FACTORS RELATED TO UTERINE PROLAPSE AMONG MARRIED WOMEN OF CHILD BEARING AGE IN DANG DISTRICT OF NEPAL

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ABSTRACT: Uterine prolapse (UP) is a form of genital prolapse among females and it is one of the most widespread reproductive health problems among the women in Nepal. A cross sectional study design was used to determine the factors related to the prevalence of uterine prolapse among married women of child bearing age (15-49 yrs) in Dang district of Nepal. Household survey questionnaire was interviewer-administered to 385 randomly selected married women of child bearing age of ward number 1 & 2. A Key Informant Interview (KII) was also done with 6 social workers to collect qualitative information of Saudiyar village development committee of Dang district of Nepal. 2.3 % of the 385 women had uterine prolapse at the time of study. A statistically significant relationship (p=0.021) was observed between age of the child bearing women and prevalence of UP. Women aged above 40 had higher risk for UP than did younger women.

Keywords: Uterine prolapse, Female, Nepal

INTRODUCTION

Uterine prolapse (UP) is the descent of one or more vaginal segments: the anterior wall, the posterior wall or the apex of the vagina, with a protrusion of the pelvic organs into or out of the vagina [1, 2]. The worldwide occurrence of uterine prolapse is estimated to be 2 to 20 percent among women under age 45 years [3]. Studies showed that approximately 600,000 women in Nepal are affected by UP and among them 200,000 require immediate treatment [4]. The exact cause of uterine prolapse is unknown but giving birth to more children, excess intra-abdominal pressure, tissue atrophy secondary to ageing and estrogen loss, joint hyper mobility and congenital ligament weakness are some of the risk factors for UP [5-7]. Current studies suggest that early age of the marriage, culture related to caste/ethnicity, less access of health services due to poor economic condition, delivery at a young age, lack of spacing between pregnancies are expected to contribute to this high prevalence of UP among women of child bearing age [3, 8-10]. Because of the uncertainty regarding uterine prolapse causation, this study was performed to find the prevalence and the factors related to uterine prolapse among married women of child bearing age group of Dang district of Nepal. Dang is one of the low human development index districts of Nepal.

MATERIALS AND METHODS

A cross sectional study was conducted from October 2012 to April 2013 in Ward number 1 and 2 of Saudiyar village development committee (VDC) of Dang district in Nepal. The 385 women were selected out of 783 married women of child bearing age between 15 and 49 years of ward number 1 and 2 of Saudiyar VDC of Dang District of Nepal by using systematic random sampling. The sample size was calculated by using Yamane's equation [11]: the expected proportion of the target population with prolapse was taken as 50%, since no previous study on factors related to prevalence of uterine prolapse could be found. The required degree of accuracy was considered as 0.05.

All 6 social workers of same ward 1 and 2 were selected for Key Informant Interview (KII) and the interview was conducted by health workers. Interviewees were school teachers, female

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Table 1 Relationships between socio-economic factors and uterine prolapse (n=385)

Socio-economic factors	without UP n (%)	with UP n (%)	Total n (%)	*p-value*
Age (years)				
≤40	269 (98.9)	3 (1.1)	272 (100.0)	0.021[a]
>40	107 (94.7)	6 (5.3)	113 (100.0)	
Caste/ethnicity				
Tharu	260 (97.4)	7 (2.6)	267 (100.0)	0.728[a]
Others	116 (98.3)	2 (1.7)	118 (100.0)	
Level of education				
Illiterate	114 (96.6)	4 (3.4)	118 (100.0)	0.465[a]
Literate	262 (98.1)	5 (1.9)	267 (100.0)	
Age at marriage (years)				
Below 20	325 (97.3)	9 (2.7)	334 (100.0)	0.070[a]
More than 20	51 (100.0)	0 (0.0)	51 (100.0)	
Number of parity				
Parity≤2	243 (98.0)	5 (2.0)	248 (100.0)	0.727[a]
Parity>2	133 (97.1)	4 (2.9)	137 (100.0)	
Annual income of family (Nepali Rupees)				
≤500,000	360 (98.1)	7 (1.9)	367 (100.0)	0.061[a]
>500,000	16 (88.9)	2 (11.1)	18 (100.0)	
Type of family				
Nuclear	203 (98.5)	3 (1.5)	206 (100.0)	0.362[b]
Joint	157 (96.9)	5 (3.1)	162 (100.0)	
Extended	16 (94.1)	1 (5.9)	17 (100.0)	

[a] analysis using Fisher's Exact test; [b] analysis using Pearson Chi-Square test

community health volunteers (FCHVs), mother and child health workers (MCHWs) and in-charge of health facilities. Household survey questionnaire comprised of closed questions for quantitative information, and the qualitative KII tool contained open-ended questions. Variables under study included socio-economic factors, source of information about UP and maternal health service utilization of the respondents were operationally defined and measured according to the objective of the study. Both tools were pretested and finalized before implementation. Ethical approval was obtained from Nepal Health research Council (NHRC)/Nepal. Data were cleaned and edited on-site and centrally before being analyzed in SPSS version 17. Descriptive analysis was done. Pearson Chi-Square and Fisher's exact test were also conducted to assess associations of independent variables with risk of uterine prolapse. The Fisher's exact test was used in the case of a 2x2 contingency table.

RESULTS

At the end of the interview, all 385 women of child bearing age were examined for presence of UP at their own home by the study team. UP was detected in 9 (2.3%) of the 385 women. Six of nine (66.7%) of women suffering from UP were above 40 years of age and there was a significant relationship (p=0.021) between age of the women

and prevalence of uterine prolapse. More than three quarters (77.8 %) of UP women were Tharu. Unsurprisingly, illiterate women had higher proportion of uterine prolapse compared to literate women (3.4% and 1.9%, respectively). All 9 women with uterine prolapse were married at age below 20 years. The women with more than 2 parities had somewhat higher (2.9%) prevalence of uterine prolapse when compared to women who had 2 or fewer 2 parities (2.0%). Surprisingly, higher the annual income (more than 500,000 Nepali Rupees) higher the prevalence of uterine prolapse was observed. Besides, a relatively high prevalence of uterine prolapse was found among the women who lived in an extended family system (Table 1).

The results from the KII were generally consistent with those of the household survey. The 56 years old KII participants from FCHV said that

"……uneducated women have less earning capacity compare to educated women so educational status and financial condition of women are interrelated. A poor and uneducated woman has more chances of having UP because they know less about the issues related to UP and will not have money to go for treatment".

In term of awareness and source of information about uterine prolapse, a large proportion (35.6%)

Table 2 Level of awareness & source of information about uterine prolapse (n=385)

Items	n (%)
Heard about uterine prolapse (n = 385)	
Yes	248 (64.4)
No	137 (35.6)
Source of information about UP* (n = 248)	
Radio	182 (73.4)
Television	44 (17.7)
Magazine/papers/books	13 (5.0)
Family members	30 (12.1)
Other relatives	41 (16.5)
Neighbors	81(32.7)

* Multiple answers were allowed, so the total is more than 248.

Table 3 Relationship between maternal health service utilization and uterine prolapse

Maternal health services	without UP n (%)	with UP n (%)	Total n (%)	*p-value**
Visiting for ANC (n=380)				
No	144 (97.3)	4 (2.7)	148 (100.0)	0.740
Yes	227 (97.8)	5 (2.2)	232 (100.0)	
Use of family planning services (n=385)				
No	111 (97.4)	3 (2.6)	114 (100.0)	0.728
Yes	265 (97.8)	6 (2.2)	271 (100.0)	
Place of delivery during last pregnancy (n=380)				
Home delivery	265 (97.4)	7 (2.6)	272 (100.0)	1.000
Health institutional delivery	106 (98.1)	2 (1.9)	108 (100.0)	

*analysis using Fisher's Exact test.

of the women had not heard about uterine prolapse; it shows that level of awareness about uterine prolapse is low among the women of child bearing age. Among 248 women who know about UP, most of them (73.1%) got the information from the radio followed by the neighbors (32.6%), in Table 2.

Most of women in this study area (73.1%) did housework in daily life including heavy lifting and walking long distance to fetch buckets of water. Moreover, most of them (76.6%) started work within 30 days after delivery. This finding was consistent with the opinion from a 38 years old female school teacher from KIIs survey, she said that

".....most of the women of this area work in farm. While working in farm women have to carry loads and bend/stand during work. In most of the cases women get engaged in farm and housework after name putting ceremony of newly born child, which is organized after 11-12 days of birth".

Table 3 shows nearly equal proportion of uterine prolapse was found among the ANC and non ANC visitors (2.2% and 2.7%, respectively). More than 2.5% of women delivered at home

during last pregnancy have uterine prolapsed, while women who delivered at the health institution had lower proportion of having uterine prolapsed (1.9%). Uterine prolapse could be occurred in a similar proportion whether women used or not used the family planning services in the past or currently (2.2% and 2.6%, respectively). In the interview of key performance, the 43 years old FCHV said that

"......hospital is far and some of the time Sub Health Post is not opened, health workers are not available in health institutions; so women have to deliver with the support of others. Mostly, educated and less poor women visit hospital; where 24 hrs delivery services are available".

DISCUSSION

Study revealed significant positive relationship (p = 0.021) between age of the child bearing women and prevalence of UP, which is consistent with previous studies [8, 12-15]. The caste/ethnicity did not have relationship with the prevalence of UP. This finding is consistent with other studies [16, 17]. Education level of the women with UP was not significantly related to the prevalence of UP, even though literate women had somewhat higher prevalence than literate women (3.4% and

1.9%, respectively), and the severity of prolapse was somewhat higher in the illiterate women (data not shown).

The results of this study were not consistent with those of UNFPA and Sancharika Samuha and Tamrakar, which stated that education level was inversely associated with UP occurrence [4, 15].

Early age at marriage was a risk factor for UP in the present study. All UP women in this study got married at age below 20 years old. This result has been replicated in other study done in Nepal [15]. Uterine prolapse can occurr in women with any number of parity. There was no significant relationship between number of parity and prevalence of UP in this study. This result was not consistent with a previous study, which reported a positive relationship between parity and occurrence of uterine prolapse [15]. Economic status affects health-related decision making, as well as accessibility of health services and work load of the women. Lower the annual income, higher the prevalence of uterine prolapse was observed in Shrestha's study [16]. This contrasts with the results of this study, in which risk of UP was higher with higher income. This finding was also at variance with the key informant interviews in this study, which suggested that a poor woman had more chance of having UP. This finding may imply that in this study, the influence of economic situation on UP risk is confounded by one or more other factors. Further research is needed to resolve this issue.

Women living in extended family structures had higher risk of uterine prolapse. These women had more workload as daughters-in-law who were given the responsibility of performing most of the tasks in the household. This result was similar to the finding of Shrestha [16]. Occupation determines the income capacity and type of work performed by women. Thus, occupation was considered as a potential risk factor for uterine prolapse. This study showed that all women with UP were engaged on labor/daily wages in farm and house work which is one of the risk factors for uterine prolapsed. Furthermore, more than three quarters of women started to work within 30 days after delivery. This quantitative data was consistent with qualitative data obtained from the KII, which stated that most of the women in this area have to carry loads and bend or stand during farm work. Moreover, these women have to start working after 11-12 days of delivery. Similar results were observed previously [16].

A large percentage (35.6%) of the women had not heard about uterine prolapse; this indicates that level of awareness about uterine prolapse was low among the women of child bearing age, and this was consistent with previous results [18]. The uterine prolapse was found in women who used and not used ANC services in the same proportion; this result was not similar to the other result which stated that almost 80% of the women who had no antenatal check- up had screened as uterine prolapsed [16]. Utilization of family planning services was not a contributing factor to UP. This result contrasted with previous reports that use of family planning services contribute to lowering the occurrence of uterine prolapse [16]. The higher percentage of women having uterine prolapse had home delivery during last pregnancy; this result is consistent with other studies [9, 16, 19-21], in which the higher proportion of uterine prolapse has been also observed among home delivered women. Moreover, the information from the key informant interview explained that the inaccessibility of health facility and the unavailability of health personnel in the time of need was a reason of the high percentage of home delivery in this community.

Finally, the prevalence of uterine prolapse in this study was only 2.3%. In view of this, it seems quite conceivable that some of the observed associations could be meaningful, even though not statistically significant. Examples include the associations of UP risk with age at marriage and with income, for which $p < 0.10$. Hopefully, larger studies of this important topic can be conducted in the future, in order to increase the statistical power with which observed associations can be tested.

RECOMMENDATIONS

Health policy makers and managers should ensure high-quality health service, along with regular supply of commodities/drugs and regularity of staff in health facilities. Health education and development programmes should be planned and implemented, focusing on girls' and women's education, along with discouraging early child marriage. Behavioral Change and Communication (BCC) activities should be focused to bring change in level of awareness and promotion of antenatal care, family practice services and intuitional delivery at household level through the involvement of Mother's Groups and social organizations. Local healers/birth attendants should be trained about the health issues related to UP. They should also be encouraged to refer pregnant girls and women to health facilities.

ACKNOWLEDGEMENTS

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