

Condom Use and its Associated Factors Among Female Sex Workers Who Use Pre-Exposure Prophylaxis at Key Population Friendly Clinics, Gambella-Western Ethiopia

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Abstract

Background: Globally, female sex workers (FSWs) have high rates of HIV and other STIs due to different reasons. Although consistent condom use is advocated among pre-exposure prophylaxis's user FSWs, information about status of consistent condom uses and its contributing factors among FSWs in Gambella region is scanty.

Objective: The aim of this study was to assess the prevalence of consistent condom use and its associated factors among FSWs who use PrEP in Gambella region, western Ethiopia, 2023.

Methods: From July 4, 2023 to August 11, 2023, Facility based cross sectional study was carried out among 260 PrEP users' FSWs. The study participants were selected by systematic sampling technique. Data were collected using a pretested structured questionnaire. Epi-Data version 3.1 software was used for data enter and data was analyzed using SPSS version 23. Multivariable logistic regression analysis was used to identify factors associated with condom use among FSW who use PrEP. Adjusted odds ratios (AOR) with respective 95% Confidence Interval (CI) and $p < 0.05$ were used to set statistically significant variables.

Results: In this study, 185 out of 260 total study subjects had consistent condom use. Average client number per day of two or less [AOR=2.08, 95% CI: 1.05-4.12], good knowledge about HIV and STIs transmission [AOR=2.08, 95% CI: 1.07-4.01], no current alcohol use [AOR=2.97.12, 95% CI: 1.33-6.63], duration in sex work [AOR=2.09, 95% CI: 1.07-4.08], and getting free condom [AOR=2.85, 95% CI: 1.47-5.52] were found to be independent predictors of consistent condom use among FSW who use PrEP.

Conclusion: This study revealed that the prevalence of consistent condom uses among FSWs who used PrEP in Gambella region was suboptimal. Therefore, appropriate measures focusing on associated factors is needed in order to maintain consistent condom use and prevent occurrence of STDs and unwanted pregnancy in the study setting.

Keywords: condom use; female sexworkers; PrEP; gambella

Introduction

Globally, there are an estimated 39.0 million people living with human immunodeficiency virus (HIV) in 2022. Out of this, Sub-Saharan Africa (SSA) where Ethiopia is located was responsible for 76% of all HIV-infected individuals, 76% of all new HIV infections, and 75% of all HIV/AIDS-related deaths globally [1]. The prevalence greatly varies with gender, age, and residence. Ethiopian public health institutions (EPHI) estimate the national adult HIV prevalence at 0.91% in 2022. The prevalence varies from region to region and among different population groups [2].

Female sex workers (FSW) are one of the key and priority populations that have high risk and rates of HIV among the most affected population groups. Globally, FSW have a substantial risk and high rates of HIV infection, with about 13.5% of new HIV infections occurring in this group [3]. Due to different reasons like inconsistent condom use, large numbers of sexual partners, unsafe working conditions, exposure to violence, and economic deprivation, they are prone to the acquisition of HIV infection, sexually transmitted infections (STI), and unintended pregnancy and its outcomes (if they are not using other forms of contraceptives) [4]. Moreover, FSW often have little ability to mitigate these challenges

because of social marginalization and criminalized work environments [5]. The burden is much higher in the sub-Saharan region and other African countries. For instance, in Kenya, the prevalence of HIV among FSWs in 2018 was 29.3% [6]. In Ethiopia there are around 200,000 FSW with an HIV prevalence of 18% [7].

To reduce the impact of HIV/AIDS and other STIs in these highly vulnerable groups, the World Health Organization (WHO) has recommended the use of combination HIV prevention across the globe [8]. Many countries, including Ethiopia, have adopted the combination HIV prevention package, which includes the concurrent use of pre-exposure prophylaxis and condoms, together with other methods [9].

The Joint United Nations Program on AIDS (UNAIDS) also advocates the need to provide combination HIV prevention services, including pre-exposure prophylaxis, for people at substantial risk of HIV/AIDS and reach 95% of these population groups with these services [10]. Pre-exposure prophylaxis (PrEP) is the use of antiretroviral (ARV) drugs by people who are not infected with HIV but are at continuous and substantial risk to block the acquisition of HIV. Following a 2015 WHO recommendation, Ethiopia initiated provision of PrEP as a pilot in 2019 and as a scale-up in 2020 for FSWs and discordant couples who are at high risk of HIV infection [4,10]. In the Gambella region, provision of PrEP services began in 2019 at Gambella General Hospital as one of the pilot sites, and the service was scaled up and expanded to Gambella Primary Hospital, Dimma Health Center, and Metti Health Center, key population-friendly clinics (KPFCs), in 2020 [9]. Although combination HIV prevention methods, which include the concurrent use of condoms among PrEP users, are being advocated at service-provider sites, there was no adequate data to assess the prevalence of consistent condom use and its associated factors among PrEP user FSWs. There is a gap and little information is available on these conditions in Ethiopia, particularly in this study area. Therefore, this study aimed to assess the prevalence of consistent condom use and its associated factors among FSWs who use PrEP at KPFCs in Gambella region, western Ethiopia.

Methods

Study design, area, and period

A facility based cross sectional study was conducted from July 4, 2023 to August 11, 2023, in Gambella region state, Western Ethiopia. The Gambella region is in the western part of Ethiopia, about 766 kilometers from Addis Ababa. It borders Oromia to the north and east, the South-West regional state to the south, and South Sudan to the west. The Baro salient can be found in the western portion of the region, which is located between the Akobo and Baro Rivers. Twelve woredas, 263 kebeles, one city administration, one special Woreda, and three zones make up the region. Rural areas make up nearly 75% of the region's population. According to regional health bureau data and UNHCR's estimates for 2023 and 2024, the region has a population of 547,103 and 394,605 refugees. In the region, there were 28 facilities that provide anti-retroviral treatment (ART) [11,12].

Population

A source population were all female sex workers who use pre-exposure prophylaxis at key population clinics in Gambella region.

Sample size and sampling technique

The required sample was calculated using a single population proportion estimation formula considering the following assumptions: 50% prevalence of consistent condom use, 95% confidence level (CI), 5% margin of error and 10% non-response rate. Since the source population was less than 10,000, considering the correction formula, the total calculated sample yielded 260. A systematic random sampling technique was applied to recruit study participants. In the region there were four key population friendly service providing health facilities namely Gambella general hospital, Gambella town primary hospital, Metti health center and Dimma health center. These health facilities provide KP service five times per week and there were around 604 FSWs on PrEP follow up at these facilities. The study participants were allocated for all KP clinics by proportional allocation (PS). By dividing total female sex workers under PrEP follow up who were eligible (604) to sample size required (260), which yields sampling interval of two. The first participant was selected by lottery method. Thus, every second client coming to the clinics for a follow-up service was interviewed until the total sample size reached.

Data collection Procedures

The data were collected through face-to-face interviews by using pretested structured

questionnaires. Data were collected by using eight trained female diploma nurses since the type of data collected was sensitive by nature, and the data collection was strictly supervised by three BSC nurses and a Health officer. A checklist was used to identify lists of study participants from PrEP register one week prior to actual data collection.

Measurement

Knowledge on condom use: Those who scored greater than or equal to the mean were labeled as having good knowledge whereas those who scored below the mean were labeled as having poor knowledge.

Study Variables

Dependent Variable: Consistent condom use

Independent variables: were socio demographic and economic variables (age, work place, educational status, religion, monthly average income from sex work), Knowledge related variables (knowledge about pre-exposure prophylaxis, knowledge about STI transmission methods, knowledge about benefits of condom, knowledge about benefits of PrEP, knowledge on combination HIV/STI prevention, knowledge about major signs of STI). Sexual behavior and condom utilization related factors (Type of sex practiced, Age started sex work, Average client number per day, duration in sex work, type of work establishment, Alcohol or substance use, Place to get free condom, previous condom breakage, and previous condom leakage).

Operational definitions

Consistent condom use: Use of condom during every act of sexual inter-course during the last one month prior to the data collection period [6].

Female sex worker: a FSW is a woman or female, who engages in consensual sex for money or payment in kind, as her principal means of livelihood.

Any history of STI: If a FSW had offensive vaginal discharge, any genital ulcer or was told to have STI by a health care provider while being on PrEP.

Condom less sex: If a FSW had history of having sexual intercourse without condom while under PrEP follow up [6].

Unintended pregnancy: If a FSW had history of unplanned pregnancy while under PrEP follow up.

Regular Client: A male client who contacts and solicits with a FSW regularly, more than one time.

Client: A male who goes to a FSW to have sex with payment.

Data quality Control

To ensure data quality, one day training was given for the data collectors and supervisors on the process of data collection. The questionnaire and checklist were translated from English language to Amharic and translated back to English language to check its consistency. Pretest was done on 5% of the sample size in order to check the clarity and internal consistency of the questionnaire and checklist prior to the actual data collection. Discussion on the result of the pre-test was held and some modifications made. The data was checked for completeness, accuracy, clarity, and consistency by the supervisors and the investigator on daily basis. Each questionnaire was given a unique identification number that was considered as one variable in the data entry in to computer.

Data processing, management and data Analysis

Data cleaning, coding, and entry were made using the Epi-Data version 3.1 software. Analysis was conducted using Statistical Package for Social Science (SPSS) version 23. Descriptive statistics including mean (standard deviation), median (inter-quartile range) and range values for continuous variables; and percentage and frequency tables for categorical variables were employed. Normality assumption was checked for continuous variables.

Bivariate analysis was employed to determine presence of association between consistent condom use and each independent variables using binary logistic regression. Variables that were found to be significant at p-value less than 0.25 in bivariate analysis were selected as candidate variables for multivariable analysis. Multivariable analysis was carried out to identify independent predictors of consistent condom use and to control confounders. Backward stepwise logistic regression was used to determine independent predictors with P-value less than 0.05 with their respective Adjusted Odds Ratio (AOR) and 95% of CI. The model fitness was tested by using Hosmer and Lemeshow goodness of fit test and the model was fit since P-value greater than 0.05.

Ethical Clearance

Ethical clearance was obtained from Mattu University Institute of Health Ethical Review Committee. Permission letters were also obtained from Gambella regional health bureau and given to health facilities. Confidentiality was assured by excluding their name during the period of data collection. The study purpose, procedure, duration, possible risks, benefits

and their right of not to participate in the study were clearly explained for the study participants. Before any kinds of data collection, informed verbal consent was obtained from each study participant.

Results

Socio demographic and economic characteristics of the respondents

A total of two hundred and sixty FSW were participated in this study with a response rate of

100%. The median (IQR) age of the respondents was 22 ±18 years, ranging from 18 to 34 years. More than three - fifths (63.1%) of the participants were Orthodox Christians followed by Muslims (18.5%). The majority 251 (96.5%) of study participants were never married. Out of the total, 82 (31.5%) had no any formal education. Out of the total participants 163 (62.7%) of them had monthly income from sex work less than 10,000 ETB (Table 1).

Table 1: Results of bivariate analysis for factors associated with consistent condom use among female sex workers who are using PrEP at Gambella KP clinics, West-Ethiopia, July 04-August 11/2023.

Characteristics	Categories	Number (%)	Consistent condom use		COR (95% CI)	P-Value
			Yes(1)	No(0)		
Educational status	No formal education	82(31.5)	26	56	1 ^R	
	Primary (1-8) completed	126 (48.5)	40	86	0.99[0.55-1.81]	0.068*
	Secondary completed and Above	52(20)	9	43	2.22[0.94-5.22]	0.995
Age category of the study participants	<22 year		75	27	1 ^R	
	≥22 year		110	48	0.82[0.47-1.43]	0.497
Average monthly income from sex work	< 10,000(ETB)	163 (62.7)	121	42	1 ^R	
	≥ 10,000(ETB)	97 (37.3)	64	33	1.485[0.86-2.57]	0.156*
Average client number per day	Two or less clients per day	177(68)	131	46	1.52[0.87-2.68]	0.139*
	Greater than two clients per day	83(32)	54	29	1 ^R	
Duration of sex work	Less than three years	100(38.5)	76	24	1.48[0.84-2.61]	0.174*
	Three or more years	160 (61.5)	109	51	1 ^R	
Type of working establishment	Hotel	101(38.9)	72	29	1.65[0.44-6.30]	0.033*
	Bar and restaurant	116(44.6)	90	26	2.30[0.60-8.79]	0.211*
	Night club	33(12.7)	17	16	0.70[0.17-2.98]	0.638
	Local drinking house	10(3.8)	6	4	1 ^R	
Current alcohol drinking status	Yes	45(17.3)	24	21	1 ^R	
	No	215(82.7)	161	54	2.60[1.35-5.06]	0.005*
Knowledge about HIV & other STIs transmission	Good	98 (37.7)	76	22	1.680[0.94-2.99]	0.078*
	Poor	162 (62.3)	109	53	1 ^R	
Knowledge about benefits of condom use	Good	231(88.9)	169	62	2.215[1.00-4.87]	0.048*
	Poor	29(11.1)	16	13	1 ^R	
Knowledge about STI sign & symptoms	Good	237(91.2)	171	66	1.67[0.68-4.03]	0.258
	Poor	23(8.8)	14	9	1 ^R	
Knowledge about PrEP use	Good	236(90.8)	170	66	1.54[0.64-3.70]	0.329
	Poor	24 (9.2)	15	9	1 ^R	
Knowledge about STIs prevention methods	Good	176 (67.7)	128	48	1.26[0.718-2.223]	0.418
	Poor	84 (32.3)	57	27	1 ^R	
Place to get free condoms	Health facility and hotel	191(73.5)	148	43	2.97[1.63-5.33]	<0.01*
	Health facility	69(26.5)	37	32	1 ^R	
Incidence of condom breakage in the past	Yes	8(3.1)	4	4	1 ^R	
	No	252(96.9)	181	71	3.33[1.37-8.09]	0.008*
Incidence of condom slippage in the past	Yes	22(8.5)	10	12	1 ^R	
	No	238(91.5)	175	63	2.55[0.62-10.46]	0.194*

1^R =Reference; COR= Crude Odds Ratio; CI= Confidence Interval; * significant at P value < 0.25

Consistent condom use status

The prevalence of consistent condom use was 71.2% (95% CI: 65.8% -76.9%).

Sexual behavior of female sex workers

The median (IQR) duration in sex work of the participants was 3±2 years and 38.5% of the participants had duration in sex work of less than three years. The median (±IQR) of average number of

clients per day was 2 ± 1 and 68.1% of the participants had two or a smaller number of clients per day on average. Of the total study participants, 17.3 % drink alcohol currently. Of the total respondents, majority (44.6%) work in bar and restaurant (Table 1).

Knowledge about condom use and HIV/AIDS transmission

Of total participants, 98 (37.7%) had good knowledge about transmission methods of HIV/AIDS and other STIs. The majority, which is 231 (88.9%) of the respondents had good knowledge about the benefits of condom use (Table 1).

Condom utilization related factors

Out of the total participants, 191 (73.5%) get free condoms from both the health facility and the work place they are currently attached to. The majority (96.9%) of the respondents reported that they did not face any incidence of condom breakage previously. Of

the total study participants, 91.5% did not face any incidence of condom slippage (Table 1).

Factors associated with consistent condom use

Bivariate analysis was done to select candidate variables to be entered to multivariable analysis. According to the bivariate analysis; educational status, type of working establishment the female sex workers are attached to, the place where female sex workers get free condoms, average monthly income from sex work, average number of clients per day, current alcohol use, duration in sex work, knowledge about benefits of using condom, knowledge about HIV/AIDS and STIs transmission, previous incidence of condom breakage and previous incidence of condom slippage were considered as candidate variables at p-value less than 0.25. These variables were entered into multivariable analysis in order to determine factors independently associated with consistent condom use (Table 2).

Table 2: Multivariate analysis of factors associated with consistent condom use among female sex workers who are using PrEP at Gambella KP clinic, west- Ethiopia, July 04-August 11/2023.

Variables	Category	Consistent condom use		AOR (95% CI)	P-Value
		Yes (n=185)	No (n=75)		
Place to get condom	Health facility and hotel	148	43	2.85(1.47-5.52)*	0.002*
	Health facility	37	32	1 ^R	
Average client number per day	Two or less clients per day	131	46	2.08 (1.05-4.12)*	0.035*
	Greater than two clients per day	54	29	1 ^R	
Duration in sex work	Less than three years	76	24	2.09(1.07-4.08)*	0.031*
	Three or more years	109	51	1 ^R	
Knowledge about HIV & other STIs transmission	Good	76	22	2.08(1.07-4.01)*	0.029*
	Poor	109	53	1 ^R	
Current alcohol use status	Yes	24	21	1 ^R	
	No	161	54	2.97(1.33-6.63)*	0.008*

R-Reference, * statically significant at $p\text{-value} < 0.05$, AOR=Adjusted Odds Ratio, CI=Confidence

Interval Accordingly, the odds of consistent condom use among PrEP user female sex workers who got condom from both health facilities and the establishments they work was around three times (AOR=2.85, 95% CI: 1.47-5.52) higher than those who get the condoms only from health facility. Also, the odds of consistent condom use were two times (AOR=2.08, 95% CI: 1.05-4.12) higher among female sex workers who had two or less clients per day compared to those who had greater than two clients per day on an average (Table 2). The odds of consistent condom use were two times (AOR=2.09, 95% CI: 1.07-4.08) higher among female sex workers who stayed in sex work for less than three years compared to those who stayed for three or more years in sex work. Similarly, the odds of consistent condom

use were two times (AOR=2.08, 95% CI: 1.07-4.01) higher among female sex workers who had good knowledge about HIV/AIDS transmission methods compared to those who had poor knowledge about HIV/AIDS transmission methods (Table 2). The odds of consistent condom use were three times (AOR=2.99, 95% CI: 1.33-6.63) higher among female sex workers who are not currently drinking alcohol as compared to those who drink alcohol (Table 2).

Discussion

Consistent condom use is the corner stone in the prevention of HIV/AIDS and other sexually transmitted diseases. It is also one of the methods of prevention of unwanted pregnancy [10]. It is an established fact that inconsistent condom use result

in transmission of HIV and other sexually transmitted diseases and occurrence of unwanted pregnancy. This study assessed the prevalence of consistent condom use and its associated factors among female sex workers who use pre-exposure prophylaxis. The findings of the study revealed that although there is suboptimal prevalence of consistent condom use, there are still significant proportion of female sex workers who did not use condom consistently. Factors significantly associated with consistent condom use were the average number of clients per day, duration in sex work, knowledge about HIV/AIDS and other STI transmission methods, current alcohol drinking status and the type of working establishment. The findings of this study showed that 71.2% (95% CI: 65.8% -76.9%). of female sex workers who were using pre-exposure prophylaxis in the study area had consistent condom use. The present finding is lower than the Kenyan study that reported prevalence of consistent condom use among pre-exposure using female sex workers was 87% [6]. This study also mentioned low retention of PrEP and intensive counselling at initiation and during subsequent PrEP visits for the high prevalence of consistent condom use; which were not assessed in our study. Hence, the above factors might be the reasons to the higher consistent condom use among the female sex workers in Kenya. Also, the current prevalence of consistent condom is lower when compared to a study from the South Africa, which reported consistent condom use among female sex workers who use pre-exposure prophylaxis at 80% [13]. The possible explanation for this difference could be the behavioral interventions targeted at such groups assisted in the HIV prevention efforts in the study done at South Africa. The current finding implies the necessity of enhancing interventions such as awareness creation about the importance of consistent condom.

The current study found that those PrEP user female sex workers who got condom from both health facilities and the hotel were more likely to use condom consistently, as compared to those who got only from health facility. This finding is supported with the findings from the national bio-behavioral survey in Ethiopia and studies done at Democratic republic of Congo and Senegal [14-16]. The possible explanation for this finding could be that the accessibility of condoms at any place, mainly health facilities and hotels, enables female sex workers to use condoms consistently. The implication of this finding is that strengthening the availability and accessibility

of condoms is needed. This means that access to condoms needs to be increased to encourage more consistent use. In the current study, those PrEP user female sex workers who had sex with two or less clients per day were more likely to use condom consistently compared to those who had sex with greater than two clients per day on an average. This finding is in line with studies conducted in Northwest Ethiopia and Madrid, Spain [17, 18]. On the other hand this finding is in contrast with the study done in Democratic Republic of Congo [15]. This difference could be explained by the fact that female sex workers who had frequent exposure to voluntary counseling and testing and those who well known condom as HIV prevention method declared as predictor for consistent condom use in that study and almost all of the study participants in that study well known the benefit of using condom. Moreover, the possible explanation for this finding might be due to increased number of clients per day leads female sex workers not to use condom for each client consistently. This finding, thus, suggests that intervention targeting consistent use of condom despite the number of clients per day should be encouraged.

The present study has revealed that duration of sex work had significant association with consistent condom use. Accordingly, female sex workers who stayed in sex work for less than three years were more likely to use condom consistently as compared to those who stayed for three or more years in sex work. This finding is supported by the findings from study done in Karachi, Pakistan [19]. On the other hand, this finding is lower in strength of association than a study conducted in Democratic Republic of Congo [15]. The difference could be explained by the fact that mean was used as a cutoff point in that study while in the current study median was used. The possible explanation for this finding could be due to the reason that more experienced FSWs were less likely to use condoms since they are less open to change and continue with the same practice that they have been following for a long time. The implication for this finding is that continuous and deep counseling for female sex workers to use condom consistently should continue regardless of their duration in sex work. The other independent predictor of consistent condom use in this study was knowledge about HIV and STIs transmission. PrEP user Female sex workers who had good knowledge about STI transmission were more likely to use condom consistently as compared to those who had poor knowledge about STIs

transmission. This finding is supported by the systematic review study in Australia [20] and also with other study in the Tarlac, Philippines [21]. The possible explanation for this finding could be knowledge on HIV and other STIs transmission is the first step to seek and consistently use condom. Therefore, those female sex workers with poor knowledge on HIV and other STIs transmissions are less likely to seek and use condom consistently. The implication for this finding is strengthening the counseling session regarding HIV and other STIs transmission ways.

In the current study the odds of consistent condom use were higher among female sex workers who did not use alcohol. This finding is similar with studies done in Pakistan and Uganda [19, 22] and it was supported by a survey done in Ethiopia [23]. The possible explanation for this finding could be due to the reason that FSWs informed that condom use was difficult with clients who were drunk. So, the girls did not use condoms when the clients were too intoxicated or under the influence of alcohol. Studies have reported that FSWs find it difficult to negotiate condom use where a client has been drinking or under the influence of drugs [24]. The implication for this finding is alcohol consumption as a barrier for condom use should be routinely discussed with FSWs during their routine visit. With regard to other correlates of consistent condom use; age of the study participants, educational status of the participants, knowledge about condom use, Knowledge about PrEP use, income and age started sex work were not significantly associated with consistent condom use in the current study. This might be due to the difference in the target groups of the current study and prior studies. Most prior studies that identified the above-mentioned factors were done by only focusing Female sex workers whereas the current study focused female sex workers who were using PrEP.

Limitation of the study

Despite the present study was the first study done on this topic in Ethiopia, it is not free from limitation. First, there could be recall bias, since participants were asked for events that occurred in the past and this could have biased the findings. **Secondly**, since data collectors were health care workers, social desirability bias was the other limitations of this study and it could have effect on the report of participants. However; the support provided by data collectors for study participants to remember the events, adequate training given to data collectors, and their supervision

made by supervisor could minimize the potential effects of recall bias and social desirability bias. Finally, lack of adequate studies done on the topic limited the discussion part too.

Conclusion

The findings of this study revealed that there was suboptimal level of consistent condom use among female sex workers who are using pre-exposure prophylaxis in Gambella region. This indicates that significant proportions of female sex workers using pre-exposure prophylaxis are prone to other sexually transmitted infections other than HIV/AIDS and unwanted pregnancy. It found that most important factors influencing consistent condom use in this population were a smaller number of clients per day, not drinking alcohol, good knowledge about HIV and other STIs transmission, less duration in sex work and availability of free condoms at more than one place (easy condom accessibility).

Acronym and Abbreviations

AOR: Adjusted Odds Ratio; ART: Anti-retroviral treatment; ARV: Anti-retroviral; CCU: Consistent condom use; CI: Confidence Interval; EDHS: Ethiopian Demographic Health Survey; EPHI: Ethiopian public health institute; FSW: Female sex workers; GRHB: Gambella Regional Health Bureau; HF: Health Facility; IQR: Interquartile range; KP: Key populations; KPFC: Key population friendly clinic; KPFCs: Key population friendly clinic services; PrEP: Pre exposure prophylaxis; PS: Proportional allocation; SPSS: Statical package for social science; SSA: Sub Saharan Africa; STI: Sexually transmitted infections; TDF: Tenofovir; UNAIDS: The Joint United Nations Programme on HIV/AIDS; UNHCR: United Nations High Commissioner for Refugees; WHO: World Health Organization

Declarations

Data Availability

The datasets generated and/or analyzed during the current study are available from the corresponding author on the reasonable request.

Consent

Not applicable

Conflicts of Interest

The authors claim to have no competing interest.

Funding

Not applicable

Authors 'Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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