THE EUROPEAN SOCIETY OF MEDICINE
Medical Research Archives, Volume 14 Issue 4

RESEARCH ARTICLE

Menstrual Hygiene and Disability in Nepal: An Analysis of the 2022 Demographic and Health Survey

Tara Casebolt, MSW, MPH, PhD[1] and Arin Kolshorn

[1]Department of Public Health Sciences, Parkinson School of Public Health and Health Sciences, Loyola University Chicago, Chicago, IL, USA

OPEN ACCESS

PUBLISHED
30 April 2026

CITATION
Casebolt, T. and Kolshorn, A., 2026. Menstrual Hygiene and Disability in Nepal: An Analysis of the 2022 Demographic and Health Survey. Medical Research Archives, [online] 14(4).

ISSN
2375-1924

ABSTRACT

Introduction: Studies have shown that people with disabilities struggle with managing their menstrual hygiene. This can be because of a lack of education materials designed to meet their needs, inaccessible sanitation facilities, inability to use the available menstrual products, or lack of adequate assistance from caregivers. In Nepal, menstruation and disability are both highly stigmatized, with taboos regarding menstrual periods including excluding women from a number of activities during this time.

Objective: This study uses data from the 2022 Demographic and Health Survey (DHS) in Nepal to analyze differences in menstruation knowledge, use of hygienic menstrual products, and menstrual activity exclusions on the basis of disability.

Methods: The 2022 Nepal DHS uses the Washington Group Short Set on Functioning to collect disability data in a subset of the DHS sample. The Short Set Severity Category (SS-SC), which categorizes each respondent as having no, mild, moderate, or severe disability, was used as the measure of disability for these analyses as it is able to take into account the impacts of multiple disabilities on a person. Bivariate analysis was conducted using chi-squares to determine association between disabilities and menstrual health outcomes. Crude and adjusted logistic regression models were then developed to determine odds ratios for each outcome of interest.

Results: No statistically significant associations were found between disability and any of the outcomes of interest in the bivariate analysis. Women with mild and moderate disabilities were found to have a significantly higher odds of using an unhygienic menstrual product in the crude regression model, but this significance was no longer found in the adjusted models. No other statistically significant differences were identified in the logistic regression analysis.

Conclusion: While statistically significant differences on the basis of disability were not found regarding menstrual hygiene knowledge or exclusion experiences, this does not mean that there are no difference in menstrual experiences among menstruators with disabilities. Qualitative studies have reported menstruators with disabilities receive less education regarding menstruation, struggle with their menstrual hygiene due to infrastructural and physical limitations, and must deal with the dual taboo of menstruation and disability. Policies and programs regarding menstruation in Nepal have not been inclusive of people with disabilities, which needs to change to ensure positive menstrual and reproductive health for the whole population.

Introduction

Disability is a common human experience affecting approximately 16% of the population, or 1.3 billion people worldwide. Experiences of disability are shaped by environmental and societal responses to one's physical and/or intellectual conditions. Inaccessible infrastructure, inadequate services, and social stigma can create substantial barriers for people with disabilities, limiting their agency and autonomous participation in society[1]. For the purposes of this study, disability is broadly defined using the International Classification of Functioning, Disability, and Heath. This framework states that someone has a disability if they have some sort of physical, mental, psychological, or medical impairment that limits specific functions like walking, hearing, communicating, etc., or their ability to participate in everyday activities in some way[2].

Menstrual hygiene management (MHM) is a critical, yet frequently overlooked, public health issue affecting people who menstruate globally[3]. Menstruation is a natural physiological process experienced by girls and biological women of reproductive age. Approximately 1.8 billion people menstruate worldwide, with an estimated 800 million people menstruating on any given day. Though menstruation is a biological process experienced by individuals, it influences broader public health topics such as reproductive health, family planning, and social participation. Globally, MHM practices vary widely across countries and communities, and are often shaped by individual preferences, socio-economic factors, and cultural norms[4]. In low- and middle-income countries, limited access to adequate water, sanitation, and hygiene (WASH) infrastructure, menstrual hygiene products, and comprehensive MHM education can negatively affect health outcomes, productivity, and school or workplace attendance. Additionally, social stigma related to menstruation can exacerbate these challenges by constraining one's ability to fully participate in society during their menstrual cycle[3].

In Nepal, the intersection of menstruation and disability poses unique hygiene and social challenges that remain largely unaddressed. Menstruation is widely regarded as a taboo subject and is rarely discussed publicly, limiting opportunities for timely and accurate MHM education for adolescents at menarche[3]. Menstrual stigma in Nepal sometimes manifests through the practice of chhaupadi, in which menstruating girls and women are restricted from participating in certain communal activities, including food preparation, water use, and community work[5].This practice is rooted in the belief that women are "impure" during menstruation[6]. In some cases, menstruating individuals are required to isolate themselves in secluded and often unhygienic buildings, such as animal sheds or small huts built specifically for the purposes of the chhaupadi tradition[5]. Such isolation from the community exposes women and girls to heightened risk for infection, sexual violence, and animal attacks. Though chhaupadi was outlawed in 2005, it continues to persist, particularly in rural areas where law enforcement is limited and access to MHM education and resources remain inadequate[6].

People who menstruate and have disabilities in Nepal encounter multiple barriers to adequate MHM arising from both structural and sociocultural factors. Inaccessible WASH infrastructure presents challenges, limiting the ability of individuals with disabilities to manage menstruation in a clean, safe, and dignified manner. These structural barriers are further exacerbated by traditional cultural practices, like chhaupadi. Limited social awareness and education regarding disability contribute to the persistence of myths, including beliefs that individuals with disabilities are asexual, incapable of reproducing, or that disability is contagious or "impure". Such misconceptions reinforce stigma surrounding disability and menstruation, creating additional obstacles for those with disabilities and their caregivers in accessing information, resources, and social support for MHM[3].

The intersection of stigma about disability and taboos regarding menstruation can intensify social isolation and reduce access to appropriate menstrual care. As a result, people with disabilities in Nepal

may experience intersectional barriers to achieving MHM. Addressing these challenges requires increased access to WASH facilities, strengthened social support for those with disabilities and their caregivers, as well as public health education initiatives aimed at reducing stigma and misinformation. Efforts to eliminate harmful cultural practices, including chhaupadi, remain critical to ensuring safe and dignified MHM. While there is qualitative research regarding the intersection between MHM and disability in Nepal, this subject remains largely unexplored quantitatively. This study seeks to contribute to existing empirical evidence by analyzing the 2022 Nepal Demographic and Health Study (DHS) to gain insight into MHM practices and disparities associated with disability status in Nepal.

Methods

This study uses the 2022 Nepal DHS to analyze the association between experience of menstrual hygiene exclusions and disability status. ICF, the Nepali government, and USAID conducted the 2022 DHS in Nepal as a nationally representative household survey. This survey gathers data about demographic, fertility, and health indicators important for population and public health planning purposes. The DHS uses a stratified, two-stage cluster design. First, households are randomly selected based on census data. Clusters are constructed using these households. Individuals within these households then complete the survey[7].

Two of the DHS survey modules were used in this survey: the Household Questionnaire, and the Woman's Questionnaire. One member of each household completes the Household Questionnaire on behalf of all family members to collect data about the demographics, education, and assets of the household. The disability module is also included in the Household Questionnaire. This disability module was created based on the Washington Group on Disability Statistics Short Set on Functioning (WG-SS). It was first officially used in 2016 and is optional[8]. Questions about menstrual hygiene, including what products are used, what types of activity exclusions women experience during their menstrual periods, and knowledge of menstruation among women are all collected in the Women's Questionnaire[9].

SAMPLE

While all women of reproductive age (15-44 years in this case) in selected households completed a Women's Questionnaire, not all households included in the disability module in their Household Questionnaire. The disability questionnaire was only complete at households also selected for the men's survey. Therefore, out of 14,280 households included in the DHS in Nepal in 2022, only 7,140 included the disability questions[9]. Women who had not reported a menstrual period in the past year were also not asked about their menstruation experiences. This left a final sample of 9,078 women ages 15-44 years in this analysis.

MEASURES

Outcomes

In this study, the primary outcomes of interest were related to menstrual exclusions. In the DHS, women who completed the menstrual hygiene questions were asked about what their primary menstrual product preference was, if they could change their menstrual products in private or not, when they believe ovulation occurs during their menstrual cycle, and what types of activities they are excluded from during their menstrual periods. Menstrual product options included reusable sanitary pads, disposable pads, tampons, menstrual cups, cloth, toilet paper, cotton wool, underwear only, nothing, or other. For regression analysis, this was turned into a binary variable of hygienic or unhygienic. Based on the literature, if a woman reported using cloth, toilet paper, cotton wool, underwear, nothing, or other as one of their menstrual product options, they were coded as using an unhygienic menstrual product. Potential activity exclusions during your menstrual period included: entering the temple; being involved in religious activities; touching or cooking food; eating with family members; staying in the main house; touching plants; touching other people; touching cattle; fetching water; sleeping with their husband; other; and forced seclusion during menstruation

(known as chhaupadi in the Nepali context). For the bivariate and regression analyses, exclusion of any of these activities during the menstrual period was converted into a single, yes/no binary variable. Separate analysis was completed for if a woman reported chhaupadi or not. For analysis of knowledge of ovulation, the responses were collapsed into a binary variable whether they gave the correct response (middle of the menstrual cycle) or not.

Exposure

Disability status is the exposure of interest in this paper. As was previously mentioned, disability data for the DHS is collected via a disability module based on the WG-SS. In the WG-SS, disability status is classified based on responses to questions regarding functioning in six domains: hearing, seeing, mobility, cognition, communication, and self-care. Functional limitations for these domains are collected using a four-point scale: 0 (no difficulty); 1 (some difficulty); 2 (a lot of difficulty); or 3 (cannot do at all)[10].

There are several ways the Washington Group states data collected via the WG-SS can be analyzed. For this study, the severity indicator, or Short Set Severity Category (SS-SC), was used. This tool uses a continuum where each respondent received a score for their responses to each of the domain questions. The scores are then totaled and then grouped into the four SS-SC categories using preestablished cut points. Using these cut points, each respondent is placed into one of four disability severity categories: None, Mild, Moderate, or Severe. This severity measure of disability was used to better reflect the complex experiences of people with disabilities impacting multiple functional systems simultaneously as it can include the collective impact of those limitations more effectively[11].

Covariates

There are a number of other variables that have been found to have an impact on women's experience of menstruation and menstrual hygiene in Nepal that were included in the regression models of this study. These included age (categorized into 5-year age groups); residence (rural or urban); wealth (measured in quintiles); education (categorical as none, basic, secondary, or higher); marital status (never in a union, currently in a union, or formerly in a union); ecological region (terai, mountains, or hills); and religion (Hindu, Buddhist, Muslim, Kirat, or Christian). Studies have shown women in rural areas are more likely to participate in a larger number of restrictions during their menstrual cycles, particularly chhaupadi. Women with more education or higher incomes are less likely to have their activities restricted during menstruation. Because many of the menstrual restrictions are based on Hindu religious beliefs, women from this religious background tend to experience more restrictions compared to women from other religious groups. Studies have also shown that women in the terai, or plains, regions of Nepal are less likely to experience chhaupadi than women living in the mountains or hills regions[12–14].

DATA ANALYSIS

All DHS data can be accessed via the DHS website, including that for the 2022 Nepal DHS. The household and women's surveys were merged to combine the variables needed for analysis from both datasets based on instructions from the DHS analysis manual. Analysis was conducted using Stata version 19.0. The survey set command was used to take into account the clustering, stratification, and weights included in the dataset based on instructions from the DHS analysis manual.

Counts and percentages were calculated for the sample included in this analysis. This included weighted percentages to include the impacts of survey design on the proportions. Associations between disability, covariates, and menstrual hygiene exclusions were calculated using chi-squares. These were calculated for the following outcomes: correct ovulation knowledge; experienced any exclusions during menstruation; and were forced to seclude during menstruation. Logistic regression models were constructed using the logistic command in Stata 19.0. Crude models only including disability and the outcome of interest were created first, then adjusted models including the covariates discussed above.

Results

FREQUENCIES

Weighted percentages will be reported for all frequency analyses. Approximately three-quarters (74.64%) of the 9,078 women included in the sample reported not experiencing a disability of any kind, while 20.30% of women reported a mild disability, 4.02% a moderate disability, and 1.04% a severe disability. See Table 1 for more details.

Table 1: Demographic frequencies

	Number	Percent	Weighted Percent
Age			
15-19	417	4.59	4.57
20-24	1,064	11.72	11.82
25-29	1,503	16.56	17
30-34	1,805	19.88	20.09
35-39	2,063	22.73	22.69
40-44	1,410	15.53	15.04
45-49	816	8.99	8.8
Highest Education Level			
No education	3,169	34.91	31.71
Basic	2,978	32.8	32.92
Secondary	2,744	30.23	32.4
Higher	187	2.06	2.96
Religion			
Hindu	7,735	85.21	83.54
Buddhist	478	5.27	6.1
Muslim	366	4.03	5.16
Kirat	243	2.68	2.61
Christian	256	2.82	2.58
Wealth			
Poorest	2,507	27.62	18.4
Poorer	1,728	19.04	17.86
Middle	1,837	20.24	20.71
Richer	1,827	20.13	23.88
Richest	1,179	12.99	19.15
Marital Status			
Never in union	722	7.95	8.87
Currently in union/ living with a man	7,982	87.93	86.88
Formerly in union/ living with a man	374	4.12	4.25
Residence Type			
Urban	4,948	54.51	68.66
Rural	4,130	45.49	31.34
Ecological Region			
Mountain	785	8.65	5.55
Hill	4,127	45.46	39.52
Terai	4,166	45.89	54.93
Disability - SSSC			
None	6,644	73.19	74.64
Mild	1,922	21.17	20.3
Moderate	411	4.53	4.02
Severe	101	1.11	1.04

The menstrual hygiene product most commonly used by women in the survey were cloth (55.15%) and disposable pads (50.75%). Almost two-thirds of the women (61.77%) reported using an unhygienic menstrual hygiene product option. The vast majority of women (98.77%) reported they were able to change in privacy during their last menstrual period. Most women reported menarche, or experiencing their first menstrual cycle, between the ages of 12 and 16 years. Only 30.61% of women gave the correct response for when in their menstrual cycle ovulation occurs. See Table 2 for more details.

Table 2: Menstrual Product Use, Experience, and Knowledge

	Number	Percent	Weighted Percent
Menstrual Product Used			
Reusable sanitary pads	90	0.99	0.99
Disposable pads	4,210	46.38	50.75
Tampons	0	0	0
Menstrual cup	7	0.08	0.14
Cloth	5,134	56.55	55.15
Toilet Paper	0	0	0
Cotton wool	26	0.29	0.28
Underwear only	353	3.89	3.23
Other	0	0	0
Nothing	465	5.12	3.23
Unhygienic	5967	65.73	61.77
Able to change in privacy during last menstrual cycle			
No	92	1.01	0.98
Yes	8,957	98.67	98.77
Away from home during last menstrual period	29	0.32	0.25
Age of menarche			
9	6	0.07	0.07
10	25	0.29	0.39
11	197	2.25	2.45
12	1,312	15.01	16.69
13	2,263	25.89	27.02
14	2,322	26.57	26.51
15	1,467	16.78	15.91
16	731	8.36	6.97
17	265	3.03	2.74
18	109	1.25	0.79
19	37	0.42	0.42
25	6	0.07	0.04
Knowledge of ovulatory cycle			
During her period	166	1.83	2.08
After period ended	3,589	39.54	38.49
Middle of the cycle	2,507	27.62	30.61
Before period begins	167	1.84	1.78
At any time	770	8.48	7.34
Don't know	1,879	20.7	19.71

Of women surveyed, 85.53% reported experiencing some sort of exclusion during their menstrual periods. The most commonly reported activities banned while menstruating were: entering the temple (67.13%); involvement in religious activity (65.41%); touching or cooking food (32.09%); and fetching water (13.86%). Only 6,513 women out of the 9,078 included in the sample responded to the question about the most severe menstrual exclusion of being forced to seclude during menstruation (chhaupadi), and of those who responded, 5.59% reported this exclusion. See Table 3 for more details.

Table 3: Menstrual Exclusions

	Number	Percent	Weighted Percent
Entering the temple	6,030	66.42	67.13
Involved in religious activity	5,912	65.12	65.41
Touch or cook food	3,513	38.7	32.09
Eat with family members	998	10.99	7.14
Stay in main house	927	10.21	6.63
Touching plants	545	6	6.05
Touching other people	493	5.43	3.84
Touching cattle	637	7.02	4.5
Fetching water	1,778	19.59	13.86
Sleeping with husband	684	7.53	5.2
Other	150	1.65	1.61
Any	7,807	86	85.53
Secluded from the home	392	6.02	5.59

Total N=9078; Secluded from the home N=6513

BIVARIATE ANALYSIS

In chi-square analysis for association, education ($F=21.4508$, $p<0.001$), religion ($F=3.2370$, $p<0.05$), wealth ($F=10.9516$, $p<0.001$), rural residence (12.6098, $p<0.001$), and ecological region ($F=4.8599$, $p<0.01$) were all found to be statistically significantly associated with having correct knowledge of ovulation. Disability as measured via the SSSC was not found to be significantly associated with this outcome. Experiencing any exclusions during menstruation was found to be statistically significantly associated with education ($F=5.0023$, $p<0.01$), religion ($F=31.8026$, $p<0.001$), wealth ($F=3.4187$, $p<0.01$), and ecological region ($F=4.2428$, $p<0.05$). Disability was not significantly associated with experiencing exclusions during menstruation. Neither disability nor any of the potential covariates were found to have a statistically significant association with being forced to seclude during menstruation (chhaupadi) in the bivariate analysis. Using unhygienic menstrual products had a statistically significant association with all covariates and with disability ($F=2.884$, $p<0.05$). Disability was significantly associated with age ($F=3.2583$, $p<0.001$), religion ($F=2.8072$, $p<0.01$), and wealth ($F=2.8667$, $p<0.01$). See Table 4 for more detailed results.

LOGISTIC REGRESSION

Logistic regression models were developed analyzing the relationship between disability and our outcomes of interest, including adjusted models controlling for the impacts of a number of relevant covariates. Disability was not significantly associated with correct knowledge of the timing of ovulation during the menstrual cycle in either the crude or adjusted regression models. There was also not a significant association between disability and experiencing any menstrual exclusions in the crude and adjust models nor was there a significant association between disability and experiencing chhaupadi in either the crude or adjusted models. There was a significantly higher odds of reporting use of an unhygienic menstrual product if the woman had a mild (OR=1.15, CI: 1.01-1.32) or moderate (OR=1.32, CI: 1.00-1.73)

disability in the crude model, but this significance was no longer found in the adjusted model. More details on regression outcomes can be found in Table 5.

Table 4: Bivariate relationships between women's disability status and menstruation, weighted Chi-Squares

	Correct Ovulation Knowledge		Unhygienic Menstrual Product		Experienced Any Exclusions		Experienced Seclusion from the Home	
	Correct	Incorrect	Yes	No	Yes	No	Yes	No
Disability - SSSC								
None	4783	1861	4314	2330	5724	920	272	4423
Mild	1397	525	1301	621	1648	274	93	1351
Moderate	317	94	286	125	348	63	23	279
Severe	74	27	66	35	87	14	4	66
F statistic	1.5026		2.8840*		0.5291		0.9745	

*p<0.05; **p<0.01; ***p<0.001

Table 5: Logistic Regression Analysis Odds Ratios, Menstruation and Disability

	Correct Ovulation		Unhygienic Menstrual Product		Experienced Any Exclusions		Experienced Seclusion from the Home	
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted
SSSC^								
Mild	0.87	0.87	1.15*	1.10	0.98	1.00	1.20	1.16
Moderate	0.83	0.92	1.32*	1.08	0.81	0.82	1.26	1.33
Severe	0.92	1.01	1.22	1.08	0.88	0.88	0.68	0.67
Model F statistic	1.34	3.84***	2.20	12.35***	0.56	5.32***	0.68	1.64*

^reference category: None; *p<0.005, **p<0.01, ***p<0.001

Discussion

This study did not find statistically significant differences in menstrual hygiene information or exclusion from activities during the menstrual period, including chhaupadi. Previous qualitative studies in Nepal had found that menstruators with disabilities lacked education regarding their menstrual hygiene and menstrual cycles[3,15,16], but based on our analysis it appears that lack of information is consistent in the population as a whole. Previous studies have also suggested that while menstruators with disabilities might experience the same types of exclusions as menstruators without disabilities, possibly even at the same rates, the impacts of these exclusions on their lives may not be the same and the way the exclusions are enforced may also differ[16]. Additional research is needed to explore the nuances of how menstruators with disabilities experience these menstrual hygiene exclusions in Nepal and what the long-term health effects of poor menstrual hygiene could be.

LIMITATIONS

As a cross-sectional survey, the DHS is conducted approximately every five to ten years with a unique sample participating in each survey round. As a result, even though the DHS has been conducted in Nepal multiple times, we cannot conduct longitudinal

analysis. Associations can be identified, but causal relationships cannot be assessed. Women in the survey were identified as having functional limitations, but we as researchers cannot know if these disabilities occurred before or after their menarche or what impact this had on their treatment during their menstrual period over time. There is also the potential for inaccuracy in the disability data collected as a result of social norms and stigma regarding disability. Use of a proxy respondent, as is the case with the household section of the survey DHS, is not best practices for disability data collection. The Washington Group specifically advises against this practice for adults[17].

It is also possible that there are some inaccuracies with the outcome data found by the DHS as well. In this study, only 6% of the sample reported experiencing seclusion during their menstrual period, or chhaupadi. This is much lower than the 70-80% of women reporting this in other studies[14]. The DHS also does not ask questions about some aspects of MHM, such as how products are disposed of, occurrence of handwashing when changing products, or knowledge of hygiene needs during menstrual periods. These are areas other studies have found menstruators with disabilities have difficulties with[15,16,18,19], so it would be important to analyze these outcomes to gain a thorough sense of menstrual hygiene experiences of this population and how it compares to the general population.

FUTURE RESEARCH

Additional research must be done to determine if menstruators with disabilities in Nepal are facing additional challenges regarding access to menstrual hygiene supplies, menstrual health education, and decision making around their own menstrual health. While qualitative studies regarding these have been conducted with small samples[15,18–21], larger, quantitative analysis would be beneficial to guide future intervention planning and policy initiatives. It would also be beneficial to determine how the intersecting stigma of disability and menstruation is impacting the physical and mental health of menstruators with disabilities in Nepal. While qualitative studies have shown that there is an interaction between these two highly taboo topics in Nepali society, the extent to which this is impacting the health of menstruators with disabilities is unknown. Additional quantitative studies should be conducted to determine if there are differential rates of infections, long term reproductive health impacts, or other health effects[22] between menstruators with and without disabilities. Publicly available data for this type of study does not exist at this time, but it could be possible to conduct this sort of research using medical records data.

PRACTICE IMPLICATIONS

Although this study did not find statistically significant differences in menstrual exclusions or menstrual knowledge on the basis of disability, that does not mean that disability is not an area that needs to be considered in conversations regarding menstrual hygiene and menstrual health. People with disabilities are routinely left out of public health policies and programs, and ensuring accessibility is an essential part of achieving population level public health goals. An analysis of national policy and guidance documents related to WASH and MHM in Nepal found that disability was not being included in these documents. Menstrual health educators and reproductive health providers are not trained regarding the needs of people with disabilities, people with disabilities were generally not involved in the development of these policies and guidelines, and a focus on providing menstrual hygiene education in schools left children with disabilities, who have less access to schooling, out of menstrual hygiene education programming[23]. It is unacceptable to have this level of exclusion of people with disabilities in national level policy. It would be particularly important to focus on menstrual education outside of school settings for this population, as a study with women with physical disabilities in Kathmandu found that almost 90% of the girls survey learned about menstrual hygiene from their parents, with less than 9% reporting they learned about menstruation from a teacher and less than 4% from a school book[21].

Some attempts have already been made to tailor menstrual hygiene education toward people with disabilities in Nepal. The Bisheta campaign was a MHM education program that was specifically created to educate people with intellectual disabilities and their caregivers in Kavre District, Nepal. In a pilot study, the program was found to be acceptable to both the women with intellectual disabilities and their caregivers and to be effective at increasing the women's confidence, comfort, and autonomy regarding their menstrual hygiene [19,20,24]. This study shows the importance of tailoring menstrual hygiene education materials to the needs of specific sub-populations with disabilities. This is also supported by a study at a deaf residential school in Nepal that found 67% of students had difficulty accessing menstrual hygiene education in sign language, their preferred method of communication[18].

CONCLUSION

While statistically significant differences in knowledge of ovulation or experiences of menstrual exclusions were not found in this analysis, this does not mean that women with disabilities have the same menstrual hygiene experience as women without disabilities. WASH and menstrual hygiene policies and programs should make a concerted effort to be inclusive of people with a variety of disabilities through offering education in a variety of formats, using multiple languages (including sign language), in locations other than schools, and in a way that is inclusive of caregivers. Accessibility to adequate menstrual hygiene products and sanitation and hygiene facilities is also essential to ensure menstruators with disabilities have positive menstrual hygiene in the future.

Data accessibility statement:

All data from the Demographic and Health Surveys can be downloaded from https://dhsprogram.com/data/.

Funding statement:

This study did not receive funding.

Conflict of interest statement:

The authors have no conflicts of interest to report.

Ethics approval statement:

This study was evaluated by the Institutional Review Board at Loyola University Chicago and was determined to be exempt from full board review in accordance with 45 CFR 46 as only de-identified secondary data was used. In addition, informed consent was managed by the in-country DHS data collection teams.

References:

1. World Health Organization, World Bank. *The World Report on Disability*. 2011. doi:10.1080/09687599.2011.589198

2. Üstün TB, Chatterji S, Bickenbach J, Kostanjsek N, Schneider M. The International Classification of Functioning, Disability and Health: a new tool for understanding disability and health. *Disabil Rehabil*. 2009;25(11-12):565-571. doi:10.1080/09638280310001370633

3. Wilbur J, Kayastha S, Mahon T, et al. Qualitative study exploring the barriers to menstrual hygiene management faced by adolescents and young people with a disability, and their carers in the Kavrepalanchok district, Nepal. *BMC Public Health 2021 21:1*. 2021; 21(1):476-. doi:10.1186/s12889-021-10439-y

4. UNICEF. Menstrual hygiene. Accessed March 29, 2026. https://www.unicef.org/wash/menstrual-hygiene

5. Ranabhat C, Kim CB, Choi EH, Aryal A, Park MB, Doh YA. Chhaupadi Culture and Reproductive Health of Women in Nepal. *Asia Pac J Public Health*. 2015; 27(7):785-795. doi:10.1177/1010539515602743

6. UN Women. Abolishing chhaupadi, breaking the stigma of menstruation in rural Nepal | UN Women – Headquarters. April 6, 2017. Accessed March 29, 2026. https://www.unwomen.org/en/news/stories/2017/4/feature-abolishing-chhaupadi-breaking-the-stigma-of-menstruation-in-rural-nepal

7. Croft T, Marshall AMJ, Allen. Courtney K., et al. *Guide to DHS Statistics DHS-7 (Version 2)*. 2018. Accessed June 24, 2020. www.DHSprogram.com.

8. The DHS Program. The DHS Program Disability Module Implementation. In: *United Nations Expert Group Meeting on Guidelines and Principles for the Development of Disability Statistics*. 2017.

9. Ministry of Health and Population [Nepal], New ERA, ICF. *Nepal Demographic and Health Survey 2022*. 2023. Accessed March 29, 2026. www.DHSprogram.com.

10. The Washington Group on Disability Statistics. *The Washington Group Short Set on Functioning (WG-SS)*. 2020. Accessed January 12, 2023. http://www.washingtongroup-disability.com/.13

11. Washington Group on Disability Statistics. *Creating Disability Severity Indicators Using the WG Short Set on Functioning (WG-SS) (Stata)*. 2021. http://www.washingtongroup-disability.com/.

12. Shrestha HL. Socio-Cultural and Educational Impacts of Menstrual Hygiene Management: A Synthesis of Evidence from Nepal and Broader Contexts. *NPRC Journal of Multidisciplinary Research*. 2025;2(10):163-168. doi:10.3126/nprcjmr.v2i10.85969

13. Sharma A, McCall-Hosenfeld JS, Cuffee Y. Systematic review of menstrual health and hygiene in Nepal employing a social ecological model. *Reproductive Health 2022 19:1*. 2022;19(1):154-. doi:10.1186/s12978-022-01456-0

14. Joshi S. Chhaupadi practice in Nepal: A literature review. *World Med Health Policy*. 2022; 14(1):121-137. doi:10.1002/wmh3.491

15. Adhikari S, Neupane P, Shrestha A, Sharma M, Bhandari K, Timilsina A. Understanding the menstrual health self-care practices and experiences among women with physical disabilities in rural Nepal: A qualitative study. *PLoS One*. 2025;20(12):e0338109. doi:10.1371/journal.pone.0338109

16. Basnet S, Khatri R, Lamichhane S. MENSTRUATORS WITH DISABILITIES: The Population Left Behind by Menstrual Health Management. In: Parker S, Standing K, Subedi M, eds. *Menstruation in Nepal: Dignity without Danger*. Routledge; 2024: 179-190. doi:10.4324/9781032659428-12

17. Washington Group on Disability Statistics. *An Introduction to the Washington Group on Disability Statistics Question Sets: The Washington Group Primer*. 2020. Accessed January 29, 2023. http://www.washingtongroup-disability.com/

18. Shakya N, Bhattarai P, Baidya P, Thapaliya R, Manandhar S, Adhikari S. Knowledge, Attitude, and Practice on Menstrual Hygiene Management among Deaf Adolescents of Dhaulagiri Deaf Residential Secondary School, Baglung, Nepal. *Journal of Health and Social Welfare*. 2025;15(1). doi:10.58196/JHSWN.V15I1.170

19. Wilbur J, Mahon T, Torondel B, Hameed S, Kuper H. Feasibility Study of a Menstrual Hygiene

Management Intervention for People with Intellectual Impairments and Their Carers in Nepal. *International Journal of Environmental Research and Public Health 2019, Vol 16, Page 3750*. 2019;16(19):3750. doi:10.3390/ijerph16193750

20. Wilbur J, Morrison C. *Adapting Menstrual Health Interventions for People with Intellectual Disabilities in Emergencies*. 2023. doi:10.19088/SLH.2023.012

21. Pokhrel B, Mahat S, Parajuli K. Knowledge and Practice regarding Menstrual Hygiene among Physically Disabled Women in Kathmandu, Nepal | Journal of Karnali Academy of Health Sciences. *Journal of Karnali Academy of Health Sciences*. 2020;3(1):1-10. Accessed March 26, 2026. https://www.jkahs.org.np/jkahs/index.php/jkahs/article/view/191?__cf_chl_tk=YwmIgC2w_baOYjbhWcNa.f5qBtNoJTHS5vY4pCV9_ek-1774617669-1.0.1.1-3_3TM_X4fksEsoLTmdW38fwgHW4BchhSluG.I9YWy_8

22. Sumpter C, Torondel B. A Systematic Review of the Health and Social Effects of Menstrual Hygiene Management. *PLoS One*. 2013;8(4):e62004. doi:10.1371/journal.pone.0062004

23. Wilbur J, Scherer N, Mactaggart I, et al. Are Nepal's water, sanitation and hygiene and menstrual hygiene policies and supporting documents inclusive of disability? A policy analysis. *International Journal for Equity in Health 2021 20:1*. 2021;20(1):157-. doi:10.1186/s12939-021-01463-w

24. Wilbur J, Bright T, Mahon T, et al. Developing Behaviour Change Interventions for Improving Access to Health and Hygiene for People with Disabilities: Two Case Studies from Nepal and Malawi. *International Journal of Environmental Research and Public Health 2018, Vol 15, Page 2746*. 2018; 15(12):2746. doi:10.3390/ijerph15122746

