

Violence against women in relation to literacy and area of residence in Ethiopia

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Objective: This study explores violence against women in a low-income setting in relation to residency and literacy.

Setting: The study was conducted within the Butajira Rural Health Programme (a Health and Demographic Surveillance Site), which includes rural and semi-urban settings in south-central Ethiopia.

Design: This is a community-based cross-sectional study and is part of the WHO Women's Health and Life Events multi-country study. It included 1,994 randomly selected married women.

Methods: A standardised WHO questionnaire was used to measure physical violence, residency, literacy of the woman and her spouse, and attitudes of women about gender roles and violence. Analyses present prevalence with 95% confidence intervals and odds ratios derived from bivariate and multivariate logistic regression models.

Results: In urban and rural areas of the study area, the women were of varying ages, had varying levels of literacy and had spouses with varying levels of literacy. Women in the overall study area had beliefs and norms favouring violence against women, and women living in rural communities and illiterate women were more likely to accept such attitudes. In general, violence against women was more prevalent in rural communities. In particular, violence against rural literate women and rural women who married a literate spouse was more prevalent. Literate rural women who were married to an illiterate spouse had the highest odds (Adj. OR = 3.4; 95% CI: 1.7–6.9) of experiencing physical violence by an intimate partner.

Conclusion: Semi-urban lifestyle and literacy promote changes in attitudes and norms against intimate partner violence; however, within the rural lifestyle, literate women married to illiterate husbands were exposed to the highest risks of violence.

Keywords: *intimate partner violence; health system and gender; Africa*

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Violence against women is recognised as a significant public health problem irrespective of socio-cultural setting. Despite increasing recognition that domestic violence is a global public health concern, population-based studies that examine violence against women and its determinants and consequences in developing countries remain scarce (1, 2). Understanding of causation has been hampered because research emphasises single-factor theories and relies on data from small samples (1). Increasingly, differences in rates of violence between societies is understood within an ecological

framework, but diverse factors operating at the individual, household, community and societal level interact in a complex manner to influence the occurrence of violence (1, 3).

As the ecological framework suggests, individual factors are embedded within a community factor and studying community level factors may help target interventions more appropriately for victims and perpetrators of violence against women (4). The nature of intimate partner violence may also vary from community to community, and overall socioeconomic and cultural

factors may play a significant role in the pattern of violence (5).

Although the rates of domestic violence are similar across both rural and urban areas (6, 7), studies from the USA indicate that rural communities receive limited access to services, including lower education and literacy rates, norms and attitudes favouring domestic violence, higher isolation and high poverty rates. Globalisation's influence on development, information, economy and people's movement has also affected the difference between urban and rural communities (8). Studies also indicate the presence of marked inequality with limited services and higher poverty rates in rural communities of sub-Saharan Africa (9).

Moreover, the relationship between intimate partner violence and women's literacy is complex. Research done at the individual level has indicated that women's educational level is known to exert a protective effect with regard to intimate partner physical violence (10, 11). This may be because education increases autonomy as well as social and economic empowerment (12, 13). However, some studies have found little correlation between educational level and the experience of intimate partner violence (14, 15). Furthermore, some studies have also shown higher educational levels of male partners to be associated with reduced chances of intimate partner violence (12). Literacy rates are often low in rural communities in sub-Saharan Africa (9), which may affect the prevalence of intimate partner violence.

In Ethiopia, 84% of the population live in rural areas and the literacy rate among those aged 10 years and above has been reported as 30.9% in rural communities and 74.2% in urban communities (16). Lifetime prevalence of physical violence in Butajira, Ethiopia, was reported by the WHO multi-country study to be as high as 49% (17). The Federal Ministry of Justice of Ethiopia (incorporated in 2002) promulgates regulations and punishment for wife battery, sexual violence, early marriage, abduction and female genital mutilation when a victim files a complaint (18, 19). However, these laws are not effectively enforced because very few people are aware of their legal rights and are unable to access these services (20).

In societies where violence is the norm, the level of intimate partner violence tends to be high (4, 13). Beliefs and norms seem to grant men control over female behaviour, making violence acceptable for resolving conflicts (3). Other studies have suggested that, in societies with high prevalence of interpersonal violence, attitudes that encourage or tolerate violence against women are viewed as normative behaviour (4, 21). Moreover, in societies where women's status is in transition, there might be a vulnerable transition period of more exposure to violence. However, there are limited data describing differences in the distribution of such

normative acts by residency and literacy and its contribution to vulnerability to intimate partner violence. To this end, this study examines the contribution of area of residence and literacy to rates of violence against women, focusing on norms and attitudes of women towards violence against women in Ethiopia.

Methods

Study setting

The study was conducted in Butajira district, situated 130 km south of Addis Ababa, Ethiopia. The district is organised administratively into small units called peasants' associations in rural areas and urban dwellers' associations in semi-urban areas. Most of the population (87%) resides in the rural villages in which households primarily depend on subsistence farming (16), comprising more than 85% of the economy. About 77% of the district population is illiterate with a literacy ratio of 1 to 3.5 between female and males, and less than 2% of the population has education beyond 8 years of schooling (20).

Study design

This was a community-based cross-sectional survey and was part of the WHO multi-country study on women's health and life events conducted between January and December 2002 (18, 19). The study took place in the Butajira Rural Health Programme (BRHP) within the district. The BRHP is a demographic surveillance site (DSS) that includes one semi-urban dwellers' association and nine rural peasant associations selected in 1986 from the Butajira district using a probability proportionate to size technique (20, 22). Women residing in the BRHP were the source population, and these women were selected using the following inclusion criteria: age between 15 and 49 years, resident of the BRHP for at least the last 3 months and registered in the BRHP database (19).

Sampling

As part of the health and life events of women project (19), the sample size was determined to detect lower associated odds of about 1.4 within an independent variable, taking the prevalence of physical violence against women in the study site to be 45% (23), using a 95% confidence level and 80% power. A maximum of 3,048 women were needed, and to compensate for possible non-response, an additional 152 women (about 5%) were added. Thus, a total of 3,200 women of child-bearing age were required.

Because about 15% of the population resides in urban areas, 85% of the sample was taken from rural peasants' associations. Additionally, in order to keep the number of women equally distributed in each clustered peasant

association, we recruited women on the basis of proportion to population size. The database by peasant association obtained from the BRHP, which contained the women's name, unique identity number and household number, provided a sampling frame, and women were selected by simple random sampling from the database of each association, using SPSS for Windows software. A total of 3,016 women completed the interview, giving a response rate of 94.3% (17, 19); however, the analysis in this paper focused on currently partnered women ($n = 1,994$).

Data collection

The WHO multi-country questionnaire was translated into Amharic. To ensure the participants would understand the terminology, the translated questionnaire was shared with several focus groups and with local community members during in-depth interviews. The focus group members and the community members provided feedback on the language. Interviews were performed by local women and supervisors who could speak the local language and who had previous experience of collecting data. They were specifically trained for the WHO standardised questionnaire (17, 19). After completing the training, a pre-test was performed in a village outside the surveillance site. To ensure the quality of data collection during fieldwork, we checked for completeness and consistency of information on the questionnaire and conducted a daily debriefing (19).

Measurements

In our analysis, the dependent variable is a woman's experience of physical violence by an intimate partner within the last 12 months. Definition of physical violence was based on the WHO multi-country study and a woman was considered as physically violated if she had experienced one or more of the six items of acts by a current or former intimate partner (Table 1).

Residency of women was categorised as urban or rural based on the Ethiopian Central Statistical Authority classification of places. A town with 2,000 inhabitants or more is labelled 'urban'; if a place has fewer than 2,000, it is labelled 'rural' (24). In this study, women dwelling in peasants' associations were labelled as rural residents and all others were labelled as urban. The literacy of a woman and her spouse was measured based on their reported level of formal education. Those women and their spouses who had a formal education of at least 1 year were considered literate; if not, they were considered illiterate. A combined measurement describing literacy and residency of the respondents and their spouses indicating eight levels of discordance was created by combining the literacy status of the women and their spouses with place of residence.

Attitudes towards domestic violence refers to three aspects of violence: women who believe in 'the right to refuse sexual intercourse with their husbands under certain circumstances' (measured using four item questions); women who believe that 'men are justified in beating their wives under certain circumstances' (measured using six items); and women who believe that 'male dominance is appropriate' (measured using four items). By adding the separate scores for each set of attitudes, women were categorised into 'highly accepting', 'partially accepting' or 'non-accepting' (Table 1). In this study, the respondent's age was categorised into three groups, whether their marriage was polygamous assessed as 'yes' or 'no', and their poverty status was measured using a summation of assets possessed as described elsewhere (25), categorised into 'better off', 'moderate' and 'extreme poverty'.

Analysis

Data were double entered using Epi-Info, version 6.04d. After data cleaning, binary and multivariate analyses were conducted using SPSS for Windows. For the analyses, experience of physical violence in the 12 months preceding the interview date was the dependent variable, examining its relation to residency and literacy. We analysed some characteristics of the women for differences between urban and rural areas. We also examined associations between women's opinions against physical violence by intimate partners both in urban and rural communities. Relationships between norms and attitudes for gender roles by residency and literacy levels were examined and their differences illustrated by proportions 95% confidence intervals. Where there were missing data due to non-response, the number of respondents was indicated. In the multivariate analyses, logistic regression was employed. In assessing the relationship between physical violence and residency-literacy gradient, analyses were adjusted for the age, polygamy and poverty status of the women. To assess interactions between urban-rural gradient, both additive and multiplicative effects were observed (data not shown). For the crude and adjusted analyses, odds ratios and 95% confidence intervals were applied.

Ethical considerations

The study followed the WHO ethical guidelines for research on violence against women (18, 26) and was approved by the ethics and publication committees of the Faculty of Medicine at Addis Ababa University and by the Ethiopian Science and Technology Commission (Ethiopia). The study was also assessed by the ethics committee at Umeå University (Umeå, Sweden) (01-133). Informed consent was provided at different levels; first local formal and informal leaders were informed about the study and asked for consent to approach women in

Table 1. Measurement of physical violence by intimate partner and attitude towards domestic violence among currently married women in Butajira, Ethiopia

Measurement	Criteria for labelling
Physical violence	
(1) Being slapped or something thrown at her	Experiencing any of the six items was considered as experiencing ' <i>physical violence</i> '
(2) Being pushed or shoved	
(3) Being hit with a fist or something else	
(4) Being kicked, dragged or beaten up	
(5) Being choked or burnt on purpose	
(6) Being threatened by a gun, knife or other weapon	
Women's opinions on saying 'no' to sex	
(1) Refuse sex: if woman does not want it	A woman believing in refusing for all four reasons was labelled as ' <i>non-accepting</i> ', refusing one to three items as ' <i>partially accepting</i> ' and not totally refusing all four of the circumstances as ' <i>highly accepting</i> '
(2) Refuse sex: if he is drunk	
(3) Refuse sex: if she is sick	
(4) Refuse sex: if he mistreats her	
Women's opinions on justifiably being hit	
(1) Reason to hit: lack of household work*	A woman believing that none of the six items justified intimate partner violence was labelled as ' <i>non-accepting</i> ', believing that one to five of the items justified intimate partner violence was labelled as ' <i>partially accepting</i> ' and believing that all six justified intimate partner violence was labelled as ' <i>highly accepting</i> '
(2) Reason to hit: wife disobeys	
(3) Reason to hit: wife refuses sex	
(4) Reason to hit: wife asks girlfriends	
(5) Reason to hit: husband suspects	
(6) Reason to hit: wife is unfaithful	
Attitudes favouring male dominance	
(1) A good wife obeys her husband	A woman not believing in any of the four items was labelled as ' <i>non-accepting</i> ', believing in one to three items was labelled as ' <i>partially accepting</i> ' and not totally believing in any of the circumstances was labelled as ' <i>highly accepting</i> '
(2) A man should show who is boss	
(3) A woman should not choose her own friends	
(4) A wife is obliged to have sex with her husband	

*For instance, cooking food, keeping the house clean, rearing children.

their area. Later, but prior to the interview, all women were individually informed and asked for consent. Referrals to trained counsellors were offered to respondents after the interviews were completed, and these services remained available for 1 year after the completion of the study.

Results

A total of 1,994 currently married women were included in the study; 87% lived in a rural community. More than three-quarters of the women lived in moderate or extreme poverty, and almost one-third of the women lived in a polygamous marriage. Only 15% of the women and 40% of spouses were literate. Overall, 32% of the women had

experienced physical violence during the previous 12 months. Compared to urban women, rural women were relatively younger, more illiterate and married to or cohabiting with an illiterate spouse. Fewer of these women were in polygamous marriages. There was no significant difference in overall poverty status between urban and rural women, although more women in urban communities lived in extreme poverty than those living in rural areas (Table 2).

Table 3 compares physical violence by intimate partner with some characteristics between urban and rural dwellers. Rural women in the age group 25–34, literate and living with literate spouses had significantly higher odds of experiencing physical violence. Moreover, regardless of

Table 2. Distribution of age, literacy and marriage type by residency of currently married women of child-bearing age in rural Butajira, Ethiopia ($n = 1,994$)

Characteristic	Urban ($n = 254$)		Rural ($n = 1,740$)		P-value
	No.	%	No.	%	
Age					
15–24	30	11.8	340	19.5	0.012
25–34	123	48.4	752	43.2	
35–49	101	39.8	648	37.2	
Woman literacy					
Illiterate	135	53.1	1,564	89.9	0.001
Literate	119	46.9	176	10.1	
Spousal literacy					
Illiterate	75	30.9	1,094	64.3	0.001
Literate	168	69.1	607	35.7	
Poverty status					
Better off	61	24.0	397	22.8	0.087
Moderate	127	50.0	1,118	64.3	
Extreme poverty	66	26.0	225	12.9	
Polygamous marriage					
No	155	61.8	1,207	69.6	0.013
Yes	96	38.2	528	30.4	

their residency, women living in extreme poverty were more likely to experience physical violence by an intimate partner (Table 3).

Table 4 compares gender-related norms and attitudes towards partner violence by residence and literacy level of women. Rural women were less likely to endorse the view that a wife has the right to refuse sex with her husband under any circumstances. Similarly, illiterate women living in rural areas were more likely to believe that men were justified in beating their wives. On the contrary, literate women and those living in urban communities were more likely to endorse women's right to refuse sex and to believe that none of the reasons given justified a man beating his wife (Table 4).

To address educational disparity in the household, an analysis was performed by combining women's residency and literacy with that of their spouses. Considering the literacy status of the women alone, women living in rural communities experienced higher odds of physical violence; moreover, literate women living in rural communities had the highest prevalence of experiencing physical violence (Adj. OR = 2.2; 95% CI: 1.3–3.7). Similarly, considering spousal literacy alone, more women living with a literate spouse in rural communities had experienced physical violence by an intimate partner (Adj. OR = 1.7; 95% CI: 1.1–2.5), both crudely and after adjustment for poverty, age and polygamous marriage.

Table 3. Prevalence of 12 months of intimate partner violence by age, literacy and marriage type stratified by residency of currently married women of child-bearing age in rural Butajira, Ethiopia ($n = 1,994$)

Characteristic	Urban				Rural			
	Sample	Prev.	OR	(95% CI)	Sample	Prev.	OR	(95% CI)
Age								
15–24	30	23.3	1		340	31.8	1	
25–34	123	30.1	1.4	0.6–3.6	752	37.8	1.3	1.0–1.7
35–49	101	24.8	1.1	0.4–2.8	648	26.9	0.8	0.6–1.1
Woman literacy								
Illiterate	135	30.4	1		1,564	31.7	1	
Literate	119	23.5	0.7	0.4–1.2	176	39.8	1.4	1.0–2.0
Spousal literacy								
Illiterate	75	33.3	1		1,094	31.2	1	
Literate	168	25.0	0.7	0.4–1.2	607	34.9	1.2	1.0–1.5
Poverty status								
Better off	61	14.8	1	0.9–4.9	397	33.5	1	
Moderate	127	27.6	2.2	1.5–8.4	1,118	31.4	0.9	0.7–1.2
Extreme poverty	66	37.9	3.5		225	36.4	1.1	0.8–1.6
Polygamous marriage								
No	155	23.9	1		1,207	32.2	1	
Yes	96	33.3	1.6	0.9–2.8	528	33.1	1.0	0.8–1.3

Table 4. Marital norms and attitudes towards intimate partner violence among currently married women by residency and education in Butajira, Ethiopia ($n=1,994$)

Attitudes and norms	Urban ($n=254$)		Rural ($n=1,740$)		Literate ($n=295$)		Illiterate ($n=1,699$)	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Women's opinion of saying no to sex								
Not accepting	40	34–46	31	29–33	39	33–45	31	29–33
Partially accepting	47	41–53	48	46–50	48	42–54	48	46–50
Highly accepting	13	8.9–17	21	19–23	14	10–18	21	19–23
Women's opinions on justifications for being hit								
Not accepting	29	23–35	14	12–16	23	18–28	14	12–16
Partially accepting	49	43–55	49	47–51	50	44–56	49	47–51
Highly accepting	22	17–27	38	36–40	27	22–33	37	35–39
Attitudes favouring male dominance								
Not accepting	7.9	5–11	2.6	2–3.3	6.1	3.2–9	2.8	2–3.6
Partially accepting	61	55–67	67	65–69	68	62–74	66	64–68
Highly accepting	32	26–38	31	29–33	26	21–31	32	30–34

Literate urban women having a literate spouse were least likely to have experienced physical violence. Using this group as a referent, we noted that rural women had significantly higher odds of experiencing physical violence with the highest odds being for literate women having an illiterate spouse (Adj. OR = 3.4; 95% CI: 1.7, 6.9) (Table 5).

Discussion

Women in the overall study area had beliefs and norms that favour violence against women; women living in rural communities and women who were illiterate were more likely to accept such attitudes. Experience of physical violence towards women was significantly associated with those living in rural communities and was more associated with rural literate women and rural women who married literate spouses.

As in other studies (9, 27, 28), rural community women were more likely to be illiterate, to marry an illiterate spouse and to marry at a lower age. This is consistent with the Ethiopian Demographic and Health Survey 2005, which describes early marriage and lower literacy rate in rural communities (28). As part of this transition, an urban-rural difference also comprises norms and beliefs. In urban communities, women favour autonomy, whereas in the rural and illiterate communities there is still a desire for virgin brides and a focus on more patriarchal and traditional values (6, 7). Due to this patriarchal norm, women who have internalised such social norms that justify 'acceptance' of traditional gender roles might be at greater risk of violence (17). They are also more likely to accept that violence against women is a normal part of life.

These attitudes seem to have a complex relationship with residency and literacy. Of course, women in rural communities expressed greater acceptance of traditional gender roles than those from urban communities where access to communication and media outlets is greater and people have more exposure to new ideas (17, 20). Women living in urban areas, especially the educated, may also have different options. This may be because access to media might contribute to changing traditional gender roles, norms and attitudes. Similarly, attitudes towards violence and gender roles were linked to disparities in literacy of women. This may be because literate people are more likely to use available information and new ideas than illiterate people.

The associations found between physical violence by an intimate partner and literacy and residency of the study subjects is difficult to interpret. Living in a rural community in general imposed an increase in exposure to violence compared to urban literate women. Studies around the world have found that violence against women is most common where gender roles are rigidly defined or enforced and where the concept of masculinity is linked to toughness, male honour or dominance (2, 13, 29). Women living in urban areas may have different options, facilitating coping strategies with regard to violence by intimate partners. In many studies, higher educational levels of women have been associated with lower levels of violence (11, 13, 15). This is justified by the idea that education might confer social empowerment and greater female autonomy, which in turn helps change norms and improve socioeconomic conditions (12, 13).

Rural literate women were the most adversely affected with the highest odds of experiencing intimate partner physical violence. Similarly, rural women having literate

Table 5. Experience of physical violence in the last 12 months among currently married women by categories of residence and education of respondents and their spouses, Butajira, Ethiopia ($n = 1,994$)

Categories	Sample	Prev.	Crude		Adjusted	
			OR	95% CI	OR	95% CI
Respondent alone						
Urban and literate	119	23.5	1		1	
Urban and illiterate	135	30.4	1.4	0.8–2.5	1.5	0.8–2.6
Rural and literate	176	39.8	2.3	1.3–3.6	2.2	1.3–3.7
Rural and illiterate	1,564	31.7	1.5	1.0–2.3	1.6	1.1–2.6
Spouse alone						
Urban and literate	168	25.0	1	0.8–2.7	1	0.8–2.8
Urban and illiterate	75	33.3	1.5	1.1–2.4	1.5	1.1–2.5
Rural and literate	607	34.9	1.6	0.9–2.0	1.7	0.9–2.1
Rural and illiterate	1,094	31.2	1.4		1.5	
Respondent and her spouse						
Urban						
Both literate	98	20.4	1		1	
Woman literate husband illiterate	21	38.1	2.4	0.9–6.6	2.4	0.9–6.6
Woman illiterate husband literate	81	29.6	1.6	0.8–3.3	1.7	0.8–3.4
Both illiterate	54	31.5	1.8	0.8–3.8	1.8	0.8–4.0
Rural						
Both literate	117	35.9	2.2	1.2–4.1	2.3	1.2–4.3
Woman literate husband illiterate	59	47.5	3.5	1.7–7.2	3.4	1.7–6.9
Woman illiterate husband literate	529	34.6	2.1	1.2–3.5	2.2	1.3–3.7
Both illiterate	1,035	30.2	1.7	1.0–2.8	1.8	1.1–3.1

spouses had higher odds of experiencing physical violence than urban women having literate spouses. This appears to illustrate the presence of an interaction. The interaction effect is observed in rural communities when women are literate. The effect of combined rural residency and literacy of women was two to three times higher than the additive or multiplicative effect of individual rural residency and literacy of women with respect to experiencing physical violence. This could be because literate women have greater female autonomy and are less likely to accept the traditional role of rural women, a response that is viewed as a transgression and deserving of chastisement (13, 20, 30, 31). Some studies have found that changes in women's status through education or increased earnings can place women at risk for violence in communities where the status of women is traditionally very low (12).

Likewise, literate men living in rural communities, where traditional gender roles are more prevalent, may want to retain their masculine dominance norms. In a community where violence is considered as a normative indicator of masculinity, their lower literacy level (20) may affect their critical thinking, resulting in their inability to see ways to communicate other than through violence.

In such communities, the relationship between intimate partner violence and female literacy is complex; the relation has an inverted 'U' shape with protection evident at lower and higher educational levels (13, 30). In this study, literate rural women married to an uneducated husband experienced more partner violence than literate urban women who married a literate spouse. This is consistent with studies indicating that intimate partner violence is associated with inequality between couples, especially in situations where husbands have lower status than their wives (2, 13, 32).

There are several potential limitations to this study. Firstly, given the cross-sectional design, neither a causal nor temporal ordering of the associations can be inferred. However, use of current (last 12 month) experience of physical violence against women, residence and literacy that seem to occur several years in the past could erode our concern of violating temporal relations due to study design. Furthermore, norms regarding gender roles and attitudes towards violence may be situational, so the observed differences might reflect underlying socioeconomic conditions that are not fully addressed in this paper. Secondly, the definition of literacy – 'at least 1 year of modern education' – might be difficult to ascertain.

However, in the study area (especially in the rural communities) most adults have a low educational level because modern education has only been available for the last two decades (20). Thirdly, under-reporting of violence is a potential problem in all research. However, this study was part of the WHO multi-country study, and great efforts were made to ensure high disclosure through interviewer training and data management (17) and including formative research to ensure that the instrument was culturally appropriate (19). Moreover, the high prevalence of physical violence found in this study is in the same range as earlier studies in the same area (23). Last but not least, analytical power was reduced as a result of stratifying the study subjects by residence and education of the respondents and their spouses.

Strengths of the study included its design, a community-based design using a random sampling technique in a DSS, attaining only little difference between its sample and the general population of the DSS for some socio-demographic characteristics (19). The high response rate (94.25%) of the WHO multi-country study (ranging from 99 to 64%) also strengthens the results (20). The high response rate might be explained by the fact that the households included in the study belong to a DSS and are generally willing to participate in research endeavours. The lack of variance between the interviewers in detecting women exposed to violence also supports the validity of the study.

Urban lifestyle and literacy may promote changes in gender norms and attitudes regarding intimate partner violence. However, as we have seen in this study, literacy in rural communities can expose women to an increased risk of experiencing intimate partner violence. As a common problem worldwide, the study identifies an urgent need to raise awareness about domestic violence and gender equality, especially in rural communities. Interventions that challenge traditional gender norms are a critical step to ensure women's rights and to promote improvements in women's status. We also recommend the promotion of massive formal education of young people regardless of sex and area of residence.

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