

# A step towards a maternal health: retrospective study

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**Abstract-** Pregnancy and motherhood is the most joyful and happiest moment of women's life. Culturally, Nepalese women are habituated to perform daily chores more in a squatting position which they continue even during pregnancy and immediately after giving birth. In Nepal, unlike other developed countries, antenatal and postnatal exercises are not practiced commonly due to lack of awareness among general population and medical professionals. Regular exercise performed during antenatal and postnatal periods reduces the risk of incontinence, pelvic organ prolapse (POP) and other complications which ultimately results in improving quality of life of women. The aim of this study was to investigate the physiotherapy services provided to postnatal women admitted at the obstetric and gynecology ward of Dhulikhel Hospital (DH) to prevent POP. A retrospective study was conducted at the Department of Physiotherapy at Dhulikhel hospital which documented all the cases treated by physiotherapists in the obstetric & gynecology ward. Out of the 2072 deliveries conducted in DH in year 2013 only 1078 women were provided physiotherapy services (only 52%). The requirements and need of physiotherapy management for postnatal care among the health professionals and the general population still need to be considered. This leading to less number of physiotherapist working in this field causing the low manpower for the management of all the cases.

**Index Terms-** Postpartum complication, Postnatal exercise, Pregnancy.

## I. INTRODUCTION

Uterine prolapsed (UP) or pelvic organ prolapsed (POP) or fallen womb is a widespread major problem amongst Nepalese women.<sup>1,2</sup> It is an abnormal descent of the pelvic organs from their normal position in the pelvis into the vagina, accompanied by urinary, bowel, sexual, or local symptoms.<sup>3</sup> Globally, 30% of all women who have delivered a child are affected. For every maternal death, an estimated of 6 to 15 women face debilitating morbidity.<sup>4</sup>

Culturally, Nepalese women are habituated to perform daily chores more in a squatting position which is one of the risk factors for pelvic organ prolapse in future.<sup>5</sup> Women are bound to continue working in squatting position even during pregnancy and immediately after delivery. Various studies show that more than 600,000 women in Nepal are suffering from prolapsed uterus and that 200,000 of those needed immediate surgery.<sup>5</sup> Another study showed 30-40% of women suffer from pelvic organ prolapse just after the birth of their first child.<sup>6</sup> one of the study reported 11%, 60% and 25 % had first, second and third stage uterine prolapse respectively in a hill district of Nepal.<sup>7</sup>

There is huge number of research providing evidence that first and second stage prolapse can be treated with conservative management involving exercises.<sup>8,9,10</sup> In Nepal, unlike other developed countries, antenatal and postnatal exercises are not practiced commonly due to several factors including lack of awareness among general population as well as medical professionals. Regular exercise performed during antenatal and postnatal periods reduces the risk of postnatal complications like urinary incontinence, fecal incontinence and POP which ultimately results in improving quality of life of women. Various studies have been conducted in Nepal for POP, and reported the need for the pelvic floor exercise to prevent POP.<sup>3, 11, 12</sup> However, there is no data to support that this recommendation has been exercised. Therefore, this study aimed to investigate the number of the patient who underwent physiotherapy exercise to prevent the postnatal complications like incontinence, POP at obstetrics and gynecology ward of the Dhulikhel hospital.

## II. RESEARCH METHODOLOGY

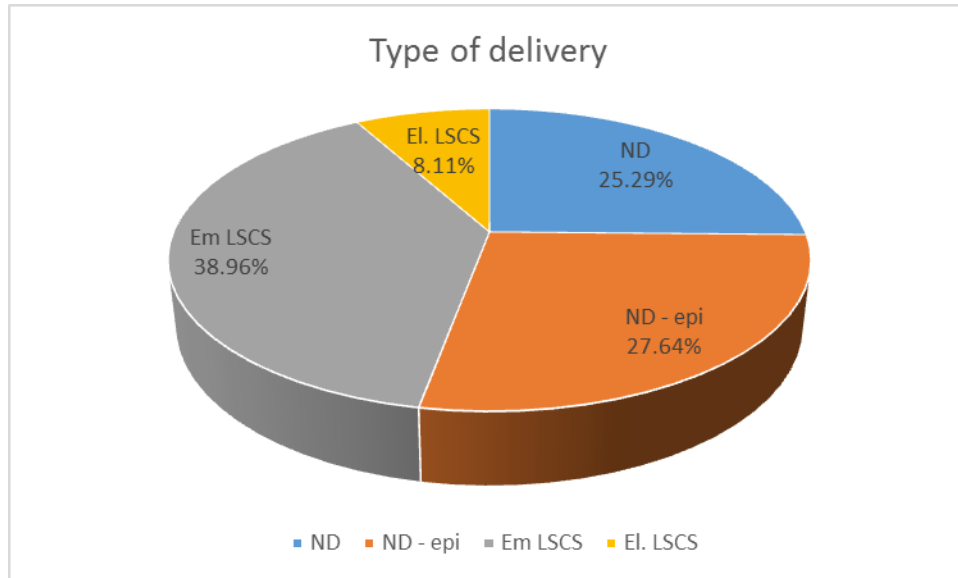
For the availability of the data the permission was taken from the hospital administration and through department of physiotherapy, Dhulikhel hospital. The files of all the women admitted in the Obstetrics and Gynecology Department in Dhulikhel Hospital, Kathmandu University over one year (January to December 2013) were reviewed retrospectively by the hospital's Physiotherapy Department. The Physiotherapy Department documented all the cases treated by physiotherapists including information about the number of previous pregnancies and deliveries and the mode of current delivery. The total number of registered deliveries occurred in same time at Dhulikhel hospital was also recorded. For the data collection data was filtered to select the patients based on patients who were treated by the Physiotherapists. The documentation of all the cases seen by physiotherapist was filtered according to inclusion and exclusion criteria. In inclusion criteria all the mothers who delivered in hospital and treated by physiotherapist are taken whereas all the gynecological and the other surgeries apart from delivery cases seen by the physiotherapist are excluded. Data were entered in SPSS version 16 and from this set of eligible cases, coding was done for the different variables like mode of delivery and age of the women. Descriptive analysis was done for those different variables like mode of delivery, parity and age of the patient that were compared and analyzed accordingly to prevent from the postnatal complication like incontinence & POP in Dhulikhel hospital among the women who got physiotherapy services were identified. The incomplete data were not included for the further analysis. A total of 2072 cases were treated in the Obstetrics and Gynecology Department of Dhulikhel Hospital in the year 2013. Of the 1078 women provided with physiotherapy

services, 54 patients were provided with surgeries that were not related to pregnancy, hence eliminated from the sample size for the purpose of this research.

### III. WRITE DOWN YOUR STUDIES AND FINDINGS

Among these only 1024 women got a chance to experience physiotherapy services i.e. only 52% of cases were provided a

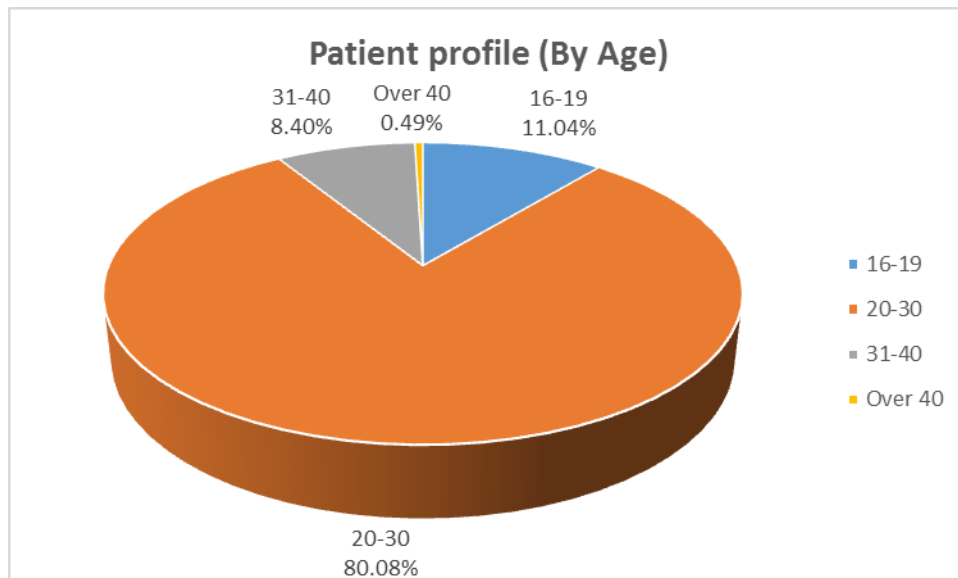
physiotherapy services and were included as the sample size for the further analysis of this retrospective study. Of the remaining 1024 cases, 38.96% women underwent emergency lower caesarian section (Em LSCS), 27.64% had normal delivery with episiotomy (ND-epi), 24.10% had normal delivery (ND) and 8.81% had elective lower caesarian section (El LSCS).



**Fig 1. Pie chart showing the type of the delivery of the women who received physiotherapy management**

The age of the women varied from 16-52 years. A majority of the patients, 80.08%, fell under the age group of 20-30 years with the mean age being 24 years while teenagers (16-19 years)

formed 11.04% of the patients. 8.40% belonged to the age group 31-40 years and only 0.5% patients were above 40 years old.



**Fig.3. Piechart showing age category of the postnatal mother who received Physiotherapy management.**

**Table: 1 showing the age and type of delivery.**

Age Group	Total	ND		ND – epi		Em LSCS		El. LSCS	
		No.	%	No.	%	No.	%	No.	%
16-19	113	22	19.47%	48	42.48%	37	32.74%	6	5.31%
20-30	820	209	25.49%	227	27.68%	318	38.78%	66	8.05%
31-40	86	26	30.23%	7	8.14%	42	48.84%	11	12.79%
Over 40	5	2	40.00%	1	20.00%	2	40.00%	0	0.00%
Total	1024	259	25.29%	283	27.64%	399	38.96%	83	8.11%

I. DISCUSSION

The result of this study showed only 52 % of women treated at the Obstetrics and Gynecology ward in Dhulikhel Hospital got chance to get physiotherapy service. Acharaya et. al. reported that there is good awareness about the physiotherapy services among clinicians but only 3% gynecologists were aware about the utility of physiotherapy services in treatment or prevention of pregnancy related health issues.<sup>15</sup> In the same study it is mentioned Health professionals rarely referred to physiotherapists and sought PT services only for limited cases. This lack of awareness lead to diminished the need of physiotherapy in the hospitals. One of the reasons for treating only 52% is due to lack of manpower in the field of women’s health. These cases were treated by the Physiotherapy Department on a voluntary basis with the intention to prevent from the postnatal complications such as urinary and fecal incontinence and POP. This could be probably due to either lack of awareness about the effectiveness of PT treatment approaches or low confidence in referring cases to other health professionals. The findings of this study shows the consistency with Acharya’s study. Pelvic floor muscles strengthening exercise performed after delivery can prevent the possible complication in later life. The health professional always neglected PT services in spite of being essential in preventing the postnatal complications like urinary incontinence, prolapsed etc.

In our study we found the most deliveries happen at age of 20-25. But there were also the deliveries which occurred in <20 years. In one of study done in Nepal reported 65.16% women who experienced prolapsed had their 1<sup>st</sup> pregnancy in their teens and 34.86% had their 1<sup>st</sup> pregnancy in 22-32 years. 46.97% women experienced prolapsed with 3 children recorded in the same study.<sup>7</sup> In our study we could not relate parity as there was lots of missing data But we noted 11.04% of women had teenage pregnancy which is not only risk for prolapse but also for other different complication.

Women aged over 30 years when having their first baby and parity were significantly associated with prolapse. In the same study they reported elective caesarean section were the least likely to have prolapsed while Compared with women whose births were all spontaneous vaginal deliveries.<sup>16</sup> But in this study we could not find the proper relation between the parity as the data was not sufficient. Though women’s health is one of the upcoming and highlighted subject in world scenario but when it comes to developing countries it still need to be studied as well as considered. Five years after childbirth the stage of prolapse

worsened after vaginal delivery but not after caesarean. However, there was no impact on prolapse symptoms or quality of life. After vaginal delivery women were more likely to experience a worsening in general sex score, but no other difference in quality of life.<sup>17</sup>

According to Lieschen H.Quiroz et.al. (2010) pelvic organ prolapse were almost 10 times higher after a single vaginal birth indicating that 52.93 % of the sampled population (25.29% with Normal Delivery and 27.64% with normal delivery with episiotomy) was at a risk of POP.<sup>18</sup> During the study period, 38.96% women delivered through Em LSCS indicate is 66.60 % of the sample population. During vaginal delivery, the pelvic floor can be irreversibly traumatized, resulting in pubovisceral muscle avulsions. Pubovisceral muscle avulsions are known risk factors for pelvic organ prolapsed.<sup>19</sup> J cooper 2014 also reported Symptoms of POP were increased in those women who had experienced a vaginal delivery, whilst the sensation of having a tight vagina was decreased in those who had had a previous vaginal birth.<sup>20</sup> A growing number of literature supports the idea that PT can reduce POP. Study done in Norway reported pelvic floor muscle exercise improved pelvic organ prolapse quantification system as well as it elevated the bladder, rectum and also reduced the frequency and bother of symptoms without the adverse effect.<sup>8</sup> According to the Cochrane review for conservative prevention and management of pelvic organ prolapse the pelvic floor muscle training have positive effects for the prolapse symptoms and severity<sup>9</sup>. It suggested six months of supervised PFMT has benefits in terms of anatomical and symptom improvement immediately post intervention. Altogether, 91.89% of the sample population was at a risk of POP that could be prevented with PT. Lots of risk factor studies done for POP in Nepal but still exercise related studies are not documented though Pelvic floor muscle training remains the first-line treatment for pelvic floor disorders with high levels of evidence and grades of recommendation. Various studies done in Nepal always recommended for the proper antenatal care, postnatal care and the early preventive measures, they also warranted clearly for the pelvic floor exercise.<sup>3,4,5</sup> However, the implementation of these research is still a questionable since the only maternity hospital in Nepal lack the physiotherapy service. The present study emphasize the further requirements for the need of PT services in the sector of women’s health. Since it physiotherapy treatment is the cost effective treatment for the poorest country like Nepal, it should not be neglected. This study also feel the necessity for the further studies with respect to exercise and adherence among the community people as well as health professionals.

In this study the data obtained cannot be used to see the correlation of the associated factors and the women were seen only one time, so the effectiveness of the treatment couldn't be identified.

## II. CONCLUSION

Dhulikhel Hospital which have the major motto of offering health services for the rural poor could provide physiotherapy services to only 52% with one-visit PT services as preventive measure for postnatal complications like urinary incontinence, POP, which was highly insufficient. This showed lack of awareness among medical professionals and general populations about importance of PT for preventing POP is putting a lot of new mothers at risk. This study indicates for long term practice of exercise with follow up case studies and documentation about need of physiotherapy and also determine effectiveness of PT in preventing postnatal complications.

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## REFERENCES

- [1] Bonetti Tr ,Erpelding A, PathakLR. Listening to "felt needs": investigating genital prolapse in western Nepal. *Reprod Health Matter*.2004; 12:166-75.
- [2] Dangal G. A brief overview of genital prolapse in women. *Nepal journal of science and technology*. 2006; 6: 129-32
- [3] Chhetry DB, Upreti SR, Dangal G, Subedi PK, Khanal MN "impact evaluation of uterine prolapse surgery in Nepalese women." *JNHRC* 2012 ;10: 2 (21 ): 167-71.
- [4] Tamang T. M, Karki YB and Adhikari S "Impact of Surgical Intervention on Health related Quality of Life (QoL) of Women Suffering from Uterine Prolapse: A study from Nepal" *International Population Conference* 26-31 August 2013 Busan, Republic of Korea
- [5] Subedi, M, Uterine Prolapse, Mobile Camp Approach and Body Politics in Nepal. *Dhaulagiri Journal of Sociology and Anthropology* Vol.4 2010 pp.21-40
- [6] Women reproductive right programme UNFPA & GON Ministry 2011
- [7] Shrestha. B. "Women's experiences and health care-seeking practices in relation to uterine prolapse in a hill district of Nepal." *BMC women's Health* 2014, 14:20.
- [8] Ingeborg HB, Majida M, M.E. Engh, Kari Bo , can pelvic floor muscle training reverse organ prolapse and reduce prolapse symptoms? An assessor-blinded randomized controlled trail *J obs gynecol* 2010;201:170.e1-7

- [9] Hagen. S, Stark D "Conservative prevention and management of pelvic organ prolapse in women (review)" *The Cochrane Library* 2011, issue 12.
- [10] Elenskaia K , Thakar R, Sultan AH, Scheer I, Onwude J, "Effect of childbirth on pelvic organ support and quality of life: a longitudinal cohort study" *Int Urogynecol J*. 2013 Jun;24(6):927-37.
- [11] Tamrakar A. prevalence of uterine prolapse and its associated factors in Kaski distric of Nepal. *JHAS* 2012; vol 2, no 1, p 38-41
- [12] Radl C. M., Rajwar R., Aro A.R." Uterine prolapse prevention in eastern Nepal: the perspectives of women and health care professionals" *international journal of women's health* 30 July 2012."
- [13] Acharaya R, Khadgi B, "Physiotherapy awareness among clinical doctors in Nepal" *journal of institute of medicine* 2011;33:2 (1)
- [14] Goldberg R.P "Effects of pregnancy and child birth on pelvic floor muscle." *Urogynecology in primary care* 2007, 21-33
- [15] Glazener C, Elders A, Macarthur C, Lancashire RJ, Herbison P, Hagen S, Dean N, Bain C, Toozs-H P, Richardson K, McDonald A, McPherson G, Wilson D; ProLong Study Group "Childbirth and prolapse: long-term associations with the symptoms and objective measurement of pelvic organ prolapse." *BJOG*. 2013 Jan;120(2):161-8.
- [16] Elenskaia K , Thakar R, Sultan AH, Scheer I, Onwude J "Effect of childbirth on pelvic organ support and quality of life: a longitudinal cohort study." *Int Urogynecol J*. 2013 Jun;24(6):927-37.
- [17] Lieschen H.Q., Alvaro M, Stuart H. S, Robert E. G, Victoria L.H "Vaginal parity and pelvic organ prolapse" *J. Reprod Med*. 2010;55(3-4):93-98.
- [18] Lammers K, Prokop M, Vierhout ME, Kluivers KB, Futterer JJ "A pictorial overview of pubovisceral muscle avulsions on pelvic floor magnetic resonance imaging." *Insights Imaging*. 2013 Aug; 4(4): 431-441.)
- [19] Cooper J, Annappa M, Dracocardos D, Cooper W, Muller S, Mallen C. Prevalence of genital prolapse symptoms in primary care: a cross-sectional survey *Int Urogynecol J*. 2014 Nov 8.

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