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Refusal of male partner responsibility and pregnancy support: prevalence, associated factors and health outcomes in a cross sectional study in Harare, Zimbabwe

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Abstract

Background The phenomenon of fathers refusing responsibility during pregnancy has not received adequate attention in African studies. This paper assesses associated factors and pregnancy-related outcomes when fathers refuse to support partners' pregnancies and undertake parental responsibilities.

Methods A cross-sectional survey of 15–49-year-old postnatal (1–6 weeks) women was conducted at six urban health facilities in Harare. Participants were interviewed about their male partners' refusal to support their pregnancies and parenting, bride price payments (indicating marriage commitment), partner violence and control, alcohol abuse and family planning decision-making. Pregnancy health outcome data including antenatal care attendance, low birth weight (LBW)(< 2500 g) and postnatal depression were collected through interviews and clinic records. Multiple regression models were built to assess gender-related factors and health outcomes associated with male partners' refusal of parenting responsibilities.

Results Of the 2042 women interviewed, 6.4% reported partner refusal to support the pregnancy or parenting. Higher odds of partner refusal of fathering responsibility were associated with partners not paying bride price (aOR 9.31; 95% CI 1.16–74.59), violence perpetration during pregnancy (aOR 2.84; 1.28–6.23), highly controlling behaviours (aOR 4.96; 2.83–8.69), alcohol abuse (aOR 1.78; 1.05–3.02), unintended pregnancy (aOR 3.72; 1.84–7.53) and partner refusal to use contraceptives (aOR 3.64; 1.86–7.14). Women who used contraceptives (aOR 0.40; 0.23–0.71), made joint (aOR 0.30; 0.14–0.67) or individual (aOR 0.25; 0.07–0.94) pregnancy decisions were protected from partner refusal of parenting responsibility. Women's depressive symptomatology (aOR2.64; 1.52–4.59), LBW (aOR5.30; 1.18–23.74) and partner discouragement of antenatal care attendance (aOR 3.86; 1.13–13.17) were pregnancy outcomes associated with partner refusal of parenting responsibility.

Conclusions Male partners' refusal to acknowledge parenting responsibility was associated with men's abusiveness, absence of commitment to long-term relationship/marriage, gender unequal practices and negative maternal and

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child health outcomes. Parenting programmes must be instituted and prioritise transforming traditional gender norms to improve fathering responsibilities.

Keywords Parenting, Pregnancy support, Intimate partner violence, Partner control, Pregnancy outcomes, Zimbabwe

Introduction

Global neonatal mortality remains high at 18.0 deaths per 1000 live births although there is evidence of a decline from 36.6/1000 in 1990 to 18.0/1000 in 2017 [1] against a WHO target of 12.0/1000. Five million neonatal deaths were reported during this period as well as many other negative outcomes on children and mothers. The highest neonatal mortality decline of 44.0% was reported in the countries with the highest mortality such as in East and Southern Africa (from 43.2 to 24.2%). Despite regional declines, the neonatal mortality increased in Zimbabwe from 27/1000 to 32/1000 live births between 1990 and 2017 [2]. Accelerated decline through country improvements are required. In Zimbabwe a study found that a one unit increase in antenatal care quality can reduce the risk of neonatal mortality by 42.3% [3]. Father involvement in pregnancy and child health is increasingly targeted to improve antenatal and postnatal care quality for improved child health [4, 5].

The literature finds critical benefits of involving fathers in child wellbeing from pregnancy onwards [1, 6–8]. Positive male parental involvement is often associated with a reduction in negative maternal and child health outcomes including limited foetal growth, low birth weight and preterm birth [8–11]. Studies have also shown extending benefits of fathers' involvement into the post-infant period such as reduction of child mortality [7, 12, 13]. Some studies have shown that pregnant mothers expect fatherhood and partnership in parenting from conception onwards [13, 14]. Responsible fatherhood and partnership may be characterised by being present, available and accessible, and show/exhibit a willingness or commitment to care for children and support the mother during the pregnancy and thereafter [1, 6, 15, 16]. This entails, giving the mother and unborn baby emotional, physical and financial support through actively sharing with the child's mother in the continuing care from pregnancy onwards [12, 17, 18]. These forms of male parenting support have been reported to contribute towards a gamut of positive health outcomes for the mother, the foetus and neonatal babies. Fathering may therefore be contributing towards sustainable development goals on mother and child health and gender equality promotion. For example, newborn deaths, which are globally estimated to constitute 42% of all deaths in children under five years, could be reduced through improving the quality and access to essential antenatal care as well as greater involvement of fathers in the care of mothers and their foetus [9].

Men can assume responsible fatherhood role by being physically present or actively involved in caring for own children [10, 15]and not merely sharing a biological identity with an offspring [19]. A father's physical presence does not only benefit the mother and the baby, but also asserts the father's identity and role early on in the relationship [20]. It allows bonding between the father and child and has numerous emotional benefits and physical benefits for the child, both unborn and born [19, 21, 22].

Despite all these benefits of fatherhood, fathers are not always available to their pregnant partners and their foetus and newborns. In the OECD countries, between 10% and 25% of all children live with their fathers [23]. As many as 1 in 6 fathers in the USA [24] and one in two fathers in South Africa [25, 26] do not live with their children. Several explanations have been put forward to explain the situation in which fathers become physically or emotionally absent from their families especially their pregnant female partners and unborn children. These range from suspicion of infidelity, unwillingness or lack of commitment to settle in a long-term relationship or marriage with the mother, divorce, labour migration, wars and incarceration [22, 27–30]. Little debate has been had on how fathers communicate their refusal and the effect of the refusal. Although much has been written about challenges of single mothers and the poorer development of children without father figures, little is known about the factors associated with refusal and immediate-to-short-term (and direct) effect of a male partner's refusal to accept their parenting responsibilities.

Research on parenting and support is methodologically weak on fatherhood, tilted in the western cultural practices and in favour of mothers or joint parenting without a dedicated focus on fathers [6, 31–35]. However, male parenting studies are important for the holistic understanding of parental influences on child development and health. It is important to examine the ways in which fathers withdraw their support from their unborn children and the effects it has on those children. Nevertheless, the early detachment/absence of fathers from their pregnant partners and unborn children has not received significant attention in the Zimbabwean situation in relation to health of women and their unborn children. There is not much research done to describe the process of men refusing their parenting responsibility during the antenatal stage and around the time of delivery, nor has any research dealt adequately with factors associated with refusing to acknowledge parenting. Low income urban areas with high volume clinics offering postnatal

health services may be a good setting to identify mothers of newborns to investigate parenting and related gender inequality and health outcomes. We conducted an analysis of fathers' refusal of parenting responsibilities from a women's health study to estimate the prevalence of refusal of male parenting responsibility and determine the factors and pregnancy outcomes associated with such refusal among a sample of postnatal women from Harare, Zimbabwe.

Methods

Study design and sampling

We conducted a cross-sectional study of post-natal women aged 15 to 49 years who attended post-natal public health facilities at 10 days or 6 weeks postnatal visits in urban Harare. The full methodology for this study has been described elsewhere [36, 37]. The postnatal facilities (described as polyclinics) where data were collected, provided comprehensive primary health care to residents in their catchment areas. Six of the highest volume postnatal facilities (< 30 new pregnant women per month) in the low-income urban residential areas of Harare were conveniently selected and included in the study. Six female research assistants with social science qualifications ranging from post-secondary school certificates to master's degrees were trained for seven days and deployed at the clinics to enrol and interview the women. Through convenience sampling, we asked all women, one after the other, queuing to access postnatal care at six clinics to participate in the study. The study received ethics approval from the Medical Research Council of Zimbabwe. Women provided written informed consent before participating in the survey after the information sheet was read to them by research assistants and questions were posed and answered to the participants' satisfaction.

Questionnaire development

An interviewer administered questionnaire was developed in English and translated into Shona by an expert and back translated to English to check for consistency and accuracy of the translation. Several variables were included in the questionnaire as described in this section and shown in Table 1. Most of these were used in the WHO (2005) survey for conducting research on violence against women and girls and validated in the 2007 Zimbabwe Demographic and Health Surveys. Before the actual survey, we conducted a pretest with 60 women at one of the six health facilities where the study was conducted. This was done to assess ethical issues, logistics and flow of questions. Adaptation to the questionnaire was made based on findings from this pre-test.

Table 1 shows a summary of key measures for this analysis. In this summary we presented 8 measures, drawn from the WHO study [38, 39] for assessing intimate partner violence, partner controlling behaviours, birth weight and postnatal depression symptomatology and three measures from locally developed concepts and reported elsewhere in Zimbabwe [40, 41]. We developed a measure of refusal of male parenting responsibility and pregnancy support for this study based on the local community practices in Zimbabwe [40, 41]. We

Table 1 Key measures of the study

	Measure	Source	Description	Example
1	Bride price payment	Shona culture, Zimbabwe (47, 48)	Upon marriage a man is expected to show love and respect by making marriage payments for the woman he wants to marry	Has all of the bride price been paid for, or does some part still remain to be paid? Responses: All paid = 1, Partially paid = 2, None paid = 3
2	Preparation items	Shona culture, Zimbabwe	A local custom expects a man to purchase baby delivery items and clothes. A sign of care, love & parenting	Did the father of this child buy 'preparation' for your baby? Yes = 1 No = 2
3	Refusal of parenting responsibility & pregnancy support	Study-defined based on literature (40, 41).	Father of the baby (partner) refused to take responsibility for and support the pregnancy; Y/N	Has your husband/ partner ever refused responsibility for your most recent pregnancy or to look after the child? Yes = 1 No = 2
4	Intimate partner violence (IPV)	Conflict Tactics scale (42), WHO scale (38, 39)	Any act of physical, sexual or emotional violence; 13 items	Did your husband/partner physically force you to have sexual intercourse when you did not want to in the last 12 months? Yes = 1 No = 2
5	Partner's controlling behaviours	WHO scale (38)	At least 3 of the 6 measures of partner controlling behaviours	Thinking about your (current or most recent) husband/partner, would you say it is generally true that he is often suspicious that you are unfaithful Yes = 1 No = 2
6	Low birth weight	Clinic records (WHO, 2005)	Baby weight lower than 2500 g at birth	Abstracted birth weight from clinic records
7	Postnatal depression symptomatology	WHO version of the CES-D (38, 39)	A scale validated in Zimbabwe and other African settings; 20 items	Referring to the last 4 weeks, do you often have headaches? Yes = 1 No = 2
8	Suicide thoughts	WHO scale (38, 39)	Described as ever had thoughts to kill oneself	Referring to the last 4 weeks, has the thought of ending your life been on your mind? Yes = 1 No = 2

asked participants if their partners (i) ever refused the responsibility to parent their new babies, and/or (ii) ever refused to provide pregnancy related support for the most recent pregnancy (including financial, emotional or physical support). Participants responded with a *Yes* or *No* answer. In this study partners were described as current or past husbands, fiancés or boyfriends. Participants were also asked the way their male partners had communicated this refusal which included use or non-use of physical, sexual, verbal or emotional violence. Following the WHO study we measured intimate partner violence (IPV) using six physical, three sexual and four emotional violence questions that referred to experiences in the last 12 months and another one during pregnancy following the WHO definition of IPV [38, 39] which borrowed concepts from the revised Conflict Tactics Scale [42]. A positive response to any of these questions was interpreted as an experience of IPV. We used the partner controlling behaviours scale of six questions to assess the relationship characteristics between the woman and her male partner [43]. Answering three out of six questions in the affirmative was considered as living in a gender unequal and partner controlling relationship [43].

The male partner's problem drinking during pregnancy was assessed by asking whether a woman's partner ever had money, behavioural conflicts or health problems in the family, with friends or authorities as a result of drinking alcohol. This followed the definition of alcohol drinking problem used in previous studies in South Africa [44, 45]. We assessed postnatal depression symptomatology using 20 items from the Centre for Epidemiological Studies—Depression (CES-D) scale [38] and we reported it in detail in another publication [46]. Suicide thoughts were assessed by asking whether a participant ever had thoughts of killing themselves and this was dichotomised as *No* and *Yes* [38, 47].

The questionnaire also contained questions about demographic characteristics of the participants and their partners including age in years, marriage type, highest educational level attended and socio-economic characteristics. Participants were asked if their most recent pregnancies were planned, if so, if they were planned by the partner alone, woman alone or both. Use of contraception when the woman needed it ahead of this pregnancy by the woman was also assessed.

Data collection

Research assistants enrolled and interviewed participants in Shona at the health facilities in a private space. During the interview, women's and babies' clinical outcomes data were abstracted from clinic records. The data includes baby weight at birth entered in grammes (g). Low birth weight was considered to be less than 2500 g [49]. Women's HIV status was also abstracted from clinic records.

Data analysis

Data were cleaned and analysed in Stata 16. Frequencies of variables were calculated in percentages (%) by refusal of male parenting responsibility and pregnancy support. The primary analysis was to identify factors associated with refusal of male parenting responsibilities and pregnancy support. We therefore conducted a multivariate analysis and used a bidirectional stepwise logistic regression method to assess factors associated with refusal of male parenting responsibility. The procedure combined forward selection and backward elimination of variables for the best fit model [50]. We selected variables based on the literature on associations between violence, men's parenting responsibility and maternal and child health [38, 39] and on results of binary associations. We added variables that improved model fit starting with demographic, and behavioural and lastly health variables and dropped those at $p < 0.200$. It was possible to add a variable at a lower stage and remove it at another stage and add it again until the best fit model was complete. This was done by selecting independent variables to be used in the final model. We conducted a second analysis to identify pregnancy-related outcomes associated with refusal of male parenting responsibility. The analyses controlled for demographic variables, past violence experiences and gravida. We presented the outputs from these logistic regression analyses in adjusted Odds Ratios (aOR).

Results

Of the 2101 participants approached, 2042 (97.1%) completed the interviews which was introduced as a women's health survey following the WHO guidelines for conducting similar studies. A higher response rate was also achieved because women were guaranteed their queue positions after participating in the survey as the survey had support from the facility staff. The postnatal care clinics were largely a female environment with few men present, which may have enabled a higher participation rate. Response rates were different per question making denominators different per table or question. A total of 131 (6.4%) participants reported refusal of fathering responsibility and pregnancy support.

Table 2 shows the demographic characteristics of participants by fathering refusal from the sample. Unmarried women, younger women, women with less education, and women with younger partners ($p > 0.01$) were more likely to report male partners refusing to accept their parenting responsibilities or support pregnancies than older, married and more educated women. Women who had not wed and women whose bride price was not paid for were more likely to report partners refusing to father or support pregnancies (in full or partially) than those whose bride price was paid for whether in full or partially ($p = 0.004$). Mean gravida was 2.21(95%CI: 2.17–2.27),

Table 2 Demographic characteristics of participants by fathering refusal

		Total Sample		Refused (6.5%)		Did not refuse (93.5%)		
#	Demographic characteristics	N	%	n	%	n	%	p-value
	Woman's characteristics							
1	Not married	238	11.8	59	24.8	179	75.2	< 0.0001
	Married	1788	88.2	72	4.0	1716	96.0	
2	Age: 15-24y (vs. 25y +)	901	44.5	87	9.7	814	90.3	< 0.0001
	25y + years	1122	55.5	43	3.8	1079	96.2	
3	Has tertiary education	178	8.8	4	2.3	174	97.8	0.016
	Secondary education	1697	83.9	116	6.8	1581	93.2	
	No/pri education	147	7.3	11	7.5	136	92.5	
4	Woman employed	602	29.9	36	6.0	566	94.0	0.647
	Unemployed	1410	70.1	92	6.5	1318	93.5	
	Partner's characteristics							
5	Age: <30 years	924	45.7	81	8.8	843	91.2	< 0.0001
	> 30 years	1096	54.3	49	4.5	1047	95.5	
6	Has other wives	314	15.9	22	7.0	292	93.0	0.08
	No other wives	1656	84.1	77	4.7	1579	95.4	
7	Education: no tertiary education	1721	85.7	113	6.6	1608	93.4	0.682
	Has tertiary education	287	14.3	17	5.9	270	94.1	
8	Currently employed	1836	90.9	113	6.2	1723	93.9	0.099
	Not employed	183	9.1	17	9.3	166	90.7	
	Marriage							
9	Marriage ceremony: None	1437	72.9	86	6.0	1351	94.0	
	Church/Court	178	9.0	1	0.6	177	99.4	
	Traditional	357	18.1	14	3.9	343	96.1	0.004
10	Bride price: None	377	19.1	54	14.3	323	99.5	
	Partial	1404	71.3	44	3.1	1360	96.9	
	Full	189	9.6	1	0.5	188	85.7	< 0.0001

Table 3 Methods used to communicate refusal of parenting

How did he communicate refusal of parenting/pregnancy support? *			
Violence Outcome	**Form of violence**	**N**	**%**
No IPV	Talked to each other	28	14.4
Physical IPV	Throw something at me	16	8.2
	Chased/he left home	20	10.3
	Beat me up	1	0.5
Sexual IPV	Refused sex with me	5	2.6
Emotional IPV	Rejected	39	20.0
	Shouted at me	69	35.4
Other	Other	17	8.7
	Total	**195**	**100.0**

*Multiple responses were accepted

refusal of fathering responsibility was associated with a decrease in gravida (0.62, 95%CI:0.51–0.75) (data not shown).

Table 3 shows the methods used by fathers to communicate refusal of parenting. Out of a total of 131 participants 14.4% communicated refusal of parenting responsibility in nonviolent ways. More than 1 in 5 (22.2%) communicated using physical violence, 3% used sexual violence while almost two-thirds (64.7%) used emotional violence. There were 195 responses from the 131 participants who responded to this question.

Table 4 shows participants' behavioural characteristics and violence exposures by fathering refusal. Women whose bride price was not paid for were more likely to report partners refusing to accept their parenting responsibilities or support pregnancies (in full or partially) than those whose bride price was paid for whether in full or partially ($p = 0.004$). Women who used contraceptives, had more than three lifetime sexual partners, experienced child sexual abuse and those who reported child abuse or IPV in pregnancy were more likely to report their male partners as having refused parenting responsibility than women who did not use contraceptives, had less than three sexual partners or did not report child sexual violence or IPV during pregnancy ($p < 0.0001$)

Table 5 shows participants' pregnancy related health outcomes by fathering refusal. Women reporting refusal of pregnancy were more likely to report suicidal thoughts, postnatal depression, no or late preparation, being stopped from attending antenatal care, and testing HIV positive ($p < 0.01$)

Table 6 shows predictors of refusing pregnancy and fathering from the regression models.

Table 4 Behavioural characteristics of participants by fathering refusal

		Total		Refused (6.5%)		Did not refuse (93.5%)		
	Behavioural characteristics	***N***	**%**	***n***	**%**	***n***	**%**	***p*-value**
1	Problem drinking during pregnancy	385	19.0	54	14.0	331	86.0	< 0.0001
	No problem drinking	1642	81.0	77	4.7	1565	95.3	
2	3 + Sexual partners	116	5.7	21	18.1	95	91.9	< 0.0001
	1–2 sexual partners	1907	94.3	109	5.7	1798	94.3	
3	Partner did not want pregnancy then	472	23.4	83	17.6	389	82.4	< 0.0001
	partner wanted pregnancy	1547	76.6	47	3.0	1500	97.0	
4	Ever refused contraceptive method	127	6.3	34	26.8	93	73.2	< 0.0001
	Never refused	1892	93.7	95	5.0	1797	95.0	
5	Ever used contraception	1238	61.2	55	4.4	1183	95.6	< 0.0001
	Never used	786	38.8	76	9.7	710	90.3	
6	Pregnancy decision made by:							
	self	156	7.7	3	1.9	153	98.1	< 0.0001
	partner	484	23.9	21	4.3	463	95.7	
	both	827	40.9	13	1.6	814	98.4	
	unplanned pregnancy	556	27.5	94	16.9	462	83.1	
7	High levels of partner control	161	8.3	43	26.7	118	73.3	< 0.0001
	Less partner control	1788	91.7	83	4.6	1705	95.4	
8	Child sexual abuse experience	187	9.3	28	15.0	159	85.0	< 0.0001
	No child abuse	1829	90.7	103	5.6	1726	94.4	
9	IPV in the last 12 months	1245	61.4	103	8.3	1142	91.7	< 0.0001
	No IPV in last 12 months	782	38.6	28	3.6	754	96.4	
10	IPV during pregnancy	1282	63.3	121	9.4	1161	90.6	< 0.0001
	No IPV during pregnancy	745	36.8	10	1.3	735	98.7	

Table 5 Participants' pregnancy-related health outcomes by fathering refusal

		Total		Refused (6.5%)		Did not refuse (93.5%)		
#	**Health outcomes**	**N**	**%**	**n**	**%**	**n**	**%**	**p-value**
1	Suicidal thought ever	349	17.3	52	14.9	297	85.1	< 0.0001
	Never	1665	82.7	78	4.7	1587	95.3	
2	Postnatal depression	504	26.1	77	15.3	427	84.7	< 0.0001
	No postnatal depression	1424	73.9	51	3.6	1373	96.4	
3	Did not receive ANC during pregnancy	113	5.6	12	10.6	101	89.4	0.064
	Received ANC during pregnancy	1914	94.4	119	6.2	1795	93.8	
4	Partner did not buy "preparation"	129	6.4	51	39.5	78	60.5	< 0.0001
	Bought preparation	1888	93.6	79	4.2	1809	95.8	
5	"Preparation" was late	361	19.0	36	10.0	325	90.0	< 0.0001
	Preparation was on time	1535	81.0	45	2.9	1490	97.1	
6	Partner stopped ANC attendance	39	1.9	10	25.6	29	74.4	< 0.0001
	Encouraged/continued	1728	86.0	53	3.1	1675	96.9	
	Did nothing	242	12.1	64	26.5	178	73.6	
7	Low birth weight (< 2500 g)	170	8.5	8	4.7	162	95.3	0.352
	Birth weight > 2500 g	1822	91.5	8	4.7	162	95.3	
8	HIV positive status	298	15.4	29	9.73	269	90.3	0.012
	Negative HIV status	1639	84.62	96	5.86	1543	94.14	

Among the demographic characteristics, no bride price payment (AOR 9.31) was strongly associated with fathering refusal when compared to full bride price payment. Having more than three sexual partners in a lifetime was positively associated with reporting refusal of fathering responsibility (AOR 2.80). Three relationship characteristics were associated with refusal of fathering responsibility, namely: partner's alcohol drinking problems (AOR 1.78), high levels of partner controlling behaviours (AOR 4.96) and intimate partner violence during pregnancy (AOR 2.84). We found that pregnancy decisions were associated with partner refusing fathering responsibility in four ways. Firstly, fathering refusal was associated with refusing any family planning methods

Table 6 Predictors of refusing pregnancy and fathering in multivariate regression analyses

#	Variable	uOR			aOR	95%CI	*p*-value
1	Partner controlling behaviours	2.23	1.88–2.63	< 0.0001	4.96	2.83–8.69	< 0.0001
2	Partner's alcohol problem drinking	3.32	2.30–4.79	< 0.0001	1.78	1.05–3.02	0.033
3	IPV during pregnancy	7.67	4.00-17.70	< 0.0001	2.84	1.28–6.23	0.010
4	Number of lifetime sexual partners (3+)	3.66	2.19–6.08	< 0.0001	2.80	1.38–5.68	0.0004
5	Pregnancy willingness (ref = partner willing):						
	Partner wanted to wait or did not want to have a child	7.50	5.08–11.10	< 0.0001	3.72	1.84–7.53	< 0.0001
	Partner did not mind	3.70	1.51–9.08	0.004	1.56	0.43–5.63	0.492
6	Bride price payment: (ref = full/partial payment):						
	No bride price paid	5.75	3.80–8.70	< 0.0001	9.31	1.16–17.46	0.036
7	Partner refused family planning methods	6.92	4.44–10.78	< 0.0001	3.64	1.86–7.14	< 0.0001
8	Woman ever used contraception	0.43	0.30–0.62	< 0.0001	0.40	0.23–0.71	0.002
9	Pregnancy decision (ref = unplanned):						
	Partner only decided	0.22	0.14-0.0.36	< 0.0001	0.47	0.20–1.08	0.074
	Woman only decided	0.10	0.03–0.31	< 0.0001	0.25	0.07–0.94	0.041
	Both decided	0.08	0.04–0.14	< 0.0001	0.30	0.14–0.67	0.003
10	Child sexual abuse	2.95	1.86–4.62	< 0.0001	NS		
11	IPV in the last 12 months	2.43	1.58–3.73	< 0.0001	NS		

Table 7 Health outcomes predictors of partner refusing fathering responsibility of a child*

#	Variable	aOR	95%CI	*p*-value
1	Postnatal depression symptomatology	2.64	1.52–4.59	0.001
2	Partner did not buy "preparation items" for delivery	6.69	1.30-34.52	0.001
3	Woman received "preparation" late	2.59	1.53–4.39	< 0.0001
4	Partner's support for antenatal care (ref = encouraged):			
	Partner stopped woman from visiting antenatal care	3.86	1.13–13.17	0.031
	Partner did nothing	3.41	1.86–6.26	< 0.0001
5	Normal birth weight - ref = low (< 2500 g)	0.19	0.42–0.84	0.029

*The model controlled for demographic characteristics, past violence & gravida

(AOR 3.64). Secondly, reporting ever using contraception before the pregnancy was negatively associated with partners' refusal of fathering responsibility. Thirdly, if a woman individually (AOR0.25) or jointly (AOR0.30) with their partner decided to have a pregnancy, she was less likely to report refusal of fathering responsibility. Lastly, high odds of reporting partner refusal of fathering were observed when a woman did not intend to become pregnant (AOR 3.72) when compared to women whose partners were willing to have a pregnancy.

Table 7 shows health outcomes of refusal of fathering responsibility. Women reporting refusal of fathering responsibility had higher odds of reporting low birth weight babies than those reporting normal baby weight (AOR 0.19). We assessed partner support during pregnancy's relationship with refusal of fathering. Women who reported being stopped from attending antenatal care (AOR 3.86) and those whose partners did nothing to facilitate antenatal care (AOR 3.41) had higher odds of reporting refusal of fathering responsibility than women who reported receiving support to participate in antenatal care. We also found a strong relationship of reporting refusal of fathering responsibility and receiving preparation for the baby's arrival late in the pregnancy (AOR 2.59) but the strongest factor was on women reporting partners not buying preparation items at all for the women and the babies (AOR 6.69). Lastly, refusal of fathering responsibility was associated with reporting high postnatal depressive symptomatology (AOR 2.64).

Discussion

To the best of our knowledge, this is the first analysis on male parenting responsibility and pregnancy support in Zimbabwe. This analysis found that more than 1 in 20 partners of postnatal women refused their male parenting responsibilities during the antenatal stage. For example, more than four in five of these women reported that the refusal message was communicated through physical, sexual, or emotional violence. The study found that the nature of marriage, being in gender unequal relationships where the woman's partner controls household decisions and woman's health including on reproductive health, pregnancy decisions, use of contraception were associated with the male partners' refusing parenting responsibilities. The study also found that male partners' characteristics and behaviours such as drinking problems, controlling behaviours and physical/sexual violence perpetration were associated with refusal of parenting responsibilities.

The study found that women whose male partners refused parenting responsibilities were more likely to report being denied or not supported in antenatal care

attendance. These women were more likely to deliver low birth weight babies, and report postnatal depression or suicidal ideation six weeks after giving birth. These findings are consistent with research conducted in other African settings that shows experiences of IPV in pregnancy as a risk factor for postpartum depression [51]. Other research has shown additional risks of recent IPV, IPV during pregnancy and father's absence to postpartum depression among low-income level women [52]. These findings call for the promotion of equitable relationships and sensitising men to the health impacts of their refusal to be responsible for the welfare of their children during pregnancy and afterwards. We recommend promoting non-violent and gender equitable relationships among couples to promote positive maternal and child health outcomes. This could be in form of capacity building programmes and positive parenting targeted on men and boys and women and girls. For example, Sinovuyo Programme in South Africa [53] and a trial by Promundo engaged men and boys and increased fathers' support to their pregnant partners including men's participation in childcare tasks and reduced violence and dominance in decision making [54]. Similar promising findings in increasing care and support and co-parenting were reported in recent research in Zimbabwe [5]. Economically empowering women changes negative attitudes towards gender norms through programmes such as the Stepping Stones and IMAGE [53, 55].

The sample's demographic characteristics of the population was similar to population-based studies conducted at the same time as this study in Zimbabwe including Harare province where this study was conducted [56, 57]. This suggests that there may not have been selection bias. Although recent studies suggest that bride price payment is easily exploited by men to abuse women in marriages in Africa [58, 59] and Zimbabwe in particular [60, 60], our study found that where no bride price was paid, women had extremely high odds of reporting refusal of fathering when compared to those women whose partners paid bride price. In this study, bride price payment may be viewed as a proxy for men's commitment to a long-term relationship or marriage. Paying bride price may be an important link in preventing violence against married women through giving value to marriages and gender-equal relationships. Future studies should explore the intersection between refusing parenting responsibilities and not wanting to settle in a marriage or long-term relationship with the mother of their baby. This should address co-parenting where the father may not be physically and emotionally available for the mother but still providing fathering of the child.

Many studies have shown that a high number (3+) of sexual relationships is associated with IPV [62–65]. Reporting more than three lifetime sexual partners was associated with partner refusal to father and support the pregnancy. Interestingly, men's multiple sexual partnerships did not result in an association with refusal of fathering in multiple regression analysis. This points to a gender inequality in the way multiple sexual relationships are linked to IPV. Multiple sexual partnerships are generally viewed as a taboo if done by women but socially acceptable and justified when done by men in the Zimbabwean context [66–68]. Interventions to enhance gender equal relationships must address this unequal conceptualisation of multiple sexual partnerships by gender which is based on patrilineal subjugation of women by men.

Another demonstration of the effect of gender inequitable relationships on refusal of fathering responsibility is seen in the two variables that were associated with refusal of fathering responsibility, namely IPV during pregnancy and partner controlling behaviours. IPV is a domination of women by men. IPV also shows itself through high levels of partner controlling behaviours. Although we cannot conclude whether IPV was experienced before the refusal to father the child, we were able to interview women on how the refusal was communicated. We were able to find out that four out of five women were communicated to in violent ways. This suggests that men use violence to communicate, control and subjugate women. Men used emotional and physical violence to discourage their partners from pursuing them for fathering responsibility. Violence responses by men could also reflect the manifestation of their lack of commitment and emotional dysregulation. The fact that this happens at a time when women are most vulnerable requires further scrutiny. This may have been the reason why we were able to find associations with several maternal health outcomes discussed below. Gender equity requires sensitising men to communicate in non-violent ways. Although we do not recommend men to refuse to father their children including supporting their partners' pregnancies, close to one in 5 women were happy with the non-violence way in which it was communicated to them by their partners. Interventions to educate men and boys to communicate in non-violent ways with their partners are required.

The association between gender inequitable relationships also showed itself in the positive relationship between pregnancy decisions and resulting fathering refusal. It is disturbing that despite the strides made to ensure reproductive rights and health care access in Zimbabwe, some women's reproductive health rights are out of reach due to their relationship dynamics and this was most evident in our study among younger women, those who are less educated and have lower socio-economic status. Stark from our study is the limited shared decision-making on reproductive choices in the studied women's relationships. Our study reveals that some men deterred women's use of contraceptives and discouraged

their use of reproductive health and antenatal services which indirectly impacted on negative physical and mental health outcomes for women and their babies.

We demonstrated negative maternal and child health outcomes associated with refusal of fathering responsibility. While we cannot establish causal relationship between attendance of antenatal care and refusal of fathering, we submit that an association between partners not giving support during pregnancy and refusal of fathering responsibility shows the complexity of men's perpetration of violence. Partner refusal of fathering responsibility during pregnancy leads to detrimental maternal and child health effects. Low birth weight and postnatal depression were previously reported as effects of partner violence [38, 69]. We previously reported that abused women were more likely to report postnatal depression [47, 70] and also reporting delivering low birth weight babies [71]. The findings in the current study are unique because refusal of pregnancy and fathering support is a more defined type of violence in itself and is associated with negative mother and baby health outcomes. We therefore call for interventions to educate men to take responsibility over their actions through capacity building programmes to enhance fathering responsibility. Interventions with women can also help to mitigate effects of refusal of responsibility during pregnancy. The interventions must target both men and their partners. Dedicated studies of men's parenting styles for their unborn babies and reasons for not taking responsibility for their pregnant partners and their babies are required. Few studies however exist and have given such reliable evidence [72] which resonate with what we found.

While involving men and boys is considered a solution to address father refusal of parenting support, the effects of this neglected parenting behaviour were felt by mother and child. As such, focussing interventions on women will help to achieve the desired positive mother and child health. Also, because the results show that slightly more than 5% of women (1 in 20) reported having male partners who were not responsible for caring for them or their foetus and new born child, there is great need to focus on women. Many studies have also seen improvements in low birth weight and high rates of neonatal mortality, after interventions were done on women [53, 55].

One limitation of the study is studying men's behaviour through women's reports. Studying men's behaviours by interviewing men is required to obtain clarity of associations and minimise deductive reasoning through women's views and experiences. However, until such time when we have studies with men, studies with women are still useful and can identify factors associated with men's refusal of responsibility. Due to the cross-sectional nature of study, the study did not determine causal relationships between refusal of fathering responsibility and mother and child health outcomes. We recommend longitudinal studies to determine causality and qualitative studies to explain the nature of this relationship. Convenience sampling was used to select high volume clinics; this was the most reasonable way to get a large sample size and to get all available women at the clinics.

Conclusions

The study sought to measure incidence of refusal of male parenting responsibility, factors associated with it and its effects on maternal and child health as reported by women in postnatal care. We found more than one in 20 women reporting partner refusal. Behavioural characteristics associated with refusal were mainly a result of gender unequal dynamics in favour of men and men's violence perpetration. Negative mother and child health outcomes including postnatal depression, low birth weight and not receiving support in antenatal care were reported. The study spotlighted men's continued violent behaviours on maternal and child health in the home. We recommend sensitising men to promote gender equal relationships for positive maternal and child health outcomes through community interventions. We also recommend continued support for women to prevent gender-based violence.

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Author contributions

SS conceived and designed the study and led the data analysis and interpretation, drafted the article, led the revisions and approved the version to be published. MM substantially contributed towards data analysis and interpretation, revision of the manuscript and approved the final version to be published. PS substantially contributed towards data analysis and interpretation, revisions of the manuscript and approved the final version to be published.

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Data Availability

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

Declarations

Ethics approval and consent to participate

The study received ethics approval from the University of the Western Cape (2931022), Joint Parirenyatwa Hospital and University of Zimbabwe College of Health Sciences Research Ethics Committee (JREC/48/09) and Medical Research Council of Zimbabwe (MRCZ/B/114). Written informed consent were provided before conducting the survey by each adult participant. Participants younger than 18 years provided written informed assent after a parent or

legal guardian provided written informed consent. All experiments were performed in accordance with relevant guidelines and regulations such as the Declaration of Helsinki and the WHO guidelines for researching violence against women and girls.

Competing interests
The authors declare no competing interests.

Consent for publication
Not Applicable.

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