Epidemiology of utero-vaginal prolapse in Aksum University College of Health Sciences and Comprehensive Specialized Hospital (AKU-CHS-CSH), North Ethiopia

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ABSTRACT

Background: Uterovaginal prolapse (UVP) is a prolapse occur when there is protrusion of female organ or structure beyond its normal position. In UVP, there is descent of the uterus and/or vagina. This is a common gynecological condition.

Materials and Methods: A retrospective descriptive study was conducted to assess the epidemiology of UVP and its risk factors associated with it. All cases of UVP admitted and treated in Aksum University College of Health Sciences and Comprehensive Specialized Hospital from October 3, 2016, to February 26, 2018, were included in the study. The collected data were analyzed using 16.0 version SPSS software. Chi-square test was used and also considered to be significant when \( P < 0.05 \).

Results: During the study period, a total of 1676 individuals studied in gynecological admissions, 710 patients had genital prolapse. The prevalence of UVP was 42.3%. Factors found to be significantly associated \(( P < 0.05)\) with UVP include age, parity, occupation, marital status, and residence. Case notes were retrieved from the medical records department. Relevant data were obtained from the case notes, which included age, parity, occupation, marital status, residence, presenting symptoms, and stage of surgical management. Conclusion: UVP has very high prevalence associated with its risk factors such as age, parity, occupation, residency, and marital status in this study. Awareness creation on risk factors of UVP and the use of contraception to reduce parity is recommended. Higher policymakers should be advocated to minimize the rate of home deliveries and other risk factors.

KEY WORDS: Cystocele, Parity, Uterovaginal prolapse

INTRODUCTION

Utero-vaginal prolapse (UVP) is a prolapse occur when there is protrusion of an organ or structure beyond its normal position. In UVP, there is descent of the uterus and/or vagina. This is a common gynecological condition, but many women do not seek treatment due to embarrassment, or they are unaware that the condition can cause problems and that treatment is available. It is important to seek medical advice early as it can be treated.\(^1\)\(^-\)\(^3\)

UV is the descent of the uterus, cervix, and vagina due to weakened pelvic supports. The condition is most common in women during their menopausal years that have completed their family but can also affect younger women during their reproductive years.

The UVP can also affect the organs located in close proximity to the uterus. The urinary bladder that sits in front of the vagina but below the uterus may also be displaced resulting in a cystocele. Alternatively, the rectum located behind the uterus may also undergo prolapse and is termed as a rectocele.\(^4\)

Prolapse of the uterus can occur on its own. However, it can also be associated with a protrusion of the anterior (front), or posterior (back) wall of the vagina, or both. In women who have had their uterus removed, prolapse of the vagina can occur after surgery. The degree of prolapse can vary from a very mild descent of the pelvic organs, to a severe descent in which the uterus, part of the bladder, and part of the rectum (back passage) protrude through the vaginal opening.\(^5\)\(^-\)\(^6\)

UVP is the descent of the genital organs beyond their normal anatomical confines. It is caused by herniation through deficient pelvic fascia or due to weaknesses or deficiency of the ligaments or muscles or blood or nerve.\(^7\)
The incidence and natural history of the condition is not well understood as there is a lack of prospective longitudinal data. Conservative management involves the use of pessaries, but surgery is the most appropriate option for the physically fit woman.

A prolapse is a protrusion of an organ or structure beyond its normal confines. Prolapses are classified according to their location and the organs contained within them.\(^9\)

**Classification**

**Anterior vaginal wall prolapse**
- Urethrocele: Urethral descent
- Cystocele: Bladder descent
- Cystourethrocele: Descent of bladder and urethra.

**Posterior vaginal wall prolapse**
- Rectocele: Rectal descent
- Enterocoele: Small bowel descent.

**Apical vaginal prolapse**
- Uterovaginal: Uterine descent with inversion of vaginal apex
- Vault: Post-hysterectomy inversion of vaginal apex.

**Grading**
Three degrees of prolapse are described and the lowest or most dependent portion of the prolapse is assessed while the patient is straining:  
1\(^{st}\): Descent within the vagina  
2\(^{nd}\): Descent to the introitus  
3\(^{rd}\): Descent outside the introitus.

In the case of UVP, the most dependent portion of the prolapse is the cervix, and careful examination can differentiate uterovaginal descent from a long cervix. Third-degree uterine prolapse is termed “procidentia” and is usually accompanied by cystourethrocele and rectoceles. The process of aging can result in loss of collagen and weakness of fascia and connective tissue. These effects are noted, particularly during the postmenopause as a consequence of estrogen deficiency.

Pelvic organ prolapsed (UVP) is a very common problem with a prevalence of 41–50% of women over the age of 40 years. There is a lifetime risk of 7% of having an operation for prolapse and a lifetime risk of 11% of having an operation for incontinence or prolapse. The annual incidence of surgery for UVP is within the range of 15–49 cases per 10,000 women-years, and it is likely to double in the next 30 years.

Vaginal hysterectomy was performed as early as 1813 as reported by Langenbach. In 1879, Hailden reported a series of 52 cases with a mortality rate of 32%. The mortality rate has since fallen to 5–6% by 1890. In 1825, Langenbach made the first attempt to remove the uterus through the abdominal incision and Heaney first proposed the technique of vaginal hysterectomy. However, it was viewed skeptically until in 1940, Te Linde an expert vaginal surgeon regenerated interest in vaginal surgery and in training gynecologists.

Among the many problems in women’s health, UVP contributes to a major bulk of the reproductive health morbidity in Ethiopia. UVP is a significant public health problem in Tigray as well. This problem is mainly prevalent in rural areas where the women are socioeconomically less privileged and cannot afford the costs of treatment.

In Africa, a cross-sectional study was done in Ejura-Sekyidumasi, Ashanti region in rural Ghana showed that UVP was accounted in 21 (12.1%) women and 17 (81%) of these women were symptomatic.\(^{[9-12]}\)

Reproductive health survey was conducted in Farafenni town, Gambia, between January 1999 and July 1999, where uterovaginal prolapse (UVP) was present in 46% of the women. 15% of the women were found to have symptomatic UVP warranting surgical intervention.\(^{[10]}\)

In Ethiopia, researches concerning prevalence of UVP are very few and it is limited with some researchers studied using retrospective study from June 12, 1989, to June 12, 1993, in Gandhi Memorial Hospital, Addis Ababa and Gondar Hospital, Ethiopia, which showed that UVP accounted for 19.9% in Gondar as compared to 17.2% at Gandhi Memorial Hospital.\(^{[13,14]}\)

There is gap of information up to know on UVP in our country. As the only already existing study was done long time ago, there is a need to update information on the problem. The aim of this study is to assess the magnitude of UVP and common risk factors associated with it in Aksum University College of Health Sciences and Comprehensive Specialized Hospital.

Surgical treatment of uterine prolapse has been taken up with the financial support of Aksum University as part of community service program in collaboration with the charity organization named wings of healing from London. The past 2 years Aksum University College of Health Sciences and Comprehensive Specialized Hospital screened women in some selective area and identified that 2000 women have been affected by this problem, of which more than 900 women need surgical treatment in regional level.

Based on the above fact, our institution has organized and conducted surgical treatment of UVP in the form of six consecutive campaigns at College of Health
Sciences and Comprehensive Specialized Hospital in collaboration with the charity organization wings of healing from London.

MATERIALS AND METHODS

This research used retrospective descriptive study in Aksum University College of Health Sciences and Comprehensive Specialized Hospital and data were collected from all patients who received UVP procedures from October 3, 2016, to February 26, 2018.

Aksum University is located in Axum city, North of Ethiopia. The hospital serves as a referral hospital on top of its teaching-learning process.

All UVP patients who were admitted and treated during the study period were included in the study. Data were collected from the card of each patient by medical interns working in the department of obstetrics and gynecology during the data collection time using questionnaire on sociodemographic variables, past reproductive performances, presenting complaints, associated symptoms and signs, risk factors, investigations before surgery, surgeries done, and complications. During data collection, the completeness was checked on the spot and corrected by cross-checking the card with the questionnaire. Data were cleaned, entered, and analyzed using the SPSS software version 16.0 and Chi-square test was used and was considered to be significant when P< 0.05. Permission was obtained from AUHSCSH. Confidentiality was kept throughout the study using code numbers for each chart retrieved to avoid using names of patients from charts.

RESULTS

A total of 710 patients participated in the current study out of 1676 eligible patients.

Table 1 shows the results of analysis of the age characteristics of the patients and patients aged from 15 years and above were included in the study.

The age group of 45–50 years, with a total of study patients (46.8%), constituted the majority of patients. Patients above 55 years constituted the second largest group with 40.6%. The mean age of respondents was found to be 42 ± 11.18 years (range 15–85) and there was a statistically significant association between stage of UVP and age of patients (P< 0.05) [Table 1].

Patients from central of rural Tigray were dominant, accounting for 62.5% of the study patients, followed by western of rural Tigray 26.3% and the 3rd was central of urban Tigray constituting about 6.3%, and finally, western of urban Tigray constitutes 4.8% and there was a statistically significant association between the UVP and residence area of the patients (P< 0.05) [Table 2].

Of the three occupational categories described by the respondents, farmer of the respondents was 79%–18.2% of them were categorized under housewife while 2.8% were underemployed and there was a statistically significant association between the stage of UVP and occupation of the patients (P< 0.05) [Table 3].

Patients with a total number of 558 (78.6%) were married while 18.9% were grouped under divorced and 2.5% were categorizes under widowed group and there was a statistically significant association between UVP and marital status of the patients (P< 0.05) [Table 4].

Majority (87%) of patients with UVP were of parity >5 and there was a statistically significant association between the stage of UVP and parity (P< 0.05) [Table 5].

Table 1: Association of age with stage of UVP in AUHSCSH from October 3, 2016 to February 26, 2018

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Stage of UVP</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>15–24</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>25–34</td>
<td>9</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>35–44</td>
<td>59</td>
<td>15</td>
<td>74</td>
</tr>
<tr>
<td>45–54</td>
<td>289</td>
<td>43</td>
<td>332</td>
</tr>
<tr>
<td>&gt;55</td>
<td>219</td>
<td>69</td>
<td>288</td>
</tr>
<tr>
<td>Total</td>
<td>578</td>
<td>132</td>
<td>710</td>
</tr>
</tbody>
</table>

Age range (15–85), mean age 42±11.18 years, P<0.004.

Table 2: Association of residency with stage of UVP in AUHSCSH from October 3, 2016 to February 26, 2018

<table>
<thead>
<tr>
<th>Residency</th>
<th>Stage of UVP</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western of urban Tigray</td>
<td>30</td>
<td>4</td>
<td>34</td>
</tr>
<tr>
<td>Western of rural Tigray</td>
<td>163</td>
<td>24</td>
<td>187</td>
</tr>
<tr>
<td>Central of urban Tigray</td>
<td>37</td>
<td>8</td>
<td>45</td>
</tr>
<tr>
<td>Central of rural Tigray</td>
<td>348</td>
<td>96</td>
<td>444</td>
</tr>
<tr>
<td>Total</td>
<td>578</td>
<td>132</td>
<td>710</td>
</tr>
</tbody>
</table>

Table 3: Occupation of women versus stage of UVP in AUHSCSH from October 3, 2016 to February 26, 2018

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Stage of UVP</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer</td>
<td>443</td>
<td>118</td>
<td>561</td>
</tr>
<tr>
<td>Housewife</td>
<td>119</td>
<td>10</td>
<td>129</td>
</tr>
<tr>
<td>Employed</td>
<td>16</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>578</td>
<td>132</td>
<td>710</td>
</tr>
</tbody>
</table>

UVP: Uterovaginal prolapse
Some of the symptoms of the patients were chronic cough, constipation, urinary incontinence, coital difficulty, failure to pass feces, and ulcer.

Overall, uterovaginal prolapse (UVP) was present in 710 (42.3%) of the respondents. 578 (81.4%) of the patients were received Stage 3 UVP procedures while the remaining 132 (18.6%) followed Stage 4 UVP procedures.

**DISCUSSION**

The study discovered that, all patients who were operated for UVP in AKU-CHS-CSH during the study period were from Tigray region only as compared to the magnitude of UVP with the major gynecologic operations done in Jimma University Specialized Hospital from July 1, 2008 - June 30, 2011, which indicated that the study population was composed of Oromos (72.9%), Keffa (14%), Amhara (4.7%). Eighty-two (82.5%) of them were married, 14.2% were widowed, and 3.3% were divorced and also the study in Gondar, where 88.5% were Amharas and 90.4% were married while in the Gandhi Hospital, the study population were rather heterogeneous of Guraghes 33.3% and 32.2% were Amharas, 27.2% were Oromos, and 84.1% were married. This could be attributed to the study setting. The mean age of women with UVP is found to be 42 ± 11.18 which is consistent with other studies conducted in Gondar and Gandhi Memorial Hospital with 38.09 ± 11.52 and 42.17 ± 13.16 years, respectively. The mean parity of the study group was 2.80 ± 4.9 children which is comparable to that of Gondar and Gandhi Memorial Hospital study 4.6 ± 2.5 children and 5.9 ± 2.7 children, respectively. This study also showed that 62.5% of the patients came from central rural of Tigray and 79% were farmers. The relationship of UVP and rural women assumed that assisting in farmland, marketing, wood and water fetching, child rearing and carrying the baby on the back, and grinding are some of the physically demanding day-to-day activities which are assigned to rural women farmers even during pregnancy which have detrimental effect for the loss of genitourinary supporting structures.

Awareness creation on risk factors of pelvic organ prolapse and the use of contraception to reduce parity is recommended. Health institution delivery should be advocated to minimize the rate of home deliveries and hence of prolonged labor.

**CONCLUSION**

Utero-vaginal prolapse has very high prevalence associated with its risk factors such as Age, parity, occupation, residency and marital status in this study. Awareness creation on risk factors of (UVP) and use of contraception to reduce parity is recommended. Higher policy makers should be advocated to minimize the rate of home deliveries and other risk factors.

**ACKNOWLEDGMENTS**

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My special thanks also go to charity organization named wings of healing from London for the financial support offered to the project and in organizing several UVP campaigns every 3 months and this was good opportunity for the study.

**REFERENCES**


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