Original Article

EFFECTS OF DOMESTIC VIOLENCE ON REPRODUCTIVE HEALTH: AN EVIDENCE FROM PAKISTAN DEMOGRAPHIC HEALTH SURVEY

Ahmad Raza[1], Muhammad Ishaq[2], Bushra Mehmood[3], Rai Ehsan[4], Anila Iram[5]

ABSTRACT

Background: This study aimed to determine the effects of domestic violence on women's reproductive health based on demographic variables as contributing factors.

Material and Methods: Secondary data from the Pakistan Demographic and Health Survey 2012-2013 were analyzed collected from 3687 ever-married females between the ages 15-49 years, who were selected and interviewed about the experiences of domestic violence. The researchers used the IBM SPSS 20 for data analysis in the present study. Binary logistic regression and multivariate logistic regression were used to determine the odds and adjusted odds ratios.

Results: This study identifies that 38% of women have experienced some form of domestic violence (31% emotional violence, 28% less severe violence, and 7% severe physical violence), 38% of women have used contraceptive methods (28% modern, 9% traditional, or .1% folkloric), 11% women have not agreed at all, to be pregnant out of 398 pregnant women, and 36% women have terminated their pregnancy ever. Place of residence (rural and urban) had the highest odds ratio of emotional violence (adj. OR 1.64, CI at 95%, 1.3-2.0, p<.001). The highest adj. odds of contraceptive use were 2.2 (95% CI, 1.75-2.75, p<.001) for respondents' education compared to non-educated. The adj. odds ratio of unintended pregnancy was 2.3 (95% CI 1.6-3.42, p<.001) times increased on increase in each child in the house and for pregnancy termination was 1.87 (95% CI 1.5-2.3, p<.001) times for the respondents with age more than 30 years as compared to lower age. The adj. odds ratio of "contraceptive use" was 1.28 (95%CI 1.1-1.49, p<.001) times for those respondents who experienced emotional violence as compared to the respondents who had no such experience, whereas 1.27 (95%CI 1.1-1.47, p<.001) times for those who had experienced overall domestic violence. By controlling social equity, the adj. odds ratio of unintended pregnancy was 2.05(95%CI, 1.04-4.05, p<.05) times for respondents who had experienced overall domestic violence compared to respondents who had not experienced it.

Key Words: Domestic Violence, Reproductive Health, Pregnant Women

INTRODUCTION

Intimate partner violence (IPV) is a growing public health issue with adverse physical, emotional, sexual, and reproductive health-related consequences.[1-4]

[1]PhD Scholar, University of Punjab.
[2]Assistant Professor Sociology, University of Punjab.
[3]PhD Scholar, University of Punjab.
[4]PhD Scholar, University of Punjab.
[5]PhD Scholar, University of Punjab.

IPV is a widespread phenomenon with high prevalence rate ranging from (20%–75%) partners experience emotional abuse, (13%–61%) physical violence and (6%–59%) sexual violence in their lifetime.[5] Social, cultural, and geographical settings have a significant effect on IPV. More than half (62%) women aged above 15 years, experience IPV in countries with diverse social, cultural, and geographical settings.[6] Gender-primarily based violence (GBV) substantially impacts mental, physical, and social wellness of girls in quick period in

addition to longer-time period.[7] IPV has negative consequences on women's sexual and reproductive health, such as unintended pregnancy, pregnancy termination and abortion.[8]

Reproduction ability is considered compulsory for continuing marital relationships, especially in South Asian countries. Women's ability to produce the desired number of children and their sex determined their status and social identity in the husband's home and society.[9] There was a significant association between unintended pregnancy and pregnancy loss and intimate partner violence in Pakistan.[10] Women who experienced severe emotional, physical, and sexual violence, their husbands were also uncooperative to contraceptive use and planning of pregnancy.[11, 12] Women who revel in IPV additionally revel in better prices of unintentional being pregnant.[13-15] Domestic abuse often limits the ability of women to manage their reproductive health.[16]

Domestic violence is significantly affected by the husband's educational level as the level of education increases the violence reduced on women from their partner and husband cooperate in planning the pregnancy.[17] Women who experience IPV also experience higher rates of unintended pregnancy. In Colombia, 32,000 unintended pregnancies every year are linked with IPV.[18] According to WHO, (2002) the rate of induced (unsafe) abortion was estimated to be doubled among those women who have undergone IPV compared to those who did not, reflecting a high rate of unintended pregnancy.[19] The chance of undesirable pregnancy may also occur, without delay though pressured sexual sex or issue in negotiating condom or contraceptive use in an abusive relationship, or in a roundabout way thru high-chance sexual behaviors linked to a history of sexual abuse in childhood or adolescence.[20]

Violence against women restricts their social, political, and economic activities.[21] Their capacities and autonomy remain under-developed and limit their freedom.[22] This study analyzes the relationship between domestic violence and reproductive health among ever-married women in Pakistan. This study may guide health professionals, social workers, and policymakers to pay attention to this issue. To find out the most contributing demographic variable on domestic violence and reproductive health. To analyze the effects of domestic violence on reproductive by controlling the social equity.

MATERIAL AND METHODS

Third Pakistan Demographic and Health Survey (PDHS) was conducted by the National Institute of Population Studies (NIPS) Islamabad during October 2012 and March 2013, funded by USAID; however, technical and logistical support was provided by ICF International. The Pakistan Bureau of Statistics (PBS) coordinated on design and collection of the sample with NIPS.[23] The people from all over Pakistan were considered as population except FATA, Azad Jammu and Kashmir, military restricted and protected areas.

A two-stage random sampling technique was used, in which first the urban and rural areas were identified according to the 1998 population census. The PBS developed the urban frame in which all the urban cities and towns were divided into small blocks having an average of 200-250 households, called enumeration blocks. 26543 urban enumeration blocks were further categorized based on income level (low, middle, and high) according to economic census 2003. According to the 1998 census, lists of villages/Mouzas/dehs were used as the sample frame for rural areas that could be identifiable by name.[23]

The experts estimated that 14000 households could provide reasonable precision for survey indicators so 248 urban and 252 rural areas were listed from all over Pakistan. In the second stage, 28 ($14000/ \{248+252\} = 28$) households were selected by using a systematic sampling technique with a random start. 6,944 urban and 7056 rural households were selected to conduct the survey. The survey was carried out at 498 areas out of

500. Punjgur and Dera Bugti were the areas that were dropped because of the law-and-order situation from Balochistan province and overall, 24 areas (mostly from Balochistan) were replaced. 13,558 ever-married women aged from15-49 were successfully interviewed, out of 14,569 households, 12,943 were interviewed, with a 93% response rate. The detailed methodology has been described in the survey report.[23]

For this study, we took data of 3687 women selected and interviewed for domestic violence in the sample (by using the filter V044=1 on the datasheet) to find out the effects of domestic violence on reproductive health. The researcher utilized the IBM SPSS 20 for data analysis in the present study. Binary logistic regression and multivariate logistic regression were used to determine the odds and adjusted odds ratios for demographic, independent. Dependent variables to check the probability of the occurrence.

The participants' demographics were assessed through questions regarding age, region, area of residence, level of education of respondents, wealth index, number of children in the house, husband/partner's education, and type of relationship with husband. The researchers assessed reproductive health with 3 concepts: (1) contraceptive method used, (2) current pregnancy wanted, and (3) pregnancy termination. In DHS data, these concepts were assessed through different responses such as contraceptive method uses ("No method", "Folkloric method", "Traditional method", "Modern method"), current pregnancy wanted ("Then she is pregnant", "Later I want pregnancy", "Not at all") and pregnancy termination ("No", "Yes"). In inferential statistics, the researchers use "binary logistic regression" and "multinomial logistic regression". For this purpose, response categories of the dependent variable "Reproductive Health" should be binary. Response categories were changed into binary for further analysis. For "contraceptive method used", if respondents

use any method will be considered as "yes" and "No Method" as "no", and in "current pregnancy wanted", ("then", or "later" as yes) and ("not at all" as "no") where "pregnancy termination" is already in binary. Domestic violence was accounted with Emotional violence (D103 A-C) ("Ever been humiliated by husband/partner", "Ever been threatened with harm by husband/partner", "Ever been insulted or made to feel bad by husband/partner"), Less severe physical violence (D105 A-C, J) "Ever been pushed, shook or had something thrown by husband/partner", "Ever been slapped by husband/partner", "Ever been punched with a fist or hit through something dangerous through husband/partner", "Ever had arm twisted or hair pulled through husband/partner"), Severe bodily violence (Done zero five D-F; "Ever been kicked or dragged through husband/partner", "Ever been strangled or burnt by husband/partner", "Ever been threatened with knife/gun or another weapon by husband/partner") with response categories (0 "Never", 1 "Often", 2 "Sometimes", 3 "Yes, but not in the last 12 months", 4 "Yes, but the frequency in last 12 months missing). Experienced any emotional violence (D104), Experienced less severe violence (D 106), Experienced any severe violence (D107), Overall domestic violence (D104 + D106 + D107) having the response categories (0 "No", 1 "yes").

The demographic health surveys procedures included in the study were approved by ICF and the ethics review board of Pakistan. Ethical approval is not required because this secondary data is available publicly. All authors had access to this data for research.

RESULTS
Table-1 shows the demographic information of the female respondents, who have been selected and questioned in a demographic health survey (DHS 2013) about domestic violence and the variables of reproductive health (contraceptive use, current pregnancy wanted, and pregnancy termination). According to the demographic variables, most respondents (30%) belong to Punjab,

53% from the rural area. A majority (56%) of the respondents and 31% of the respondent's husbands are not educated. 74% of respondents are married to their first cousin (from father 43% and mother 31%) and only 12 percent have other relations than a cousin. According to results, 38% of respondents experience overall domestic violence where 31% experience emotional, 28% less severe physical, and 7% severe physical violence. 38% of respondents use contraceptives where 28% use modern and 9% use a traditional contraceptive method. From currently pregnant female respondents, 73% agree on pregnancy, 16% agree later, and 11 do not agree with current pregnancy. In response to the statement "Ever had a terminated pregnancy," 36% of respondents said "yes."

Table-1: Distribution of descriptive variables

Demographic variable	Groups	Frequency (%)
Age	15-19	116(3)
	20-24	478(13)
	25-29	691(19)
	30-34	693(19)
	35-39	699(19)
	40-44	524(14)
	45-49	486(13)
Region	Punjab	1092(30)
	Sindh	841(23)
	Khyber Pakhtunkhwa	684(18)
	Balochistan	480(13)
	Gilgit Baltistan	333(9)
	Islamabad (ICT)	257(7)
Type of place of residence	Urban	1734(47)
	Rural	1953(53)
Highest educational level	No education	2051(56)
	Primary	530(14)
	Secondary	654(18)
	Higher	452(12)
Wealth index	Poorest	683(18)
	Poorer	715(19)

	Middle	684(19)
	Richer	768(21)
	Richest	837(23)
No. of total child living in house	no child	374(10)
	1-2 children	996(27)
	3-5 child	1135(31)
	more than 5	1182(32)
Husband/partner's education level	No education	1149(31)
	Primary	498(13)
	Secondary	1165(32)
	Higher	867(23)
Type of relation	1st cousin on father's side	971(43)
	1st cousin on mother's side	697(31)
	Second cousin	298(13)
	Other relationship	277(12)
A woman has said in choosing a husband	No	705(18)
	Yes	2979(81)
Types of domestic violence		
Experienced any emotional violence	No	2531 (69)
	Yes	1154 (31)
Experienced less severe violence	No	2653 (72)
	Yes	1033 (28)
Experienced any severe violence	No	3429 (93)
	Yes	257 (7)
Overall domestic violence	No	2283 (62)
	Yes	1402 (38)
Reproductive health		
Current use by method type	No method	2296 (62)
	Folkloric method	4 (.1)
	Traditional method	347 (9)
	Modern method	1040 (28)
Current Pregnancy wanted	Then	291 (73)
	Later	65 (16)
	Not at all	42 (11)
Ever had a terminated pregnancy	No	2362 (64)
	Yes	1325 (36)

Table-2: Frequency distribution of a variable (domestic violence)

Domestic violence	Never (%)	Often (%)	Sometimes (%)	Yes, but not in the last 12 months (%)	Yes, but the frequency in the last 12 (%)
Experienced any emotional violence (D103 A-C)					
"Ever been humiliated by husband/partner"	2762(74.9)	303(8.2)	495(13.4)	120(3.3)	6(.2)
"Ever been threatened with harm by husband/partner"	3518(95.5)	64(1.7)	63(1.7)	36(1.0)	1(.0)
"Ever been insulted or made to feel bad by husband/partner"	2711(73.6)	341(9.3)	529(14.4)	100(2.7)	4(.1)
Experienced less severe violence (D 105 A-C, J)					
"Ever been pushed, shook, or had something thrown by	3075(83.4)	116(3.1)	296(8)	195(5.3)	2(.1)
"Ever been slapped by husband/partner"	2712(73.6)	158(4.3)	473(12.8)	330(9)	6(.2)
"Ever been punched with a fist or hit by something harmful by	3386(91.8)	66(1.8)	121(3.3)	108(2.9)	1(.0)
"Ever had arm-twisted or hair pulled by husband/partner"	3269(88.7)	83(2.2)	168(4.6)	165(4.5)	1(.0)
Experienced any severe violence (D105 D-F)					
"Ever been kicked or dragged by husband/partner"	3474(94.2)	40(1.1)	82(2.2)	85(2.3)	1(0)
"Ever been strangled or burnt by husband/partner"	3609(97.9)	18(.5)	29(.8)	25(.7)	-
"Ever been threatened with knife/gun or another weapon by husband/partner."	3620(98.2)	11(.3)	35(.9)	19(.5)	-

Table-3: Binary and Multivariate logistic regression

Domestic violence	Emotional violence Adj. OR (95% C.I)	Less severe physical violence Adj. OR (95% C.I)	Severe physical violence Adj. OR (95% C.I)	Overall domestic violence Adj. OR (95% C.I)
Age <>30	.92(.73-1.16)	.8(.63-1.02)	.9(.59-1.37)	.87(.7-1.09)
Place of residence R/U	1.64(1.3-2.0)***	1.26(1.01-	1.2(.8-1.79)	1.48(1.2-1.82)***
Educated or not	.87(.7-1.1)	.75(.59-.95)*	.7(.45-1.09)	.84(.68-1.05)
Rich or poor	.93(.74-1.16)	.98(.78-1.24)	1.14(.76-1.7)	.95(.76-1.17)
No of children	1.08(1.03-1.3)***	1.1(1.06-1.16)***	1.06(.98-1.15)	1.1(1.06-1.16)***
Husband educated or not	.82(.67-1.02)	.75(.61-.93)**	.68(.47-.98)*	.79(.64-.97)*
First cousin or other	1.54(1.26-1.9)***	1.45(1.18-1.8)***	1.44(1.01-2.06)*	1.49(1.2-1.8)***
Husband choosing	1.25(.98-1.6)	.98(.77-1.25)	.99(.65-1.5)	1.06(.84-1.3)

Table-4: Binary and Multivariate logistic regression

Reproductive health	Contraceptive used (yes/no)	Unintended Pregnancy	Pregnancy terminated
Age <>30	1.3(1.03-1.65)*	.98(.25-3.86)	1.87(1.50-2.33)***
Place of residence R/U	.85(.7-1.05)	3.48(.97-12.4)	1.06(.87-1.3)
Educated or not	2.2(1.75-2.75)***	1.18(.31-4.5)	.97(.78-1.2)
Rich or poor	1.51(1.2-1.9)**	.71(.18-2.8)	1.07(.86-1.33)
No. of children	1.25(1.19-1.3)***	2.3(1.6-3.42)***	1.07(1.03-1.26)**
Husband educated or not	1.4(1.14-1.79)**	1.7(.55-5.5)	.88(.72-1.08)
First cousin or other	1.09(.89-1.35)	3.44(1.1-10.5)*	1.12(.9-1.37)
Husband choosing	1.3(1.02-1.67)*	2.7(.73-10.4)	1.14(.91-1.4)

Multivariate logistic regression between the types of domestic violence (emotional, less severe physical, severe physical violence, and overall domestic violence) and demographic variables are used to find out the most contributing variable. The table indicates that place of residence (rural and urban) has the highest odds ratio of emotional violence (adj. OR 1.64, CI at 95%, 1.3-2.0, p<.001) followed by the type of relation with husband (adj. OR 1.54, CI at 95%, 1.26-1.9, p<.001) and increase in each no. of children (adj. OR 1.08, CI at 95%, 1.03-1.3, p<.001). These results interpret that the respondents experience more emotional violence in the rural areas, when married with someone other than the first cousin and with an increase in each no. of a child in the house.

The highest adj. odds ratio of less severe physical violence is 1.45 (95%CI 1.18-1.8, p<.001) for those respondents who married other than the first cousin followed by the area of residence (adj. OR 1.26, 95%CI 1.01-1.57, p<.05), with an increase in each no. of a child in the house (adj. OR 1.1, 95%CI 1.06-1.16, p<.001), respondent's education (adj. OR .75, 95%CI, .59-.95, p<.05) and its husband's education (adj. OR .75, 95%CI, .61-.93, p<.01). These results indicate 45% less violence experienced by the respondents who married their first cousins and near about 26% more violence experienced by the respondents who belonged to the rural area compared to the urban. If the respondent or her husband is educated, they experience nearly 25% less violence (less severe physical violence) than non-educated. Violence related to the increase in each no. of a child in the house is positive. This result shows that near about 10% violence increases on each child, so if the number of children is 5 or more, this variable will be the most contributing factor.

The highest adj. odds ratio of severe physical violence is 1.44 (95%CI 1.01-2.06, p<.05) for those respondents who married other than the first cousin followed by husband's education .68 (95% CI, .47-.98, p<.05). The highest adj. odds ratio (OR 1.49, CI at 95%, 1.23-1.8, p<.001) of overall domestic violence is with the type of relation with husband, if he is first cousin experience, less overall domestic violence as compared to the other relation, followed by the place of residence rural 1.48(95% CI, 1.2-1.82, p<.001) as compared to urban and with an increase in each no. of children (adj. OR 1.1, 95%CI 1.06-1.16, p<.001). The adj. odds of overall domestic violence are .79, (95%CI, .64-.97, p<.05) for female respondents who have an educated husband compared to non-educated husbands.

The highest adj. odds of contraceptive use is 2.2 (95% CI, 1.75-2.75, p<.001) for respondent's education as compared to non-educated followed by wealth index (adj. OR 1.51, 95% CI, 1.2-1.9, p<.001), her husband's education (adj. OR 1.4, 95% CI, 1.14-1.79, p<.01), age (adj. OR 1.3, 95% CI, 1.03-1.65, p<.05) on the increase in each child in the house, which is near about 25% more use of contraceptive.

The adj. odds ratio of unintended pregnancy is 2.3 (95% CI 1.6-3.42, p<.001) times increase on the increase in each child in the house followed by relation with husband (adj. odds 3.44, 95%CI 1.1-10.5, p<.05). The highest adj. odds of pregnancy termination is 1.87 (95% CI 1.5-2.3, p<.001) times for the respondents with age more than 30 years as compared to lower age followed by no. of increase in each child (adj. odds 1.07, 95%CI 1.03-1.26, p<.01) in house.

Table-5 indicates the adjusted odds ratio of variables with/without controlling social equity characteristics (region, education, and wealth index). The adjusted odds ratio of "contraceptive use" is 1.28 (95%CI, p<.001) times for those respondents who went through emotional violence as compared to the respondents who do not experience it, were 1.27 (95%CI 1.1-1.47, p<.001) times for overall domestic violence. These results by controlling social equity describe that female respondents, exposed to emotional violence, are more likely to use contraceptive methods. Without controlling social equity, there is no significant relationship with contraceptive use.

Table-5: logistic regression with and without controlling social equity

Logistic regression between reproductive health and domestic violence without controlling and controlling social equity (education, area of residence, and wealth index)

Logistic regression between reproductive health and domestic violence		Contraceptive use (Yes/no)	Unintended Pregnancy	Pregnancy terminated
Emotional violence	No	Ref	Ref	Ref
	Yes	1.12(.97-1.29)	2.15(1.13-4.1)*	1.35(1.17-1.56)***
Less severe violence	No	Ref	Ref	Ref
	Yes	.93(.8-1.08)	1.7(.89-3.3)	1.45(1.25-1.68)***
Severe violence	No	Ref	Ref	Ref
	Yes	.91(.7-1.2)	1.28(.43-3.86)	1.5(1.17-1.95)**
Overall violence	No	Ref	Ref	Ref
	Yes	1.1(.96-1.26)	2.2(1.17-4.27)*	1.42(1.2-1.63)***
Logistic regression between reproductive health and domestic violence by controlling social equity		Contraceptive use (Yes/no)	Unintended Pregnancy	Pregnancy terminated
Emotional violence	No	Ref	Ref	Ref
	Yes	1.28(1.1-1.49)***	1.9(1.0-3.8)	1.35(1.2-1.56)***
Less severe violence	No	Ref	Ref	Ref
	Yes	1.09(.9-1.27)	1.5(.8-3.14)	1.45(1.2-1.7)***
Severe violence	No	Ref	Ref	Ref
	Yes	1.04(.79-1.37)	1.07(.3-3.32)	1.5(1.16-1.9)**
Overall violence	No	Ref	Ref	Ref
	Yes	1.27(1.1-1.47)***	2.05(1.04-4.05)*	1.42(1.2-1.63)***

The adjusted odds ratio of unintended pregnancy is 2.15 (95%CI 1.13-4.1, p<.05) times for respondents who experience emotional and 2.2(95% CI, 1.17-4.27, p<.05) times for overall domestic violence as compared to those who did not experience any form of violence without controlling social equity. When the researcher controlled social equity, the adj. odds ratio of unintended pregnancy was 2.05(95%CI, 1.04-4.05, p<.05) times respondents who experienced overall domestic violence compared to respondents who did not experience it. These results interpret that females do not want to be pregnant as they experience domestic violence.

The odds of pregnancy termination are 1.35 (95% CI, 1.17-1.56, p<.001), 1.45 (95% CI, 1.25-1.68, p<.001), 1.5 (95% CI, 1.17-1.95, p<.001) and 1.42 (95% CI, 1.2-1.6, p<.001) times the odds of the respondents who experience emotional, less severe physical, severe physical and overall domestic violence respectively as compared to those who do not experience any type of domestic violence. Results interpret that the severity of violence is more likely to terminate the

pregnancy. Results identify no change in odds ratios of pregnancy termination without and with controlling social equity.

DISCUSSION

This study is based on PDHS 2013, which identifies that 38% of women have ever experienced any form of domestic violence, in which 31% emotional violence, 28% less severe violence, and 7% severe physical violence during 2008-2012. Women experience domestic violence all around the world with different prevalence rates, such as about 20% in South Africa and about 50% in Thailand.[24, 25]

This study also reveals that 63% of respondents had more than two children and most of the women married with their first cousin (from mother or father). Results indicate that 38% of women use contraceptive methods (28% modern, 9% traditional, or .1% folkloric), 11% of women do not agree to get pregnant out of 398 pregnant women and 36% of women ever terminate their pregnancy. Residence Place and relation with husband, are recognized as the maximum contributing demographic

variables to home-based violence. Respondents from rural areas experience more domestic violence as compared to urban areas. Those respondents who have married their first cousin (from father or mother) experience less domestic violence than other types of relationships.[26]

The risk of domestic violence reduces with an increase in each no. of children and higher the levels of education of respondents and their husbands (same results are identified in India and another area.[27,28] In reproductive health, respondent's education is positively associated with contraceptive use as the education of the respondent increases the use of contraceptives also increases.[29] The desire to be pregnant again reduces as the no. of children increases and chances of pregnancy termination increases with age.[30]

This study identifies that the termination of pregnancy increases as the violence increases and they do not want to be pregnant, different studies also identify the same results higher rates of unintended pregnancy with IPV.[31] By controlling social equity, researchers reveal that respondents who experience IPV, their chances to use contraceptives increases to avoid pregnancy, same findings regarding the use of contraceptives by the pregnant women when they experience IPV.[32]

CONCLUSION

Place of residence, relationship with the husband, no. of children, and educational level are significant demographic variables for domestic violence and women's reproductive health. Women married with other than first cousins (from mother or father) experience more domestic violence. The respondents from rural areas and having non-educated husbands experience more violence than other groups. Domestic violence increases with an increasing number of children in the house. In reproductive health, respondent's education is the most contributing demographic variable for the use of contraceptive methods, no. of children for unintended pregnancy, and age for pregnancy termination. Domestic violence has a significant effect on women's reproductive

health. The termination of pregnancy increases as the violence increases. Those women who experience this are less likely to want to be pregnant again and more likely to use contraceptive methods to avoid pregnancy when the social equity is controlled.

AUTHOR'S CONTRIBUTION

AR: Intro, data analysis, methodology, and results
MI: Intro, methodology, corrections, and abstract
BM: Literature review and referencing
RE: Discussion & title
AI: Title, discussion, and literature review

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