Awareness of Cervical Cancer among Women in Uasin Gishu County, Kenya

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Abstract

Globally, cancer is a public health problem and is ranks as the fourth most frequent cancer among women. About half a million women develop invasive cancer of the uterine cervix each year, with more than 85% occurring in low-income countries. This study assessed cervical cancer awareness on among women in Uasin Gishu County, Kenya. A house hold survey was conducted among women of reproductive age (18-49 years) in Uasin Gishu County. The data was collected using a semi-structured questionnaire, interview schedules and focus group discussions. Statistical package for social sciences (SPSS) was used to generate statistical parameters like mean, standard deviation, etc. The X^2 test was used as a test of significance and multiple logistic regression analysis with odds ratio at 95% confidence interval was utilized. Majority of the participants, 91.4% (n=363) had heard about cervical cancer with the main source of information being from the media 38.2% (n=136).

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Although majority 73% (n=229) were able to identify how cervical cancer is transmitted, only 24% (n=86) correctly identified HPV as the causative agent of cervical cancer. Vaginal bleeding was identified 40.5% (n=162) as the common sign and symptom of cervical cancer. 83.3% (n=280) reported that anyone who had ever had sexual contact qualified to be screened. Though majority 83.7% (n=304) indicated willingness to go for cervical cancer screening, actual practice was low at 35.5%. Though there was adequate knowledge and awareness about cervical cancer, the same did not translate into practice. This was attributed to the general negative attitude towards cervical cancer control interventions.

Keywords: Cervical cancer; Awareness, Screening

1. Introduction

Cancer of the cervix ranks as the fourth most frequent cancer among women worldwide [1] and the estimated rates vary widely across the different regions of the world [2]. It is the only cancer that is almost completely preventable by safe, simple and inexpensive methods yet every two minutes, one woman dies an unnecessary death from this cancer in the world [3]. While cervical cancer is gradually becoming a rare disease in many developed countries, this has not been the case in developing countries [3]. In sub-Saharan Africa, 34.8 new cases of cervical cancer are diagnosed per 100,000 women annually and 22.5% per 100,000 women die from the disease [4]. In Africa, the eastern region has the highest incidence which accounts for 39% of all reported cases and mortality rates of 41%   from cervical cancer worldwide [5,6]. Unfortunately, in East Africa, uptake of preventive health measures, including screening for asymptomatic disease, is low [7, 8]. Kenya has a population of 13.45 million women of ages15 years and older who are at risk of developing cervical cancer. Cervical cancer is the leading cause of cancer-related death among women with almost half of them with invasive cervical cancer being diagnosed at a late stage [6]. Papanicolaou (Pap) test, visual inspection with acetic acid, and visual inspection with Lugol iodine are the cervical cancer screening methods available in Kenya. Although the success of these methods in the reduction of cervical cancer has been reported in several parts of the world especially in the developed countries, this has not been the case in Kenya where uptake of cervical cancer screening services have remained low among women [9]. It is projected that the number of deaths resulting from cervical cancer will almost double by 2025, if screening and treatment remain low in Kenya [5]. Previous studies done have indicated that poor awareness of cervical cancer and little specific knowledge about risk factors, disease course, and prevention strategies are frequent reasons for low uptake of screening [5,9]. In this study we explored the awareness of Kenyan women to cervical cancer that may influence their reception to screening of cervical cancer.

2. Materials and Methods

2.1 Study design and setting

Yamane's formula [10] was used to calculate the sample size and precision level was assumed at 95% confidence interval. A mixed approach survey design was conducted to facilitate a broad understanding of women's awareness and reception to cervical cancer screening. Key informant interview schedules, focus group

discussion guides and questionnaires were utilized for data collection. Qualitative data was gathered using semi-structured interviews with the medical providers at the cervical cancer screening clinics in the two sub counties where the study was carried out. FGDs that brought together women from various social backgrounds were also conducted. A survey was employed to gather descriptive quantitative information on the participants' socio demographic characteristics including; age, marital status, ethnicity, levels of education and employment status. Respondents' awareness about cervical cancer was assessed under the following sub themes; knowing what cervical cancer is, description of the location of the part of the body affected by cervical cancer, possible risk factors of cervical cancer, signs and symptoms of cervical cancer, how cervical cancer is transmitted, cervical cancer screening and the importance of early screening. In situations where there were more than two households in a homestead, research assistants could randomly pick two households. Additionally, it had questions regarding access to screening services including whether respondents were screened and when, outcome of screening and whether they had adhered to follow-up and whether they had ever been recommended for screening. Only one participant was picked per household and in cases where there was more than one eligible participant, random sampling was used to pick one. For low literates, the interview was conducted in their local language by a trained research assistant who could communicate in that language.

2.2 Study area and sampling

The study was conducted in two sub counties; one with the highest rural to urban population and another with the highest urban to rural. The population was purposively sampled to ensure that the biases as a result of urbanization were minimized. Moiben and Kapsaret were the two sub counties with a total of 22,305 females in reproductive age. Meibeki/Karuna and Langas locations of Moiben and Kapseret sub counties being the least cosmopolitan and the highest cosmopolitan locations respectively were purposely sampled for the research [11]. Four sub locations were randomly picked in Langas location and three sub locations in Meibeki/ Karuna location since Langas has a higher population (33,085) as compared to Meibeki/Karuna's population (26,048). Since three sub locations were considered in Meibeki/Karuna locations and four sub locations in Langas location, the households were also picked in these same proportions giving 168 households in Meibei/Karuna and 225 in Langas Location. The data on households mapping from the Kenya National Bureau of Statistics (KNBS) through the Kenya National Census and Household Surveys [11] was utilised to determine the households to be picked in the selected locations. Using the numbers derived for households and structures for example structure number twenty and household number ten denoted S0020/010 were all populated in SPSS computer software and a command issued to randomly pick the required number of households in each location. The randomly generated numbers were then used to pick the households for the study. The randomly selected household numbers were identified on the ground by the research assistants through the support of the assistant chiefs and village elders who were familiar with the mapping exercise of households during the 2009 census. The data was collected using a structured questionnaire form which was pre tested and adjusted prior to its use. The questionnaire was completed through face to face interview after obtaining consent from the respondent. Qualitative data was obtained using key informant interview (KII).

2.3 Data analysis

Safety of all questionnaire/checklist forms/ interview schedules/ focus group discussion guidelines was ensured throughout the data collection period. The data were checked for consistency, coded appropriately, and entered into SPSS software package version 20 for analysis. The researcher developed a coding system whose core function was to create codes and scales from the responses which were then summarized and analyzed in various ways. Preliminary data entry was done using statistical package for social sciences (SPSS). There was no missing data for all the 400 participants eligible for the analysis. Descriptive statistics was used to describe the study population in relation to the relevant variables and the data was presented in the form of frequencies, graphs and charts. Multiple response questions were used to assess participants' awareness about what causes cervical cancer, the signs and symptoms, methods of preventing cervical cancer, when to start cervical screening and preferred means of receiving health information and thus the participants could choose more than one response. Each response in the multiple response questions was coded as a separate variable and then grouped under a multiple response set variable in SPSS prior to the analysis. Logistic regression models were used to determine the magnitudes of associations between awareness and reception of cervical cancer screening.

2.4 Ethical approval

Approval to carry out the research was sought from the various research governing bodies and institutions; The Kenya National Commission for Science Technology and Innovation (NACOSTI) and Masinde Muliro University of Science and Technology Institutional Research and Ethics Committee (IREC). Permission to access communities was also sought from the county and local leaders. The purpose, objectives and benefits of the study, any injuries that would result from the study, the non participation option and the ability to pull out of the study at any point even before the end of the study were exhaustively explained.

The anonymity of participants was guaranteed by ensuring that their names or anything that would identify them were not attached either to the questionnaire or any feedback meant for the study. The Confidentiality was also observed through careful handling of the participants and their information. Since the study was a descriptive study and not an intervention study, no major risks were envisaged through participation in the study.

3. Results

3.1 Socio demographic characteristics of respondents

A total of 400 respondents completed the questionnaire. Their mean age in years was 33.2 (SD 8.7) and the median Inter-Quartile Range (IQR) monthly income was 10,000 (5,000, 18,000).

The mean age of first sexual activity was 22.4 years (SD 3.3) with the youngest being 18 years and oldest being 35 years respectively.

The average number of times pregnant was 3 (1, 9) and the number of living children was 3 (0, 9) (Table 1).

3.2 Knowledge on hazards and risks of cervical cancer

Table 1: Socio-demographic characteristics of the respondents

Characteristic	Frequency (%)	n
Education level		
None	5.1	(n=20)
Primary	5.6	(n=22)
Secondary	41.1	(n=164)
Tertiary	46.2	(n=185)
Others	2.0	(n=8)
Ethnicity		
Kalenjin	86	(n=344)
Luhya	8.3	(n=34)
Kisii	2.0	(n=8)
Kikuyu	0.5	(n=2)
Luo	2.8	(n=12)
Marital status		
Single	27	(n=108)
Married	57.3	(n=229)
Divorced	7.8	(n=31)
Widowed	5.5	(n=22)
Separated	2.5	(n=10)
Employment status		
Student	12.6	(n=49)
Employed	32.9	(n=128)
Self employed	25.7	(n=100)
Home maker	24.7	(n=96)
Retired	0.5	(n=2)
Applicant	3.6	(n=14)

Source: Field Data (2017)

Table 2: Cross Tabulation on the awareness of hazards and risks of cervical cancer with selected socio-demographic factors

Selected socio-demographic factors	Witchcraft, n (%)	HPV, n (%)	Don't know n (%)	Bacteria n (%)
Education level				
None	0(0.0)	2(2.3)	9(5.7)	5(3.8)
Primary	0(0.0)	2(2.3)	12(7.6)	5(3.8)
Secondary	2(40)	16(18.4)	71(45.2)	66(50.4)
Tertiary	3(60)	66(75.9)	60(38.2)	49(37.4)
Others	0(0.0)	1(1.1)	5(3.2)	2(1.5)
P Value	**<0.0001***			
Employment status				
Student	0(0.0)	6(6.7)	19(12.3)	19(14.5)
Employed	1(20)	52(58.4)	39(25.3)	35(26.7)
Self employed	3(60)	8(9)	41(26.6)	45(34.4)
Home maker	1(20)	17(19.1)	48(31.2)	29(22.1)
Retired	0(0.0)	6(6.7)	6(3.9)	2(1.5)
P Value	**<0.0001***			

Source: Field Data (2017)

Among the 400 women, 91.4% (n=363) had heard about cervical cancer, 8% (n=32) had never heard of cervical cancer while 1% (n=3) did not know what cervical cancer was. Among the 363 that had heard about cervical cancer, 38.2% (n=136) heard it from the media, 27.2% (n=97) from a friend while 23.6% (n=84) heard it from a health worker with the church contributing the least (1.9%). The focus group discussants reported similar findings were most participants had heard about cervical cancer and the most common means of hearing about it was through the mass media and at health talks from health care workers in hospitals. However, among the discussants who had heard about cervical cancer, most did not understand the part of the body affected or where the cervix is located.

Education levels and employment status were show to have a significance with awareness on the causative agent of cervical cancer at P<0.0001 (Table 2).

The number of pregnancies and having heard of cervical cancer showed a significant correlation at the 0.05 level (Table 3).

Table 3: Correlation between number of pregnancies and having heard of cervical cancer

		Times been pregnant	Heard of cervical cancer
Times been pregnant	Pearson Correlation	1	.120[*]
	Sig. (2-tailed)		.029
	N	337	334
Heard of cervical cancer	Pearson Correlation	.120[*]	1
	Sig. (2-tailed)	.029	
	N	334	397

*. Correlation is significant at the 0.05 level (2-tailed).

3.3 Cervical Cancer Causes and Transmission

Regarding the cause of cervical cancer, 40.2% (n=144) reported bacteria, 24% (n=86) Human Papilloma Virus (HPV), while 30.6% (n=124) did not know the cause (Figure 1). Seventy three percent (n=229) reported that cervical cancer is transmitted through sexual contact, 11.4% (n=36) reported that it is through hereditary while 10% (n=31) identified sharing of inner clothes as the main route of transmission (Figure 2). Most discussants in the focus group believed that having multiple sexual partners would increase the risk of having cervical cancer. One participant stated. "We women are always disadvantaged when it comes to having a say about sex. Our men are the ones to determine when they want to have it, how they want to have it and with whom. At the end, we faithful women end up contracting deadly diseases that our men collect from other women and therefore we are not safe at all".
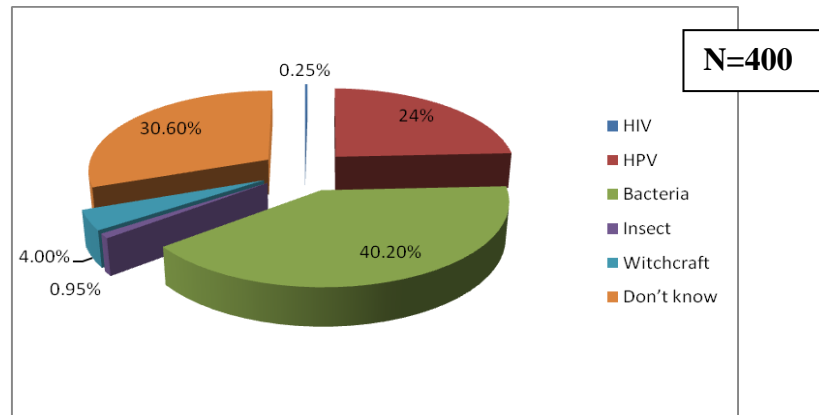
Figure 1: Causative agent of cervical cancer Source: Field Data (2017)

From the focus group discussion, one participant mentioned wife inheritance and indiscriminate sexual activities during certain ceremonies such as funerals as the main contribution to cervical cancer transmission as stated below.

"You know in some communities if your husband dies his brother or close relative will have to inherit you. This means that the man can infect you with whatever ailment the other woman had.

Again in ceremonies such as funerals, it is a tradition to have sex with whomever one pleases and this would lead one into contracting bad disease".

The key informant interviewee from Kapsaret Sub-County indicated that there was generally low awareness on the causes and risk factors of cervical among women in the area of study. This was attributed to the sacred and intimate nature of the disease.
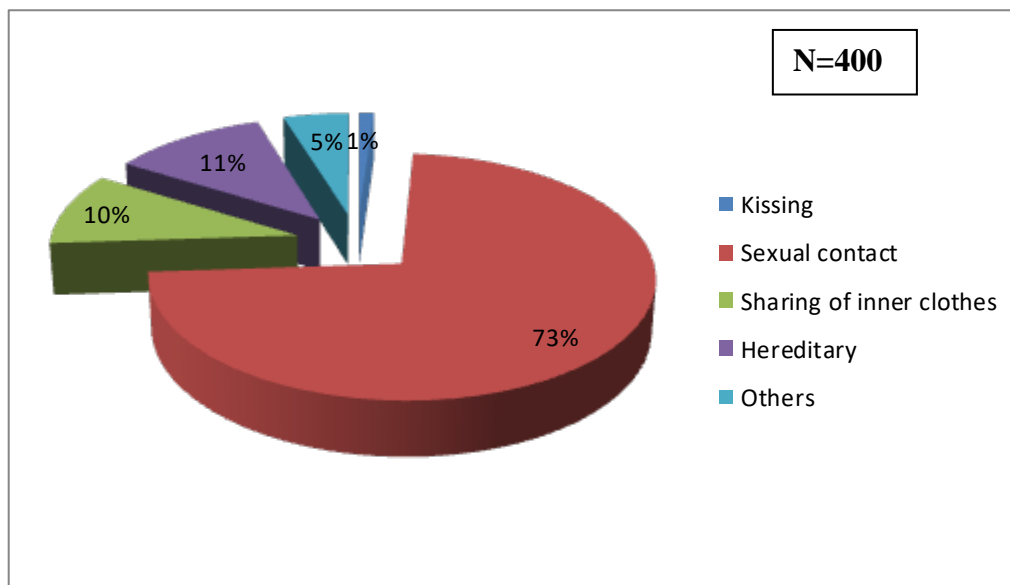
Figure 2: Awareness on cervical cancer transmission Source: Field Data (2017)

Only 28.9% (n=101) women reported that sexual issues are discussed freely in their community and 16.2% (n=57) reported that a woman cannot be at risk of cervical cancer if currently she is not promiscuous. Fifteen point seven percent (n=55) reported that a woman does not need to go for cervical cancer control if she is not ill and 21.4% (n=75) reported that cervical cancer procedure is a very painful and unbearable procedure.

3.4 Awareness on Cervical Cancer Signs and Symptoms

Majority of the participants 40.5% (n=162) identified vaginal bleeding as the common sign and symptom of cervical cancer. Twenty Seven percent (n= 108) reported abdominal pain while 25.5% (n= 102) reported smelly vaginal discharge. Only 22.3% (n=81) of the women reported to know anyone with a history of cervical cancer. This would be as a result of the community's perception about cancer and more so cervical cancer which touches on the most sensitive part of a woman's body. This was attested to by the FGD participants and one participant had this to say;

 "Cervical cancer is highly stigmatized in the community and even if someone has died from it, no one will want to say the truth. Even during the sent off (burial) of such an individual you will hear people talk of she had a long illness that affected her stomach, no one will dare mention that it was cancer or even what type of cancer or the part of the body affected".

Ninety five point eight percent (n=341) thought it is helpful to detect cervical cancer early and 74.5% (n=269) had someone recommend to them that they should get tested or screened for cervical cancer. There was a positive correlation between having heard of cervical cancer and whether it was helpful to detect cervical cancer early at 0.01 level (Table 4).

Table 4: Correlation on having heard of cervical cancer and whether it is helpful to detect cervical cancer early

		Heard of cervical cancer	Helpful to detect cancer early
Heard of cervical cancer	Pearson Correlation	1	.147**
	Sig. (2-tailed)		.004
	N	397	388
Helpful to detect cancer early	Pearson Correlation	.147**	1
	Sig. (2-tailed)	.004	
	N	388	390

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2017)

3.5 Qualifications for Cervical Cancer Screening

Majority of the respondents, 83.3% (n=280) reported that anyone who had ever had sexual contact qualified to be screened for cervical cancer, 9.8% (n=33) reported that one with signs and symptoms while 5.7% (n=19) and 1.2% (n=4) reported that those who qualified for screening were prostitutes and unfaithful women or those

women with unfaithful husbands respectively.

There was a high significance with a p value of less than 0.0001 between education levels and employment status versus knowledge on who qualifies to be screened for cervical cancer.

3.6 Awareness on cervical cancer control

Most women agreed that cervical cancer was talked about freely in their community 60.8% (n=214) and 82.9% (n=296) agreed that the girl child was given equal chance as the boy child in their communities.

They also agreed that any procedure to detect or treat cervical cancer that involved the use of the knife was deadly and unsuccessful 70.2% (n=250) and that women were allowed to make major decisions concerning their health 82% (n=288).

However, majority disagreed that young girls were married off early in their communities to acquire wealth through dowry 92.1% (n=328).

Most participants disagreed that women were allowed to inherit land and other productive assets 76.4% (n=269) and also disagreed that cultural rituals such as FGM would influence a woman's decision to get screened for cervical cancer 89.5% (n=314).There was a significant correlation at 0.01 level between cervical cancer being discussed freely and willingness to go for cervical cancer screening (Table 5).

Table 5: Correlation between cervical cancer being discussed freely and willingness to go for Screening

		Cervical cancer is talked about freely in my community	Willing to go for cancer screening
Cervical cancer is talked about freely in my community	Pearson Correlation	1	.163**
	Sig. (2-tailed)		.001
	N	388	387
Willing to go for cancer screening	Pearson Correlation	.163**	1
	Sig. (2-tailed)	.001	
	N	387	399

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Data (2017)

A positive correlation was established at 0.01 level (2-tailed) between the girl child being given equal chances as the boy child and willingness to go for cervical cancer screening. The study also established a high correlation at 0.01 level (2-tailed) between women being allowed to make major decisions concerning their health and having had cervical cancer screening. The study found an association between the misconception that any procedure to detect or treat cervical cancer that involves the use of the 'knife' (in referring to surgery) is

deadly and unsuccessful and the willingness to go for cervical cancer screening. Respondents who had negative attitude towards surgery were less likely to seek cervical cancer control services. The respondents exhibited positive attitude with 94.5% (n=328) trusting the conventional methods of cervical cancer control.

4. Discussion

This study provides insights into the awareness of cervical cancer and its influence on cervical cancer screening among women in Uasin Gishu County, Kenya. We found out that 91.4% (n=363) had heard about cervical cancer, 8% (n=32) had never heard of cervical cancer while 1% (n=3) did not know what cervical cancer was. Similar findings were reported by [12] while [13] and [14] reported contrary findings where less than half (42.9%) of the participants had heard about cervical cancer. Among the 363 that had heard about cervical cancer, 38.2% (n=136) heard it from the media with the church contributing the least (1.9%). The findings of the present study are contrary to those in other studies [15; 16; 17]. References [18; 19; 20] however reported aligning results.

The mean age of first sexual activity was 22.4 years (SD 3.3) with the youngest being 18 years and oldest being 35 years respectively. The average number of times pregnant was 3 (1, 9) and the number of living children was 3 (0, 9). Many other studies have shown an association between age at first sexual activity, number of sexual partners and the number of pregnancies with cervical cancer [20]. 46.2% (n=181) of the participants had attained tertiary level of education and 32.9% (n=128) were employed. Employment status was shown to have a high significance (P=<0.0001) in relation to having heard of cervical cancer. This could be explained by the fact that employment leads to empowerment which is associated with ability to make major decisions such as those of one's health, affordability of the items such as radios and televisions which could be the main sources of information and affordability of transport to health facilities where information on cervical cancer is disseminated. Other studies have reported similar findings [21; 22]). Ethnicity and marital status on the other hand did not show any significant relationship with having heard of cervical cancer which was contrary to the findings of [23].

Regarding the cause of cervical cancer only 24% (n=86) reported Human Papilloma Virus (HPV). Comparable results have been reported in other studies [18;19;20;25]; while [26;27] reported discordant findings. Majority (n=229) reported sexual contact as the transmission which is consistent with those of other studies [20;28].

There was adequate awareness on the cervical cancer signs and symptoms; vaginal bleeding (40.5%), abdominal pain (27%) and smelly vaginal discharge (25.5%) which was in close agreement with earlier studies [19; 20; 28]. Contrary findings were however reported by [29]. The attitude towards screening was positive with 95.8% (n=341) thinking it was helpful to detect cervical cancer early, 83.7% (n=304) willing to go for cervical cancer screening if they were well and 74.5% (n=269) having someone recommend to them that they get tested. This underscores the importance of social influence in promoting cervical cancer screening. Aligning results have been reported in previous studies [5;29;30;31;32;33]. An earlier study [34] reported contrary results where most participants expressed their anxiousness due to lack of information on the effectiveness of the treatment and were not confident of the treatment. Concerning the qualification for screening majority (83%) reported history

of sexual contact which was a display of greater awareness in comparison to an earlier study [18]. Contrary findings were however reported in [17,36]. The attitude that any procedure to detect or treat cervical cancer that involves the use of the 'knife' (in referring to surgery) is deadly and unsuccessful was also noted in [28]. Reference [37] reported discordant findings where some respondents 120 (35.8%) chose surgery as the most effective treatment method. Ironically though, as much as majority of the respondents were aware of cervical cancer, only 35.5% (n=142) of them had been able to seek cervical cancer screening services in comparison with earlier studies [38].

5. Conclusion

Though there was adequate awareness about; cervical cancer causes, transmission, signs and symptoms, qualification for screening and cervical cancer prevention measures the same did not translate into practice. The awareness about cervical cancer screening was determined by it being discussed freely in the community, girl child empowerment, women being allowed to make major decisions and the belief that any procedure to detect or treat cervical cancer that involves the use of the 'knife' (in referring to surgery) is deadly and unsuccessful. There is need to explore the disparity between high awareness and low uptake of cervical cancer control interventions. In addition culturally sensitive cervical screening programs should be developed.

6. Recommendations for Future Research

Based on the study findings and in order to inform achievable policy and program interventions aiming to improve uptake of cervical cancer control interventions among this population, the following recommendations have been formulated.

1. Develop simple and culturally sensitive educational messages about cervical cancer and the screening test that can easily be understood by women in order to enhance reception to cervical cancer control interventions.
2. Further studies to explore the low reception levels to cervical cancer control despite the adequate awareness levels.

Acknowledgments

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