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Association between attitude and menstrual hygiene management practices among adolescent girls with disabilities in selected schools in Wajir County, Kenya

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ABSTRACT

Background: Menstruation is the recurrent peeling of the uterine lining that occurs monthly on girls and women of the reproductive age. Many adolescent girls in African countries have poor knowledge regarding menstruation and this is even worse among menstruating girls with disabilities who are faced with a greater challenge as they require private and specific sanitation facilities. The study focused on establishing the association between attitude and menstrual hygiene management practices among adolescent girls with disabilities in selected schools in Wajir County.

Methods: A descriptive cross-sectional design was adopted. Census method was used to select respondents where 101 were interviewed. Pretested questionnaires were used to collect data. All necessary research approvals from relevant institutions were obtained as well as consent and assent sought from respondents and guardians where applicable. Data was managed using SPSS version 22.0 software.

Results: Most 88.1% of the respondents did not practice menstrual hygiene management. Further results revealed that 98.9% of those who had negative attitude had not practiced menstrual hygiene management. There was a significant statistical association between nature of attitude and practice of MHM ($\chi^2=11.009$, $p*=0.029$).

Conclusions: About 9 out of 10 adolescents with disabilities in Wajir County did not practice menstrual hygiene management. The nature of attitude towards menstrual hygiene management was significantly associated with practice. The study recommended provision of free sanitary pads by relevant stakeholders to all girls who are living with disabilities and provision of enough washrooms to address privacy issues.

Keywords: Attitude, Menstrual hygiene management, Practice

INTRODUCTION

Menstruation refers to recurrent peeling of the uterine lining that occurs monthly on girls and women of the reproductive age. The beginning of menstruation is a life changing and challenging occurrence to adolescent girls

both in the developing and developed countries.¹ Proper hygiene during menstruation is important in ensuring that the menstrual flow is managed in an effective, comfortable and appropriate manner. However, despite increased recognition of the role played by proper menstrual hygiene on the wellbeing of adolescent girls,

there is still limited knowledge on menstrual practices, availability of products and resources as well as social support from the society. Menstrual hygiene management is a critical aspect of women and adolescent girls' health and well-being, yet it remains a largely neglected issue, especially among women and girls with disabilities.²

Specifically, in the school settings, menstrual hygiene management is constrained due to having poor sanitation, limited education, lack of privacy and stigmatization arising from certain cultural practices and norms.³ Girls and women with disabilities face even greater challenges in managing their menstruation hygienically and with dignity.⁴ Problems experienced by this population during menstruation tend to be different from the others hence requiring unique and specialized attention.⁵ Normal hygiene practices cannot be followed in a straightforward manner due to their co-morbidities. The adolescent girls have been established to portray certain characteristics such as agitation, hyperactivity, restlessness, and agitation during this period which poses a huge barrier in the adoption of better and hygienic menstrual management practices.⁶

Despite various initiatives initiated in helping girls manage menstruation, adolescent girls with disabilities remain under-represented in menstrual health management (MHM) programs and interventions globally.⁷ There are existing challenges that adolescent girls face including socio-cultural limitations, poor sanitary and unhygienic practices during menstruation and absence of an enabling environment leading to adverse negative social and health effects.⁸ These effects are more profound and compounded for girls with disability due to their comorbidities. The effects include increased absenteeism and school dropouts, reproductive and urinary tract infections, poor social interaction, societal exclusion and stigma.⁹

Wajir county is one of the counties in northern Kenya region where more than half of girls are not enrolled in primary school, with fewer than 20 percent of boys and girls completing it. Only 12.2 percent of girls are enrolled in secondary schools against the national rate of 45.2 percent.¹⁰ Poor menstrual hygiene has resulted in adverse negative effects that are more pronounced due to the cultural norms and living conditions of the communities in these regions.¹¹ Furthermore, the semi-nomadic lifestyle of most of the population alienates the girls, especially those with disabilities of close care by their parents. As a result, they face severe hardships including lack of appropriate material during their menstrual period leading to high rates of school absenteeism due to embarrassment and poor menstrual health.⁹

Therefore, the study objective was to establish the association between attitude and menstrual hygiene management practices among adolescent girls with disabilities in selected schools in Wajir County.

METHODS

The study employed a descriptive cross-sectional study design. The study was conducted between September to October, 2022 in Wajir catholic primary, Wajir school for the deaf and Wajir girls' primary school which purposively selected.

The study adopted a census sampling technique so as to select all girls with disabilities in Wajir County, Kenya which is more appropriate when the variability within the population is high. Thus, 101 adolescents from Wajir County were recruited.

The data was collected using semi structured questionnaires with the help of trained research assistants. Those who consented or whose caregivers/guardians assented were included in the study. However, those who were sick and thus unable to participate were excluded from the study.

Ethical clearance was sought from Kenyatta University Ethic Review Committee (KUERC). Research permit was also sought from The National Commission for Science Technology and Innovation (NACOSTI). Authorization to conduct the study was sought from Wajir County and also school administration. The researcher also ensured that participants' autonomy was maintained. A written assent form was also sought from the school teachers, parent and guardian sign prior the study.

Analysis of descriptive data was done using SPSS version 22.0. To determine the association between attitude and menstrual hygiene management practice, the study used Chi-square tests at 95% confidence interval and an error of precision at 0.05 to conduct inferential statistics. Results from the study were presented using percentages, frequency tables and charts.

RESULTS

Distribution of socio-demographic characteristics among respondents

In Table 1, results revealed that 54(53%) respondents were aged between 13-16 years, 96(95%) were Muslims, 59 (59%) were in class 6, 55 (54%) had physical disability, 38 (38%) did not have a severe disability, 42 (42%) had guardians as care givers, 55 (54%) had less than 3 family members, 43 (43%) of the bread winners were employed and 54 (53%) started menarche at the ages between 13-16 years.

Menstrual hygiene management practices

Components of menstrual hygiene management practices

Table 2 present results on components used to determine menstrual hygiene management practice among the respondents. Results revealed that majority 76 (75.2%)

did not easily access sanitary products, 86 (85.1%) did not have privacy of changing menstrual, 64 (63.4%) disposed in a toilet, 68 (67.3%) used disposable sanitary,

61 (60.4%) changed their menstrual sanitary products only once a day and 53 (52.5%) of them revealed that water was not readily available to them.

Table 1: Socio-demographic characteristics among participants (n=101).

Variable	Response	Frequency (N=101)	Percentage
Age (years)	<12	9	9.0
	13-16	54	53
	17-19	38	38
Religion	Christian	5	5.0
	Muslim	96	95
Class	Class 6	59	59
	Class 7	27	27
	Class 8	15	14
Type of disability	Hearing impaired	24	24
	Physical disability	55	54
	Visually impaired	22	22
Severity of disability	Not severe	38	38
	Moderately severe	36	36
	Severe	27	27
Care giver	Aunt	11	11
	Grandmother	12	12
	Guardian	42	42
	Mother	21	20
	Sister	15	15
Number of family members	Less than 3	55	54
	4 or 5	33	33
	More than 5	13	13
Occupation of bread winner	Employed	43	43
	Self-employed	24	24
	Unemployed	34	34
Age at menarche (years)	<12	23	23
	13-16	54	53
	17-19	24	24

Table 2: Components of MHM practice.

Variables	Response	Frequency (n=101)	Percentage (%)
Ease of access of disposable sanitary products	Easily accessible	25	24.8
	Not easily accessible	76	75.2
Privacy of changing menstrual pads	Yes	15	14.9
	No	86	85.1
Disposal of used menstrual sanitary products	In a toilet	64	63.4
	Outside a toilet	37	36.6
Menstrual sanitary products used	Disposable sanitary pad	68	67.3
	Reusable/washable pads	14	13.9
	Cloth/towel	13	12.9
	Toilet paper	4	4.0
	Cotton wool	2	2.0
Frequency of change of menstrual sanitary products	Once a day	61	60.4
	2-3 times a day	38	37.6
	4-5 times a day	2	2
Availability of water	Yes	48	47.5
	No	53	52.5

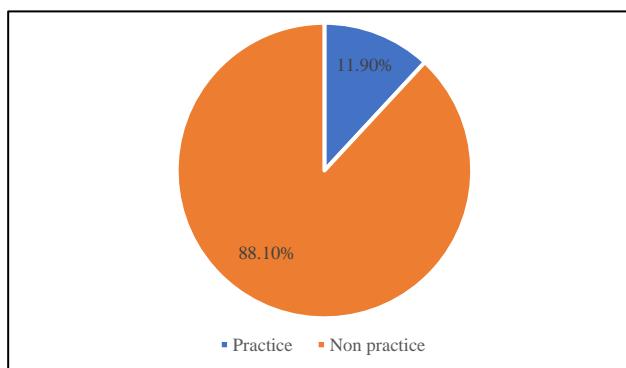


Figure1: MHM practice.

Figure 1 shows the proportion of respondents who practiced hygiene management. Menstrual hygiene management was measured by focusing on ease of access of disposable sanitary products, privacy of changing, disposal, products used, frequency of change and availability of water. Those who easily accessed, had privacy of changing, disposed in toilet, used appropriate products, changed at least twice a day and had water were categorized to have practiced. On the other hand, if any of the six components was missing then the respondent was categorized to have not practiced. Results revealed that majority 89 (88.1%) of the respondents did not practice while the rest 12 (11.9%) practiced MHM.

Table 3: Distribution of attitude towards menstruation and MHM practice.

Statement	Response	Frequency	Percentage (%)
Menstruation is a taboo and should be kept secret	Strongly disagree	0	0.0
	Disagree	15	14.9
	Agree	14	13.9
	Strongly agree	72	71.2
Mean 3.11 Std deviation 0.926			
Women are always impure during the menstrual period.	Strongly disagree	9	8.9
	Disagree	16	15.8
	Agree	32	31.7
	Strongly agree	44	43.6
Mean 2.73 Std dev 1.057			
Menstruation makes girls smelly and objectionable	Strongly disagree	6	5.9
	Disagree	27	26.7
	Agree	23	22.8
	Strongly agree	45	44.6
Mean 3.06 Std dev 0.978			
Menstruation makes me uncomfortable in class	Strongly disagree	7	6.9
	Disagree	13	12.9
	Agree	23	22.8
	Strongly agree	58	57.4
Mean 3.10 Std dev 1.025			
I would not attend religious functions when on my menses	Strongly disagree	3	3.0
	Disagree	2	2.0
	Agree	29	28.7
	Strongly agree	67	66.3
Mean 2.72 Std dev 0.950			
Menstruation is a shameful experience related to shock among girls	Strongly disagree	8	7.9
	Disagree	11	10.9
	Agree	36	35.6
	Strongly agree	46	45.5
Mean 2.99 Std dev 1.082			
Girls should refrain from interacting with others during the menstruation period	Strongly disagree	7	6.9
	Disagree	13	12.9
	Agree	37	36.6
	Strongly agree	44	43.6
Mean 3.02 Std dev 0.800			
Nature of attitude	Positive	9	8.9
	Negative	92	91.1

Table 4: Association between attitude and MHM practice.

Variables	Response	Menstrual hygiene management practice (%)		Statistical significance
		Yes (n=12)	No (n=89)	
Menstruation is a taboo and should be kept secret	Strongly disagree	0 (0.0)	0 (0.0)	$\chi^2=0.148$
	Disagree	2 (16.7)	13 (14.6)	Df=3
	Agree	2 (16.7)	12 (13.5)	P*=0.929
	Strongly agree	8 (66.7)	64 (71.9)	
Women are always impure during the menstrual period.	Strongly disagree	7 (58.3)	2 (2.2)	$\chi^2=15.922$
	Disagree	1 (8.3)	15 (16.9)	Df=3
	Agree	1 (8.3)	31 (34.8)	P*=0.011
	Strongly agree	3 (25.1)	41 (46.1)	
Menstruation makes girls smelly and objectionable	Strongly disagree	0 (0.0)	6 (6.7)	$\chi^2=1.628$
	Disagree	3 (25.0)	24 (27.0)	Df=3
	Agree	2 (16.7)	21 (23.6)	P*=0.653
	Strongly agree	7 (58.3)	38 (42.7)	
Menstruation makes me uncomfortable in class	Strongly disagree	1 (8.3)	6 (6.7)	$\chi^2=14.949$
	Disagree	10 (83.3)	3 (3.4)	Df=3
	Agree	0 (0.0)	23 (25.8)	P*=0.017
	Strongly agree	1 (8.3)	57 (64.0)	
I would not attend religious functions when on my menses	Strongly disagree	0 (0.0)	3 (3.4)	$\chi^2=5.743$
	Disagree	1 (8.3)	1 (1.1)	Df=3
	Agree	1 (8.3)	28 (31.5)	P*=0.125
	Strongly agree	10 (83.3)	57 (64.0)	
Menstruation is a shameful experience related to shock among girls	Strongly disagree	6 (50.0)	2 (2.2)	$\chi^2=11.529$
	Disagree	1 (8.3)	10 (11.2)	Df=3
	Agree	1 (8.3)	35 (39.3)	P*=0.013
	Strongly agree	3 (25.0)	43 (48.2)	
Girls should refrain from interacting with others during the menstruation period	Strongly disagree	1 (8.3)	6 (6.7)	$\chi^2=6.323$
	Disagree	1 (8.3)	12 (13.5)	Df=3
	Agree	1 (8.3)	3 (40.4)	P*=0.097
	Strongly agree	9 (75.1)	35 (39.3)	
Nature of attitude	Positive	8 (66.7)	1 (1.1)	$\chi^2=11.009$
	Negative	4 (33.3)	88 (98.9)	Df=1 P*=0.029

Table 5: Logistic regression of nature of attitude and MHM practice.

Independent variable	Category	B	SE	Wald	Sig.	AOR	95% C.I. for OR	
							Lower	Upper
Women are always impure during the menstrual period	Strongly disagree	Reference						
	Disagree	-1.215	0.327	5.461	0.062	0.204	0.115	0.832
	Agree	-0.406	0.453	0.761	0.123	0.621	0.242	1.266
	Strongly agree	-0.743	0.531	1.727	0.172	0.441	0.134	1.723
Menstruation makes me uncomfortable in class	Strongly disagree	Reference						
	Disagree	0.823	0.432	4.014	0.002*	2.428	0.240	0.700
	Agree	-2.765	0.740	1.242	0.089	0.083	0.017	0.276
	Strongly agree	-0.226	0.482	0.423	0.762	1.431	0.600	2.431
Menstruation is a shameful experience related to shock among girls	Strongly disagree	Reference						
	Disagree	1.118	0.513	5.231	0.098	3.419	1.161	8.230
	Agree	-0.221	0.442	0.313	0.524	1.312	0.512	3.422
	Strongly agree	-2.807	0.523	12.072	0.001*	5.247	3.124	17.423
Nature of attitude	Positive	Reference						
	Negative	-2.148	0.294	0.245	0.016*	0.160	1.032	2.073
	No	-2.465	1.066	5.351	0.021*	0.085	0.011	0.686

Attitude towards menstruation and MHM practices

Distribution of responses on attitude towards menstruation and MHM practice

Table 3 shows the distribution of responses of statements on attitude towards MHM practice among the respondents. There are also responses on nature of attitude which was determined by focusing on all the seven statements. The seven statements had a minimum score of and maximum score of 28. To obtain the nature of attitude, the scores were further divided into two categories. Total scores of less than average (18) was dichotomized as positive attitude while those of (>19) was dichotomized as negative attitude.

Results on distribution of responses on attitude statements revealed that 72 (71.2%) strongly agreed followed by 15 (14.9%) who disagreed with the statement that menstruation was a taboo and should be kept a secret. The mean score was 3.11 and a standard deviation of 0.926 for the statement. Regarding statement on women always being impure during the menstrual period, 44 (43.6%) strongly agreed followed by 32 (31.7%) who agreed. The mean score and standard deviation were 2.73 and 1.057 respectively. Results also revealed that 45 (44.6%) strongly agreed and 27 (26.7%) disagreed that menstruation made girls smelly and objectionable. The statement had a mean of 3.06 and a standard deviation of 0.978.

More than half 58 (57.4%) of the girls strongly agreed and 23 (22.8%) agreed that menstruation made them uncomfortable in class. This statement had a mean of 3.10 and a standard deviation of 1.025. Most 67 (66.3%) of the respondents strongly agreed while 29 (28.7%) agreed that they would not attend religious functions when they were on their menses. The mean score and standard deviation were 2.72 and 0.950 respectively. On whether menstruation was a shameful experience related to shock among girls, 46 (45.5%) strongly agreed followed by 36 (35.6%) who agreed with the statement. The mean and standard deviation for the statement were 2.99 and 1.082 respectively.

Less than half 44 (43.6%) of the respondents strongly agreed and 37 (36.6%) agreed that girls should refrain from interacting with others during the menstruation period. This statement had a mean of 3.02 and a standard deviation of 0.800. Further results from all the statements showed that the majority 92 (91.1%) of the respondents had a negative attitude while the rest 9 (8.9%) had positive attitude towards menstruation and MHM.

Association between attitude and MHM practice

Table 4 shows association between attitude and MHM practice. Results revealed that 64 (71.9%) of those who strongly agreed that menstruation is a taboo and should be kept secret had not practiced MHM. There was no

significant statistical association between menstruation being a taboo and should be kept secret practice of MHM ($\chi^2=0.148$, $p*=0.929$). Regarding the statement women are always impure during the menstrual period, 31 (34.8%) of those who agreed had not practiced. There was a significant statistical association between perceiving women to be always impure during menstrual period and its practice ($\chi^2=15.922$, $p*=0.011$).

Concerning menstruation making girls smelly and objectionable, 38 (42.7%) of the respondents who strongly agreed had not practiced MHM. There was no association between statement on menstruation making girls smelly and objectionable and practice ($\chi^2=1.628$, $p*=0.653$). Majority 10 (83.3%) of those who disagreed with the statement that menstruation made them uncomfortable in class had practiced MHM. There was a significant statistical association between menstruation making one uncomfortable in class and practice of MHM ($\chi^2=14.949$, $p*=0.017$).

Majority 10 (83.3%) of those who strongly agreed with the statement that one would not attend religious functions when on her menses had practiced MHM. This did not have a significant statistical association with MHM ($\chi^2=5.743$, $p*=0.125$). Half 6 (50.0%) of the respondents who strongly disagreed with the statement that menstruation is a shameful experience related to shock among girls had practiced. There was a significant statistical association between the statement and MHM practice ($\chi^2=11.52$, $p*=0.013$).

Majority 9 (75.1%) of those who strongly agreed that girls should refrain from interacting with others during the menstruation period had practiced MHM. However, there was no significant statistical association between believing that girls should refrain from interacting with others during menstruation period and practice of hygiene management ($\chi^2=6.323$, $p*=0.097$). Further results revealed that majority 88 (98.9%) of those who had negative attitude had not practiced MHM. There was a significant statistical association between nature of attitude and practice of MHM ($\chi^2=11.009$, $p*=0.029$).

Table 5 shows the logistic regression analysis for nature of attitude and MHM practice. All variables significantly associated with menstrual hygiene management practice in the preliminary analysis (Chi square) were run through a logistic regression to determine the predictors for menstrual hygiene management practice. Results revealed that, those who disagreed with the statement that menstruation makes one uncomfortable in class practiced AOR 2.428, 95% CI, 0.240-0.700, $p=0.002$). Regarding the statement that menstruation is a shameful experience related to shock among girls, those who strongly agreed were likely to practice (AOR 5.247, 95% CI, 3.124-17.423, $p=0.001$). Those who had negative attitude were less likely to practice menstrual hygiene management (AOR 0.160, 95% CI, 1.032-2.073, $p=0.016$).

DISCUSSION

Menstrual hygiene management practice

The findings on MHM practices, as measured by various components such as access to sanitary products, privacy, disposal, product appropriateness, frequency of change, and water availability, show a concerning trend among respondents, with the majority of them not practicing proper MHM. This highlights the difficulties associated with ensuring appropriate menstrual hygiene, particularly for girls with disabilities. This is consistent with the findings which revealed various hurdles to MHM faced by girls with impairments, such as inadequate access to appropriate items and facilities.¹² Furthermore, other study emphasized the importance of comprehensive MHM programs that address the unique requirements of girls with disabilities, such as providing access to appropriate items and facilities.¹³ However, these findings may reflect broader issues with access to MHM resources and facilities in Kenya, as highlighted by studies which identified systemic barriers to MHM, such as inadequate infrastructure and a scarcity of affordable menstrual products.¹⁴ Another study emphasized the need for tailoring MHM programs for girls with disabilities to meet unique needs such as accessibility and privacy.¹⁵

Attitude towards menstruation and MHM practices

Despite the fact that the majority of individuals who considered menstruation taboo chose not to perform MHM, this is consistent with other researchers who found that stigma around menstruation can impede effective MHM among girls with disabilities but does not always predict hygienic habits.¹³ In contrast, the idea that women are always impure during menstruation had a substantial impact on MHM practices, supporting the findings that unfavorable perceptions of menstrual impurity might severely harm MHM adherence.¹² Indeed, cultural taboos have a major impact on MHM in informal settlements, while specific ideas concerning impurity were less studied.¹⁴ Furthermore, in Kenya, it was noted that persistent cultural norms around menstruation impurity contribute to poor MHM, particularly among vulnerable groups such as girls with disabilities.¹⁶

Concerning menstruation making girls dirty and disagreeable, the majority of those who strongly agreed did not practice MHM, indicating no significant relationship. This is in line with the findings which affirmed that stigma associated with menstruation odour does not always predict MHM behaviors among females with impairments.¹³ However, there was a significant association between menstrual discomfort in class and MHM practices, implying that practical problems in the school environment have a major impact on hygiene behaviors. Furthermore, the school environment is crucial in MHM, as deficient facilities and supportive systems worsen problems.¹⁴ Furthermore, girls with impairments have unique obstacles in educational settings, where

discomfort can significantly impair their MHM practices.¹²

Despite the fact that the majority of respondents who avoided religious functions during menstruation used MHM, this demonstrates that, while cultural restrictions may stimulate specific hygiene habits, they are not always predictive. Similarly, the impact of cultural customs around menstruation on hygienic behaviors among girls with disabilities varies greatly.¹³ In contrast, the impression of menstruation as a shameful experience had a major impact on MHM behaviors, with only half of those who strongly opposed implementing MHM. This agrees with another study which revealed that shame and stigma greatly impede successful MHM in informal settlements.¹⁴ This also concurred with another study by Kimani-Murage et al who noted that psychological stress and shame associated with menstruation can contribute to poor MHM practices, especially among vulnerable groups such as disabled girls.¹⁶ Furthermore, the combined effect of handicap and menstruation stigma increases challenges in maintaining hygiene.¹²

Finally, the majority of those who believed girls should not interact during menstruation performed MHM; nevertheless, this opinion had no meaningful impact on MHM practices. This data is consistent with study by Wilson et al who discovered that, whereas social isolation behaviors are widespread among females with impairments, they are not always associated with MHM practices.¹³ In contrast, a significant proportion of people with unfavorable attitudes did not engage in adequate MHM. This is in line with another study that revealed that negative views and stigma around menstruation significantly inhibit MHM in Kenyan informal communities.¹⁴ Similarly, negative attitudes, typically based on cultural beliefs, significantly hinder MHM in teenage girls, including those with impairments.¹⁶ Furthermore, girls with disabilities have more challenges as a result of social stigma and bad views around menstruation and disability, contributing to difficulties with hygiene.¹²

There were several limitations which the researcher faced with during the study. To begin with, some participants were not fully willing to be part of the study. This may be due to menstruation being a very sensitive and private issue that most people find difficult to openly discuss. The researcher countered this by assuring confidentiality and anonymity throughout the study period without any identifiers. This included seeking relevant permission and offering assurance to the respondents of the academic intention of the study. The study was also limited only to adolescent girls with disability in Wajir County. This may not be an actual representation of all the adolescent girls in the region. The study countered this by ensuring that the sampling was well done to generate data that was comprehensive enough to allow generalization of the results.

CONCLUSION

The study concludes that almost 9 out of 10 adolescent girls with disabilities did not practice menstrual hygiene management in selected schools in Wajir County. Privacy of changing menstrual pads and ease of access of disposable sanitary pads were the main components affecting menstrual hygiene management. On attitude, menstruation making one uncomfortable in class (AOR=2.428, p=0.002), menstruation being a shameful experience related to shock among girls (AOR=5.247, p=0.001) and nature of attitude (AOR=0.160, p=0.016) all predicted MHMP. The study recommended provision of free sanitary pads by relevant stakeholders to all girls who are living with disabilities and provision of enough washrooms to address privacy issues. There is also a need to talk about misconceptions about menstruation openly to change the nature of attitude.

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