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Prevalence of risk factors for pelvic organ prolapse in multiparous women

1. **Dr. Pooja Ramesh Gurav**
(B. P. Th), Dr. D. Y. Patil College of Physiotherapy, Pune, India.
2. **Dr. PritiLendghar**
(M. P. Th) Assistant Professor, Dr. D. Y. Patil College of Physiotherapy, Pune, India.
3. **Dr. Tushar J. Palekar**
(Ph. D.) Professor and Principal, Dr. D. Y. Patil College of Physiotherapy, Pune, India.

Abstract

Purpose: Pelvic organ prolapse (POP)is a common disorder with a impact on women's quality of life, which is relaxation of the pelvic floor.It refers to a loss of fibro muscular support of viscera results descent of the pelvic organs into the vaginal canal. By understanding it of the incidence and prevalence of POP, its associated risk factors and natural history, we can improve our ability to treat this growing patient population and help us to ameliorate patients' suffering from this condition.Estimates suggest that 50% of all women after pregnancy have some degree of genital prolapse, but only 10% to 20% seek evaluation and treatment for their condition.Most women with POP are parous, nulliparous women account for only 2% of cases. The aetiology of pelvic organ prolapse is multifactorial. Vaginal childbirth is primary cause. The pelvic floor is damaged during pregnancy, but injuries to pelvic floor occur during vaginal delivery. Denervation of pelvic floor, damage to pudendal nerve, hyperlaxity of ligaments and muscles due to hormones and relaxed pelvic floor muscles are the factors leading to increased risk of descent of pelvic organs into the vaginal canal. Vaginal delivery induces delivery trauma to pelvic organ neuromuscular function and morphology and is associated with higher risks of POP.**Method:** A cross sectional study was conducted amongst a group of 100 multiparous females, who had at least one vaginal deliveryand were between the ages of 40-65. Women with hysterectomy were excluded. These participants were explained about the study and written consent was obtained. They were provided with the APOPS (Association of pelvic organ prolapse support) questionnaire and explained to them in their comfortable language.**Result:** The results show that there is prevalence of risk factors of POP. As per statistical data,age group 40-45 has average APOPscore but the age group 51-55 much higher score.The average score increases as per no. of vaginal deliveries increase. Females having 2 deliveries have a lower score than the females having higher number of deliveries like 9 or 10 have higherscores. Females that had 1 or 2 vaginal deliveries had a lower score representing lower prevalence of risk factors of POP.This study shows, Presence of menopause had an average of 34 percent of risk for developing prolapse in the females and has found that there is prevalence of risk factors of POP in Multiparous women which is also associated with age, parity, vaginal delivery, menopause, heavy weight lifting, constipation, and high energy athletic activities and other factors. **Conclusion:** This study has found that there is prevalence of risk factors of Pelvic Organ Prolapse in Multiparous women.

Key words: Multiparous, Pelvic organ prolapse,Risk factors, Women.

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Introduction

Pelvic organ prolapse (POP) is a common disorder with huge impact on women's quality of life, which results from relaxation of the pelvic floor.[1] POP refers to a loss of fibro muscular support of pelvic viscera resulting in descent of the pelvic organs into the vaginal canal.[2] Therapies for POP include conservative management and surgery. POP can pose both financial as well as health burden. By gaining a better understanding of the incidence and prevalence of POP, its associated risk factors and natural history, we can improve our ability to treat this growing patient population and help us develop preventive strategies to ameliorate patients' suffering from this condition.[3]

Estimates suggest that 50% of all women after pregnancy have some degree of genital prolapse, but only 10% to 20% seek evaluation and treatment for their condition.Most women with POP are parous, nulliparous women account for only 2% of prolapse cases in North America. The incidence and prevalence of POP increases with age.[2]

Prolapse is always classified based on which compartments of the vaginal canal (anterior, posterior, and apical) are involved. An anterior vaginal prolapse generally involves the bladder (cystocele) and often involves hypermobility of the urethrovesical junction as well (cystourethrocele). The small bowel may also displace the anterior vaginal wall. A posterior vaginal prolapse can involve the rectum (rectocele), small bowel (enterocele), or the sigmoid colon (sigmoidocele).Apical prolapse describes the loss of support at the apex of the vagina. The term vaginal vault prolapse, refers to a complete or partial inversion of the vaginal apex, usually found in women who have had a hysterectomy.[2]Uterovaginal prolapse is a common condition responsible for around 20% of women on waiting lists for major gynaecological surgery.[4]

TYPES OF GENITAL PROLAPSE

VAGINAL — UTERINE

Anterior wall — Posterior wall — Utero-vaginal — Congenital

- Cystocele — Relaxed perineum
- Urethrocele — Rectocele
- Cysto-urethrocele — Vault prolapse

Degrees of uterine prolapse:

First degree: Uterus descends down from its normal position (external os at the level of ischial spines) but external os still remains inside the vagina.

Second degree: The external os protrudes outside the vaginal introitus but the uterine body still remains inside the vagina.

Third degree: Complete prolapse. The uterine body descends to lie outside the introitus.

The aetiology of pelvic organ prolapse is multifactorial. Vaginal childbirth is primary cause.[2]The pelvic organ support study found age to be a risk factor for pelvic organ prolapse—risk doubled with each decade of life.Increasing parity was also associated with increasing severity of prolapse. Studies have found that those with a history of two vaginal deliveries were 8.4 times more likely to have surgery for prolapse than those with no such history. Increased body mass

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index and constipation are also major risk factors for pelvic organ prolapse.[5, 6] Symptoms attributable to uterine prolapse: Sensations of bulge or protrusion, Seeing or feeling bulge,Pressure, Incontinence, frequency or urgency, Urge incontinence, Weak or prolonged urinary stream, Feeling of incomplete emptying, Splinting, Positional changes to start or complete voiding, Incontinence of flatus, Incontinence of liquid or solid stools, Sexual dysfunction[6]

The pelvic floor is readily damaged during pregnancy to some extent, but injuries to pelvic floor occur during vaginal delivery. Denervation of pelvic floor, damage to pudendal nerve, hyperlaxity of ligaments and muscles due to hormones and relaxed pelvic floor muscles are the factors leading to increased risk of descent of pelvic organs into the vaginal canal. Vaginal delivery induces delivery trauma to pelvic organ neuromuscular function and morphology.Evidence as to whether caesarean section offer protection is conflicting as denervation has been shown to be present in women who have had a caesarean section during labour but not in case of elective caesarean section. Hence vaginal delivery is associated with higher risks of POP than caesarean section.[7]

Method:

A cross sectional study was conducted amongst 100 multiparous females of age group 40-65 years. These were the individuals who met the inclusion criteria and were willing to undergo this study and a written consent was obtained from each of them. They were provided with the APOPS (Association of pelvic organ prolapse support) questionnaire and explained to them in their comfortable language. Females who underwent hysterectomy were excluded.

The procedure and purpose was explained to the subjects, with information of right to opt out of the study any time during the course of study without having to give any reason to do so. Subjects were selected on the basis of simple random sampling. Information like name, age, number of pregnancies, number of deliveries, number vaginal/ caesarean deliveries, and any other gynaecological procedures were obtained from the subject. The APOPS questionnaire was given to them. The data collected was analysed accordingly.

Data analysis:

Thedata collected was analysed using MS-EXCEL. A spreadsheet was used to enter the data which included the demographic data and obstetric history.

Results:

The results show that there is prevalence of risk factors in multiparous females, which is significantly associated with factors like number of deliveries, number of vaginal deliveries, age, menopause, chronic constipation, heavy weight lifting and high energy athletic activities.

Discussion:

The study was designed to find out prevalence of risk factors of Pelvic Organ Prolapse in multiparous females. 100 females were included and an Association of pelvic organ prolapse support (APOPS) Questionnaire was utilized in this survey. According to the questionnaire females had to answer 17 questions, each in a yes or no format where each 'yes' had one point and each 'no' did not score any point. Based on number of questions answered as 'yes' the total

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APOPS score was calculated. Which can then be converted to percentage that would effectively indicate the percentage risk of prolapse in the particular female.

Females of age group of 40-65 years was included in the study, also each female had 2 or more than 2 deliveries, amongst which one had to be a vaginal delivery.The current findings indicate that prevalence of risk factors such as aging, parity, vaginal deliveries, menopause, chronic constipation, weight lifting or high energy activities and presence of other such risk factors escalated the APOPS scoring, indicating an increase in risk of prolapse.

AGE AS A RISK FACTOR FOR PELVIC ORGAN PROLAPSE: Incidence of POP increases according to age.[2] The pelvic organ support study found age to be a risk factor for pelvic organ prolapse—risk doubled with each decade of life.[5] POP refers to a loss of fibro muscular support of pelvic viscera resulting in descent of the pelvic organs into the vaginal canal.[2] This fibro-elastic and ligamentous supports of uterus and other pelvic organs loses its strength due to age related pathologies. Aging risk factors such as a biomechanical abnormalities in connective tissue metabolism, are nonmodifiable.[2] Menopause results in ligament laxity due to hormonal imbalance and the process of ageing includes degenerative changes that are irreversible. These are the reasons that by each decade the risk of prolapse increases making it a major risk factor of POP. The average APOPS score is seen increasing in direct relation with the age groups. For instance age group 40-45 has a average score of 5.1 but on comparison the age group 51-55 represents 6.2 which is much higher.

PARITY AS A RISK FACTOR FOR POP: Estimates suggest that 50% of all women after pregnancy have some degree of genital prolapse, but only 10% to 20% seek evaluation and treatment for their condition.Most women with POP are parous, nulliparous women account for only 2% of prolapse cases in North America.[2] Pelvic floor disorders are strongly associated with ageing, pregnancy, and parity.[8]Increasing parity was also associated with increasing severity of prolapse. Studies have found that those with a history of two vaginal deliveries were 8.4 times more likely to have surgery for prolapse than those with no such history.[5,6]According to this study the average APOPS score increases as per no. of vaginal deliveries increase. Females having 2 deliveries have a score of 4.3 and the females having higher number of deliveries like 9 or 10 have higher APOPS score of 11 and 10 respectively.

EFFECTS OF VAGINAL DELIVERIES ON PROLAPSE: Vaginal childbirth is primary cause of uterine prolapse.[2] Studies have found that those with a history of two vaginal deliveries were 8.4 times more likely to have surgery for prolapse than those with no such history.[5,6]Hence the study shows an increasing APOP SCORE towards increasing number of vaginal deliveries. Females that had 1 or 2 vaginal deliveries has a average APOP score of 4.5 and 4.9 respectively. Whereas females with 9 vaginal delivery shows marked increase in the average score i.e 11 on 17

OTHER RISK FACTORS: As Prolapse is a multifactorial condition it can be affected by other risk factors such as menopause, chronic constipation, heavy weight lifting, high energy athletic activities and many more. As this study indicate each risk factor had impact in the APOPS score. Thus increasing the chances of prolapse. This study shows, Presence of menopause had an average of 34 percent of risk for developing prolapse in the females. History of chronic constipation increased the risk of prolapse to 43.5 percentage. Females who lifted heavy weights

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had an average 35.8% of risk and females performing high energy athletic activities had an average of 37.6% risk of developing prolapse.

Conclusion:

The study concluded that there is a prevalence of risk factors associated with pelvic organ prolapse in multiparous women. The results show that there is prevalence of risk factors in multiparous females, which is significantly associated with factors like number of deliveries, number of vaginal deliveries, age, menopause, chronic constipation, heavy weight lifting and high energy athletic activities.

Acknowlegement:

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References:

1) Tehrani et al. BMC Women's Health 2011, 11:48 www.biomedcentral.com (Screening of the pelvic organ prolapse without a physical examination; (a community based study))
2) Menopause: The Journal of The North American Menopause Society Vol. 17, No. 1, pp. 204/212 DOI: 10.1097 /gme.0b013e3181b0c2ae 2010 by The North American Menopause Society (Age-related pelvic floor modifications and prolapse risk factors in postmenopausal women)
3) Department of Urology and Obstetrics and Gynecology, University of California, Los Angeles, California, USA. (Epidemiology and prevalence of pelvic organ prolapse)
4) British Journal of Obstetrics and Gynaecology May 1997, Vol. 104, pp. 579-585 (Epidemiology of genital prolapse: observations from the Oxford Family Planning Association study)
5) Urogynaecology Department, Women's, Perinatal and Sexual Health Directorate, Leicester General Hospital, University Hospitals of Leicester NHS Trust. BMJ | 20 October 2007 | Volume 335 (Uterine prolapse)
6) From the Division of Obstetrics and Gynecology, Department of Clinical, Sciences (Drs Larsson and Andolf),KarolinskaInstitutet, Danderyd Hospital, Stockholm, and the Tornblad Institute, Lund (Dr Källen), Sweden. (Cesarean section and risk of pelvic organ prolapse: a nested case-control study)
7) Journal homepage: www.tjog-online.com 1028-4559/Copyright © 2014, Taiwan Association of Obstetrics &Gynecology. Published by Elsevier Taiwan LLC. All rights reserved.Taiwanese Journal of Obstetrics &Gynecology 53 (2014) 452e458. (Pelvic floor dysfunction and effects of mode of pregnancyon pelvic floor)

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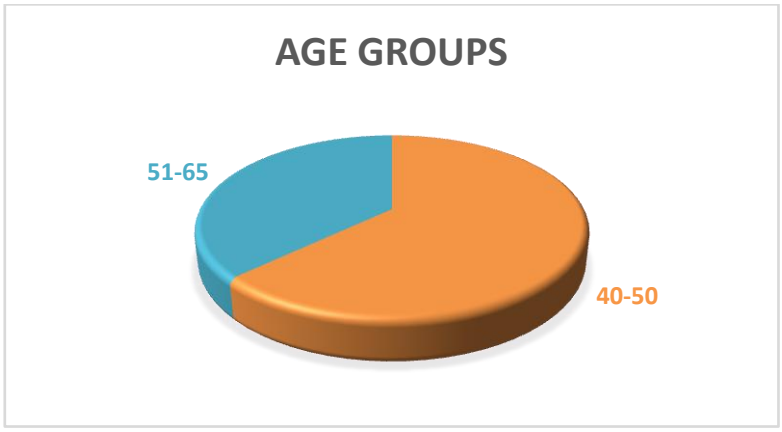
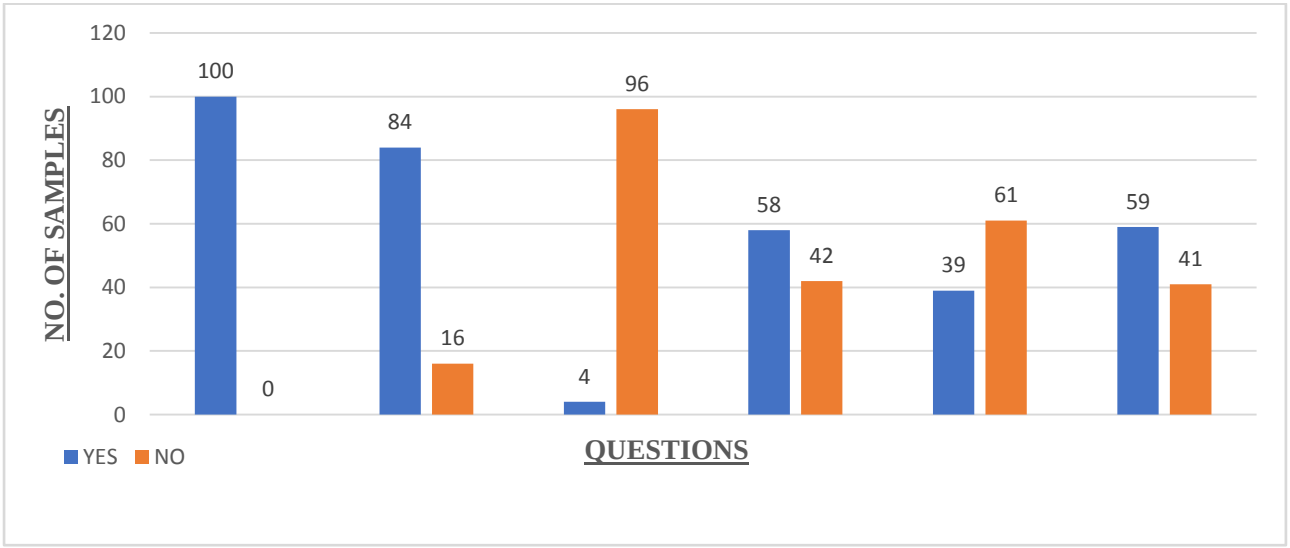
GRAPHS:

1) **DEMOGRAPHIC DATA PIE CHART:**



2) **GRAPHS FOR QUESTION 1-6 FROM THE APOPS QUESTIONNAIRE:**



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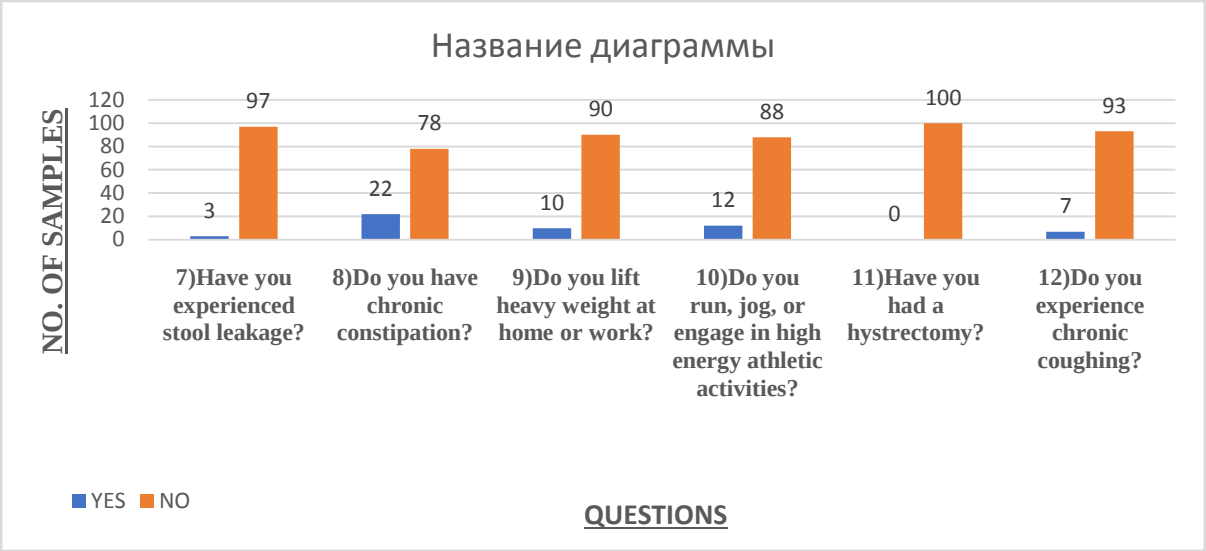
3) **GRAPHS FOR QUESTION 7-12 FROM THE APOPS QUESTIONNAIRE:**



4) **GRAPHS FOR QUESTION 13-17 FROM THE APOPS QUESTIONNAIRE:**

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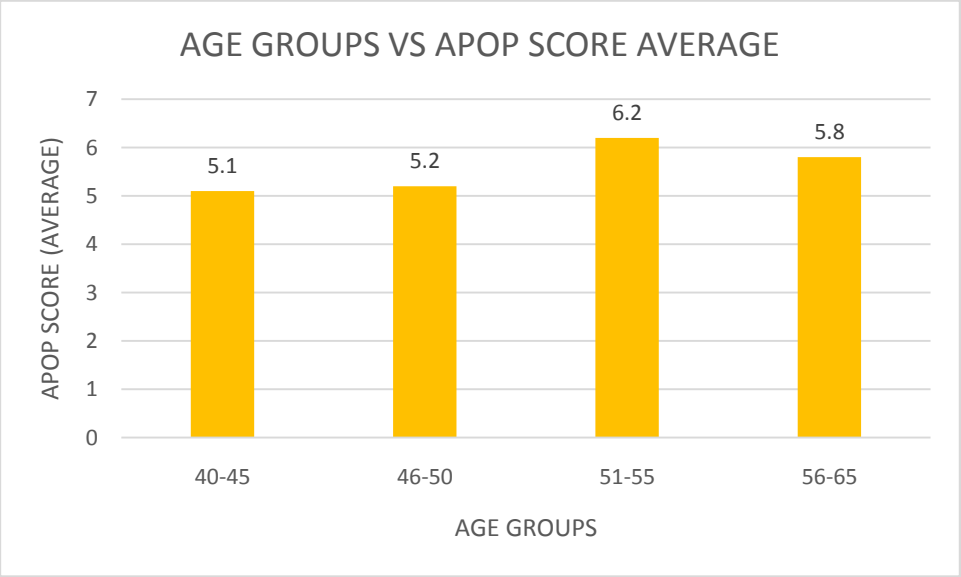
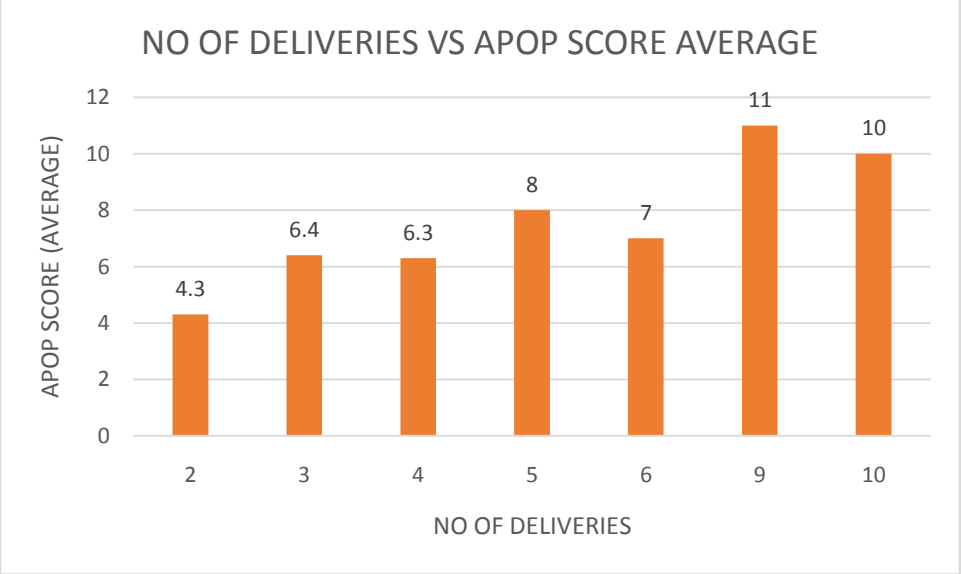
5) **AGE AS A RISK FACTOR FOR PELVIC ORGAN PROLAPSE:**



6) **PARITY AS A RISKFACTOR FOR PELVIC ORGAN PROLAPSE:**



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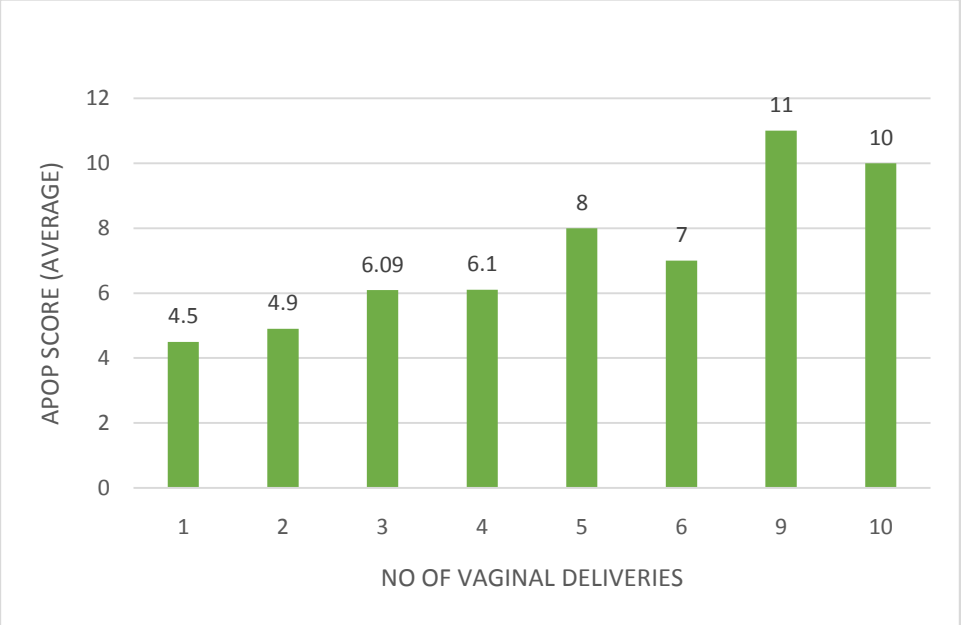
7) EFFECTS OF VAGINAL DELIVERIES ON PROLAPSE:



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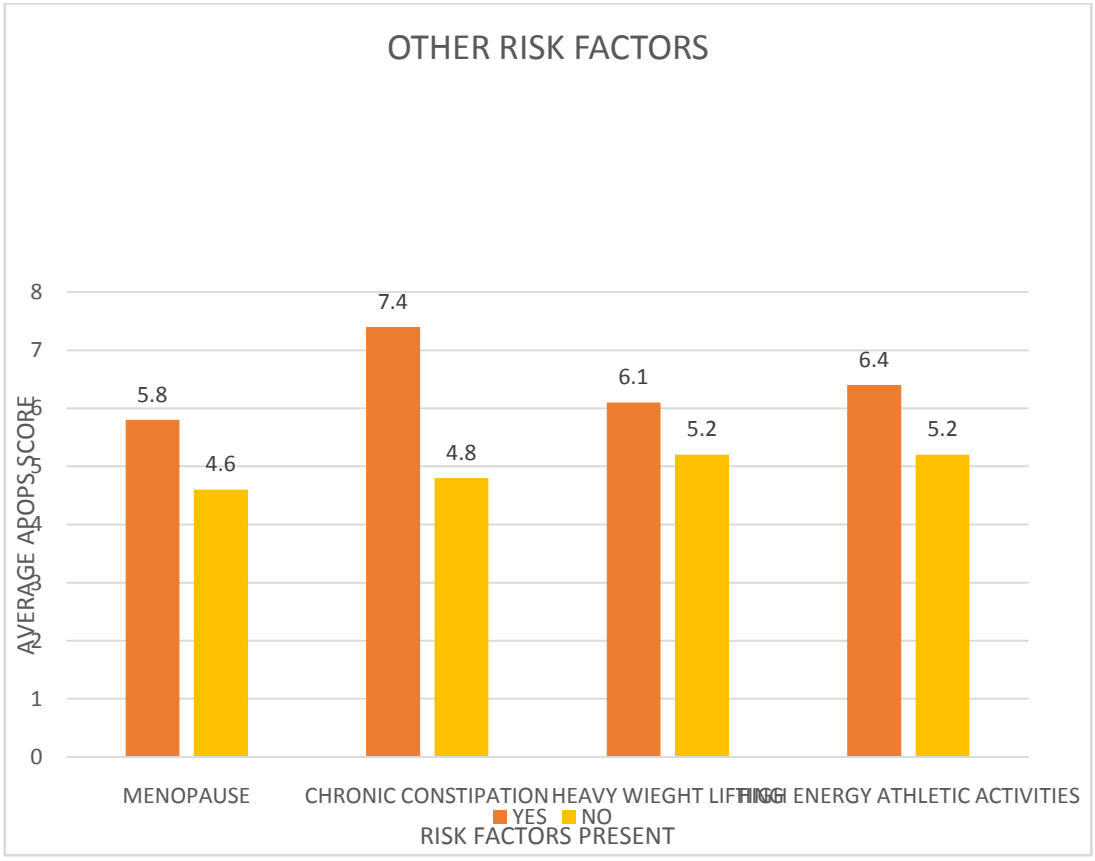
8) **Other risk factors contributing in pelvic organ prolapse:**



Corresponding Author:Dr. Pooja Ramesh Gurav: Email address: pooja.gurav705@gmail.com, pooja.gurav705@outlook.com

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