



ISSN: 0975-833X

*International Journal of Current Research*  
Vol. 12, Issue, 10, pp.14464-14466, October, 2020

DOI: <https://doi.org/10.24941/ijcr.40017.10.2020>

## RESEARCH ARTICLE

### PREVALENCE AND PATTERN OF FITNESS RELATED PROBLEMS IN PREGNANT AND POSTNATAL WOMEN REPORTING AT A TERTIARY CARE HOSPITAL OF NORTH INDIA. A BRIEF REPORT

**Sarkar, P. K., Singh P., Singh, A., Dhillon, M .S. and Suri, V.**

PGIMER, Chandigarh, India

#### ARTICLE INFO

##### **Article History:**

Received 20<sup>th</sup> July, 2020

Received in revised form

27<sup>th</sup> August, 2020

Accepted 20<sup>th</sup> September, 2020

Published online 30<sup>th</sup> October, 2020

##### **Key Words:**

Pregnancy, Pre and post-natal fitness problems, Physiotherapeutic Intervention, Normal Child Birth. Intervention, Normal Child Birth.

#### ABSTRACT

Pregnancy brings along with lots of changes in mother's body like increase body weight, increase abdominal pressure, increase lumbar lordosis, balance problems ultimately which leads to heaviness in the lower limb, leg cramp, urinary incontinence, coccyx pain, low and upper back pain. **Objective:** To ascertain the prevalence and pattern of fitness related problems in pregnant and postnatal women reporting at a tertiary care hospital of north India. **Methods:** Total 174 subjects were included in the study. The target population consisted of women in ante and post-natal stage, randomly selected from Obstetrics and Gynecology OPD. The data were collected using an interview schedule which included the demographic profile, fitness problems, obstetric history, and self-coping mechanism to reduce fitness related health issues suffered by the subjects. **Results & Conclusion:** Low back pain, neck pain, leg cramp, heaviness in the lower limb, postural deviation, coccyx pain etc. are common complaints during pregnancy and puerperium.

*Copyright © 2020, Sarkar et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.*

**Citation:** **Sarkar, P K., Singh P., Singh A., Dhillon M S. and Suri V. 2020.** "Prevalence and pattern of fitness related problems in pregnant and postnatal women reporting at a tertiary care hospital of north India. A brief report.", *International Journal of Current Research*, 12, (10), 14464-14466.

## INTRODUCTION

Health and fitness are the two aspects of same coin, but are inter-related and dependent on each other. No doubt health has been the major concerned on which fitness lies. As per the guidelines of World Health Organization (WHO 1948), health has four domains, viz. Physical health, mental health, Emotional health and Social health. Gender wise, through the period of evolution and civilization the distribution of work has been pre-decided but after industrialization the participation of both genders in similar type of work tendencies has been adopted. It has a great impact on women health, specifically during pregnancy (Lance, 2002). A woman's body goes through several changes while pregnant, not only hormonally, but also posturally and bio-mechanically. This frequently necessitates many adaptations (Kumar, 2002). Physical and hormonal changes occur gradually throughout the 9 months of pregnancy. These are reversed in a matter of weeks during postpartum recovery. Skeletal tissue, muscle and connective tissue, blood volume, cardiac output, body weight, and posture are affected (Inanir, 2014). As more pregnant women engage in demanding occupations, physical activities and sports, the obstetricians, midwives and pregnant women must become knowledgeable about the physical changes of the

pregnancy and the effect of exercise on the mother and fetus (Shrock, 2008). A proper physical exercise regimen during antenatal care helps the women have safe pregnancy and delivery (Clap, 2000). It has also been documented that most women (90%) have some or other fitness related problems during pregnancy and puerperium (Bastiaansen, 2005). Due to the hormonal effects of increased progesterone and relaxin during pregnancy where reduced support and increased mobility in structures to which muscles and tendons are attached. Because of these changes and greater joint mobility, there is less stability of the hip and knee joints, which often causing discomfort and loss of balance. Abdominal fascia loosens due to hormonal effects early in, thus allowing for greater stretching of the abdominal muscles (Shrock, 2008). Wrong posture during sitting, standing, lying and while picking up objects affects the health of pregnant and postnatal women (Scroder, 2016). Backache during pregnancy is largely a side effect of improper sitting positions (Franklin, 1998). So it is important avoid these wrong sittings positions during pregnancy. Sitting with legs hanging position, increase blood flow to the legs. Swelling of legs is common during pregnancy. This improper sitting position aggravates this condition.

**Objective:** To ascertain the prevalence and pattern of fitness related problems in pregnant and postnatal women reporting at a tertiary care hospital of north India.

\*Corresponding author: **Sarkar, P. K.,**  
PGIMER, Chandigarh, India.

## METHODOLOGY

The study was conducted on female subjects aged 18-35 years during their ante-natal and post-natal stages, in the gynecology OPD of PGIMER, Chandigarh, between 2014 to 2017. The investigator sourced the subjects from the OBG clinic and physiotherapy department. Antenatal and postnatal women were asked about various types of problems faced by them. They were asked about care and precautions taken by them pertaining to fitness during pregnancy and lactation. Their treatment seeking behavior was also elicited (Sarkar, 2019).

Scoring was done for existing practices of the respondents (n=174) regarding their posture (sitting/standing/lying) and daily activities (mopping/ brooming /doing utensils/washing clothes/picking up thing from the floor). The exercise protocol, physiotherapeutic intervention, postural corrections and precautions were implemented as per their problems and results were recorded. The data was analyzed with the help of standard software with the help of an experienced statistician. The values of all the variables were expressed as Mean and Standard Deviation. Respondents were explained about the purpose of the study. Their written consent for participation was obtained prior to investigation. All data was kept confidential. Approval from the institute's ethical committee was obtained before initiating the data collection.

## RESULTS

A total of 174 of participants were included in the study: out of which 156 were ante-natal and 18 were postnatal women (Table-1). There were 159 women who delivered their baby normally, 13 cesarean and 2 forceps deliveries. Out of 174 subjects 159 were primigravida and 15 were second time pregnant.

**Table 1. Obstetric history of women**

History		1st pregnancy N	2nd pregnancy N
Types of pregnancy	Single	159	15
	Multiple	1 (IVF)	0
Type of delivery	NVD	149	11
	Forceps	1	1
	LSCS	10	3
Place of delivery	PGIMER, Chandigarh		
Episiotomy done		2	0
Outcome of pregnancy	Normal baby	159	15
	Low birth weight baby	1 (but normal/no complication's)	0
	Still birth	1	0
	Abnormal baby	0	0

**Table 2. Personal Profile of respondents**

Profile		Total Number (%)
Age	>20 years	135(78%)
	<20 years	39(22%)
Occupation of subjects	Housewife	76(44%)
	Employed	98(56%)
Educational status	Illiterate	16(9.1%)
	Matriculation Graduate	45(26%)
BMI	Post graduate	1(1%)
	Below 18.5	2(1%)
	18.5-24.9	58(33%)
	25-29.9	92(53%)
	30 and above	22(13%)

**Table 3. Fitness related problems of participants enrolled in the study**

List of problems	Low back pain	167(95%)
	Leg Cramps	41(23%)
	Coccydynia	32(18.39%)
	Incontinence	11 (6.32%)
	Respiratory distress	7 (7.76%)
	Sacro-iliac pain	26 (14.94%)
	Heaviness in the lower limb	33 (18.96 %)
	Postural deviation	64 (36.78)

The age, educational qualifications, occupation and BMI of the women were as mentioned in the Table-2. There were different types of fitness related issues of the women enrolled in the study. Maximum number of subjects had low back pain (Table-3). There were some other problems like leg cramps, coccydynia, heaviness in the lower limbs, postural deviation, sacro-iliac joint pain etc. which are mentioned in the Table-3. There were some co-morbidities also in the subjects. Out of these constipation was a major problem. There were total 35 subjects those who were suffering from constipation out of these 23 were from pre-natal stage and 12 were from post-natal stage.

## DISCUSSION

Having a baby is a wonderful experience for any woman. But it is also considered to be a fragile time for women. Various fitness related problems are experienced by them as a result of growing uterus and related changes during pregnancy and after delivery. These consequences are related to the biomechanical, anatomical, physiological (Dorr, 1989) and hormonal changes related to maternity (Glinoer, 1997). These changes especially biomechanical affect the everyday activity of women and impact their productivity. Sequelae of these fitness related problems during prenatal and postnatal period may persist for even longer duration. As a result these cause chronic morbidity changes. This affects the quality of life and health of the women in postpartum period. These fitness problems are exacerbated by the softening of the ligaments and joints of the lumbosacral region occasioned by the elevated progesterone and relaxin in pregnancy (Ostgaard, 1994).

The physical and hormonal (Butte, 2000) changes which occurs in pregnancy such as growing uterus results in various physical health problems such as backache, tail bone pain, balance & postural problems swelling & pain in the calf muscles etc. Movements across the joints can also become very painful particularly in pregnancy. This is worsened by the exaggerated lordosis of pregnancy, increased load on the lower spine and the upper femoral heads (Endresen, 1995). The effect of these anatomical changes and the resultant low back pain and other problems etc can lead to considerable physical dysfunction. The body's posture changes as the pregnancy progresses. The pelvis tilts and the back arches to help keep balance (Whitcome, 2007). Poor posture occurs naturally from the stretching of the woman's abdominal muscles as the fetus grows. These muscles are less able to contract and keep the lower back in proper alignment (Dunning, 2003). The pregnant woman has a different pattern of gait. The step lengthens as the pregnancy progresses, due to weight gain and changes in posture. In addition, the increased body weight of pregnancy, fluid retention and weight gain lowers the arches of the foot, further adding to the foot's length and width. Nowadays, most of the women are working during pregnancy time. Various health issues related to pregnancy pose threat to their fitness

and as a result they have to face problems in their professional life also (Salihu, 2012). Some women are forced to leave or change their profession just because of lack of fitness or problems related to pregnancy. In this study some women were employed, who need to do long hours of desk work in the office. This often leads to low and upper back pain. It is very much associated with working postures. Back pain was the most common complaint of pregnant women in this study also (Ostgaard, 1994). Majority of them did not have awareness about the physical fitness and exercise. More than half postnatal women gave birth through caesarian section. Maximum among them were housewives. They did not maintain correct posture while picking up objects and doing household chores. Most of them did not do any regular physical activity or an exercise which seems to have affected their fitness level. Exercise during pregnancy (Richards, 2012) offers many physical and emotional benefits which was correct in this study also. A study by Gupta on "low back pain after pregnancy in Indian women" found that majority of women suffered from back pain. There was significant reduction in back pain in most of postnatal women after simple life style modification and regular brisk walk in 6 weeks (Gupta).

In the present study less than half prenatal women felt difficulty while moving around or moving herself. Less than half of postnatal women also felt difficulty during moving. This may be due to the many physical changes that occur during pregnancy. As the result of increase in the body weight and protuberant abdomen most women feel heavy, uncoordinated which effect their movement. The center of gravity shifts towards forwards which also affect their posture and movement. Albert et al 2002 (Albers, 1999) in their study acknowledged that fitness problems of prenatal and postnatal women led to disabling pain and interfered with ADL. Majority of prenatal and postnatal women in this study suffered from many physical problems. In our society majority of women get married at the age of 20-25 years which is also main productive time in life (Singh, 2010). Even today, in India many females are not allowed to go outside home before and after marriage for walk or exercise. Also they don't have much knowledge about the various changes which occur during pregnancy and not prepared for motherhood which affect their health (Sarkar, 2019). Analysis of sitting and standing posture revealed that kyphosis was seen in all patients (Gileard, 2002). This can be related to the habitual and important posture adopted after delivery as mothers have to breastfeed to the baby. Thoracic spine is built for stability, which plays an important role in holding the body upright during standing and sitting. Forward head posture during standing was seen in majority of the mother during pregnancy. To conclude, low back pain, neck pain, leg cramps, heaviness in the lower limb, coccyx pains, balance problem etc. were the common complaints of the respondents during pregnancy and puerperium. These aspects have also been the subject of action oriented research by many authors in north India (Singh, 2020). This highlights the need of addressing these problems through appropriate physiotherapeutic advice and interventions.

## REFERENCES

- Albers L, Garcia J, Renfrew M. 1999. Distribution of genital tract trauma in child birth and related postnatal pain. *Birth*. 26:11-5.
- Bastiaansen, J. M. R. A. DeBaie, C. H. Bastiaenen, G. G. Essed, P. A. 2005. Van den Barandt. A historical perspective on pregnancy related low back pain and/or pelvic pain. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. 120: 3-14.
- Butte NF. 2000. Carbohydrate and lipid metabolism in pregnancy: normal compared with gestational diabetes mellitus. *Am J Clin Nutr.*, 71:125.
- Clap JF. 2000. Exercise during pregnancy. A clinical update. *Clin Sports Med.*, 19: 273-86.
- Dorr HG, Heller A, Versmold HT. 1989. Longitudinal study of progestins, mineralocorticoids and glucocorticoids throughout human pregnancy. *J Clin Endocrinol Metabol.*, 68:863.
- Dunning K, LeMasters G, Levin L, Bhattacharya A, Alterman T, Lordo K. Falls in workers during pregnancy: Risk factors, job hazards, and high risk occupations. *American Journal of Industrial Medicine*. 2003;44:664-672.
- Endresen EH. 1995. Pelvic pain and low back pain in pregnant women- an epidemiological study. *Scan J rheumatol.*, 25: 135-141.
- Franklin ME, Conner K. 1998. An analysis of posture and back pain in the first and third trimesters of pregnancy. *J Orthop Sports Phys Ther*. Sep;28(3):133-8.
- Gileard WL, Crosbie J, Smith R. Static Trunk Posture in Sitting and Standing During Pregnancy and Early postpartum. *Arch Phys Med and Rehabil.* 2002; 83:1739-1744.
- Glinoer D. 1997. The regulation of thyroid function in pregnancy: pathways of endocrine adaptation from physiology to pathology. *Endocr Rev.*, 18: 404.
- Gupta N. Low Back Pain after Pregnancy in Indian Women. *Indian Journal of Research*. 3 (5): 221-222.
- Inanir A, Cakmak B, Hisim Y, Dimirturk F. 2014. Evaluation of postural equilibrium and fall risk during pregnancy. *Gait posture*. 39(4):1122-5.
- Kumar P, Magon N. 2012. Hormones in pregnancy. *Niger Med J*. 53 (4): 179-183.
- Lance C, DalleckMS, Ien K. 2002. The History of fitness. New Era International.
- Ostgaard HC, Zetharstrom G, Roos E, Svanberg B. 1994. Reduction of back and posterior pelvic pain in pregnancy. *Spine*; 15; 19(8): 894-900.
- Richards E, VanKessel G, Virgara R, Harris P. 2012. Does antenatal physical therapy for pregnant women with low back pain or pelvic pain improve functional outcomes? A systematic review. *Acta Obstet Gynecol Scand.*;91(9):1038-45.
- Salihu HM, Myers J, August EM: Pregnancy in work place. *Occupational Medicine*. 2012; 62:88-97.
- Sarkar PK, Singh P, Singh A, Dhillon MS, Suri V. 2019. Pregnancy and Motherhood: Safe exercise for Fitness. Chandigarh, New Era Publisher.
- Scroder G, Kundt G, Otte M, Wending D, Scober HC. 2016. Impact of pregnancy on back pain and body posture in women. *J Phys Ther Sci.*, 28(4): 1199-1207.
- Shrock P. Glob Libr. 2008. Women's Med. ISSN: 1756-2228;; DOI 10.3843/GLOWM.10098.
- Singh AJ. DBT project on 'feasibility of behavior therapy for urinary incontinence in a hospital setting' 2010-2012.
- Singh AJ. Suri V & Kaur S (Editors). *Health Empowerment of Women - A Desirable Strategy in 21st Century Hospitals*. New Delhi, Kalpaz Publications, 2020.
- Whitcome KK, Shapiro LJ, Lieberman DE. Fetal load and the evolution of lumbar lordosis in bipedal hominins. *Nature*. 2007; 450:1075-1078.