

BMJ Open R.E.S.P.e.c.T and intimate partner violence: a cross-sectional study using DHS data in Kenya

Caleb L Ward , Siobán Harlow

To cite: Ward CL, Harlow S. R.E.S.P.e.c.T and intimate partner violence: a cross-sectional study using DHS data in Kenya. *BMJ Open* 2021;**11**:e046069. doi:10.1136/bmjopen-2020-046069

► Prepublication history for this paper is available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2020-046069>).

Received 20 October 2020

Accepted 17 August 2021

ABSTRACT

Background Thirty per cent of all women experience intimate partner violence (IPV) in their lifetime. The aim of this study was to examine the association between the WHO's novel R.E.S.P.E.C.T framework and IPV among women in Kenya.

Methods We used the 2014 Kenya Demographic and Health Survey (KDHS). Only women selected for the domestic violence module and who were married/living with their partner were eligible for this study (n=3737). We created a summary score for the strategies denoted by R.E.S.P.T based on availability of questions addressing these strategies in the KDHS, and a total score that summed responses across all strategies. Each letter was assessed with Cronbach's alpha. Multiple logistic regression models were used to investigate the relationship between R.E.S.P.T scores and IPV.

Results All strategies except for E lowered the odds of IPV. Decision-making (R) was negatively associated with experiencing IPV (OR=0.62 (0.53 to 0.72)). Land and property ownership (E) were positively associated with experiencing IPV (OR=1.25 (1.08 to 1.43)). Access to healthcare (S) was negatively associated with experiencing IPV (OR=0.55 (0.48 to 0.63)). Higher levels of wealth (P) were negatively associated with experiencing IPV (OR=0.47 (0.37 to 0.62)). Not justifying wife-beating in any scenario (T) was negatively associated with experiencing IPV (OR=0.39 (0.29 to 0.53)). After adjusting for demographics, a 1-unit increase in total R.E.S.P.T score was negatively associated with experiencing IPV (AOR=0.63 (0.57 to 0.70)) with a similar finding for IPV in the past 12 months (AOR=0.59 (0.53 to 0.66)). Younger women, higher education and Muslim religion were associated with decreased odds of experiencing IPV while living in a rural location and working were associated with increased odds of experiencing IPV.

Conclusions Our study provides initial evidence that by using the multistrategy R.E.S.P.E.C.T framework, countries can dramatically lower the odds of women experiencing IPV. IPV prevention strategies must have a wide approach. The DHS can be used as a tool to monitor implementation and efficacy of this novel strategy.

INTRODUCTION

Thirty per cent of all women have experienced physical and/or sexual violence by an intimate partner.¹ Intimate partner violence (IPV), a common form of violence against

Strengths and limitations of this study

- This study adds to the body of literature on risk factors for intimate partner violence.
- This study is the first, to the best of our knowledge, to assess the utility of the WHO's novel R.E.S.P.E.C.T framework.
- Using the Demographic and Health Survey (DHS) provides a unique opportunity to assess the R.E.S.P.E.C.T intervention strategy at a nationwide level and to compare across countries.
- The cross-sectional design of the DHS precludes establishing causal inference.
- There is a potential for bias given the sensitive nature of the questions asked on the DHS, additionally not every strategy has relevant questions included in the DHS.

women (VAW) is a violation of the Declaration of Human Rights² and the Declaration on the Elimination of Violence against Women.³ IPV negatively affects women's physical, mental, sexual, reproductive health and well-being.¹ Additionally, 38%–50% of female homicides are committed by intimate partners.⁴ IPV also has social and economic consequences for families, communities and societies.¹ Recently, the global community has paid increased attention to IPV, but further study is needed to address its complexity and find effective intervention strategies. Although a worldwide issue, estimates of IPV rates in East Africa are among the highest globally.⁵

Prevention strategies often focus on women's empowerment. Sustainable Development Goal 5 explicitly defines Gender Equality as a global priority.⁶ Interventions such as microfinancing⁷ and gender-related health schemes have been implemented.⁸ Research often uses household-decision making as a measure of empowerment.^{9 10} Drawing on evidence of effective interventions, the WHO proposed the innovative R.E.S.P.E.C.T framework in 2019. This framework expands the traditional concept of women's empowerment and decision-making



© Author(s) (or their employer(s)) 2021. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

Department of Epidemiology, University of Michigan School of Public Health, Ann Arbor, Michigan, USA

Correspondence to

Caleb L Ward;
calward@umich.edu

Table 1 R.E.S.P.T strategy descriptions, questions and Cronbach's alpha

Strategy	Description	Question	Alpha
Relationship skills strengthened	This refers to strategies to improve skills in interpersonal communication, conflict management and shared decision-making	Who usually makes decisions about healthcare for yourself? Who usually makes decisions about making major household purchases? Who usually makes decisions about visits to your family or relatives? Who usually makes decisions about what food should be cooked each day?	0.61
Empowerment of women	This refers to economic and social empowerment strategies including those that build skills in self-efficacy, assertiveness, negotiation and self-confidence	Do you own this or any other house either alone or jointly with someone else? Do you own any land either alone or jointly with someone else?	0.85
Services ensured	This refers to a range of services including health, police, legal and social services for survivors of violence	Many different factors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not: ▶ Getting permission to go to the doctor? ▶ Getting money needed for advice or treatment? ▶ The distance to the health facility? ▶ Not wanting to go alone?	0.59
Poverty reduced	This refers to strategies targeted to women or the household, whose primary aim is to alleviate poverty	Wealth quintiles	
Transformed attitudes and beliefs	This refers to strategies that challenge harmful gender attitudes, beliefs, norms and stereotypes	In your opinion, is a husband justified in hitting or beating his wife in the following situations: ▶ If she goes out without telling him? ▶ If she neglects the children? ▶ If she argues with him? ▶ If she refuses to have sex with him? ▶ If she burns the food?	0.7
Total score			0.47

including seven strategies to prevent VAW:¹¹ Relationship skills strengthened, Empowerment of women, Services ensured, Poverty reduced, Environments made safe, Child and adolescent abuse prevented, Transformed attitudes and beliefs. These strategies are described more fully in [table 1](#).

A major component of relationship skills strengthened is decision-making. Evidence is mixed on the effects of women's autonomous decision-making power on IPV.^{12 13} Some studies report that women-alone decision-making is not associated with IPV, while joint-decision making is a protective factor.^{14 15} Other studies have found that women-alone decision-making is an associated risk factor for IPV,¹⁶ and that women's involvement in decision-making, both alone and joint, reduces risk of IPV.¹⁷

While the UN recommends economic empowerment for protection against VAW in its Beijing declaration,¹⁸ others posit that VAW increases when women are employed because male partners compensate for the increase in women's economic status or independence.¹⁹

Wealth is well studied as it relates to IPV. A multicountry study in 46 low-income and-middle-income countries examined wealth quintiles and found that poorer women were more vulnerable to IPV.²⁰ Other studies have reported similar findings.^{16 21} Asset ownership is less well studied. One multicountry study reported mixed results: ownership of assets was negatively associated with IPV in three countries, positively associated in five countries, and had no significant relationship in 20 countries.²² In India, researchers found land and especially house ownership to be negatively associated with IPV.²³ In Nicaragua and Tanzania, asset ownership was negatively associated with IPV and women felt increased autonomy and elevated respect from their husbands because of asset ownership.²⁴

Studies regarding the relationship between access to care and IPV are limited. One US study found survivors of IPV, both women and men, had lower rates of having health insurance, primary care providers and regular checkups compared with women and men who had not experienced IPV.²⁵ In Bangladesh and Ethiopia, women

who experienced IPV had significantly lower rates of antenatal care and lower use of trained providers for delivery.^{26 27} Yet, other US studies suggest that women who experienced IPV have increased rates of healthcare utilisation.^{28 29}

Attitudes and cultural beliefs have also garnered attention in relation to IPV. A multicountry study based on data from UNICEF's Multiple Indicator Cluster Survey found that the belief that IPV is acceptable, at least in some circumstances, was most prevalent in Africa and South Asia.³⁰ Increased justification of IPV is associated with increased risk of experiencing IPV.^{17 31}

The R.E.S.P.T framework tackles this multifaceted problem with a multifaceted solution, aiming strategies at several risk and protective factors simultaneously. Since this novel framework was recently released, work is needed to understand how this rubric may relate to understanding patterns of IPV at a national level. We investigated the relationship between IPV and the WHO's novel R.E.S.P.E.C.T framework using the 2014 Kenya Demographic and Health Survey (KDHS). The KDHS includes questions that measure five of the seven aspects of the R.E.S.P.E.C.T rubric (R.E.S.P.T).

METHODS

The 2014 KDHS collected demographic and health information from a representative, multistage cluster sample across Kenya's 47 counties over a period of 6 months, from May 2014 to October 2014. Clusters were sampled with a stratified probability proportional to size approach from 96 251 areas in the 2009 Kenya Population and Housing Census using a two-stage sample design. In the first stage, 1612 areas were selected from the larger frame: 995 rural and 617 urban areas. In the second stage, 25 households were randomly selected from each cluster, resulting in 40 300 households.

A total of 36 430 households were contacted. Interviews using the full version of the women's questionnaire were completed in half of the selected households for a total of 14 741 (47%) women. Only women selected for the domestic violence module (n=5657) and who were currently married or living with their partner (n=3866) were eligible for this study because several R.E.S.P.T variables were only asked of partnered women. The 129 women missing information for religion, ethnicity, age, urban/rural status or education were excluded for a final analytical sample of 3737 women.

Patient and public involvement

This research was performed without any public or patient involvement. Given the nature of the data, and the time and funding available, this was not feasible.

Measures

Intimate partner violence (IPV)

The DHS questions relating to IPV in the three categories of emotional violence, physical violence and sexual violence are listed in [table 2](#).

In the 2014 KDHS, women were asked questions beginning with 'Does/did your (last) husband/partner ever...?' Women who answered yes to any specific question were asked about frequency of the action in the last 12 months (often/sometimes/not in that time). Dichotomous variables were constructed indicating whether a woman had ever experienced any emotional violence (yes/no), any physical violence (yes/no), any sexual violence (yes/no) and any emotional, physical or sexual violence (yes/no). Similar indicator variables were created to indicate whether she had experienced these types of violence in the past 12 months.

R.E.S.P.T

We created a summary score for each dimension of R.E.S.P.T based on the set of questions addressing each

Table 2 Questions in the domestic violence module of the 2014 Kenya Demographic and Health Survey

Description	Question
Emotional violence	Did your (last) (husband/partner) ever: <ul style="list-style-type: none"> ▶ Say or do something to humiliate you in front of others? ▶ Threaten to hurt or harm you or someone you care about? ▶ Insult you or make you feel bad about yourself?
Physical Violence	Did your (last) (husband/partner) ever: <ul style="list-style-type: none"> ▶ Push you, shake you or throw something at you? ▶ Slap you? ▶ Twist your arm or pull your hair? ▶ Punch you with his fist or with something that could hurt you? ▶ Kick you, drag you or beat you up? ▶ Try to choke you or burn you on purpose? ▶ Threaten or attack you with a knife, gun or other weapon?
Sexual violence	Did your (last) (husband/partner) ever: <ul style="list-style-type: none"> ▶ Physically force you to have sexual intercourse with him when you did not want to? ▶ Physically force you to perform any other sexual acts you did not want to? ▶ Force you with threats or in any other way to perform sexual acts you did not want to?

dimension in the KDHS (see [table 1](#)). R (Relationship skills strengthened) was measured by three questions on decision-making. E (Empowerment of women) was measured by two questions about ownership of assets. S (Services ensured) was measured by four questions addressing access to health services. P (Poverty reduced) was assessed by household wealth quintile. T (Transformed attitudes and beliefs) was measured by seven questions on attitudes, beliefs and norms. The DHS did not capture information on safe environments (second E) and the most recent Kenyan survey did not include information on child discipline or child labour (C).

For R, the three response options for questions about who was responsible for decision-making were by the woman, by the man or by both. The literature is mixed on the relationship between decision-making and IPV as described above, but studies tend to agree that joint decision making is more protective than women-only decision-making. Additionally, because this framework stresses the importance of strengthening relationships, responses where the decision was made jointly was assigned 1 point, and responses that the decision was made by the woman alone was assigned 0.5 points.

E questions were scored in a similar fashion with ownership by the woman alone receiving 0.5 and jointly with her husband being assigned a score of 1. If a barrier to services was not an issue, S questions were assigned 1 point. P was scored based on the respondent's quintile; 1 point for the lowest quintile and up to 5 points for the highest. T was given 1 point per question answering 'No' to the justification. For each dimension, answers to each question were summed and divided by the number of questions to create a summary score. Scores for each component ranged from 0 to 1, and the total score for each respondent ranged from 0 to 5.

Analysis

Data were analysed using RStudio V.3.6.2. To compare IPV across demographic characteristics and the R.E.S.P.T framework, ORs and 95% CIs were estimated. Bivariate analyses and χ^2 tests were used to assess the association between IPV and covariates. Multiple logistic regression was used to adjust for potentially confounding variables. Strategies were modelled together to test for interaction based on previous research. Models were adjusted for age, religion, urban/rural status, work status and education level.

In preliminary analysis, Catholic, Protestant or Other did not have differing effects on IPV; however, being Muslim had a significant protective effect. Thus, religion was categorised into a binary variable (Muslim and non-Muslim). Age was categorised into groups with similar effects on IPV based on preliminary analyses (15–24, 25–39, 40–49). Model fit was assessed using the Hosmer-Lemeshow goodness-of-fit test. Each component of R.E.S.P.T as well as the total score was analysed in relation to lifetime and to past 12-month experience of IPV. As the E strategy was found to increase the odds of experiencing

IPV, two total scores were presented, one summing all five strategies, and one without E. Models for both total scores were adjusted for.

RESULTS

[Table 1](#) provides Cronbach's alpha for each strategy.³² E and T had an acceptable level of internal consistency with alphas being 0.85 and 0.7, respectively. R and S had somewhat lower values of 0.61 and 0.59, respectively. P only included only one question. The total score had an alpha of 0.47. Of the 3737 women, 14% were Muslim, 64% lived in a rural setting, 64% were currently working and 82% had at least a primary level education. A total of 1197 women (32%) reported having ever experienced any type of IPV.

As shown in [table 3](#), compared with women aged 25–39, women 15–24 had decreased odds of IPV (OR=0.77 (0.65 to 0.93)), while women aged 40–49 had increased odds of experiencing IPV (OR=1.23 (1.03 to 1.48)). Obtaining a higher level of education was associated with decreased odds of experiencing IPV (OR=0.37 (0.25 to 0.54)) and being Muslim was associated with decreased odds of experiencing IPV (OR=0.40 (0.24 to 0.67)). Living in a rural location was associated with increased odds of IPV (OR=1.33 (1.15 to 1.54)). Women currently working had increased odds of experiencing IPV (OR=1.62 (1.40 to 1.88)). A total of 910 women had experienced IPV in the last 12 months at the time of the survey. Age was not associated with IPV in the past 12 months but ratios for other demographic characteristics were similar to those observed for ever-experienced IPV.

[Table 4](#) shows the crude ORs for each component of the R.E.S.P.T scale in women ever experiencing IPV, and those who experienced IPV in the last 12 months. All strategies except for E lowered the odds of IPV. Women with a score of 1 point for R had a 40% decreased odds of IPV (OR=0.62 (0.53 to 0.72)) compared with a score of less than 1. Women with 1 point for E had a 25% increased odds of IPV (OR=1.25 (1.08 to 1.43)) compared with a score of less than 1. A score of 1 point for S resulted in almost a halving of the odds of experiencing IPV (OR=0.55 (0.48 to 0.63)) compared with a score of 0 to 0.75. P was modelled as a continuous variable. For every 1-unit increase the odds of experiencing IPV were lowered by more than half (OR=0.47 (0.37 to 0.62)). Women with higher scores on T had lowered odds of experiencing IPV but the decrease was only statistically significant for those who had a score of 0.6–0.8 points (OR=0.54 (0.39 to 0.74)) or 1 point (OR=0.39 (0.29 to 0.53)). The ORs for women who reported IPV in the last 12 months were similar to those for women who ever-experienced IPV. No significant interaction was found between R and T.

After adjusting for age, religion, urban/rural status, work status and education level, a 1-unit increase in total score was associated with a 40% decreased odds of lifetime experience of IPV (OR=0.63 (0.57 to 0.70)) with a similar finding for IPV in the past 12 months (OR=0.59 (0.53

Table 3 Crude ORs of any intimate partner violence by demographic characteristics among 3737 currently married or living with partner and selected for domestic violence module, 2014 Kenya Demographic and Health Surveys

	N	(%)	Any IPV (n=1197)			Any IPV in the last 12 months (n=910)		
			n	(%)	OR (95% CI)	n	(%)	OR (95% CI)
Age (years)								
25–39	2304	(61.7)	745	(62.2)	Ref.	576	(63.3)	Ref.
15–24	794	(21.2)	215	(18)	0.77 (0.65 to 0.93)	171	(18.8)	0.82 (0.68 to 1.0)
40–49	639	(17.1)	237	(19.8)	1.23 (1.03 to 1.48)	163	(17.9)	1.03 (0.84 to 1.25)
Religion								
Non Muslim	3204	(91.2)	1092	(2.4)	Ref.	844	(92.7)	Ref.
Muslim	533	(14.3)	105	(8.8)	0.40 (0.24 to 0.67)	66	(7.3)	0.50 (0.33 to 0.76)
Residence								
Urban	1353	(36.2)	381	(31.8)	Ref.	300	(33)	Ref.
Rural	2384	(63.8)	816	(68.2)	1.33 (1.15 to 1.54)	610	(67)	1.21 (1.03 to 1.41)
Currently working								
No	1365	(36.5)	349	(29.2)	Ref.	273	(30)	Ref.
Yes	2372	(63.5)	816	(68.2)	1.62 (1.40 to 1.88)	637	(70)	1.47 (1.25 to 1.73)
Education level								
No education	656	(17.6)	196	(16.4)	Ref.	142	(23.4)	Ref.
Primary	1993	(53.3)	742	(62)	1.39 (1.15 to 1.69)	559	(29.3)	1.41 (1.15 to 1.75)
Secondary	817	(21.9)	222	(18.5)	0.88 (0.70 to 1.10)	183	(39.7)	1.04 (0.82 to 1.34)
Higher	271	(7.3)	37	(3.1)	0.37 (0.25 to 0.54)	26	(2.9)	0.38 (0.24 to 0.59)

IPV, intimate partner violence.

to 0.66)) (table 5). The R.E.P.T. total score decreased the odds further such that a 1-unit increase in score was associated with nearly a 50% decrease in the odds of IPV lifetime experience (OR=0.54 (0.48 to 0.61)) and of IPV experience in the last 12 months (OR=0.50 (0.44 to 0.57)).

DISCUSSION

To the best of our knowledge, this paper is the first to analyse IPV risk based on the novel R.E.S.P.T framework using nationally representative data. A higher total score was associated with lower odds of both lifetime experience and past 12-month experience of IPV. Each 1-unit increase in the score resulted in a 40% decrease in women's risk of experiencing IPV. Individually, strategies related to relationship skills, services ensured, poverty reduced and transformed attitudes and beliefs were associated with lower odds of IPV. Effort to increase interventions in these areas may decrease the prevalence of IPV. However, E, as measured by land and property ownership, increased women's risk of IPV. Further investigation of reasons for this finding is warranted.

Joint and women only decision-making has been shown to decrease odds of IPV in several studies.^{12,17} In the continuous Peru, DHS from 2005 to 2012 each additional joint decision was associated with 9% and 16% lower odds of moderate and severe physical violence, respectively, while

women-only decision-making had no effect.¹⁵ We found that joint-decision making was more strongly protective against IPV than women-alone decision-making. Women who were involved jointly in all four decisions had half the odds of experiencing IPV.

A Mumbai study assigned points in a similar fashion to our R scale, but scored autonomous and joint-decision making equally. That study found decision-making was only associated with IPV when considered along with justification of wife-beating; women who were both not involved in decision-making and justified abuse had more than double the risk of experiencing IPV than women who were involved in decision-making and did not justify wife-beating.¹⁷ We did not find a significant interaction between decision-making and justified abuse. This may reflect from between-country differences and/or differences in scale construction.

We found that joint ownership of land and a home (E) increased the odds of experiencing IPV, similar to what was observed for some countries in a 28-country study of ownership and IPV. Women in five countries (Burkina Faso, Egypt, Jordan, Mali and Nepal) were more likely to experience IPV if they owned assets, jointly or alone, than women not owning assets. Three other countries (Democratic Republic of Congo, Pakistan and Honduras) had an opposite finding, consistent with studies in India,²³ Nicaragua and Tanzania²⁴ where women's asset

**Table 4** Crude ORs of R.E.S.P.T scores by women who ever experienced any intimate partner violence, 2014 Kenya Demographic and Health Surveys

	N	(%)	Any IPV (n=1197)			Any IPV in the last 12 months (n=910)		
			n	(%)	OR (95% CI)	n	(%)	OR (95% CI)
R								
<1	3489	(93.4)	1151	(96.2)	Ref.	878	(96.5)	Ref.
1	248	(6.6)	46	(3.8)	0.46 (0.33 to 0.63)	32	(3.5)	0.44 (0.30 to 0.63)
E								
<1	1865	(49.9)	555	(46.4)	Ref.	483	(53.1)	Ref.
1	1872	(50.1)	642	(53.6)	1.23 (1.07 to 1.41)	427	(46.9)	1.17 (1.01 to 1.36)
S								
0–0.75	1928	(51.6)	738	(61.7)	Ref.	579	(63.6)	Ref.
1	1809	(48.4)	459	(38.3)	0.55 (0.48 to 0.63)	331	(36.4)	0.52 (0.45 to 0.61)
P								
0.2	983	(26.3)	318	(26.6)		244	(26.8)	
0.4	761	(20.4)	314	(26.2)		245	(26.9)	
0.6	680	(18.2)	242	(20.2)		178	(19.6)	
0.8	699	(18.7)	203	(17)	as continuous	154	(16.9)	as continuous
1	614	(16.4)	120	(10)	0.47 (0.37 to 0.60)	89	(9.8)	0.47 (0.37 to 0.62)
T								
0	190	(5.1)	91	(7.6)	Ref.	69	(7.6)	Ref.
0.2–0.4	668	(17.9)	276	(23.1)	0.77 (0.55 to 1.06)	213	(23.4)	0.82 (0.59 to 1.15)
0.6–0.8	1000	(26.8)	332	(27.7)	0.54 (0.39 to 0.74)	267	(29.3)	0.64 (0.46 to 0.89)
1	1879	(50.3)	498	(41.6)	0.39 (0.29 to 0.53)	361	(39.7)	0.42 (0.31 to 0.58)

IPV, intimate partner violence.

ownership was protective. In contrast, increasing wealth quintile decreased the odds of IPV consistent with prior studies.^{20 33} More research is needed to better understand how asset ownership influences IPV risk, and the factors that account for the differences across countries. It is important to understand how to advance women's ownership and economic status without increasing risk of IPV.

This research adds to the growing body of work on barriers to care and IPV. Studies in Bangladesh and Ethiopia found women who experience IPV had lower odds

of receiving care or delivering with a skilled clinician.^{26 27} US studies have reported conflicting results.^{28 29} We found that women who had no perceived barriers had half the odds of experiencing IPV.

T, measured by questions on justification of wife-beating, was more strongly associated with reducing odds of experiencing IPV than any of the other strategies. Studies in Nigeria and India had similar results.^{17 31} These data suggest the importance of using a multifaceted strategy such as the R.E.S.P.E.C.T framework.

Table 5 Crude and adjusted ORs of R.E.S.P.T total score by women who ever experienced any intimate partner violence 2014 Kenya Demographic and Health Surveys

	Crude		Adjusted for demographics		
	OR (95% CI)	P value	OR (95% CI)	P value	
Total score any IPV	0.72 (0.66 to 0.78)	<0.0001	0.62 (0.56 to 0.68)	<0.0001	
Total score 12 months	0.66 (0.60 to 0.72)	<0.0001	0.57 (0.51 to 0.63)	<0.0001	
		Crude: E		Adjusted for demographics: E	
		OR (95% CI)	P value	OR (95% CI)	P value
Total score any IPV		0.57 (0.52 to 0.63)	<0.0001	0.51 (0.46 to 0.58)	<0.0001
Total score 12 months		0.56 (0.50 to 0.62)	<0.0001	0.47 (0.41 to 0.53)	<0.0001

IPV, intimate partner violence.

The DHS provides a unique opportunity to assess the utility of the R.E.S.P.E.C.T intervention strategy at a nationwide level and to compare across countries. However, not every strategy has relevant questions included in the DHS while other strategies had only a limited number of questions such that assessment of the strategy was not complete. The total score had a low Cronbach's alpha suggesting analysing strategies alone rather than as a summary score might be a better approach. Although using the DHS was an imperfect solution for data on this scale, further development of questions to improve the scale is warranted.

Limitations of this study include the cross-sectional design of the DHS that preclude establishing causal inference, the potential for social desirability bias given the sensitive nature of the questions³⁴ and recall bias may have resulted in under-reporting of IPV. Nonetheless, this study had several strengths. It adds to the body of literature on many risk factors for IPV and is the first, to the best of our knowledge, to assess the utility of the WHO's novel R.E.S.P.E.C.T framework. The DHS provides a unique opportunity to assess the utility of the R.E.S.P.E.C.T intervention strategy at a nationwide level and to compare across countries.

CONCLUSIONS

This study found that multiple strategies, together, reduced the risk of IPV providing supporting evidence for addressing IPV through a socioecological approach integrating multiple levels of influence. The R.E.S.P.E.C.T framework targets multiple levels of a woman's life experience through this socioecological lens combining strategies from societal, community, relationship and individual levels. We encourage others to assess the WHO's novel framework using available data from the DHS of other countries to evaluate the utility of the framework and monitor its impact as recommended interventions are put into action over time. This study provides initial evidence that by using the multistrategy R.E.S.P.E.C.T framework, we can dramatically lower the odds of women experiencing IPV.

Twitter Caleb L Ward @calebward94

Acknowledgements We are grateful to the DHS Programme and IPUMS for providing access to this data set.

Contributors CLW and SH conceived the study. CLW managed data sets and analysed the data. CLW drafted the paper with revisions from SH. All authors read and approved the final manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research.

Patient consent for publication Not required.

Ethics approval Not applicable since the study was a secondary analysis of publicly available data.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data are available in a public, open access repository. The data set supporting the conclusions of this article is available in the DHS Programme repository, <http://www.dhsprogram.com>.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: <http://creativecommons.org/licenses/by-nc/4.0/>.

ORCID iD

Caleb L Ward <http://orcid.org/0000-0002-6816-1308>

REFERENCES

- 1 WHO. Violence against women, 2020. Available: <https://www.who.int/news-room/fact-sheets/detail/violence-against-women>
- 2 United Nations. Universal Declaration of human rights, 1948. Available: <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- 3 United Nations. *Declaration on the elimination of violence against women*. New York: UN, 1993. https://www.un.org/en/genocideprevention/documents/atrocities-crimes/Doc.21_declaration%20elimination%20vaw.pdf
- 4 UNODC. *Global study on homicide 2018*. Vienna: UNODC, 2018.
- 5 Garcia-Moreno C, Jansen HAFM, Ellsberg M, *et al*. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. *The Lancet* 2006;368:1260–9.
- 6 United Nations. SDG5: achieve gender equality and empower all women and girls, 2015. Available: <https://sustainabledevelopment.un.org/sdg5>
- 7 Huis MA, Hansen N, Otten S, *et al*. A three-dimensional model of women's Empowerment: implications in the field of microfinance and future directions. *Front Psychol* 2017;8:1678.
- 8 Mandal M, Muralidharan A, Pappa S. A review of measures of women's empowerment and related gender constructs in family planning and maternal health program evaluations in low- and middle-income countries. *BMC Pregnancy Childbirth* 2017;17:342.
- 9 Upadhyay UD, Gipson JD, Withers M, *et al*. Women's empowerment and fertility: a review of the literature. *Soc Sci Med* 2014;115:111–20.
- 10 Sanawar SB, Islam MA, Majumder S, *et al*. Women's EMPOWERMENT and intimate partner violence in Bangladesh: investigating the complex relationship. *J Biosoc Sci* 2019;51:188–202.
- 11 WHO. *Respect women: preventing violence against women*. Geneva: World Health Organization, 2019.
- 12 Antai D. Controlling behavior, power relations within intimate relationships and intimate partner physical and sexual violence against women in Nigeria. *BMC Public Health* 2011;11:511.
- 13 Gage AJ, Hutchinson PL, Power HPL. Power, control, and intimate partner sexual violence in Haiti. *Arch Sex Behav* 2006;35:11–24.
- 14 Zegenhagen S, Ranganathan M, Buller AM. Household decision-making and its association with intimate partner violence: Examining differences in men's and women's perceptions in Uganda. *SSM - Population Health* 2019;8:100442.
- 15 Svec J, Andic T. Cooperative decision-making and intimate partner violence in Peru. *Popul Dev Rev* 2018;44:63–85.
- 16 Hindin MJ, Adair LS. Who's at risk? factors associated with intimate partner violence in the Philippines. *Soc Sci Med* 2002;55:1385–99.
- 17 Donta B, Nair S, Begum S, *et al*. Association of domestic violence from husband and women Empowerment in slum community, Mumbai. *J Interpers Violence* 2016;31:2227–39.
- 18 United Nations. Beijing Declaration and platform for action 1995.
- 19 Riger S, Krieglstein M. The impact of welfare reform on men's violence against women. *Am J Community Psychol* 2000;28:631–47.
- 20 Coll CVN, Ewerling F, Garcia-Moreno C, *et al*. Intimate partner violence in 46 low-income and middle-income countries: an appraisal of the most vulnerable groups of women using National health surveys. *BMJ Glob Health* 2020;5:e002208.
- 21 Ahinkorah BO, Dickson KS, Seidu A-A. Women decision-making capacity and intimate partner violence among women in sub-Saharan Africa. *Arch Public Health* 2018;76:5.
- 22 Peterman A, Pereira A, Bleck J, *et al*. Women's individual asset ownership and experience of intimate partner violence: evidence from 28 international surveys. *Am J Public Health* 2017;107:747–55.
- 23 Panda P, Agarwal B, violence M. Marital violence, human development and women's property status in India. *World Dev* 2005;33:823–50.



- 24 Grabe S, Grose RG, Dutt A, *et al.* And relationship power: a mixed methods approach to understanding structural inequities and violence against women. *Psychology of Women Quarterly* 2015;39:7–19.
- 25 Massetti GM, Townsend JS, Thomas CC, *et al.* Healthcare access and cancer screening among victims of intimate partner violence. *J Womens Health* 2018;27:607–14.
- 26 Rahman M, Nakamura K, Seino K, *et al.* Intimate partner violence and use of reproductive health services among married women: evidence from a national Bangladeshi sample. *BMC Public Health* 2012;12:913.
- 27 Mohammed BH, Johnston JM, Harwell JI, *et al.* Intimate partner violence and utilization of maternal health care services in Addis Ababa, Ethiopia. *BMC Health Serv Res* 2017;17:178.
- 28 Brown MJ, Weitzen S, Lapane KL. Association between intimate partner violence and preventive screening among women. *J Womens Health* 2013;22:947–52.
- 29 Rivara FP, Anderson ML, Fishman P, *et al.* Healthcare utilization and costs for women with a history of intimate partner violence. *Am J Prev Med* 2007;32:89–96.
- 30 Tran TD, Nguyen H, Fisher J. Attitudes towards intimate partner violence against women and men in 39 low- and middle-income countries. *PLoS One* 2016;11:e0167438.
- 31 Okenwa-Emegwa L, Lawoko S, Jansson B. Attitudes toward physical intimate partner violence against women in Nigeria. *Sage Open* 2016;6:215824401666799.
- 32 Cronbach LJ. Coefficient alpha and the internal structure of tests. *Psychometrika* 1951;16:297–334.
- 33 Memiah P, Ah Mu T, Prevot K, *et al.* The prevalence of intimate partner violence, associated risk factors, and other Moderating effects: findings from the Kenya National health demographic survey. *J Interpers Violence* 2021;36:5297–317.
- 34 Edwards AL. The relationship between the judged desirability of a trait and the probability that the trait will be endorsed. *J Appl Psychol* 1953;37:90–3.