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ORIGINAL ARTICLE

Risk factors for uterine prolapse in Nepal

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Abstract Uterine prolapse is a significant public health problem in Nepal. The aim of this study was to determine the prevalence of uterine prolapse and to define possible risk factors for this disease in the Kathmandu Valley of Nepal. This clinical report consists of an analysis of data from Dr. Iwamura Memorial Hospital and Research Center (IMHARC) in Bhaktapur, between July 1 and September 30, 2006. This analysis was restricted to a sample that included all women with complaints of uterine prolapse (second- or third-degree prolapse) diagnosed and treated at the IMHARC. During a 3-month period, 96 women were diagnosed and treated with uterine prolapse. The median age at the time of clinical presentation was 50 years, and the median maternal weight was 45 kg. In average, the women gave birth to four children vaginally. Most of the affected women were smoking, and most of them were postmenopausal. Thirty-five percent of the affected patients had a chronic obstructive pulmonary disease (COPD), 16% suffered from hypertension and 5% had diabetes mellitus. The majority of the women with uterine prolapse were of Newari origin (84%), and nearly all patients reported that they were working heavily during pregnancy as well as in the postpartum period (87%). We found several risk factors for uterine prolapse in Nepal. Especially extensive physical labor during pregnancy and immediately after delivery, low availability of skilled birth attendants, smoking while having COPD and low maternal weight due to lack of nutritious food are mainly responsible for this common disease. In our opinion, extensive information, prevention programs and early management of genital prolapse should be the first steps to reduce this significant social and public health problem in Nepal.

Keywords Uterine prolapse · Risk factors · Nepal

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Introduction

The global prevalence of genital prolapse is estimated to be 2–20% in women under age 45 years [1]. Genital prolapse is mainly due to insufficiency of the pelvic floor and consists of a herniation of an adjacent pelvic organ into the vagina [2].

More than 1 million of Nepali women suffer from uterine prolapse, and the majority of these patients are of reproductive age. According to a report on "Unveiling the veil" by the Center for Agro-Ecology and development (CAED) among 2,268 women in Siraha and Saptari Districts in Nepal, 37% of women have uterine prolapse [3]. Another report from Nepal revealed that 40% of women with uterine prolapse are of reproductive age having given birth to their first child [4].

In Nepal, uterine prolapse appears to be widespread, but little published evidence exists. Bonetti et al. [1] examined 2,072 women in West Nepal and detected that one in four of these women had genital prolapse. The most commonly perceived cause of prolapse is lifting heavy loads, including in the postpartum period. Most reports describe heavy household and farm working during pregnancy, as well as pre- and postdelivery, as the main causes and risk factors

for this problem in Nepal (Fig. 1). Similarly, lack of access to skilled attendants during delivery, frequent conceiving, giving birth to many children, and lack of nutritious food are also responsible [1, 3, 4]. Additionally, the burdens of patriarchy and feudal relations of production operate on these circumstances to exacerbate the demands on women. Typically, most of the work is done manually, and household cannot spare a woman's labor for any substantial length of time. Thus, women must recover fast from any condition that constrains their output [4].

The aim of this report was to identify possible risk factors for genital prolapse especially in the district of Bhaktapur in the Kathmandu Valley. Additionally, a brief discussion, comparing this disease with the epidemiology and responsible risk factors in other countries, is presented.

Materials and methods

A total of 96 women with uterine prolapse were included in this clinical report. The investigation was carried out at the Department of Gynecology at the Dr. Iwamura Memorial Hospital and Research Center (IMHARC), Bhaktapur District, Nepal, between July 1 and September 30, 2006. Most of these patients were diagnosed and treated at the hospital; some of them were diagnosed at free health camps in this area (Nagarkot, Cibadol, Thimi, etc.) and referred to the hospital.

All women with uterine prolapse reported adverse effects, including abdominal pain, backache, painful intercourse, difficulty in voiding, white watery discharge, burning during urination and difficulty in lifting, sitting and standing.

Fig. 1 A Nepalese woman carrying a heavy load in the typical fashion. Most farm work in Nepal is done by women

Our analysis was restricted to a sample that included all women with second- or third-degree uterine prolapse and any complaints of prolapse (Fig. 2).

Information about the social-demographic events was recorded on a precoded study form, translated by a Nepalese nurse from Nepali/Newari language into English language. Genital prolapse consisted of a herniation of an adjacent pelvic organ into the vagina, and uterine prolapse was categorized using the traditional definitions of first-, second- and third-degree perineal tears [2, 3].

Mainly, vaginal hysterectomy with colporraphia anterior and posterior was the treatment of choice. Minimum charge of this operation is 15,000 Rps. In Nepal, a few nongovernmental organization (NGO) groups exist who are aware of this condition and take over 90% of the operation and hospital costs for women with diagnosis of third-degree uterine prolapse. In our district, every Wednesday, registration of these patients took place, but the NGO is only able to pay for the third-degree cases. Prolapsed uterus affects the poorest of poor women in Nepal, and one main problem is that, especially in the rural areas of Nepal, NGOs and operation facilities are scanty.

Young women whose family planning was not completed so far, as well as women with severe internal diseases, underwent pessary therapy as alternative treatment.

Results

Ninety-six women with complaints of uterine prolapse were diagnosed and treated during a 3-month period at the IMHARC and at free health camps in this area. Eighty out of 96 (83%) patients were diagnosed with third-degree prolapse, while 16 out of 96 (17%) patients had second-degree prolapse.

Fig. 2 Third-degree uterovaginal prolapse. Note the hyperpigmentation of the anterior vaginal wall

The median age at the time of clinical presentation was 50 years (range, 29–75), and the median maternal weight was 45 kg (range, 35–75). In average, these women gave birth to four children vaginally (range, 1–9).

Possible risk factors for uterine prolapse of the investigated patients are shown in Table 1.

Seventy of the 96 (73%) patients underwent vaginal hysterectomy with colporraphia anterior and posterior at our institution. Eighteen out of the 70 (26%) patients had tried pessary therapy before operation but did not feel comfortable with this method. The median stay at hospital after surgery was 6 days (range, 5–14 days). A prolonged hospital stay over 6 days was necessary in two patients, one due to postoperative hematoma and one due to a bladder injury. The postoperative follow-up of all patients was uneventful. Twenty-six of the 96 (27%) patients were treated with pessary alone (ring or cube pessary). The outcome of the surgical treatment as well as the indication for pessary therapy are shown in Table 2.

Discussion

One of the most widespread reproductive health problems in Nepal is pelvic organ prolapse with over 1 million of Nepalese women suffering from this disease.

The most commonly reported causes for uterine prolapse in Nepal are extensive physical labor, especially during and after pregnancy, low availability of skilled birth attendants and rapid succession of pregnancies and malnutrition due to lack of nutritious food [1, 3, 4]. The results of our report mainly confirmed these risk factors.

In our opinion, especially extensive physical labor during pregnancy and immediately after delivery, low availability of skilled birth attendants, smoking while having COPD and low maternal weight due to lack of nutritious food are mainly responsible for this common disease. Typically, most of the heavy work and household is done by the women in Nepal, and in addition, the exhausting work at the rice fields is the typical work of a Nepalese woman. Furthermore, most of the Nepalese women do not even know why they have uterine prolapse and that it can be treated because they are often too embarrassed to ask for help. In our report, nearly half of the patients with prolapse were smoking. Smoking and uterine prolapse seem to be associated because chronic cough increases the pressure in the abdomen. The most common cause of prolapse is lifting heavy loads. A study from Bhaktapur District reported, e.g. that 64.3% of women with uterine prolapse took rest at least 1 month after delivery, but 26.73% started working in field 2–3 weeks after delivery [5].

Table 1 Possible risk factors for uterine prolapse (n=96)

	Yes n=96 (%)	No n=96 (%)
Smoker	43 (45)	53 (55)
Postmenopausal status	56 (58)	40 (42)
COPD	34 (35)	62 (65)
Hypertension	16 (17)	80 (83)
Diabetes mellitus	5 (5)	91 (95)
Newari origin	81 (84)	15 (16)
Heavy work in the early postpartum period	84 (88)	12 (12)

Table 2 Outcome of surgical treatment and pessary therapy in patients with uterine prolapse (n=96)

	Number of patients (n=96)	Percent (%)
Vaginal hysterectomy with colporraphia ant. +post.	70/96	73
Pessary therapy before operation	18/70	26
Duration of hospital stay after operation (days)[a]	6 (5–14)	
Pessary therapy	26/96	27
Ring	9/26	35
Cube	17/26	65
Indication for pessary		
No money for operation	16/26	62
Childwish	6/26	23
Not fit for surgery	4/26	15
Outcome of pessary therapy		
Comfortable	3/26	12
Uncomfortable	18/26	69
Change treatment	5/26	19
Frequent change of pessary		
Once a week	0/26	0
Once a month	0/26	0
Never	26/26	100

[a] Median (range)

Fig. 3 Staff of the IMHARC, Sallaghari, Bhaktapur District, Nepal and Dr. Bodner-Adler (*background*) and Dr. Bodner (*front row*) from Austria

The global prevalence of genital prolapse is estimated to be 2–20% in women under age 45 years [1]. Samuelsson et al. examined 487 women in Sweden. The results of this study showed a prevalence of 30.8% of uterine prolapse of any degree. Only 2% of all women had a prolapse that reached the introitus. In this study, patients' age, pelvic floor muscle strength and, among parous women, the maximum birth weight were significantly and independently associated with the presence of prolapse, whereas woman's weight and sustained hysterectomy were not [6]. Swift [7] reported that advanced age, increasing parity, increasing number of vaginal births, delivery of a macrosomic infant, postmenopausal status and hypertension are associated with a statistically significant trend toward increased pelvic organ prolapse. The results of a study from Italy indicate that in this population, the risk of uterovaginal prolapse increases with the number of vaginal births and is higher in overweight women [8]. In contrast to these studies, malnutrition is a dominant risk factor for uterine prolapse in Nepal, and a great percentage of women with prolapse are of reproductive age having given birth to their first child. In summary, the prevalence as well as the defined risk factors for pelvic organ prolapse strongly differ between data from Europe/USA and Nepal.

In conclusion, our data confirm the high prevalence of uterine prolapse in Nepal. The most important risk factors for uterine prolapse seem to be extensive physical labor during pregnancy and immediately after delivery, low availability of skilled birth attendants, smoking while having COPD and low maternal weight due to lack of nutritious food. Finally, information campaigns, preventive care management and early treatment of genital prolapse should be initiated to reduce this significant public health problem (Fig. 3).

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