



# Knowledge, Attitude and Belief of Gynaecologists, Medical practitioners, Physiotherapists and Other health care professionals of Jalgaon district about exercises during pregnancy: A survey-based study.

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## ABSTRACT

### Aim

The aim of the present study was to study the Knowledge, Attitude and Belief of Gynaecologists, Medical Practitioners, Physiotherapist and Other health care professionals of Jalgaon district about exercises during pregnancy.

### Introduction

Pregnancy is the period of dynamic physiological changes for mother. Exercise plays an important role for the development of the baby and mother. Recent study shows that exercise during pregnancy is safe for both mother and the foetus<sup>6</sup>. Though benefits of exercises during pregnancy are already proven, many pregnant females are still afraid of doing exercises because of inadequate guidance that is being provided to them during their pregnancy period. Hence the survey was carried out to study the knowledge, attitude and belief of Gynaecologist, Medical practitioners, Physiotherapist and Other health care professionals of Jalgaon district about exercises during pregnancy.

### Material and Method

165 Gynaecologists, Medical practitioners, Physiotherapists and Other health professionals were included in this study as per the convenient sampling method. A self-made questionnaire was distributed among the willing participants. Data was analysed statistically & results were found out.

### Results

Demographic data was analysed. Then all the questions of the questionnaire were divided into 3 broad components (knowledge, attitude & belief) & they were assessed for the responses. Statistical analysis was done for all the questions of the questionnaire.

### Conclusion

This study concludes that the medical practitioners, gynecologists, physiotherapist and other health care professionals of Jalgaon district are apprised of the benefits of exercise during pregnancy. They also believe in suggesting the exercise program for their pregnant patients. But there is a dearth in the attitude towards recommending the patients to physiotherapist for specific exercise prescription for every patient.

## Keywords

Attitude, Belief, Pregnancy, Benefits of exercises, Medical practitioners

## INTRODUCTION

Pregnancy is divided into three trimesters. The first trimester is of 12 weeks from the time of conception which consists of symptoms including nausea, vomiting and frequent urination. The second trimester is from week 13 to 28. The third trimester is from 29 weeks to 40 weeks. Childbirth may occur around 40 weeks of gestation<sup>1</sup>.

Pregnancy is the period of dynamic changes for mother, which causes numerous physiological changes in her body. These physiological changes are normal and provide healthy environment for the growing embryo in mother's womb. Changes occur in almost all the systems of the body which include behavioural, cardiovascular, hematologic, metabolic, renal, postural and respiratory changes<sup>1</sup>. Plasma volume increases progressively throughout normal pregnancy<sup>1</sup>.

Several complications are at times associated with pregnancy, some of which includes hypertension, gestational diabetes, iron deficiency, severe nausea and vomiting<sup>2</sup>.

Antenatal care plays a vital role during pregnancy. Regular exercise in antenatal period improves cardiac function, decrease, improves mental state, improves fitness and improves musculoskeletal functions<sup>3</sup>. Antenatal exercises are also beneficial in reducing back pain, pelvic pain, improving strength and lean muscle mass.<sup>3</sup> Benefits of regular antenatal exercises are not only constrained to mother but are useful for healthy growth of the foetus as well<sup>4</sup>. Foetal benefits include decreased resting foetal heart rate, improvement in the viability of placenta and increase in amniotic fluid level<sup>5</sup>. Recent studies show that exercise during pregnancy is safe for both the mother and the fetus<sup>6</sup>. For health benefits, regular physical activities are recommended for antenatal as well as postnatal women.

Previous studies reported that pregnant women are recommended to exercise moderately for 30 minutes<sup>7</sup>. Exercises during pregnancy should be well monitored under the supervision of well-trained and certified antenatal care therapist. The safest and the most productive activities are swimming, brisk walking, indoor stationary cycling and low impact aerobics<sup>8</sup>. In general population, brief counselling from a physiotherapist and general practitioner has shown to be cost effective and successful method of improving activity level<sup>9</sup>.

Some authors have investigated the beliefs and attitudes of women with respect to the practice of physical activity in pregnancy. They concluded that only 5-20% of women follow current exercise guidelines and actively participate in antenatal exercise sessions<sup>10</sup>. Barriers to exercise reported by pregnant women include lack of motivation, lack of time due to family and work demand, less awareness about the effects of exercise during pregnancy<sup>11</sup>.

To motivate pregnant women to exercise, health care providers should counsel and provide education to the women, gynecologist and family members regarding the benefits of exercises. Proper education regarding the appropriate type and amount of exercise should also be specified.

The aim of the study is to assess the knowledge, attitude and beliefs of Medical Practitioners Gynecologist and Physiotherapist in Jalgaon towards benefits of exercise during pregnancy.

## MATERIALS AND METHODOLOGY

- **Study design** – Observational
- **Sampling** – Convenient sampling.
- **Study setting** – Hospitals in and around Jalgaon.
- **Study population** – Practicing Medical Practitioners, Gynecologists, Physiotherapists & other health care professionals
- **Sample size** – 165
- **Study duration** – 6 months.

## SELECTION CRITERIA

### ❖ Inclusive criteria: -

Practicing Medical practitioners, Gynecologists, Physiotherapists & other health care professionals willing to participate were included in study

- **Exclusive criteria:-**  
Practicing Medical practitioners, Gynecologists, Physiotherapists & other health care professionals who were not willing to participate were excluded from the study

Medical, nursing & physiotherapy students were excluded.

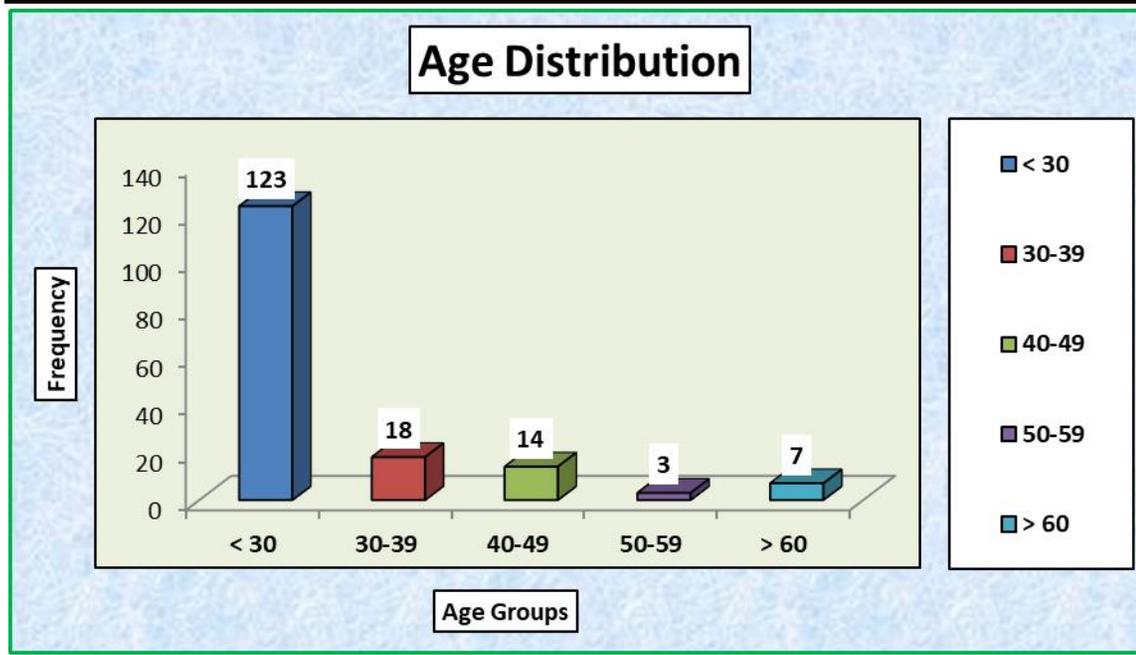
## METHODOLOGY

- After obtaining institutional ethical clearance, a survey-based study was conducted to determine the knowledge, Attitude and Belief of, Gynaecologists, Medical practitioners, Physiotherapists & other health care professionals about exercises in pregnancy. 165 participants including Gynecologists (36), Medical practitioners (60), Physiotherapists (59) and other health care professionals (10) agreed to participate in the study. All the participants were provided Preliminary information about this study.
- A self-made questionnaire of 27 questions reflecting the knowledge, attitude & belief about the benefits of exercises in pregnancy was distributed among the willing participants. Responses were obtained & statistically analyzed.

## RESULTS AND OBSERVATION

**Table no 1. Age wise distribution**

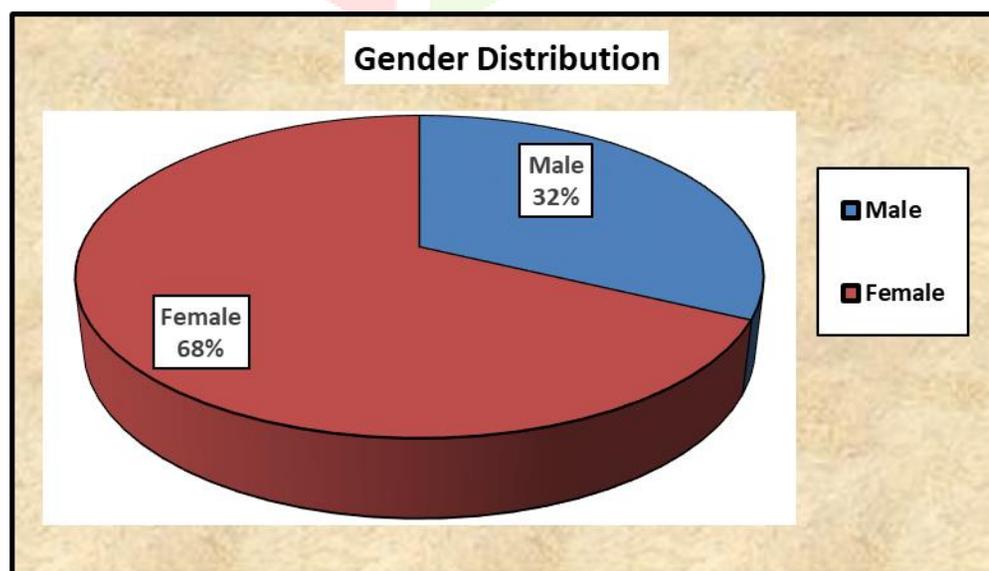
Age Groups	No. of participants	Percentage
<30	123	74.55
30-39	18	10.91
40-49	14	8.48
50-59	3	1.82
>60	7	4.24



**Interpretation:** 123 (74.55%) participants were less than 30 yearsof age, 18(10.91%) participants were between 30-39 years of age, 14 (8.48%) participants were 40-49 year of age, 3(1.82%) participants were from 50-59 year of age &7(4.24%) participants were more than 60 year of age.

**Table no 2: Gender wise distribution of participants.**

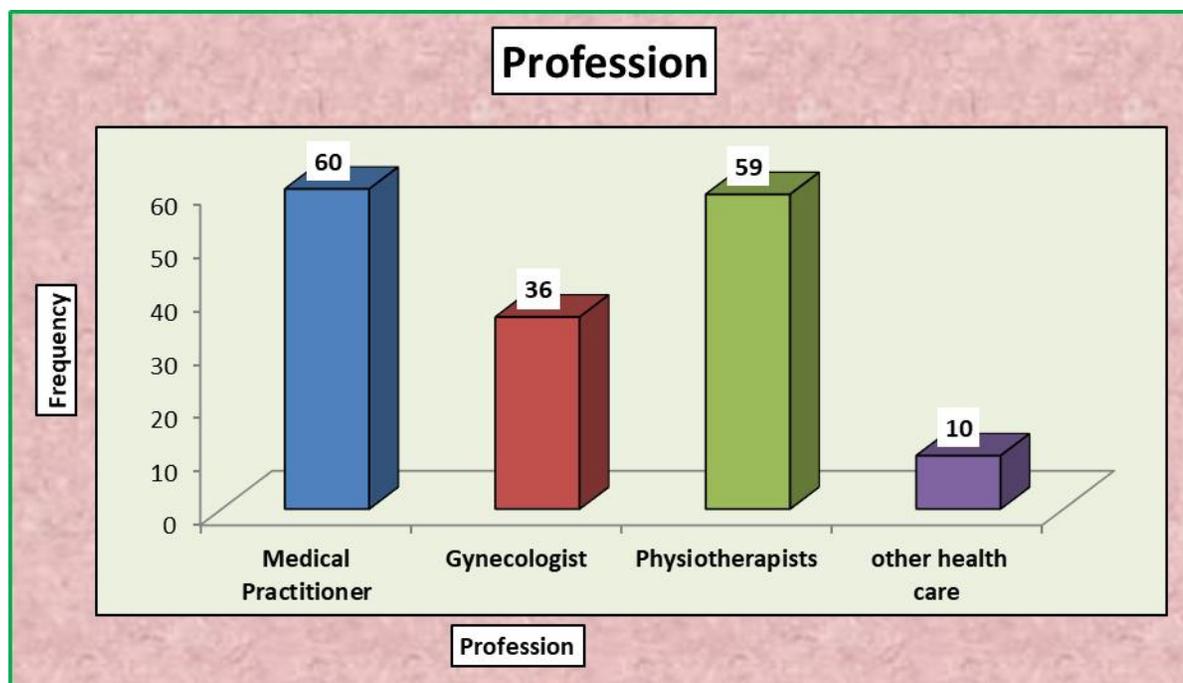
Gender	No.of participants	Percentage
Male	53	32.12
Female	112	67.88



**Interpretation:** 32% (53) of the total participants were males & 68% (112) participants were females.

**Table no 3: Profession wise distribution of participants.**

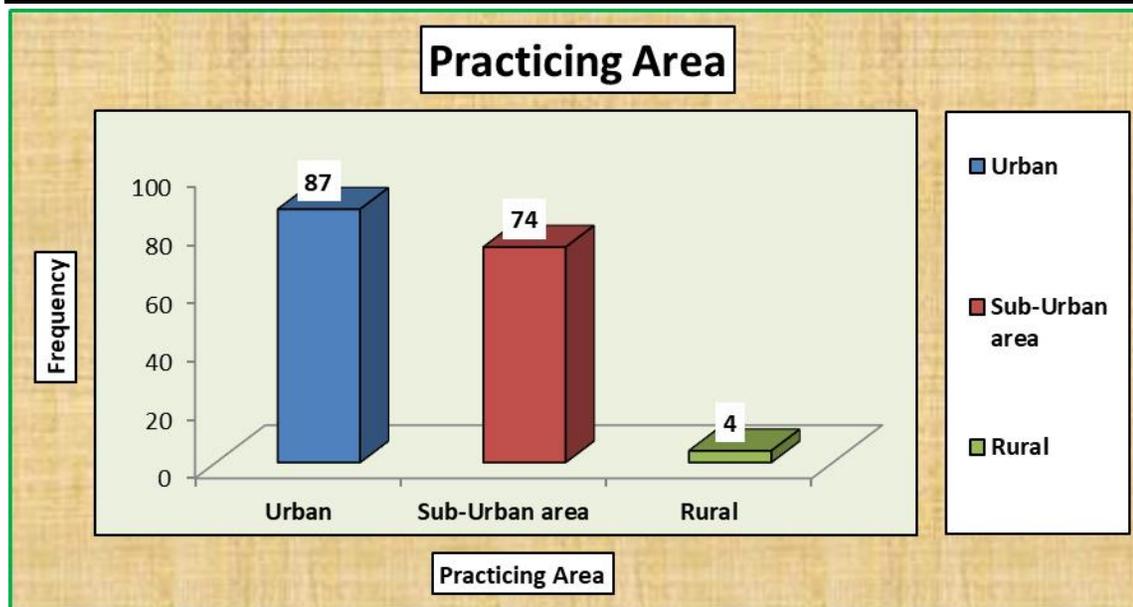
Profession	No. of subjects	Percentage
Medical Practitioners	60	36.36
Gynaecologists	36	21.82
Physiotherapists	59	35.76
Other health care professionals	10	6.06



**Interpretation:** Out of total population, 36.36% (60) were medical practitioners, 21.82% (36) were gynaecologists, 35.76% (59) were practicing physiotherapists and 6.06% (10) were other health care professionals

**Table no 4: Practicing area-wise distribution of participants.**

Practicing Area	No. of participants	Percentage
Urban	87	52.73
Sub-Urban area	74	44.85
Other	4	2.42



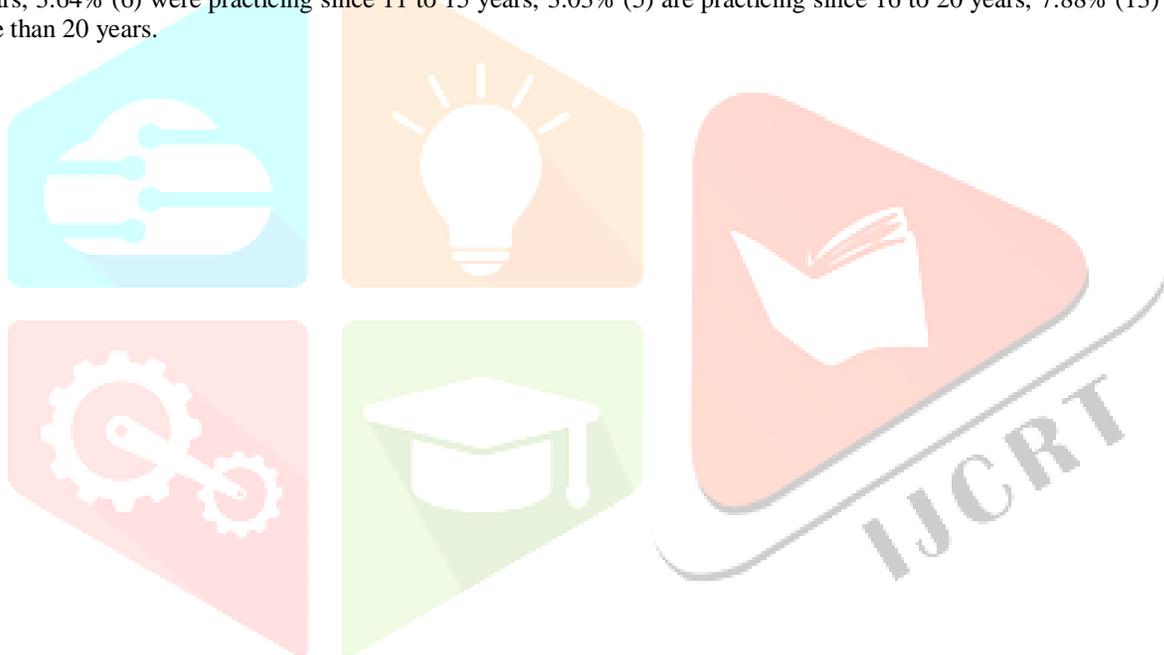
**Interpretation:** Out of total no of participants, 52.73% (87) participants practice in urban area, 44.85% (74) participants practice in sub-urban area, 2.42% (4) participants practice in rural area.

**Table no 5: Distribution of subjects according to the duration of practice .**

Years of practice	No. of participants	Percentage
1-5	112	67.88
6-10	29	17.58
11-15	6	3.64
16-20	5	3.03
>20	13	7.88



**Interpretation:** Out of total no. of participants 67.88% (112) were practicing since 1 to 5 years, 17.58% (29) were practicing since 6 to 10 years, 3.64% (6) were practicing since 11 to 15 years, 3.03% (5) are practicing since 16 to 20 years, 7.88% (13) were practicing for more than 20 years.



**Table no 6:** Statistical analysis of all the questions related to the ‘knowledge component’ of the questionnaire.

Occupation	Statement	Medical Practitioners		Gynecologists		Physiotherapists		Other Health Care professionals	
		No. of subjects	%	No. of subjects	%	No. of subjects	%	No. of subjects	%
<b>K9</b>	St.Ag	27	45.0	21	58.3	42	71.2	3	30.0
	Ag	30	50.0	15	41.7	17	28.8	7	70.0
	Dag	3	5.0	0	0.0	0	0.0	0	0.0
	St.Dag	0	0.0	0	0.0	0	0.0	0	0.0
<b>K10</b>	1	10	16.7	2	5.6	2	3.4	3	30.0
	2	0	0.0	0	0.0	2	3.4	0	0.0
	3	6	10.0	2	5.6	5	8.5	0	0.0
	4	1	1.7	2	5.6	1	1.7	0	0.0
	5	3	5.0	1	2.8	4	6.8	0	0.0
	6	1	1.7	1	2.8	0	0.0	0	0.0
	7	0	0.0	0	0.0	0	0.0	0	0.0
	8	39	65.0	28	77.8	45	76.3	7	70.0
<b>K11</b>	St.ag	24	40.0	10	27.8	24	40.7	5	50.0
	Ag	33	55.0	22	61.1	31	52.5	4	40.0
	Dag	2	3.3	1	2.8	3	5.1	0	0.0
	St.Dag	1	1.7	3	8.3	1	1.7	1	10.0
<b>K15</b>	St.ag	2	3.3	1	2.8	2	3.4	0	0.0
	Ag	8	13.3	1	2.8	8	13.6	3	30.0
	Dag	32	53.3	21	58.3	28	47.5	6	60.0
	St.Dag	18	30.0	13	36.1	21	35.6	1	10.0
<b>K17</b>	Walking	42	70.0	34	94.4	33	55.9	9	90.0
	Running	0	0.0	0	0.0	1	1.7	0	0.0
	Swimming	5	8.3	0	0.0	7	11.9	0	0.0
	Cycling	0	0.0	0	0.0	0	0.0	0	0.0
	Aerobics	13	21.7	2	5.6	18	30.5	1	10.0
<b>K22</b>	Yes	35	58.3	26	72.2	28	47.5	4	40.0
	No	25	41.7	10	27.8	31	52.5	6	60.0
<b>K24</b>	Vry.aware	2	3.3	5	13.9	3	5.1	1	10.0
	Aware	20	33.3	16	44.4	20	33.9	4	40.0
	Vguly.awre	19	31.7	10	27.8	9	15.3	3	30.0
	Unaware	19	31.7	5	13.9	27	45.8	2	20.0

**Interpretation:** The above table shows statistical analysis of all the questions related to the ‘knowledge component’ of the questionnaire.

45% Medical practitioners, 58.3% Gynecologists, 71.2% Physiotherapists and 30% other health care professionals strongly agreed for the question asking about the benefits of doing exercises in pregnancy, whereas only 5% medical practitioners disagreed for the same. (K9)

65% (35) of Medical practitioners, 77.8% Gynecologists, 76.3% Physiotherapists, 70% health care professionals agreed for all of the benefits of exercises in pregnancy mentioned in the question. **(K10)**

40% Medical practitioners, 27.8% Gynecologists, 61.1% Physiotherapists and 50% other health care professionals strongly agreed for the question asking about the practice of exercises by a sedentary woman with uncomplicated pregnancy, whereas only 1.7% medical practitioners, 8.3% Gynecologists, 1.7% Physiotherapists & 10% other health care professionals strongly disagreed for the same. **(K11)**

30% Medical practitioners, 36.1% Gynecologists, 35.6% Physiotherapists and 10% other health care professionals strongly agreed for the question asking about possibility of having low birth weight babies due to exercises in pregnancy, whereas 30% medical practitioners, 36.1% Gynecologists, 35.6% Physiotherapists & 10% other health care professionals strongly disagreed for the same. **(K15)**

42% Medical practitioners, 94.4% Gynecologists, 55.9% Physiotherapists and 90% other health care professionals opted for 'walking' as their choice of exercise recommendation for pregnant patients.

8.3% Medical practitioners & 11.9% Physiotherapists opted for 'swimming' as their choice of exercise recommendation for pregnant patients.

21.7% Medical practitioners & 5.6% Gynecologists, 30.5% Physiotherapists & 10% opted for 'aerobics' as their choice of exercise recommendation for pregnant patients.

Only 1.7% Physiotherapists opted for 'running' as their choice of exercise recommendation for pregnant patients whereas 0% Medical practitioners, Gynecologists & other health care professionals chose it as their recommendation.

No one opted for 'cycling' as their choice of exercise recommendation for pregnant patients. **(K17)**

58.3% Medical practitioners, 72.2% Gynecologists, 47% Physiotherapists and 40% other health care professionals opted for restricting their pregnant patients for doing exercises even if the pregnancy is not complicated. Whereas, 41.7% Medical practitioners, 27.8% Gynecologists, 52.5% Physiotherapists & 60% other health care professionals do not restrict their pregnant patients for doing exercises if pregnancy is not complicated. **(K22)**

33.3% Medical practitioners, 44.4% Gynecologists, 33.9% Physiotherapists and 40% other health care professionals were aware about '2002 ACOG guidelines for pregnancy and exercise'.

31.7% Medical practitioners, 27.8% Gynecologists, 15.3% Physiotherapists and 30% other health care professionals were vaguely aware about '2002 ACOG guidelines for pregnancy and exercise'.

31.7% Medical practitioners, 13.9% Gynecologists, 45.8% Physiotherapists and 20% other health care professionals were unaware about '2002 ACOG guidelines for pregnancy and exercise'. **(K24)**

**Table no 7:** Statistical analysis of all the questions related to the 'Attitude component' of the questionnaire.

Occupation	Statement	Medical Practitioners		Gynecologists		Physiotherapists		Other health care professionals	
		No. of subjects	%	No. of subjects	%	No. of subjects	%	No. of subjects	%
A12	St.Ag	8	13.3	8	22.2	14	23.7	1	10.0
	Ag	38	63.3	26	72.2	30	50.8	8	80.0
	Dag	12	20.0	1	2.8	12	20.3	1	10.0
	St.Dag	2	3.3	1	2.8	3	5.1	0	0.0
A 18	Yes	39	65.0	16	44.4	58	98.3	7	70.0
	No	21	35.0	20	55.6	1	1.7	3	30.0
A19	Never	17	28.3	3	8.3	9	15.3	4	40.0
	Seldom	17	28.3	16	44.4	10	16.9	5	50.0
	Often	13	21.7	12	33.3	20	33.9	0	0.0
	Always	13	21.7	5	13.9	20	33.9	1	10.0
A20	Never	15	25.0	8	22.2	10	16.9	3	30.0
	Seldom	24	40.0	6	16.7	6	10.2	4	40.0
	Often	9	15.0	14	38.9	30	50.8	2	20.0
	Always	12	20.0	8	22.2	13	22.0	1	10.0
A21	Never	16	26.7	10	27.8	5	8.5	2	20.0
	Seldom	14	23.3	9	25.0	5	8.5	4	40
	Often	12	20.0	11	30.6	18	30.5	3	30.0
	Always	18	30.0	6	16.7	31	52.5	1	10.0
A25	Yes	30	50.0	22	61.1	39	66.1	5	50.0
	No	30	50.0	14	38.9	20	33.9	5	50.0
A26	Never	7	11.7	2	5.6	2	3.4	0	0.0
	Seldom	11	18.3	9	25.0	2	3.4	5	50.0
	Often	19	31.7	14	38.9	22	37.3	2	20.0
	Always	23	38.3	11	30.6	33	55.9	3	30.0
A27	Yes	59	98.3	34	94.4	58	98.3	10	100.0
	No	1	1.7	2	5.6	1	1.7	0	0.0

**Interpretation:** The above table shows statistical analysis of all the questions related to the 'Attitude component' of the questionnaire.

63.3% Medical practitioners, 72.2% Gynecologist, 50.8% Physiotherapist & 80% Otherhealth care professionals agreed for the question related to permitting the regularly exercising pregnant females to continue the exercises throughout pregnancy. Whereas 3.3% Medical practitioners, 2.8% Gynecologist, 5.1% Physiotherapist, 0.0% other health professionals strongly disagreed for the same. (A12)

65% Medical Practitioners, 44.4% Gynecologist, 98.3% Physiotherapist, 70% other health care professionals refer their pregnant patients to physiotherapist for exercise recommendation. Whereas 35.0% Medical practitioners, 55.6% Gynecologist, 1.7% Physiotherapist, 30% other health care professionals do not referred their pregnant patients to physiotherapist for exercise recommendation.(A18)

28.3% Medical practitioners, 44.4% Gynecologist, 16.9% Physiotherapist, 50% other health care professionals rarely obtained the exercise history of their pregnant patients. Whereas 21.7% Medical practitioners, 13.9% Gynecologist, 33.9% Physiotherapist and 10% other health care professionals always obtained exercise history on pregnant patients. (A19)

25% Medical practitioners, 22.2% Gynecologist, 16.9% physiotherapist, 30% other health care professionals never provided the informational pamphlets of Antenatal exercises to their patients. Whereas 15.0% Medical practitioners, 38.9% Gynecologist, 50.8% physiotherapist and 20% other health care professionals usually provide informational pamphlets of Antenatal exercise to patients.(A20)

26.7% Medical practitioners, 27.8% Gynecologist, 8.5% Physiotherapist, 20% other health care professionals never advised individualized exercise program for any patient. Whereas 30% Medical practitioners, 16.7% Gynecologist, 52.5% Physiotherapist and 10% other health care professionals always gave individualized exercise program to their pregnant patients to follow.(A21)

50% Medical practitioners, 61.1% Gynecologist, 66% Physiotherapist and 50% other health care professionals were aware of antenatal and postnatal exercise classes in their area. Whereas 50% Medical practitioners, 38.9% Gynecologist, 33.9% Physiotherapist and 50% other health care were not aware about the same.(A25)

11.7% Medical practitioner, 5.6% Gynecologist, 3.4 % Physiotherapist and 0% other health care professionals never recommended patients to attend antenatal and postnatal care exercise sessions during pregnancy. Whereas 38.3% Medical practitioners, 30.6% Gynecologist, 55.9% Physiotherapist and 30% other health care professionals always recommended patients to attend antenatal and postnatal care exercise during pregnancy.(A26)

98.3% Medical practitioners, 94.4% Gynecologist, 98.3% Physiotherapist and all other health care professionals were interested to add Antenatal & postnatal exercise sessions to the routine follow up of their patients. Whereas only 1.7% Medical practitioners, 5.6% Gynecologist, 1.7 % Physiotherapist and 0% other health care professionals were not interested for the same.(A27)



**Table no 8:** Statistical analysis of all the questions related to the 'Belief component' of the questionnaire.

Occupation	Statement	Medical Practitioners		Gynecologists		Physiotherapists		Other Health Care professionals	
		No. of subjects	%	No. of subjects	%	No. of subjects	%	No. of subjects	%
<b>B13</b>	St.Ag	5	8.3	3	8.3	2	3.4	0	0.0
	Ag	22	36.7	16	44.4	24	40.7	3	30.0
	Dag	24	40.0	13	36.1	27	45.8	6	60.0
	St.Dag	9	15.0	4	11.1	6	10.2	1	10.0
<b>B14</b>	St.Ag	1	1.7	0	0.0	2	3.4	0	0.0
	Ag	14	23.3	5	13.9	5	8.5	4	40.0
	Dag	34	56.7	26	72.2	37	62.7	5	50.0
	St.Dag	11	18.3	5	13.9	15	25.4	1	10.0
<b>B16</b>	St.Ag	1	1.7	3	8.3	1	1.7	0	0.0
	Ag	9	15.0	5	13.9	7	11.9	1	10.0
	Dag	39	65.0	21	58.3	31	52.5	7	70.0
	St.Dag	11	18.3	7	19.4	20	33.9	2	20.0

**Interpretation:** The above table shows statistical analysis of all the questions related to the 'Belief component' of the questionnaire.

36.7% Medical practitioner, 44.4% Gynecologist, 40.7% Physiotherapists & 30% other health care professionals agreed for not allowing their pregnant patients to participate in a strength-training program during pregnancy. Whereas 40% Medical practitioners, 36% Gynecologist, 45.8% Physiotherapist and 60 % other health care Professionals disagreed for the same. **(B13)**

23.3% Medical Practitioners, 13.9% Gynecologist, 8.5% Physiotherapist and 40% Other medical practitioners agreed for following the same exercise program by all the pregnant patients throughout pregnancy. Whereas 56.7% Medical Practitioners, 72.2% Gynecologist, 62.7% Physiotherapist and 50% other health care professionals disagreed for the same. **(B14)**

15.0% Medical Practitioners, 13.9% Gynecologist, 11.9% Physiotherapist and 10% other health care professionals agreed for the question saying "exercise during pregnancy is not a major component of prenatal care". 18.3% Medical practitioners, 19.4% Gynecologist, 33.9% Physiotherapist and 20% other health care professionals strongly disagreed for the same. **(A16)**

## DISCUSSION

Pregnancy is an important period of life for every woman. Many women wish to perform exercises for health & fitness during this period.

During pregnancy, the women undergo several anatomical and physiological changes such as hematological changes, cardiac changes, adaptive changes in renal vasculature, changes in renal anatomy and function, body water metabolism, respiratory changes, endocrine changes skeletal and bone density changes<sup>12</sup>

Previously pregnant women were treated as if they had an illness. They were advised to relax, avoid strenuous exertion and also minimize stretching and bending for fear of strangling or squashing the baby.<sup>13</sup>

But after several years of research, potential benefits of exercise for pregnant women are proven. These benefits include decreased musculoskeletal complaints, improved posture and body mechanics, breath awareness and relaxation, prevention of problems associated with gestational diabetes, hypertension and pre-eclampsia, stress reduction and enhanced self-image.<sup>13</sup>

Exercises during pregnancy are also proven to be effective for the fetus along with the pregnant women. These fetal benefits include decreased resting fetal heart rate<sup>14</sup>, improvement in the viability of the placenta<sup>15</sup> and increased amniotic fluid level.<sup>16</sup>

According to ACOG new guidelines women with no medical contraindication can perform at least 20-30 min per day of aerobic exercise and strength conditioning exercise before or during and after pregnancy.

Therefore, this survey was done to assess the knowledge, attitude and belief of medical practitioners, gynecologists, practicing physiotherapists and other about exercise during pregnancy.

Chief objective of this survey was to evaluate the Knowledge, Attitude, & Belief of Medical practitioners, gynecologists, practicing physiotherapists and others about exercise during pregnancy. A self-made questionnaire was used for outcome measure which shows following results.

As per the table no. 6 (**K9**), 45% Medical practitioners, 58.3% Gynecologists, 71.2% Physiotherapists and 30% other health care professionals strongly agreed for the question asking about the benefits of doing exercises in pregnancy, whereas only 5% medical practitioners disagreed for the same.

Heidi pather, Devyani hunt and Theresa M spitznagle et al have explained the positive effects of exercises on mother as well as the fetus<sup>3</sup>

A study done by Estelle D. Watson, Demitri Constantinou et al says that many medical practitioners in south Africa believe that exercises are beneficial during pregnancy. But they also found a lack of accurate specifics with regard to exercise prescription<sup>18</sup>

As per the table no. 6 (**K22**), 58.3% Medical practitioners, 72.2 % Gynecologists, 47% Physiotherapists and 40% other health care professionals opted for restricting their pregnant patients for doing exercises even if the pregnancy is not complicated. Whereas, 41.7% Medical practitioners, 27.8% Gynecologists, 52.5 % Physiotherapists & 60% other health care professionals do not restrict their pregnant patients for doing exercises if pregnancy is not complicated.

Gestational diabetes is one of complication in pregnancy and exercise has been shown effective in this<sup>14</sup>. The mechanisms behind this can be improved glucose tolerance and insulin sensitivity<sup>14</sup>. Muscle and liver glycogen storage are enhanced and thus the incidence of hypoglycemia is reduced<sup>14</sup>.

As per the table no. 6 (**K11**), 40% Medical practitioners, 27.8% Gynecologists, 61.1% Physiotherapists and 50% other health care professionals strongly agreed for the question asking about the practice of exercises by a sedentary woman with uncomplicated pregnancy, whereas only 1.7% medical practitioners, 8.3% Gynecologists, 1.7% Physiotherapists & 10% other health care professionals strongly disagreed for the same.

The ACOG and committee opinion et al 2020(804) says that in the absence of obstetrics or medical complications or contraindications, physical activity in pregnancy is safe and desirable, and pregnant women should be encouraged to continue or to initiate safe physical activities<sup>7</sup>.

As per the table no. 6 (**K17**), 42% Medical practitioners, 94.4 % Gynecologists, 55.9 % Physiotherapists and 90% other health care professionals opted for 'walking' as their choice of exercise recommendation for pregnant patients.

8.3% Medical practitioners & 11.9 % Physiotherapists opted for 'swimming' as their choice of exercise recommendation for pregnant patients.

21.7% Medical practitioners & 5.6 % Gynecologists, 30.5% Physiotherapists & 10% opted for 'aerobics' as their choice of exercise recommendation for pregnant patients.

Only 1.7% Physiotherapists opted for 'running' as their choice of exercise recommendation for pregnant patients whereas 0% Medical practitioners, Gynecologists & other health care professionals chose it as their recommendation.

No one opted for 'cycling' as their choice of exercise recommendation for pregnant patients.

A study done by Vincenzo Berghella, Gabriclesaccone et al says that Walking, Stationary cycling, Aerobics exercises, Resistance exercise (e.g., Weights, resistance bands), Stretching exercise, Hydrotherapy & water aerobics are which found to be safe exercises during pregnancy<sup>19</sup>

As per table no 6 (**K24**), 33.3% Medical practitioners, 44.4% Gynaecologists, 33.9% Physiotherapists and 40% other health care professionals were aware about the 2002 ACOG guidelines for pregnancy and exercise. Whereas 31.7% Medical Practitioners, 13.9% Gynecologists, 45.8% Physiotherapists and 20% other health care professionals were unaware about the same.

American college of obstetricians and gynecologists (ACOG) is an organization concerned with the quality of obstetricians and gynecologists practice in the U.S. The members of ACOG are "women's health care physicians". According to ACOG, it is the nation's leading group of professionals providing health care for women as a private, voluntary & nonprofit organization<sup>20</sup>

As per Table no. 7(**A12**), 63.3% Medical Practitioners, 72.2% Gynecologists, 50.8% Physiotherapists and 80% Other health care professionals agreed for encouraging their pregnant patients to continue their exercises who used to do exercises regularly before getting pregnant.

According to ACOG guidelines, exercising women with uncomplicated & healthy pregnancies can be engaged in high intensity exercise programs such as jogging and aerobics with no adverse effects<sup>7</sup>.

As per table no.7 (A18), 65% Medical Practitioners, 44.4% Gynecologists, 98.3% Physiotherapists and 70% other health care professionals refer their pregnant patients to physiotherapists for exercise recommendation. Whereas 35% Medical Practitioners and 55.6% of gynecologists don't refer their pregnant patients to physiotherapists for exercise recommendation.

According to a previous study, obstetrician and gynecologists in south-western Nigeria have a general knowledge of physiotherapy services in obstetrics and gynecology. However, their knowledge about the value of physiotherapy services in specific condition is limited<sup>21</sup>.

It also concludes that physiotherapy posting during basic medical training, arranging seminars & workshops could enhance the interaction between physiotherapists & gynecologists. It may improve the knowledge and attitude of gynecologists towards the involvement of physiotherapists in patient's management<sup>21</sup>.

As per table no.7 (A21), 30% Medical Practitioners, 16.7% Gynecologists, 52.5% Physiotherapists and 10% other health care professionals always give an individualized exercise program for each pregnant patient to follow.

A study done by Roger L. Hammer, Jan Perkins et al discussed few guidelines for exercises during pregnancy for healthy women after obtaining medical clearance. According to the study, the exercise prescription should be specific as per the patient<sup>14</sup>

As per table no.8 (B13), 36.7% Medical Practitioners, 44.4% gynecologists, 40.7% Physiotherapists, 30% other health care professionals agreed for not allowing their pregnant patients to participate in a strength-training program during pregnancy. Whereas 40% Medical Practitioners, 36.7% Gynecologists, 45.8% Physiotherapists & 60% others health care professionals disagreed for same.

It is found that low energy and fatigue are common among pregnant women and can have serious consequences<sup>22</sup>. This can be associated with reduced quality of life, including poorer work productivity and depression. But it is found that acute bouts of resistance exercises consistently improve the feelings of energy and it decreases the feeling of fatigue in pregnant women during the second and third trimesters<sup>22</sup>.

## CONCLUSION

This study concludes that the Medical practitioners, Gynecologists, Physiotherapists and Other health care professionals of Jalgaon district are apprised of the benefits of exercise during pregnancy. They also believe in suggesting the exercise program for their pregnant patients. But there is a dearth in the attitude towards recommending the patients to Physiotherapists for specific exercise prescription for every patient.

## ACKNOWLEDGEMENT

I would like to thank **Dr. Jaywant Nagulkar**, Principal, Dr. Ulhas Patil College of Physiotherapy, Jalgaon, for allowing me to conduct this study. I would like to thank **all my colleagues** for their immense support and guidance. I am thankful to all my participants for their participation and co-operation.

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**QUESTIONNAIRE**

Knowledge, Attitude and Belief of Gynaecologist, Practicing Physiotherapists and other Medical practitioners of Jalgaon district about exercise during pregnancy: A survey-based study.

Please fill the following form. **\*Required**

1. Name

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2. Name of hospital

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3. What is your current occupation? *\* Mark only one oval.*

- Medical practitioner
- Gynaecologist & Obstetrician
- Physiotherapists
- Other

4. Where is your practice located? *\* Mark only one oval.*

- Urban
- Sub-  Urban area
- Other

5. How many years have you been practicing? *\* Mark only one oval.*

- 1-5
- 6-10
- 11-  15
- 16-  20
- >20

6. What is your gender? *\* Mark only one oval.*

- Male
-

Female

7. What is your age? *\*Mark only one oval.*

- <30
- 30-39
- 40-49
- 50-59
- >60

Please tick the response that closely fits your feelings

8. Do your pregnant patients ask you questions about exercising during pregnancy? *\* Mark only one oval.*

- Never
- Seldom
- Often
- Always

9. Do you think exercising during pregnancy is beneficial? *\* Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly disagree

10. What do you feel are the main benefits of exercising during pregnancy?

*\* Mark only one oval.*

- Decreased risk of complications of pregnancy like gestational diabetes, preeclampsia, gestational hypertension
- Cardiovascular system enhancements
- Musculoskeletal improvements including postural changes
- Improve respiratory function
- Increased fitness & strength levels
-

Improve self-image & better sleeping patterns

Preventing incontinence

All of the above

11. Do you think, A sedentary woman, with an uncomplicated pregnancy, should begin an exercise program during pregnancy? *\*Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly Disagree

12. Do you think, Pregnant women who are chronic exercisers should be encouraged to continue an exercise program throughout pregnancy? *\* Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly disagree

13. Do you think, Pregnant woman should not participate in a strength-training program during pregnancy? *\*Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly disagree

14. Do you think, all pregnant women should follow the same exercise protocol throughout the pregnancy? *\*Mark only one oval.*

- Strongly agree
- Agree
- Disagree
- Strongly disagree

15. Do you think, exercising during pregnancy increases the risk of low-birth-weight babies? \* Mark only one oval.

- Strongly agree
- Agree
- Disagree
- Strongly disagree

16. Advising patients on exercise during pregnancy is not a major component of prenatal care. \* Mark only one oval.

- Strongly agree
- Agree
- Disagree
- Strongly disagree

Untitled section

17. What are the common types of exercises do you recommend for your patients in pregnancy? \* Mark only one oval.

- Walking
- Running
- Swimming
- Cycling
- Aerobics

18. Do you refer your pregnant patients to physiotherapists for exercises recommendation? \* Mark only one oval.

- Yes
- No

19. Do you obtain exercise histories on your pregnant patients? \* Mark only one oval.

- Never
- Seldom
- Often
-

Always

20. Do you provide informational pamphlets on pregnancy and exercise to your patients? \* Mark only one oval.

- Never
- Seldom
- Often
- Always

21. Do you give each pregnant patient an individualized exercise program for her to follow? \* Mark only one oval.

- Never
- Seldom
- Often
- Always

22. Do you routinely give exercise restrictions to your pregnant patients unless the pregnancy is complicated? \*If no then skip the next question. Mark only one oval.

- Yes
- No

23. What are conditions in which patient is advised to avoid exercises?

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24. Are you aware of the 2002 ACOG guidelines for pregnancy & exercise? \* Mark only one oval.

- Very  aware
- Aware
- Vaguely aware
- Unaware

25. Are you aware of any Antenatal & Postnatal care classes for exercise in your area that could benefit your patients? \*Mark only one oval.

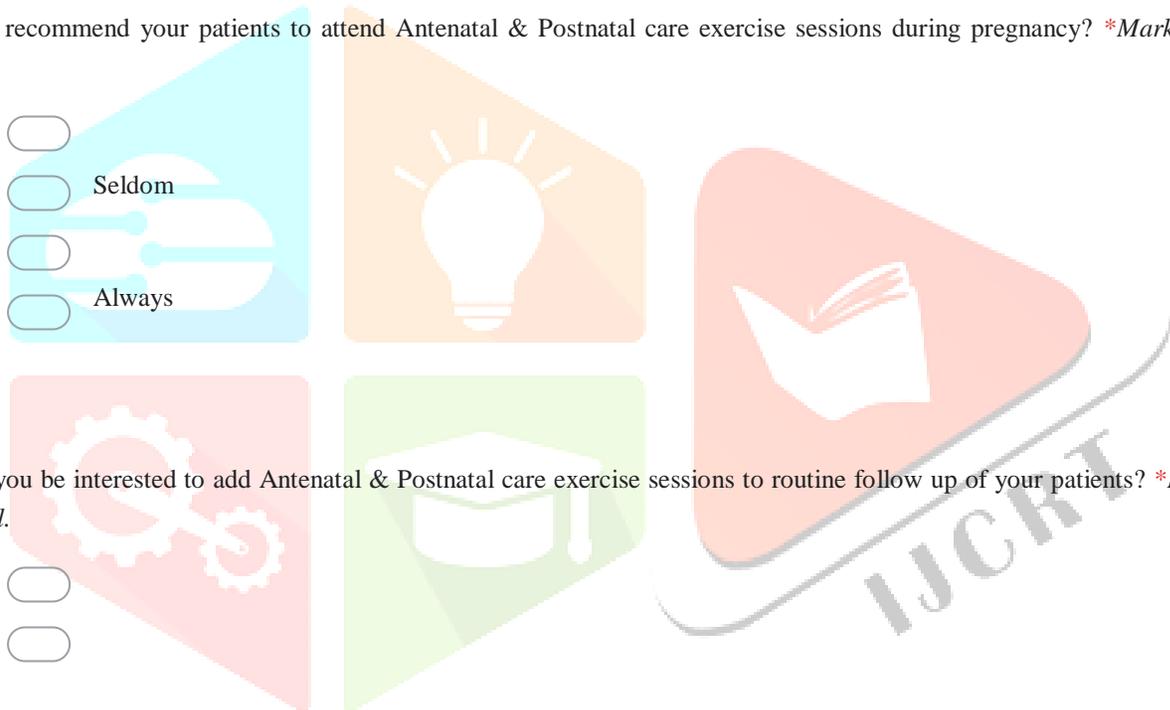
- Yes
- No

26. Do you recommend your patients to attend Antenatal & Postnatal care exercise sessions during pregnancy? \*Mark only one oval.

- Never
- Seldom
- Often
- Always

27. Would you be interested to add Antenatal & Postnatal care exercise sessions to routine follow up of your patients? \*Mark only one oval.

- Yes
- No



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## ABBREVIATIONS

St. Ag- Strongly Agree

Ag- Agree

Dag- Disagree

St. Dag- Strongly disagree

Vry.Aware- very aware

Awre- Aware

Vguly.Awre- Vaguly Aware

Mp's- Medical Practitioners

Gynec- Gynaecologists

Phy- Physiotherapists

