምትችል<br>3. አንደኛ ደረጃ ትምህርት ያጠናቀቀች(1-8)<br>4. ሁለተኛ ደረጃ ትምህርት ያጠናቀቀች(9-12)<br>5. ኮሌጅ ወይም ከዚያ በላይ |
| 104 | የባለቤትዎ የትምህርት ደረጃ | 1. ማንበብ እና መጻፍ አይችልም |

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| | ምንድን ነው? | 2. ማንበብ እና መጻፍ የሚችል<br>3. የመጀመሪያ ደረጃ ትምህርት(1-8)<br>4. ሁለተኛ ደረጃ ትምህርት ቤት(9-12)<br>5. ኮሌጅ ወይም ከዚያ በላይ |
| 105 | ስራም ምንድን ነው? | 1. የቤት እመቤት<br>2. የቀን ሰራተኛ<br>3. የግል ተቀጣሪ<br>4. የመንግስት ሰራተኛ<br>5. የግል ስራ ያላት<br>6. ተማሪ<br>7. ሌላ |
| 106 | የባለቤትም ስራ ምንድነው? | 1. የቀን ሰራተኛ<br>2. የግል ተቀጣሪ<br>3. የመንግስት ሰራተኛ<br>4. የግል ስራያለው<br>5. ተማሪ<br>6. ሌላ ካለ ይግለጹ ---------- |

**ክፍል 2 ከእርግዝና እና ከእናቶች ጋር የተዛመዱ ባህሪዎች።**

| ተ.ቁ.ጥ | ጥያቄ | አማራጭ | ዝለል |
|---|---|---|---|
| 201 | እርግዝናዎ ስንተኛ ነው | 1. አንደኛ<br>2. ሁለተኛ እና ከዚያ በላይ | |
| 202 | እረግዝናዎ ስንት ሳምንት ሞልቶታል በቁጥር? | …… | |
| 203 | የእረግዝናዎ ሁኔታ ምንድን ነው? | 1. የታቀደ የሚፈለግ<br>2. ያልታቀደ የሚፈለ | |

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| | | 3. ያልታቀደ የማይፈለግ | |
| 204 | የአሁኑን ጨምሮ ለምን ያክል ጊዜ የቅድመ ወሊድ ክትትል አድርገዋል በቁጥር? | ..... | |
| 205 | ውረጃ አጋጥሞት ያውቃል? | 1. አዎ<br>2. አያውቅም | |
| 206 | ስንት ጊዜ ወልደዋል? | 1. ምንም<br>2. አንድ እና ከዚያ በለይ | መልሱ ምንም ከሆነ ወደ 210 ዝለል |
| 207 | ስንት ልጆች አለዎት በቁጥር? | ..... | |
| 208 | ለ ጥያቄ ቁጥር 206 መልሱ አንድ እና ከዚያ በለይ ከሆነ በምን ነው የወለዱት? | 1. በምጥ<br>2. በምጥ በመሳሪያ በመታግዝ<br>3. በ ቀዶጥገና | |
| 209 | ለ ጥያቄ ቁጥር 201 መልሱ ሁለተኛ እና ከዚያ በላይ ከሆነ በባለፈው እርግዝና ወቅት የትኛው/ቹ የማህፀን ህክምና አደጋወች ተከስቶብወታል? | 1. ምንም<br>2. ቀኑ ሳይደርስ መውለድ<br>3. በማህፀን ደም መፍሰስ<br>4. የንሸርት ውሃ ያለጊዜው መፍሰስ<br>5. በርግዝና የመጣ የስካር ህመም<br>6. በርግዝና የመጣ ግፊት<br>7. የጽንስ ክልክ በላይ መወፈር<br>8. ሌላ ካለ ይጥቀሱ..... | |
| 210 | በዚህ የርግዝና ወቅት የትኛው/ቹ የማህፀን እና የውስጥ ደዌ ህክምና አደጋወች ተከስቶቦዎታል? | 1. ምንም<br>2. በርግዝና የመጣ የስኩር ህመም<br>3. ከእርግዝና በፊት የነበረ የስኩር ህመም | |

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| | | 4. በርግዝና የመጣ ግፊት<br>5. ከእርግዝና በፊት የነበረ ግፊት መጨመር<br>6. የጽነሱ ከመጠን በላይ መወፈር<br>7. ደም ማነስ<br>8. ሌላ ካለ ይጥቀሱ…….. | |

**ጥያቄ ክፍል 3፡ ነፍሰጡር እናቶች ስለ ቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ያላቸውን ግንዛቤ እና እውቀት የተመለከቱ ጥያቄዎች**

**1.1. ነፍሰጡር እናቶች ስለ ቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ያላቸውን ግንዛቤ በተመለከቱ ጥያቄዎች**

| ተ/ቁ | ጥያቄ | አማራጭ መልሶች | ይለፉ |
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| 301 | ስለ ቅድመ ወሊድ የኣካል ብቃት እንቅስቃሴዎች ሰምተው ያውቃሉ? | 1. አዎ<br>2. አላውቅም | አላውቅም ከሆነ ወደ ጥ.307 ይለፉ |
| 302 | ለጥ.301 መልስዎ አዎ ከሆነ ስለ ቅድመ ወሊድ የኣካል ብቃት እንቅስቃሴዎቹ ከየት ነው የተማሩት (መረጃውን ያገኙት)? (ከአንድ በላይ መልስ መስጠት ይችላሉ)? | 1. ከጤና ባለሙያዎች<br>2. ከቤተሰብ ወይም ጓደኛ<br>3. ከመገናኛ ብዙሀን<br>4. ከኢንተረኔት(ከማህበራዊ መገናኛ ወይም ጎግል)<br>5. ሌላ | |
| 303 | ለጥ.301 መልስዎ አዎ ከሆነ ከሚከተሉት ውስጥ የትኞቹን የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴዎች ያውቃሉ ወይም ሰምተዋል?(ከአንድ በላይ መልስ | 1. መራመድ/ፈጣን የእገርጉዞ ማድረግ<br>2. ሳይክል መንዳት<br>3. የማፍታታት/ትንፋሽ መውሰድእንቅስቃሴ | to handle my personal data. |

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|---|---|---|---|
| | መስጠት ይችላሉ) | 4. የመቃጠር) እንቅስቃሴ<br>5. የውሃ ዋና<br>6. የጉልበትና እግር ጣቶች እንቅስቃሴ | |
| 304 | ከእርግዝና በፊት የአካል ብቃት እንቅስቃሴ ይሰሩ ነበር? | 1. አዎ<br>2. የለም | አይደለም ከሆነ ወደ307 ይዘል። |
| 305 | ከእርግዝና በፊት ያለው የአካል ብቃት እንቅስቃሴዎ ደረጃ በ ርስዎ ግምት ምን ያህል ነው ይላሉ? | 1. ዝቅተኛ<br>2. መካከለኛ<br>3. ከፍተኛ | |
| 306 | ለጥ.304 መልስዎ አዎ ከሆነ ከሚከተሉት ውስጥ የትኛው/ቹ የአካል ብቃት እንቅስቃሴዎች ለርስዎ ተመራጭ ነበሩ? (ከአንድ በላይ መልስ መስጠት ይችላሉ) | 1. በቀስታ መራመድ | |
| | | 2. መደነስ | |
| | | 3. መዋኘት | |
| | | 4. በፍጥነት መራመድ | |
| | | 5. ደረጃ መውጣት መውረድ | |
| | | 6. በቀስታ መሮጥ | |
| | | 7. በፍጥነት መሮጥ | |
| | | 8. ሌላ ካለ | |
| 307 | በአሁኑ እርግዝና ወቅት የአካል ብቃት እንቅስቃሴ ልምምድ ያደርጋሉ? | 1. አዎ<br>2. አላደርግም | |
| 308 | ለጥ.307 መልስዎ አዎ ከሆነ ከሚከተሉት ውስጥ የትኛውን/ቹን የአካል ብቃት እንቅስቃሴዎች እየሰሩ ነው? (ከአንድ በላይ መልስ መስጠት | 1. ፈጣን የእግር ጉዞ(ወክ)<br>2. መሮጥ<br>3. ሳይክል በመንዳት<br>4. መፍታታትና/ ትንፋሽ መውሰድ<br>5. የጉልበትና የግር ጣቶች እነቅስቃሴ | |

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| | ይችላሉ)? | 6. የዳሌ ወለል እንቅስቃሴ((ብድግ ቁጭ ማለት ወይም ሽንት የመቆጠር)<br>7. ውሃ ዋና<br>8. ሌላ ካለ ይጠቀሱ…… | |

1.2. ነፍሰጡር እናቶች ስለ ቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ጠቀሜታ እና ስለ ሚከለከልባቸው ጉዳዮች ያላቸውን እውቀት በተመለከተ ጥያቄዎች

መመሪያ፡ አርፍተ ነገሩ ትክክል ከሆነ አዎ ያክብቡ፣ትክክል ካልሆነ አይደለም ያክብቡ ፣ እርግጠኛ ካልሆኑ እርግጠኛ አደለሁም ያክብቡ

| ተ.ቁ | ጥያቄዎች | የመልስ አማራጮች |
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| ሀ. በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ለእናቶች እና ለፅንሱ ያለውን ጠቀሜታ በተመለከተ ጥያቄዎች | | |
| 309 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ለእናቶች ጤና ጠቃሚ ነው | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 310 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት በእርግዝና ምክንያት የሚከሰቱ ጉዳቶችን ይከላከላል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 311 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ድካም እና ጭንቀት ይቀንሳል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 312 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ | 1. አዎ<br>2. አይደለም |

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| | መስራት ድብርትን ይቀንሳል | 3. እርግጠኛ አይደለሁም | |
| 313 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት በእርግዝና ምክንያት የሚከሰትን ከፍተኛ የደም ግፊት ይከላከላል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 314 | በእርግዝና ወቅት የአካል እንቅስቃሴ መስራት በእርግዝና ምክንያት የሚከሰት የስኳር በሽታን ይከላከላል/ይቀንሳል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 315 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ቀዶጥገና የመውለድ እድልን ይቀንሳል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 316 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት በምጥና ወሊድ ወቅት የሚፈጠር ህመምን ይቀንሳል። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 317 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ለፅንሱ(ለልጁ) ጠቃሚ ነው | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 318 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ጊዜው ሳይደርስ ምጥ እንዳይጀምር ይከላከላል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 319 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት በምጥ ጊዜ የፅንስ(የልጅ) መታፈንን እነዳይከሰት ይከላከላል | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም | |
| 320 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት የፅንስ(የልጅ) ክብደት ከመጠን በላይ | 1. አዎ<br>2. አይደለም | |

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| | እነዳይጨምር ይከላከላል | 3. እርግጠኛ አይደለሁም |
| ለ. በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት የሚከለከልባቸው ጉዳዮች በተመለከተ ጥያቄ | | |
| 321 | በእርግዝና ወቅት ሙሉበሙሉ በጀርባ ተኝቶ የአካል ብቃት እንቅስቃሴ መስራት ኣይመከርም። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 322 | በእርግዝና ወቅት ከማህፀን ደም መፍሰስ ካለ የአካል ብቃት እንቅስቃሴ መስራት ኣይመከርም። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 323 | በእርግዝና ወቅት ከፍተኛ የደም ማነስ ካለ የአካል ብቃት እንቅስቃሴ መስራት ኣይመከርም። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 324 | በእርግዝና ወቅት በአግባቡ ቁጥጥር ያልተደረገበት የስኳር በሽታ ካለ የአካል ብቃት እንቅስቃሴ መስራት የተከለከለ ነው። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 325 | በእርግዝና ወቅት በአግባቡ ቁጥጥር ያልተደረገበት የግፊት በሽታ ካለ የአካል ብቃት እንቅስቃሴ መስራት የተከለከለ ነው። | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 326 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ በሚሰሩበት ጊዜ የእራስ ምታት ህመም ስሜት ካለ እንቅስቃሴውን ማቆም አስፈላጊ ነው | 1. አዎ<br>2. አይደለም<br>3. እርግጠኛ አይደለሁም |
| 327 | በእርግዝና ወቅት የእንሽርት ዉሃ ከፈሰሰ የአካል ብቃት እንቅስቃሴ መስራት ኣይመከርም። | 1. አዎ<br>2. አይደለም |

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| | | 3. እርግጠኛ አይደለሁም |

**ክፍሌ 4፡ ነፍሰጡር እናቶች ስለቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ያላቸውን የአመለካከት መለኪያ ጥያቄዎች**

| ተ.ቁ | ጥያቄ | የመልስ አማራጮች |
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| 401 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት አስፈሊጊ ነው ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 402 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ ማድረግ ይቻላል ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 403 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት በፅንሱ(በልጁ) አና በእርስዎ ላይ አደጋ ያስከትላል ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 404 | የአካል ብቃት እንቅስቃሴ መስራት በእርግዝና ምክንያት የሚመጣን(የሚከሰትን) ጥሩ ያልሆነ ስሜት ይቀንሳል ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 405 | የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ መስራት ከወለዱ በኃላ ወደ ቀድሞው የሰውነት አቋም ወይም ቅርጽ እንዲመለስ | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ |

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| | ይረዳል ብለው ያምናሉ? | 4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 406 | በእርግዝና ወቅት የአካል ብቃት እንቅስቃሴ መስራት ከድህረ ወሊድ በኋላ ቶሎ ለማገገም ይረዳል ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 407 | ነፍሰጡር እናቶች የአካል ብቃት እንቅስቃሴ ለመስራት በጤና ባለሙያዎች መታገዝ አለባቸው ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 408 | የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ መስራት ከባህላቸን ጋር ይስማማል ብለው ያምናሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |

**ክፍል 5፡ የነፍሰጡር እናቶች የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ለማድረግ ያሉ ችግሮችን በተመለከቱ ጥያቄዎች**

| ተ.ቁ. | ጥያቄ | የመልስ ማራጭ |
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| 501 | የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ለማድረግ በቂ ቦታና መገልገያወች አለዎት? | 1. አዎ<br>2. አይ |
| 502 | የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ለማድረግ ምቹ ቦታና መገልገያወች አለዎት? | 1. አዎ<br>2. አይ |
| 503 | በዚህ እርግዝና ወቅት የሚያግዘዎ ቤተሰብ ወይም ጉአደኛ አለዎት? | 1. አዎ<br>2. አይ |

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| 504 | በዚህ እርግዝና ወቅት ስራዎትን ባቀዱት መሰረት ያከናውናሉ? | 1. አዎ<br>2. አይ |
| 505 | በዚህ እርግዝና ወቅት ስራወችን ካከናወኑ በኃላ የማስታወስ ችግር አለበዎ? | 1. አዎ<br>2. አይ |
| 506 | በዚህ እርግዝና ወቅት የአካል ብቃት እንቅስቃሴ ለመስራት በቂ ጊዜ አለዎት? | 1. አዎ<br>2. አይ |
| 507 | በዚህ እርግዝና ወቅት ቤት ውስጥ ስራ ይበዛበዎታል? | 1. አዎ<br>2. አይ |
| 508 | በዚህ እርግዝና ወቅት ብዙን ጊዜ የድካም ስሜት ይሰማዎታል? | 1. አዎ<br>2. አይ |

**ክፍል 6፡ የነፍሰጡር እናቶች የቅድመ ወሊድ የአካል ብቃት እንቅስቃሴ ለመስራት ያላቸውን ፍላጎት መለኪያ ጥየቄዎች**

**እንደ ፈጣን የእግር ጉዞ(ወክ)፣ሳይክል በመንዳት፣መፍታታትና ትንፋሽ መውሰድ፣የጉልበትና የዕግር ጣቶች እነቅስቃሴ፣የዳሌ ወለል (ብድግ ቁጭ ማለት ወይም ሽንት የመቆጠር) እንቅስቃሴ፣ ውሃ ዋና እና የመሳሰሉትን የአካል ብቃት እንቅስቃሴዎችን በቅድመ ወሊድ ወቅት መስራት ይመከራል.**

| ተ.ቁ | ጥየቄ | የመልስ አማራጭ |
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| 601 | እርስዎ በዚህ የርግዝና ወቅት ቢንስ በቀን ለ 30 ደቂቃ ወይም በሳምንት ለ 3 ቀን(150 ደቂቃ) በተከታታይ የቅድመ ቀሊድ የአካል ብቃት እንቅስቃሴ ለመስራት አስበዋል? | 1. በጣም አልስማማም<br>2. አልስማማም።።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 602 | እርስዎ በዚህ የርግዝና ወቅት ቢንስ በቀን ለ 30 ደቂቃ ወይም በሳምንት ለ 3 ቀን(150 ደቂቃ) የቅድመ ቀሊድ | 1. በጣም አልስማማም<br>2. አልስማማም።።<br>3. ገለልተኛ |

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| | የአካል ብቃት እንቅስቃሴ ለመሰራት ወስነዋል? | 4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 603 | እርስዎ በዚህ የርግዝና ቀጣይ ጊዚያት (ቢንስ በቀን ለ 30 ደቂቃ ወይም በሳምንት ለ 3 ቀን(150 ደቂቃ) የቅድመ ቀሊድ የአካል ብቃት እነቅስቃሴ ለመስራት ይሞክራሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |
| 604 | እርስዎ በዚህ የርግዝና ወቅት ቢንስ በቀን ለ 30 ደቂቃ ወይም በሳምንት ለ 3 ቀን(150 ደቂቃ) የቅድመ ቀሊድ የአካል ብቃት እንቅስቃሴ በፕሮግራም ለመስራት ይፈልጋሉ? | 1. በጣም አልስማማም<br>2. አልስማማም።<br>3. ገለልተኛ<br>4. እስማማለሁ<br>5. በጣም እስማማለሁ |