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Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix-method study.

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RESEARCH PROTOCOL

Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix-method protocol.

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ABSTRACT

Background

Domestic Violence is a worldwide epidemic. An estimated 30% of women experience physical and sexual violence during their lifetime globally. Worldwide, domestic violence is a cause of death and disability among women aged 15–49 years. In Pakistan, domestic violence appeared in different forms, and only 3.2% of women report any domestic violence. There are different factors associated with DV against Women. The data is sparse for the Balochistan province due to the under-reporting and scattered population.

Aim (s)

To determine the factors associated with domestic violence and the types of violence, among women of reproductive age. And to understand the perspective of community leaders and HCWs for developing preventable strategies for domestic violence against women of reproductive age at Quetta Balochistan.

Methods

A sequential explanatory mix method (quantitative study followed with qualitative) study design will be used to fulfill the objectives of the study. Women of reproductive age 15 to 49 years both married and unmarried, local residents, community leaders, and community health care workers of Quetta Balochistan, will be made part of the study. A structured questionnaire will be used to identify associated factors with domestic violence and type of violence among women of reproductive age and focused group discussions using a semi-structured guide will for the data collection. The multivariable logistic regression analysis will be performed for the quantitative part. P-value ≤ 0.05 will be considered significant. Qualitative data will be transcribed i.e., the data

collected from focus groups discussion to develop recurrent themes/sub-themes related to perspective and opinion regarding the prevention of DV.

Results

NA

Conclusion

The findings from this research will help different sectors to develop the interventions and government to plan and strategize strict laws and policies to control or end the violence against women in Pakistan.

Keywords: Domestic Violence, Women, Reproductive Age, Factors, Prevention

Strength and Limitations

- This is the first-ever community-based study to be conducted in Balochistan, Pakistan to understand both factors associated with domestic violence and the perspective to prevent it.
- This is also the first-ever study to include community leaders and health care workers because they have more ideas regarding the community problems.
- A large sample size with a multi-cluster sampling strategy is used to collect data from the women of reproductive age from the major capital city of the Balochistan province.
- Certain biases associated with the study such as recall and wish bias and generalizability will be limited to women of reproductive age.

INTRODUCTION

Domestic Violence (DV) is a worldwide epidemic. An estimated 30% of women experience physical and sexual violence during their lifetime globally (1). Domestic violence includes violence perpetrated by a family member or intimate partner towards another adult (2). Much of the current international evidence focuses on intimate partner violence (IPV), a subset of DV.

DV may be a single incident or pattern of incidents that can take multiple forms, including physical, sexual, psychological, emotional, financial, and control violence (2).

It is a severe violation of human rights and recognized as a significant public health issue.

Worldwide, domestic violence is a cause of death and disability among women aged 15–49 years

(3) In addition to causing injury, violence increases women's long-term risks of several other health problems, including physical and mental health issues (3, 4). Abused women are two time more likely to have medical visits, 8-fold more like to seek mental healthcare, and an increased rate of hospitalization than non-abused women (3)

The reported lifetime prevalence of physical or sexual violence, or both, varied from 15% to 71% among the world's different countries (5, 6). The prevalence was highest in the WHO African, Eastern Mediterranean, and South-East Asia Regions (30) approximately 37% of ever-partnered women reported physical and sexual and IPV at some point in their lives (7-9). In the American region they reported the next highest prevalence with approximately 30% of women reporting lifetime exposure (10). Prevalence was lower in the high-income region, 23%, and in the European and the Western Pacific Regions, where 25% of ever-partnered women reported lifetime intimate partner violence experience (11). During the COVID-19 pandemic, there a considerable increase

1
2
3 was seen in the DV and IPV cases globally according to the WHO there were an increase of 50%
4
5 to 60% of cases based on survivor calls for help to women organization hotlines (30)
6
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8 In Pakistan, domestic violence appeared in different forms, and only 3.2% of women report any
9
10 domestic violence (14) In rural areas of Pakistan, the prevalence of physical violence against
11
12 women was 56% (15) In contrast, in urban settings, the lifetime prevalence is 57.6% physical,
13
14 54.5% sexual, and 83.6% psychological abuse (12-14).
15
16
17

18 There are different factors associated with DV against Women. There is still gender discrimination
19
20 in many cultures due to sociocultural influences, including unequal access of women to health
21
22 services, the unequal status of gender relations, emphasis on women's primary reproduction
23
24 responsibilities, lower educational level, and unequal job opportunities (15) Other than these
25
26 factors, women's power dynamics, patriarchy, low socio-economic status, and substance abuse by
27
28 a partner or family male were essential factors associated with DV against women (15-17).
29
30 Infertility in women is also a major reason for violence against women in different parts of the
31
32 World (18, 19). Moreover, research has indicated that there has been violence during pregnancy
33
34 (22) The reasons for violence in pregnant women are that partner's alcohol misuse, jealousy, stress,
35
36 and unemployment, might be risk factors of DV during pregnancy (20, 21).
37
38
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41

42 While confirming that physical and sexual partner violence against women is widespread, the
43
44 variation in prevalence between different regions emphasizes that this violence is not unavoidable
45
46 and needs to be addressed.
47
48

49 **RATIONALE**

50
51
52 Understanding violence against women is as complex as its process. Literature shows that most of
53
54 the justifications were contextually and culturally based but there are other reasons for such acts
55
56
57

1
2
3 which are unreported. Most of the factors related to violence against women are common for
4 Pakistan as well. Available in Pakistan demographic survey 2017-2018. However, the data are not
5
6 available for the violence, such as domestic violence, intimate partner violence and fundamental
7
8 factors are unknown especially in Balochistan. The data is sparse for the Balochistan province due
9
10 to the under-reporting and scattered population. Balochistan's literacy rate is below 50% compared
11
12 to other regions of Pakistan (28). The people of Balochistan follow strict sociocultural norms like
13
14 not allowing women to go outside home for education and doing jobs, there is gender
15
16 discrimination and male dominance (22). Not much is documented about violence in women from
17
18 this part of the country. This study aims to identify the associated factors of the DV and to
19
20 determine the type of violence used i.e., physical, verbal, emotional and psychological violence
21
22 against women of reproductive age in Quetta Balochistan, Pakistan. The study will document the
23
24 factors and types of domestic violence from this conservative area which will pave the way for
25
26 future studies and interventions in Pakistan.
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32

33 **OBJECTIVES**

34 **Primary:**

35
36 To determine the factors associated with domestic violence, among women of reproductive age at
37
38 Quetta Balochistan.
39

40
41 To determine the types of violence, among women of reproductive age at Quetta Balochistan.
42
43

44 **Secondary:**

45
46 To understand the perspective of community leaders and HCWs for developing preventable
47
48 strategies for domestic violence against women of reproductive age at Quetta Balochistan.
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50
51
52

53 **HYPOTHESIS**

1
2
3 The odds of domestic violence among non-married women of reproductive age (both ever married
4 and never married) group are 2 times greater compared to married women of reproductive age
5
6 groups.
7
8
9

10 The odds of domestic violence based on factor such as illiteracy, unmarried status and age above
11
12 25 years increase 2 time more in women as compared to those who do face domestic violence.
13
14
15

16 **METHODS**

17 **STUDY DESIGN**

18
19 A sequential explanatory mix method (quantitative study followed with qualitative) study design
20
21 will be used to fulfill the objectives of the study. A cross-sectional study design will be used to
22
23 identify associated factors with domestic violence and type of violence among women of
24
25 reproductive age in Quetta, Balochistan using a structured questionnaire followed with a qualitative
26
27 focused group discussions (FGDs) with community leaders and community health care workers
28
29 (HCWs) to understand their perspective on domestic violence and developed preventable measure
30
31 to stop it.
32
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34
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39 **STUDY SETTING AND STUDY SITE**

40
41 It will be conducted in district Quetta, Baluchistan which is the provincial capital of Balochistan.
42
43 It has 2 Tehsils i.e., Chiltan and Zarghoon. These tehsils are further constituted of 50 Union
44
45 councils. The total population of the district is 2.5 million and there are 263143 households in the
46
47 district. The district is predominantly inhabited by Baloch and Pashtuns with segments of Hazara
48
49 and Punjabis. (Pakistan Bureau of Statistics, Census 2017).
50
51
52
53

54 **STUDY PARTICIPANTS**

1
2
3 For quantitative section study participants will be women of reproductive age 15 to 49 years both
4 married and unmarried resident of Quetta Balochistan, will be made part of the study. For
5 qualitative component community leaders and community health care workers of Quetta
6
7
8
9
10 Balochistan.

11 12 13 **STUDY DURATION**

14
15
16 This study will take place from December 1, 2021, to November 30, 2022. The study duration will
17
18 be 12 months.

19 20 21 **ELIGIBILITY CRITERIA**

22 23 24 **INCLUSION CRITERIA**

25
26
27 All women of reproductive age (15 to 49 years), both ever married and never married. A resident
28
29 of the Quetta for at least 5 years (will be confirmed through CNIC) and give consent to participate
30
31 in the study.

32
33
34
35 Community leaders and community health care workers of Quetta Balochistan willing to
36
37 participate in the study and give informed written consent.

38 39 40 **EXCLUSION CRITERIA**

41
42
43 Women who are mentally retarded, have cognitive impairment and living alone will be excluded
44
45 from the study. Women of non-reproductive age (<15 to >49 years). Those who refuse to
46
47 participate or not give consent.

48 49 50 **SAMPLING STRATEGY**

51
52
53 We will use a two-stage sampling design; first will select 1500 households from the list of
54
55 households taken from health department government of Balochistan. This selection of households
56
57

1
2
3 in each UC will be done by randomizer through computer generated list of all households in the
4
5 UC. Once the households are selected then data collectors will visit the selected households for
6
7 data collection. A single woman from each household will be selected randomly for data collection
8
9 in each household if the randomized woman doesn't provide informed consent the next woman in
10
11 the same household will be approached and if all the women of reproductive age in the randomly
12
13 selected household refuses to provide data the adjacent household will be selected for data
14
15 collection.
16
17
18

19 20 **SAMPLE SIZE**

21
22 For the quantitative part the sample size was calculated using the factors associated with domestic
23
24 violence in women of reproductive age in Quetta, Pakistan in this regard the different factors i.e.,
25
26 number of reasons for which wife beating is justified, women afraid of husband and spouse
27
28 education were identified from the literature (14,23). The proportion of all these factors varied in
29
30 the literature, level of spouse education with exposed 33.8% and Unexposed 26.2% to number of
31
32 reasons for which wife beating is justified with exposed 29.3% to unexposed 39.23%
33
34 (13,14,23,25,26). Considering the proportion to gather with 80% power, 95% confidence interval
35
36 and 1:1 of unexposed to exposed in sample, the estimated sample size came out to be 367. By
37
38 considering the design effect of 2 that occurs for using multistage cluster sampling, the required
39
40 sample size came out to be 734.
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42
43
44
45

46 The formula and calculation are as follow:

$$47 \quad n = [Z_2 \alpha/2 (pq)] + B^2 * \text{Design effect}$$

48
49
50
51
52 Where,

$$53 \quad Z_2 (\alpha/2) = (1.96 \text{ at } 95\% \text{ CI})$$

1
2
3 p=Proportion of domestic violence 0.5
4
5

6 q= Proportion of no domestic violence $1-0.5= 0.5$
7
8

9 B2= Bound on error $(0.05)^2$
10
11

12 Design effect = 2
13
14

15 The final sample size adjusting to cluster effect came to be $(367*2) = 734$
16
17

18 With inclusion of 5% non-response and missing data, the final sample size came to be 770 dyads.
19
20

21 In the qualitative part, two FGDs will be conducted one with community leaders and other with
22 community health care workers a maximum of 12 participants will be required for that process.
23
24
25

26 **DATA COLLECTION PROCEDURE:** 27 28

29 For the quantitative data, data collectors will be visiting the randomly selected houses. Data
30 collectors will be female psychology students or nursing students considering the sensitivity of the
31 topic. For security reasons male field supervisors will be allotted with data collectors' team to
32 communicate with the community and lead the data collection process. Women will be screened
33 for eligibility and enrolled after taking written informed consent. A study ID of will be assigned
34 to her. Data collectors will be collecting demographic data and specific questions related to DV
35 will be asked. During the data collection process, privacy and confidentiality will be maintained.
36
37
38 The data will be collected using a standard questionnaire (PDHS-Domestic violence module). At
39 the end of interview, data collectors check the questionnaire for errors, inconsistencies, and
40 missing values before leaving the house. If there is no woman of reproductive age living in the
41 house or locked houses, next house will be approached.
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3 The FGDs will be conducted in the next process to understand the perspective of community
4 leaders and HCWs regarding the domestic violence and its prevention strategies. A semi structured
5 guide will be used for this purpose.
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10 **DATA MANAGEMENT**

11
12
13 The quantitative data will be collected using Epidata software 3.1. A data entry operator will enter
14 the data. Every form has a unique participant identification (ID) to avoid duplication. PI will check
15 10% randomly selected questionnaires for errors, inconsistencies, and missing values. After data
16 entry, the entered data will be password protected. Also, backup files for electronic data will be
17 maintained to prevent loss of data. For qualitative data All the interviews will be audio recorded
18 with the permission of participants, which will be transcribed and translated for themes/sub-themes
19 development.
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30 **DATA COLLECTION TOOL**

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33 For the quantitative data collection Demographic Health Survey (DHS) Domestic violence tool
34 will be used to collect the data from participants. For basic information of the participants a
35 questionnaire will be developed. The reliability of the tool was 0.9 calculated using Cronbach's
36 alpha. The qualitative tool will be developed for FGD which will have questions regarding the
37 perception of community leaders and HCWs to address the issue and develop strategies to prevent
38 DV.
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48 **STUDY VARIABLES**

49 **OUTCOME VARIABLE**

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3 Domestic violence according to WHO violence is define as the intentional use of physical force
4 and power , threatened or actual, against oneself, another person, or against oneself, another person
5 or against a group or community that either result in or has a high likelihood of resulting in injury,
6 death, psychological harm, mal development and deprivation and the act of this violence in
7 domestic setting is called domestic violence) against women of reproductive age both married &
8 unmarried, resident of Quetta, Balochistan. This variable will be binary violence against women
9 Yes/No.
10
11
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20 Factor associated with domestic violence like educated or uneducated, if educated then what is the
21 level of education, primary, secondary, or higher-level economic status means lower class, middle
22 class and or upper class, ethnicity Pashtun, Baloch or Hazara.
23
24
25
26

27 MEASUREMENT OF VIOLENCE

28
29
30 PDHS 2017-18 domestic violence tool will be used, information will be obtained from both
31 married and unmarried women on their experience of violence, committed by their current and
32 former husbands and by others. More specifically, violence committed by the current husband (for
33 currently married women) and by the most recent husband (for formerly married women). There
34 will be three specific domains with operational definition.
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36
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41

42 ***Physical spousal violence:*** push you, shake you, or throw something at you; slap you; twist your
43 arm or pull your hair; punch you with his fist or with something that could hurt you; kick you, drag
44 you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a
45 knife, gun, or any other weapon.
46
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51 ***Emotional spousal violence:*** say or do something to humiliate you in front of others, threaten to
52 hurt or harm you or someone close to you, or insult you or make you feel bad about yourself.
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COVARITIES

Different factors are associated with domestic violence against women, the individual factors that will be assessed are like women's age at the time of survey, ethnicity, like Pashtun, Baloch , Hazara women's highest level of education, primary, secondary graduate, postgraduate women's occupation, housewife ,teacher, working in health sector Husband/Partner's age, Husband's highest level of education, types of occupation of the participant and partner, type of family nuclear , joint family total number of family members of the victim or participant , total number of children, of the participant, years of Marriage of the participant , monthly family income, of the participant in rupees geographic location of the participant and substance abuse. like drugs abuse, cocaine abuse, antidepressant, marijuana

A-PRIORI CONFOUNDERS

Age of the participant, level of education, occupation and geographical location are categorized as a-priori confounders in this research (27).

Qualitative covariates will be perspective and opinion of community leaders and HCWs for developing potential strategies for preventing domestic violence against women.

PLAN OF STATISTICAL ANALYSIS

Mean \pm SD will be calculated for all normally distributed continuous variables for example age of subjects. Frequencies and percentages will be computed for all qualitative variables.

The outcome or dependent variable of the study is binary therefore binary logistic regression will be used. The univariate analysis will be done to know the individual effect of the independent variable when regressed against the domestic violence. P-value is less than or equal to 0.25 will

1
2
3 be considered significant. Those variables that are not significant will be removed after this
4
5 process.
6

7
8 A stepwise approach will be used for multivariable analysis. Multicollinearity will be checked
9
10 between all the variables before multivariable analysis. Multicollinearity will be assessed through
11
12 different tests. After exploring Multicollinearity, the multivariable analysis will be performed.
13
14 Variables that will be significant at univariate level will be added one after another in the model
15
16 based on P-value less than or equal to 0.05 is the cut off for the significance of multivariable
17
18 analysis. Biological plausible interaction between variables will also be assessed in the main
19
20 model. If there is no interaction found between variables than we will check for confounders.
21
22 STATA version 17 will be used for the analysis.
23
24
25

26
27 Qualitative data will be transcribed i.e., the data collected from focus groups discussion, and two
28
29 independent coders will review the transcript and develop a codebook from the responses. A
30
31 qualitative content analysis using Atlas.ti software (Berlin, Germany) will be performed to identify
32
33 recurrent themes/sub-themes related to perspective and opinion regarding the prevention of DV.
34
35
36

37 **LIMITATIONS AND VALIDITY**

38 **INTERNAL VALIDITY**

39
40
41 The study has few biases which are addressed at both designs and will be addressed in the analysis
42
43 phase.
44
45
46

47 **RECALL BIAS**

48
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50 Some of the questions required the participant to recall especially related to domestic/intimate
51
52 partner or gender-based violence that happened in the past, there will be possible to recall issues.
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WISH BIAS

There are certain questions in the questionnaire which can produce wish bias if a participant tries to hide certain information related to personal information or violence. To address this bias questionnaire is designed in such a way that these questions will be asked less sensitively. However, the possibility of wish bias cannot be excluded.

EXTERNAL VALIDITY

The results will be generalized to women of reproductive age (15-49 years). The factors may be different in different settings like social, cultural and religion norms.

ETHICAL CONSIDERATIONS AND APPROVAL

The approval for the study was obtained from Aga Khan University's Ethical Review Committee (ERC Ref # 6114). The data collectors will be given proper training on ethical consideration and sensitivity of the topic before beginning with the interview process. A proper process for the data collection will be followed to comply with ethical considerations. The complete data collection process including consent will be taken in separate room or place. Data collection will be done in close doors at the participant home, if participant will not be comfortable, she will be called with her and house head permission at separate place like community hall, community head's house, lady health visitor (LHV) clinic or Basic Health Units (BHUs). There will be no force on data collection if she or her husband or house head refuse to give permission. Data collectors will be properly trained to handle any unwanted situations, they will be given a proper counselling training especially during emotional breakdowns and situations to empathize the participant. Data collectors will be females either Nurses, LHVs or Psychology students and should have the proper experience to provide emotional support and comfort. Furthermore, during the process of data

1
2
3 collection, the participant's name will be kept anonymous to ensure anonymity and confidentiality.
4
5 All participants will be given complete information about the study and only after that, they will
6
7 provide their consent which shall be voluntary. Participants will also be informed that they can
8
9 discontinue the interview process at any point during the interview without facing any
10
11 consequences. Before going to ask sensitive question related to the study once again permission
12
13 will be granted from the participant, the collected data will be protected, and access will be only
14
15 given to primary investigators. Participants will also be referred to appropriate counseling and
16
17 assistance as per need and requirement.
18
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22 **REFERRALS FOR DOMESTIC VIOLENCE VICTIMS**

23
24
25 Participants who will need the medical attention or having any adverse health consequences due
26
27 to violence will be referred to Non-governmental Organization (NGOs) or health facilities for the
28
29 proper counselling and medical help. Prior to the study such organizations will be identified and
30
31 listed for the referral in Quetta. This study will not bring any direct benefit to the participants,
32
33 however those who would ask for help and who do not will be provided with NGOs, phone numbers
34
35 and hospital contacts to seek help in case they need it.
36
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39

40 **PUBLIC HEALTH IMPLICATION**

41
42 Violence against women is increasingly seen as a public health problem globally. This will help
43
44 in the fulfilling research gaps for associated factors with domestic violence against women in
45
46 Quetta. The findings from this research will help different sectors to develop the interventions and
47
48 government to plan and strategize strict laws and policies to control or end the violence against
49
50 women in Pakistan. Moreover, this will generate evidence through numbers for further
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3 understanding of cause and reasons of violence and will be pioneer for violence research in Quetta
4
5 Balochistan.
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7

8 **PATIENT AND PUBLIC INVOLVEMENT**

9

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11 Study protocol- No patient involved
12
13

14 **ABBREVIATIONS**

15

16
17 DHS: Demographic Health Survey
18
19

20 DV: Domestic Violence
21
22

23 FGD: Focus Group Discussion
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26 HCW: Health Care Worker
27
28

29 NGOs: Non-governmental Organizations
30
31

32 **Declaration**

33

34 **Consent for publication**

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36

37 Not Applicable
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39

40 **Availability of data and materials**

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42

43 Data and materials are available to the corresponding author, which can be shared at a reasonable
44
45 request.
46
47

48 **Competing interests**

49
50

51 The authors declare no competing interest.
52
53

54 **Funding**

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1
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3 Not Applicable
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18 Author links open overlay panelAbdulRehmanaLuanJingdongaImranHussainb
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آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

14-Jul-2021

Mr. Salman Muhammad Soomar
Department of Community Health Sciences
Aga Khan University
Karachi

Dear Mr. Salman Muhammad Soomar,

2021-6114-18575. Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix method study

Thank you for submitting your application for ethical approval regarding the above-mentioned study.

Your study was reviewed and discussed in ERC meeting. There were no major ethical issues. The study was given an approval for a period of one year with effect from 14-Jul-2021. For further extension a request must be submitted along with the annual report.

List of document(s) approved with this submission.

Submission Document Name	Submission Document Date	Submission Document Version
English DHS domestic violence tool	29-Mar-2021	1.0
Scanned Documents NOC From DC Quetta	05-May-2021	1.0
Authorization Letter - HK	05-May-2021	1.0
Affidavit for Translation-converted	05-May-2021	1.0
Urdu-DHS-domestic-violence-tool	19-May-2021	1.1
Urdu-Screening-and-Baseline-Questionnaire (2)	19-May-2021	1.1
Balochi DHS domestic violence tool	19-May-2021	1.1
Balochi Screening and Baseline Questionnaire	19-May-2021	1.1
English Screening and Baseline Questionnaire	19-May-2021	1.0
Parental consent form in English-converted	12-Jun-2021	1.3
Pashto parental	12-Jun-2021	1.3
Pashto screening and baseline questionnaire	12-Jun-2021	1.3
Pashto DHS domestic violence tool new (1)	12-Jun-2021	1.3
Informed Consent in English-converted	12-Jun-2021	1.3

1	Assent form in English-converted	12-Jun-2021	1.3
2	Pashto informed	12-Jun-2021	1.3
3	Pashto assent	12-Jun-2021	1.3
4	Balochi assent edited	12-Jun-2021	1.3
5	Balochi informed	12-Jun-2021	1.3
6	Balochi parental	12-Jun-2021	1.3
7	Urdu informed (1)	12-Jun-2021	1.3
8	Urdu assent edited (1)	12-Jun-2021	1.3
9	Urdu parental (1)	12-Jun-2021	1.3
10	Protocol version 1.3 12072021	12-Jul-2021	1.3
11	Response to ERC comments	12-Jul-2021	1.0

14 Any changes in the protocol or extension in the period of study should be notified to the Committee for prior approval. All informed consents should be retained for
15 future reference.

16 Please ensure that all the national and institutional requirements are met.

17 Thank you.

18 Sincerely,



28 Dr. Hammad Ather
29
30 Chairperson
31 Ethics Review Committee

For peer review only

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BMJ Open

Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix-method protocol.

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Manuscript ID	bmjopen-2021-057299.R1
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Date Submitted by the Author:	21-Feb-2022
Complete List of Authors:	Soomar, Salman; The Aga Khan University, Emergency services Soomar, Sarmad; The Aga Khan University, School of Nursing and Midwifery
Primary Subject Heading:	Public health
Secondary Subject Heading:	Qualitative research, Sexual health, Health services research, Epidemiology
Keywords:	PUBLIC HEALTH, QUALITATIVE RESEARCH, EPIDEMIOLOGY

SCHOLARONE™
Manuscripts

RESEARCH PROTOCOL

Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix-method protocol.

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ABSTRACT

Background

Worldwide, domestic violence is a cause of death and disability among women aged 15–49 years. In Pakistan, domestic violence appears in different forms, and only 3.2% of women report any domestic violence. There are various factors associated with DV against Women. The data is sparse for the Balochistan province due to the under-reporting and scattered population. The aim of the research study is to determine the factors associated with domestic violence and the types of violence among women of reproductive age. Moreover, to understand the perspective of community leaders and HCWs for developing prevention of domestic violence against women of reproductive age at Quetta Balochistan.

Methods and analysis

A sequential explanatory mix method (quantitative study followed with qualitative) study design will be used to fulfill the study's objectives. Women of reproductive age 15 to 49 years, both married and unmarried, local residents, community leaders, and community health care workers of Quetta Balochistan, will be made part of the study. A structured questionnaire will be used as the quantitative tool. . Focus group discussions using a semi-structured guide will provide for the data collection. The multivariable logistic regression analysis will be performed for the quantitative part. P-value ≤ 0.05 will be considered significant. In qualitative part data will be transcribed and recurrent themes/sub-themes will be developed understanding the perspective and opinion regarding DV prevention.

Ethics and dissemination

Ethical Approval was taken from Ethical Review Committee, Aga Khan University, Karachi Pakistan. Informed written consent will be obtained from participants above 18 and assesnt with parental consent from below 18 years old.

Keywords: Domestic Violence, Women, Reproductive Age, Factors, Prevention

Strength and Limitations

- This is the first-ever community-based study to be conducted in Balochistan, Pakistan to understand both factors associated with domestic violence and the perspective to prevent it.
- This is also the first-ever study to include community leaders and health care workers because they have more ideas regarding the community problems.
- A large sample size with a multi-cluster sampling strategy is used to collect data from the women of reproductive age from the major capital city of the Balochistan province.
- Certain biases associated with the study such as recall and wish bias and generalizability will be limited to women of reproductive age.

INTRODUCTION

Domestic Violence (DV) is a worldwide epidemic. An estimated 30% of women experience physical and sexual violence during their lifetime globally (1). Domestic violence includes violence perpetrated by a family member or intimate partner towards another adult (2). Much of the current international evidence focuses on intimate partner violence (IPV), a subset of DV.

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3 DV may be a single incident or pattern of incidents that can take multiple forms, including
4 physical, sexual, psychological, emotional, financial, and control Violence.
5
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8 It is a severe violation of human rights and is a significant public health issue. Worldwide, domestic
9 violence is a cause of death and disability among women aged 15–49 years (3). In addition to
10 causing injury, violence increases women's long-term risks of several other health problems,
11 including physical and mental health issues (2, 3). Abused women are two times more likely to
12 have medical visits, 8-fold more like to seek mental healthcare, and an increased rate of
13 hospitalization than non-abused women (3)
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15

16
17 The reported lifetime prevalence of physical or sexual violence, or both, varied from 15% to 71%
18 among the world's different countries (4, 5). The prevalence was highest in the WHO African,
19 Eastern Mediterranean, and South-East Asia Regions (6). Approximately 37% of ever-partnered
20 women reported physical and sexual and IPV at some point in their lives (6-8). They reported the
21 subsequent highest prevalence in the American area, with approximately 30% of women reporting
22 lifetime exposure (9). Prevalence was lower in the high-income region, 23%, and in the European
23 and the Western Pacific Regions, where 25% of ever-partnered women reported lifetime intimate
24 partner violence experience (10). During the COVID-19 pandemic, a considerable increase was
25 seen in the DV and IPV cases globally. According to the WHO, there were a rise of 50% to 60%
26 of cases based on survivor calls for help to women organization hotlines (11)
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46 Domestic violence appeared in various forms in Pakistan, and only 3.2% of women report
47 domestic violence (12). In rural areas of Pakistan, the prevalence of physical violence against
48 women was 56% (13). In contrast, the lifetime prevalence in urban environments is 57.6%
49 physical, 54.5% sexual, and 83.6% psychological abuse (14-16).
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2
3 There are different factors associated with DV against Women. There is still gender discrimination
4
5 in many cultures due to sociocultural influences, including unequal access of women to health
6
7 services, the unequal status of gender relations, emphasis on women's primary reproduction
8
9 responsibilities, lower educational level, and unequal job opportunities (15). Other than these
10
11 factors, women's power dynamics, patriarchy, low socio-economic status, and substance abuse by
12
13 a partner or family male were essential factors associated with DV against women (12, 13, 17).
14
15 Infertility in women is also a significant reason for violence against women in different parts of the
16
17 World (18, 19). Moreover, research has indicated that there has been violence during pregnancy
18
19 (20). The reasons for violence in pregnant women are that partner's alcohol misuse, jealousy,
20
21 stress, and unemployment, which might be risk factors of DV during pregnancy (21, 22).
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27 While confirming that physical and sexual partner violence against women is widespread, the
28
29 variation in prevalence between different regions emphasizes that this violence is not unavoidable
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31 and needs to be addressed.
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34 **RATIONALE**

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37 Understanding violence against women is as complex as its process. Literature shows that most of
38
39 the justifications were contextually and culturally based, but there are other reasons for such acts
40
41 unreported. Most of the factors related to violence against women are common for Pakistan.
42
43 Available in Pakistan demographic survey 2017-2018. However, the data are not available for the
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45 violence, such as domestic violence, intimate partner violence, and fundamental factors are
46
47 unknown, especially in Balochistan. The data is sparse for the Balochistan province due to the
48
49 under-reporting and scattered population. Balochistan's literacy rate is below 50% compared to
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51 other regions of Pakistan (23). The people of Balochistan follow strict sociocultural norms like not
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53 allowing women to go outside the home for education and doing jobs, and there is gender
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3 discrimination and male dominance (24). Not much is documented about violence in women from
4 this part of the country. This study aims to identify the DV's associated factors and determine the
5 type of violence used, i.e., physical, verbal, emotional, and psychological violence against women
6 of reproductive age in Quetta Balochistan, Pakistan. The study will document the factors and types
7 of domestic violence from this conservative area which will pave the way for future studies and
8 interventions in Pakistan.
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16 17 **OBJECTIVES**

18 19 **Primary:**

20
21 To determine the factors associated with domestic violence among women of reproductive age at
22 Quetta Balochistan.
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25 To determine the types of violence among women of reproductive age at Quetta Balochistan.
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27

28 29 **Secondary:**

30
31 To understand the perspective of community leaders and HCWs for developing preventable
32 strategies for domestic violence against women of reproductive age at Quetta Balochistan.
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36 37 **HYPOTHESIS**

38
39 The odds of domestic violence among non-married women of reproductive age (both ever married
40 and never married) group will be higher than married women of reproductive age groups.
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45 46 **METHODS**

47 48 **STUDY DESIGN**

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50 A sequential explanatory mix method (quantitative study followed with qualitative) study design
51 will be used to fulfill the study's objectives. A cross-sectional study design will be used to identify
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1
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3 associated factors with domestic violence and type of violence among women of reproductive age
4 in Quetta, Balochistan, using a structured questionnaire followed with phenomenological approach
5
6 as we will be knowing the lived experiences. Focused group discussion (FGDs) with community
7
8 leaders and community health care workers (HCWs) to understand their perspective on domestic
9
10 violence and developed a preventable measure to stop it.
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15 **STUDY SETTING AND STUDY SITE**

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18 It will be conducted in district Quetta, Baluchistan, the provincial capital of Balochistan. It has 2
19
20 Tehsils i.e., Chiltan and Zarghoon. These tehsils are further constituted of 50 Union councils. The
21
22 district's total populationdistrict's total population is 2.5 million, and there are 263143 households
23
24 in the district. Baloch, and Pashtuns inhabit the community with segments of Hazara and Punjabis.
25
26 (Pakistan Bureau of Statistics, Census 2017).
27
28
29

30 **STUDY PARTICIPANTS**

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32
33 For the quantitative section, study participants will be women of reproductive age 15 to 49 years,
34
35 both married and unmarried residents of Quetta Balochistan, and will be part of the study. For
36
37 qualitative component community leaders and community health care workers of Quetta
38
39 Balochistan.
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43 **STUDY DURATION**

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45
46 This study is planned to start from December April 1, 20221, and the expected end date will be
47
48 November 30, 2022. The study duration will be 7 months.
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50

51 **ELIGIBILITY CRITERIA**

1
2
3 All women of reproductive age (15 to 49 years), both ever married and never married. A resident
4 of the Quetta for at least five years (will be confirmed through CNIC)
5
6

7
8 Community leaders and community health care workers of Quetta Balochistan are willing to
9 participate in the study and give informed written consent.
10
11

12 13 do **SAMPLING STRATEGY**

14
15 We will use a two-stage sampling design; first will select households from the list taken from the
16 health department government of Balochistan. This selection of households in each UC will be
17 madmade by randomizer through computer-generated list of all households in the UC. Once the
18 households are selected, data collectors will visit the selected families for data collection. A single
19 woman from each home will be selected randomly for data collection in each household if the
20 randomized woman doesn't provide informed consent, the next woman in the same household will
21 be approached, and if all the women of reproductive age in the randomly selected household refuse
22 to provide data, the adjacent household will be selected for data collection. For qualitative part
23 non-probability purposive sampling strategy will be used.
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38 **SAMPLE SIZE**

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40 For the quantitative part, the sample size was calculated using the factors associated with domestic
41 violence in women of reproductive age in Quetta, Pakistan in this regard, the different factors, i.e.,
42 number of reasons for which wife-beating is justified, women afraid of husband and spouse
43 education were identified from the literature (14,23). The proportion of all these factors varied in
44 the literature, level of spouse education with exposed 33.8% and Unexposed 26.2% to the number
45 of reasons for which wife beating is justified with exposed 29.3% to unexposed 39.23%
46 (13,14,23,25,26). Considering the proportion to gather with 80% power, 95% confidence interval,
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3 and 1:1 of unexposed to exposed in the sample, the estimated sample size came out to be 367. By
4
5 considering the design effect of 2 that occurs for multistage cluster sampling, the required sample
6
7 size was 734.
8
9

10 The formula and calculation are as follow:

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12
13
14 $n = [Z^2 a/2 (pq)] + B^2 * \text{Design effect}$
15

16 Where,

17
18
19
20 $Z_2 (a/2) = (1.96 \text{ at } 95\% \text{ CI})$
21

22 $p = \text{Proportion of domestic violence } 0.5$
23

24
25 $q = \text{Proportion of no domestic violence } 1 - 0.5 = 0.5$
26

27
28
29 $B^2 = \text{Bound on error } (0.05)^2$
30

31 $\text{Design effect} = 2$
32
33

34 The final sample size adjusting to cluster effect came to be $(367 * 2) = 734$
35
36

37 With the inclusion of 5% non-response and missing data, the final sample size came to be 770
38
39
40 dyads.
41

42 In the qualitative part, two FGDs will be conducted, one with community leaders and the other
43
44 with community health care workers. A maximum of 12 participants will be required for that
45
46
47 process.
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50 **DATA COLLECTION PROCEDURE:** 51

52
53 For the quantitative data, data collectors will be visiting the randomly selected houses. Data
54
55 collectors will be female psychology students or nursing students, considering the sensitivity of
56
57

1
2
3 the topic. For security reasons, male field supervisors will be allotted with the data collectors' team
4
5 to communicate with the community and lead the data collection process. Women will be screened
6
7 for eligibility and enrolled after taking written informed consent. A study ID will be assigned to
8
9 her. Data collectors will be collecting demographic data, and specific questions related to DV will
10
11 be asked. During the data collection process, privacy and confidentiality will be maintained. The
12
13 data will be collected using a standard questionnaire (PDHS-Domestic violence module). At the
14
15 end of the interview, data collectors check the questionnaire for errors, inconsistencies, and
16
17 missing values before leaving the house. If there is no woman of reproductive age living in the
18
19 house or locked houses, the next house will be approached.
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22

23
24 The FGDs will be conducted in the next process to understand the perspective of community
25
26 leaders and HCWs regarding domestic violence and its prevention strategies. A semi-structured
27
28 guide will be used for this purpose.
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32 **DATA MANAGEMENT**

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34
35 The quantitative data will be collected using Epidata software 3.1. A data entry operator will enter
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37 the data. Every form has a unique participant identification (ID) to avoid duplication. PI will check
38
39 10% of randomly selected questionnaires for errors, inconsistencies, and missing values. After
40
41 data entry, the entered data will be password protected. Also, backup files for electronic data will
42
43 be maintained to prevent loss of data. For qualitative data, All the interviews will be audio recorded
44
45 with the permission of participants, which will be transcribed and translated for themes/sub-themes
46
47 development.
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51 **DATA COLLECTION TOOL**

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3 For the quantitative data collection, Demographic Health Survey (DHS) Domestic violence tool
4 will be used to collect the data from participants. For basic information about the participants, a
5 questionnaire will be developed. The reliability of the tool was 0.9, calculated using Cronbach's
6 alpha. The qualitative tool will be developed for FGD, which will have questions regarding the
7 perception of community leaders and HCWs to address the issue and develop strategies to prevent
8 DV. FGD will be led by the Principal Investigator with the team at community centers/ halls. The
9 strong through every mile (STEM) theoretical framework will be used which focuses on tertiary
10 prevention, coping, and recovery from domestic violence. STEM's expected outcomes are
11 supported by four main theoretical frameworks: self-determination theory, self-efficacy theory,
12 locus of control, and social capital theory. Additionally, the empowerment, happiness, and
13 mindfulness literature provides support for STEM's anticipated outcomes (5).
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32 **STUDY VARIABLES**

33 **OUTCOME VARIABLE**

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38 Domestic violence, according to WHO violence is defined as the intentional use of physical force
39 and power, threatened or actual, against oneself, another person, or against oneself, another person
40 or against a group or community that either result in or has a high likelihood of resulting in injury,
41 death, psychological harm, maldevelopment, and deprivation and the act of this violence in a
42 domestic setting is called domestic violence) against women of reproductive age, both married &
43 unmarried, resident of Quetta, Balochistan. This variable will be binary violence against women
44 Yes/No.
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54 **MEASUREMENT OF VIOLENCE**

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3 PDHS 2017-18 domestic violence tool will be used, and information will be obtained from both
4
5 married and unmarried women on their experience of violence committed by their current and
6
7 former husbands and by others. More specifically, violence committed by the current husband (for
8
9 currently married women) and by the most recent husband (for formerly married women). There
10
11 will be three specific domains with operational definitions.
12
13

14
15 ***Physical spousal violence:*** push you, shake you, or throw something at you; slap you; twist your
16
17 arm or pull your hair; punch you with his fist or with something that could hurt you; kick you, drag
18
19 you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a
20
21 knife, gun, or any other weapon.
22
23

24
25 ***Emotional spousal violence:*** say or do something to humiliate you in front of others, threaten to
26
27 hurt or harm you or someone close to you, or insult you or make you feel bad about yourself.
28

29 **COVARIATES**

30
31
32 Different factors are associated with domestic violence against women. The individual factors that
33
34 will be assessed are like women's age at the time of the survey, ethnicity, like Pashtun, Baloch,
35
36 Hazara women's highest level of education, primary, secondary graduate, postgraduate women's
37
38 occupation, housewife ,teacher, working in health sector Husband/Partner's age, Husband's highest
39
40 level of education, types of occupation of the participant and partner, type of family nuclear , joint
41
42 family total number of family members of the victim or participant , total number of children, of
43
44 the participant, years of Marriage of the participant , monthly family income, of the participant in
45
46 rupees geographic location of the participant and substance abuse. like drugs abuse, cocaine abuse,
47
48 antidepressant, marijuana
49
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51

52 **A-PRIORI CONFOUNDERS**

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2
3 Age of the participant, level of education, occupation and geographical location are categorized as
4 a-priori confounders in this research. Literature reports lower age groups have more chances of
5 violence compared to senior, difference in education can be a confounder, as more educated
6 women is a empowered woman. Moreover, a working woman faces less violence compared to a
7 housewife. There is a significant difference in urban and rural areas population which affects the
8 violence rates (20).
9

10
11
12 Qualitative covariates will be the perspective and opinion of community leaders and HCWs for
13 developing potential strategies for preventing domestic violence against women.
14
15

16 17 18 **PLAN OF STATISTICAL ANALYSIS** 19 20 21

22
23 Mean \pm SD will be calculated for all normally distributed continuous variables, for example age of
24 subjects. Frequencies and percentages will be computed for all qualitative variables.
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26

27
28 The outcome or dependent variable of the study is binary therefore binary logistic regression will
29 be used. The univariate analysis will be done to know the individual effect of the independent
30 variable when regressed against the domestic violence. P-value is less than or equal to 0.25 will
31 be considered significant. Those variables that are not significant will be removed after this
32 process.
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42
43 A stepwise approach will be used for multivariable analysis. Multicollinearity will be checked
44 between all the variables before multivariable analysis. Multicollinearity will be assessed through
45 different tests. After exploring Multicollinearity, the multivariable analysis will be performed.
46
47
48 Variables that will be significant at the univariate level will be added one after another in the model
49 based on a P-value less than or equal to 0.05 is the cut-off for the significance of multivariable
50 analysis. Biologically plausible interactions between variables will also be assessed in the main
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1
2
3 model if there is no interaction found between variables, then we will check for confounders.
4
5 STATA version 17 will be used for the analysis.
6
7

8 Qualitative data will be transcribed i.e., the data collected from focus groups discussion, and two
9
10 independent coders will review the transcript and develop a codebook from the responses. A
11
12 qualitative content analysis using Atlas.ti software (Berlin, Germany) will be performed to identify
13
14 recurrent themes/sub-themes related to perspective and opinion regarding the prevention of DV.
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17 18 **LIMITATIONS AND VALIDITY**

19 20 21 **INTERNAL VALIDITY**

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23
24 The study has few biases which are addressed at both designs and will be addressed in the analysis
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26 phase.
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29 30 **RECALL BIAS**

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32 Some of the questions required the participant to recall especially related to domestic/intimate
33
34 partner or gender-based violence that happened in the past, there will be possible to recall issues.
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36

37 38 **WISH BIAS**

39
40 There are certain questions in the questionnaire which can produce wish bias if a participant tries
41
42 to hide certain information related to personal information or violence. To address this bias
43
44 questionnaire is designed in such a way that these questions will be asked less sensitively.
45
46 However, the possibility of wish bias cannot be excluded.
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50 51 **EXTERNAL VALIDITY**

52
53 The results will be generalized to women of reproductive age (15-49 years). The factors may be
54
55 different in different settings like social, cultural and religion norms.
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ETHICAL CONSIDERATIONS AND APPROVAL

The approval for the study was obtained from Aga Khan University's Ethical Review Committee (ERC Ref # 6114). The data collectors will be given proper training on ethical consideration and sensitivity of the topic before beginning with the interview process. A proper process for the data collection will be followed to comply with ethical considerations. The complete data collection process including consent will be taken in separate room or place. Data collection will be done in close doors at the participant home, if participant will not be comfortable, she will be called with her and house head permission at separate place like community hall, community head's house, lady health visitor (LHV) clinic or Basic Health Units (BHUs). There will be no force on data collection if she or her husband or house head refuse to give permission. Data collectors will be properly trained to handle any unwanted situations, they will be given a proper counseling training, especially during emotional breakdowns and situations, to empathize the participant. Data collectors will be females either Nurses, LHVs or Psychology students and should have the proper experience to provide emotional support and comfort. Furthermore, during the process of data collection, the participant's name will be kept anonymous to ensure anonymity and confidentiality. All participants will be given complete information about the study and only after that, they will provide their consent which shall be voluntary. Participants will also be informed that they can discontinue the interview process at any point during the interview without facing any consequences. Before going to ask sensitive question related to the study once again permission will be granted from the participant, the collected data will be protected, and access will be only given to primary investigators. Participants will also be referred to appropriate counseling and assistance as per need and requirement.

REFERRALS FOR DOMESTIC VIOLENCE VICTIMS

1
2
3 Participants who will need the medical attention or having any adverse health consequences due
4 to violence will be referred to Non-governmental Organization (NGOs) or health facilities for the
5 proper counselling and medical help. Prior to the study such organizations will be identified and
6 listed for the referral in Quetta. This study will not bring any direct benefit to the participants,
7 however those who would ask for help and who do not will be provided with NGOs, phone numbers
8 and hospital contacts to seek help in case they need it.
9

17 **PUBLIC HEALTH IMPLICATION**

20 Violence against women is increasingly seen as a public health problem globally. This will help
21 in the fulfilling research gaps for associated factors with domestic violence against women in
22 Quetta. The findings from this research will help different sectors to develop the interventions and
23 government to plan and strategize strict laws and policies to control or end the violence against
24 women in Pakistan. Moreover, this will generate evidence through numbers for further
25 understanding of cause and reasons of violence and will be pioneer for violence research in Quetta
26 Balochistan.
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37 **PATIENT AND PUBLIC INVOLVEMENT**

40 Study protocol- No patient involved
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42

43 **ABBREVIATIONS**

46 DHS: Demographic Health Survey
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49 DV: Domestic Violence
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52 FGD: Focus Group Discussion
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55 HCW: Health Care Worker
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3 NGOs: Non-governmental Organizations
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6 **Declaration**
7

8 **Consent for publication**
9

10
11 Not Applicable
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13

14 **Availability of data and materials**
15

16
17 Data and materials are available to the corresponding author, which can be shared at a reasonable
18
19 request.
20
21

22 **Competing interests**
23

24
25 The authors declare no competing interest.
26
27

28 **Funding**
29

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31 Not Applicable
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34 **Authors' Contribution**
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36
37 SM- Conceptualization & Writing original draft
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40 SS- writing, reviewing and editing
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آغا خان یونیورسٹی

THE AGA KHAN UNIVERSITY

14-Jul-2021

Mr. Salman Muhammad Soomar
Department of Community Health Sciences
Aga Khan University
Karachi

Dear Mr. Salman Muhammad Soomar,

2021-6114-18575. Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix method study

Thank you for submitting your application for ethical approval regarding the above-mentioned study.

Your study was reviewed and discussed in ERC meeting. There were no major ethical issues. The study was given an approval for a period of one year with effect from 14-Jul-2021. For further extension a request must be submitted along with the annual report.

List of document(s) approved with this submission.

Submission Document Name	Submission Document Date	Submission Document Version
English DHS domestic violence tool	29-Mar-2021	1.0
Scanned Documents NOC From DC Quetta	05-May-2021	1.0
Authorization Letter - HK	05-May-2021	1.0
Affidavit for Translation-converted	05-May-2021	1.0
Urdu-DHS-domestic-violence-tool	19-May-2021	1.1
Urdu-Screening-and-Baseline-Questionnaire (2)	19-May-2021	1.1
Balochi DHS domestic violence tool	19-May-2021	1.1
Balochi Screening and Baseline Questionnaire	19-May-2021	1.1
English Screening and Baseline Questionnaire	19-May-2021	1.0
Parental consent form in English-converted	12-Jun-2021	1.3
Pashto parental	12-Jun-2021	1.3
Pashto screening and baseline questionnaire	12-Jun-2021	1.3
Pashto DHS domestic violence tool new (1)	12-Jun-2021	1.3
Informed Consent in English-converted	12-Jun-2021	1.3

Assent form in English-converted	12-Jun-2021	1.3
Pashto informed	12-Jun-2021	1.3
1 Pashto assent	12-Jun-2021	1.3
2 Balochi assent edited	12-Jun-2021	1.3
3 Balochi informed	12-Jun-2021	1.3
4 Balochi parental	12-Jun-2021	1.3
5 Urdu informed (1)	12-Jun-2021	1.3
6 Urdu assent edited (1)	12-Jun-2021	1.3
7 Urdu parental (1)	12-Jun-2021	1.3
8 Protocol version 1.3 12072021	12-Jul-2021	1.3
9 Response to ERC comments	12-Jul-2021	1.0

13
14 Any changes in the protocol or extension in the period of study should be notified to the Committee for prior approval. All informed consents should be retained for
15 future reference.

16 Please ensure that all the national and institutional requirements are met.

17 Thank you.

18 Sincerely,

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Dr. Hammad Ather

Chairperson

Ethics Review Committee

BMJ Open

Factors associated with domestic violence among women of reproductive age (15-49 years) in Quetta, Balochistan- A mix-method protocol.

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2021-057299.R2
Article Type:	Protocol
Date Submitted by the Author:	20-Apr-2022
Complete List of Authors:	Soomar, Salman; The Aga Khan University, Emergency services Soomar, Sarmad; The Aga Khan University, School of Nursing and Midwifery
Primary Subject Heading:	Public health
Secondary Subject Heading:	Qualitative research, Sexual health, Health services research, Epidemiology
Keywords:	PUBLIC HEALTH, QUALITATIVE RESEARCH, EPIDEMIOLOGY

SCHOLARONE™
Manuscripts

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3 **1** **RESEARCH PROTOCOL**
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6 **2** **Factors associated with domestic violence among women of reproductive age (15-49 years)**
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8 **3** **in Quetta, Balochistan- A mix-method protocol.**
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14 **5** Salman Muhammad Soomar¹, Sarmad Muhammad Soomar¹

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34

1 **ABSTRACT**

2 **Background**

3 Worldwide, domestic violence is a cause of death and disability among women aged 15–49 years.
4 In Pakistan, domestic violence appears in different forms, and only 3.2% of women report any
5 domestic violence. There are various factors associated with DV against Women. The data is
6 sparse for the Balochistan province due to the under-reporting and scattered population. This
7 research study aims to determine the factors associated with domestic violence and the types of
8 violence among women of reproductive age. Also, to understand the perspective of community
9 leaders and HCWs for developing interventions for domestic violence prevention against women
10 of reproductive age in Quetta Balochistan.

11 **Methods and analysis**

12 A sequential explanatory mixed-method (quantitative study followed by qualitative) study design
13 will be used to fulfill the study's objectives. Women of reproductive age 15 to 49 years, both
14 married and unmarried, local residents, community leaders, and community health care workers
15 of Quetta Balochistan, will be made part of the study. A structured questionnaire will be used as
16 the quantitative tool. Focus group discussions will be conducted using a semi-structured guide for
17 the qualitative data collection. The multivariable logistic regression analysis will be performed for
18 the quantitative part. P-value ≤ 0.05 will be considered significant. In the qualitative part, data will
19 be transcribed, and recurrent themes/sub-themes will be developed to understand the perspective
20 and opinion regarding DV prevention.

21 **Ethics and dissemination**

1
2
3 1 Ethical Approval was taken from Aga Khan University, Karachi, Pakistan. Informed written
4
5 2 consent will be obtained from all participants. The article will be published after data collection
6
7
8 3 and analysis in the journal to disseminate the results.
9

10
11 4 **Keywords:** Domestic Violence, Women, Reproductive Age, Factors, Prevention
12
13 5

16 6 **Strength and Limitations**

- 19 7 • This is the first-ever community-based study in Balochistan, Pakistan, to understand both
20
21 8 factors associated with domestic violence and the perspective to prevent it.
22
23 9 • This is also the first-ever study to include community leaders and health care workers
24
25
26 10 because they have more ideas regarding the community problems.
27
28 11 • Large sample size with a multi-cluster sampling strategy is used to collect data from the
29
30
31 12 women of reproductive age from the significant capital city of the Balochistan province.
32
33 13 • Certain biases associated with the study such as recall and wish bias and generalizability,
34
35 14 will be limited to women of reproductive age.
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40

41 16 **INTRODUCTION**

44 17 Domestic Violence (DV) is a worldwide epidemic. An estimated 30% of women experience
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46 18 physical and sexual violence globally (1). Domestic violence includes violence perpetrated by a
47
48 19 family member or intimate partner towards another adult (2). Much of the current international
49
50
51 20 evidence focuses on intimate partner violence (IPV), a subset of DV. It is a severe violation of
52
53 21 human rights and significant public health issues. Worldwide, domestic violence is a cause of death
54
55 22 and disability among women aged 15–49 years (3). In addition to causing injury, violence
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57

1 increases women's long-term risks of several other health problems, including physical and mental
2 health issues (2, 3). Abused women are two times more likely to have medical visits, 8-fold more
3 like to seek mental healthcare, and have an increased rate of hospitalization than non-abused
4 women (3)

5
6 The reported lifetime prevalence of physical or sexual violence, or both, varied from 15% to 71%
7 among different countries (4, 5). The prevalence was highest in the WHO African, Eastern
8 Mediterranean, and South-East Asia Regions (6). Approximately 37% of ever-partnered women
9 reported physical and sexual and IPV at some point in their lives (6-8). They reported the
10 subsequent highest prevalence in the American area, with approximately 30% of women reporting
11 lifetime exposure (9). Prevalence was lower in the high-income region, 23%, and in the European
12 and the Western Pacific Regions, where 25% of ever-partnered women reported lifetime intimate
13 partner violence experience (10). During the COVID-19 pandemic, a considerable increase was
14 seen globally in the DV and IPV cases. According to the WHO, there was a rise of 50% to 60% of
15 cases based on survivor calls for help to women organization hotlines (11)

16 Domestic violence appears in various forms in Pakistan, and only 3.2% of women report domestic
17 violence (12). In rural areas of Pakistan, the prevalence of physical violence against women was
18 56% (13). In contrast, the lifetime prevalence in urban environments is 57.6% physical, 54.5%
19 sexual, and 83.6% psychological abuse (14-16).

20 There are different factors associated with DV against Women. There is still gender discrimination
21 in many cultures due to sociocultural influences, including unequal access of women to health
22 services, the unequal status of gender relations, emphasis on women's primary reproduction

1
2
3 1 responsibilities, lower educational level, and unequal job opportunities (15). Other than these
4
5 2 factors, women's power dynamics, patriarchy, low socio-economic status, and substance abuse by
6
7 a partner or family male were essential factors associated with DV against women (12, 13, 17).
8
9
10 4 Infertility in women is also a significant reason for violence against women in different parts of
11
12 5 the World (18, 19). Moreover, research has indicated that there has been violence during pregnancy
13
14 6 (20). The reasons for violence in pregnant women are a partner's alcohol misuse, jealousy, stress,
15
16 7 and unemployment, which might be risk factors of DV during pregnancy (21, 22).
17
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20 8 While confirming that physical and sexual partner violence against women is widespread, the
21
22 9 variation in prevalence between different regions emphasizes that this violence is not unavoidable
23
24 10 and needs to be addressed.

11 **RATIONALE**

12 There are two reasons for which this study is important. First the data regarding any type of
13
14 13 violence against women of reproductive age is sparse for the Balochistan province due to the
15
16 14 under-reporting and scattered population. Second there are some important factors which
17
18 15 contribute to domestic violence against women in the province, the significant factor is education.
19
20 16 Balochistan's literacy rate is below 50% compared to other regions of Pakistan (23). Moreover the
21
22 17 people of Balochistan follow strict sociocultural norms like not allowing women to go outside the
23
24 18 home for education and doing jobs, and there is gender discrimination and male dominance (24).
25
26 19 Not much is documented about violence against women from this part of the country. This study
27
28 20 aims to identify the DV's associated factors and determine the type of violence used, i.e., physical,
29
30 21 verbal, emotional, and psychological violence against women of reproductive age in Quetta
31
32 22 Balochistan, Pakistan. The study will document the factors and types of domestic violence in this
33
34 23 conservative area which will pave the way for future studies and interventions in Pakistan.

1 OBJECTIVES

2 The study aims to determine the factors associated with domestic violence, types of violence
3 among women of reproductive age and to understand the perspective of community leaders and
4 HCWs for developing preventable strategies for domestic violence against women of reproductive
5 age in Quetta Balochistan.

6 HYPOTHESIS

7 The odds of domestic violence among non-married women of reproductive age (both ever married
8 and never married) will be two times higher than in married women of reproductive age groups.

9 OPERATIONAL DEFINITIONS

10 ***Physical spousal violence:*** push you, shake you, or throw something at you; slap you; twist your
11 arm or pull your hair; punch you with his fist or with something that could hurt you; kick you, drag
12 you, or beat you up; try to choke you or burn you on purpose; or threaten or attack you with a
13 knife, gun, or any other weapon(25).

14 ***Emotional spousal violence:*** say or do something to humiliate you in front of others, threaten to
15 hurt or harm you or someone close to you, or insult you or make you feel bad about yourself.(26).

16 ***Verbal abuse/violence:*** Verbal abuse—a type of emotional abuse—is when someone uses their words to
17 assault, dominate, ridicule, manipulate, and/or degrade another person and negatively impact this person's
18 psychological health. Verbal abuse is a way for a person to control and maintain power over another person
19 (26).

20 ***Psychological abuse/ violence:*** Psychological violence is intimately related to a person's inability
21 to tolerate another when circumstances make communication difficult(27).

22 METHODS

1 **STUDY DESIGN**

2 A sequential explanatory mixed-method (quantitative study followed by qualitative) study design
3 will be used. . A cross-sectional study design will be used for quantitative part followed by a
4 phenomenological approach in the qualitative part.

5 **STUDY SETTING AND STUDY SITE**

6 It will be conducted in the district of Quetta, Baluchistan, the provincial capital of Balochistan. It
7 has 2 Tehsils i.e., Chiltan and Zarghoon. These tehsils are further constituted of 50 Union councils.
8 The district's total population is 2.5 million, and there are 263143 households in the district. Baloch
9 and Pashtuns inhabit the community with segments of Hazara and Punjabis. (Pakistan Bureau of
10 Statistics, Census 2017).

11 **STUDY PARTICIPANTS**

12 Study participants will be women of reproductive age 15 to 49 years for quantitative component.
13 For qualitative component data will be collected from community leaders and community health
14 care workers of Quetta Balochistan.

15 **STUDY DURATION**

16 This study is planned to start from December August 1, 2022 , and the expected end date will be
17 March 31, 2022. The study duration will be eight months.

18 **ELIGIBILITY CRITERIA**

19 All women of reproductive age (15 to 49 years), both ever married and never married And resident
20 of the Quetta for at least five years (will be confirmed through CNIC) will be included in
21 quantitative component of the study.

1 Community leaders and community health care workers of Quetta Balochistan are willing to
2 participate in the study and give informed written consent will be included in the qualitative part
3 of study.

4 **SAMPLING STRATEGY**

5 We will use a two-stage sampling design; first will select households from the list taken from the
6 health department of government of Balochistan. This selection of households in each UC will be
7 manmade by a randomizer through the computer-generated list of all households in the UC. Once
8 the households are selected, data collectors will visit the selected families for data collection. A
9 single woman from each home will be selected randomly for data collection in each household if
10 the randomized woman doesn't provide informed consent, the next woman in the same household
11 will be approached, and if all the women of reproductive age in the randomly selected household
12 refuse to provide data, the adjacent household will be selected for data collection. For the
13 qualitative part, a non-probability purposive sampling strategy will be used.

14 **SAMPLE SIZE**

15 For the quantitative part, the sample size was calculated using the factors associated with domestic
16 violence in women of reproductive age in Quetta, Pakistan in this regard, the different factors, i.e.,
17 number of reasons for which wife-beating is justified, women afraid of husband and spouse
18 education were identified from the literature (14,23). The proportion of all these factors varied in
19 the literature, level of spouse education with exposed 33.8% and Unexposed 26.2% to the number
20 of reasons for which wife beating is justified with exposed 29.3% to unexposed 39.23%
21 (13,14,23,25,26). Considering the proportion to gather with 80% power, 95% confidence interval,
22 and 1:1 of unexposed to exposed in the sample, the estimated sample size was 367. Considering

1
2
3 1 the design effect of 2 that occurs for multistage cluster sampling, the required sample size was
4
5 2 734.

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8 3 The formula and calculation are as follow:
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10
11 4 $n = [Z^2 a/2 (pq)] + B^2 * \text{Design effect}$
12
13

14 5 Where,

15
16
17 6 $Z^2 (a/2) = (1.96 \text{ at } 95\% \text{ CI})$
18

19
20 7 $p = \text{Proportion of domestic violence } 0.5$
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23 8 $q = \text{Proportion of no domestic violence } 1 - 0.5 = 0.5$
24
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26 9 $B^2 = \text{Bound on error } (0.05)^2$
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29 10 Design effect = 2
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32 11 The final sample size adjusting to the cluster effect came to be $(367 * 2) = 734$
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35 12 With the inclusion of 5% non-response and missing data, the final sample size came to be 770
36
37 13 dyads.

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40 14 In the qualitative part, two FGDs will be conducted, one with community leaders and community
41
42 15 health care workers. A maximum of 12 participants will be required for that process.
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46 16 **DATA COLLECTION PROCEDURE:**
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48
49 17 Data collectors will visit the randomly selected houses for the quantitative data. Data collectors
50
51 18 will be female psychology students or nursing students, considering the topic's sensitivity. For
52
53 19 security reasons, male field supervisors will be allotted with the data collectors' team to
54
55 20 communicate with the community and lead the data collection process. Women will be screened
56
57

1 for eligibility and enrolled after taking written informed consent. A study ID will be assigned to
2 her. Data collectors will be collecting demographic data, and specific questions related to DV will
3 be asked. During the data collection process, privacy and confidentiality will be maintained. The
4 data will be collected using a standard questionnaire (PDHS-Domestic violence module). At the
5 end of the interview, data collectors check the questionnaire for errors, inconsistencies, and
6 missing values before leaving the house. If no woman of reproductive age lives in the house or
7 locked houses, the next house will be approached.

8 The FGDs will be conducted in the next process to understand the perspective of community
9 leaders and HCWs regarding domestic violence and its prevention strategies. A semi-structured
10 guide will be used for this purpose. To mitigate risk and women reply without any fear it will be
11 made sure that the participating women have no risk or harm of violence due to this study. The
12 neighborhoods will be identified with the help of community leaders, and it will be made sure to
13 collect data in the nearby basic health units, otherwise in the absence of a male or house head.

14 **DATA MANAGEMENT**

15 The quantitative data will be collected using Epidata software 3.1. A data entry operator will enter
16 the data. Every form has a unique participant identification (ID) to avoid duplication. PI will check
17 10% of randomly selected questionnaires for errors, inconsistencies, and missing values. After
18 data entry, the entered data will be password protected. Also, backup files for electronic data will
19 be maintained to prevent data loss. For qualitative data, All the interviews will be audio recorded
20 with participants' permission, which will be transcribed and translated for themes/sub-themes
21 development.

22 **DATA COLLECTION TOOL**

1
2
3 1 For the quantitative data collection, Demographic Health Survey (DHS) Domestic violence tool
4
5 2 will be used to collect the data from participants. For basic information about the participants, a
6
7 3 questionnaire will be developed. The reliability of the tool was 0.9, calculated using Cronbach's
8
9 4 alpha. The qualitative tool will be developed for FGD, which will have questions regarding the
10
11 5 perception of community leaders and HCWs to address the issue and develop strategies to prevent
12
13 6 DV. The Principal Investigator will lead FGD with the team at community centers/ halls. The
14
15 7 strong through every mile (STEM) theoretical framework will focus on tertiary prevention, coping,
16
17 8 and recovery from domestic violence. STEM's expected outcomes are supported by four main
18
19 9 theoretical frameworks: self-determination theory, self-efficacy theory, locus of control, and social
20
21 10 capital theory. Additionally, the empowerment, happiness, and mindfulness literature supports
22
23 11 STEM's anticipated outcomes (5).
24
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32 **STUDY VARIABLES**

33 **OUTCOME VARIABLE**

34
35
36
37
38 15 Domestic violence, according to WHO violence is defined as the intentional use of physical force
39
40 16 and power, threatened or actual, against oneself, another person, or against oneself another person,
41
42 17 or a group or community that either result in or has a high likelihood of resulting in injury, death,
43
44 18 psychological harm, maldevelopment, and deprivation and the act of this violence in a domestic
45
46 19 setting is called domestic violence) against women of reproductive age, both married & unmarried,
47
48 20 residents of Quetta, Balochistan. This variable will be binary violence against women Yes/No.
49
50

51 **MEASUREMENT OF VIOLENCE**

1 PDHS 2017-18 domestic violence tool will be used. Information will be obtained from both
2 married and unmarried women on their experience of violence committed by their current and
3 former husbands and others. More specifically, violence committed by the current husband (for
4 currently married women) and by the most recent husband (for formerly married women). There
5 will be three specific domains with operational definitions.

6 **COVARIATES**

7 Different factors are associated with domestic violence against women. The individual factors that
8 will be assessed are women's age at the time of the survey, ethnicity, Pashtun, Baloch, Hazara
9 women's highest level of education, primary, secondary graduate, postgraduate women's
10 occupation, housewife, teacher, working in health sector Husband/Partner's age, Husband's highest
11 level of education, types of occupation of the participant and partner, type of family (nuclear , joint
12 family) the total number of family members of the victim or participant, the total number of
13 children, of the participant, years of Marriage of the participant, monthly family income, of the
14 participant in rupees geographic location of the participant and substance abuse. like drugs abuse,
15 cocaine abuse, antidepressant, marijuana

16 **A-PRIORI CONFOUNDERS**

17 Age of the participant, level of education, occupation, and geographical location are categorized
18 as a-priori confounders in this research. Literature reports lower age groups have more chances of
19 violence compared to senior, and differences in education can be a confounder, as more educated
20 woman is an empowered woman. Moreover, a working woman faces less violence compared to a
21 housewife. There is a significant difference in urban and rural areas populations which affects the
22 violence rates (20, 24).

1
2
3 1 Qualitative covariates will be the perspective and opinion of community leaders and HCWs for
4
5 2 developing potential strategies for preventing domestic violence against women.
6
7

8 3 **PLAN OF STATISTICAL ANALYSIS**

9

10
11 4 Mean \pm SD will be calculated for all normally distributed continuous variables, for example, the
12
13 5 age of subjects. Frequencies and percentages will be computed for all qualitative variables.
14
15

16
17 6 The outcome or dependent variable of the study is binary; therefore, binary logistic regression will
18
19 7 be used. The univariate analysis will be done to know the individual effect of the independent
20
21 8 variable when regressed against domestic violence. P-value less than or equal to 0.25 will be
22
23 9 considered significant. Those variables that are not significant will be removed after this process.
24
25

26
27 10 A stepwise approach will be used for multivariable analysis. Multicollinearity will be checked
28
29 11 between all the variables before multivariable analysis. Multicollinearity will be assessed through
30
31 12 different tests. After exploring Multicollinearity, the multivariable analysis will be performed.
32
33 13 Variables that will be significant at the univariate level will be added one after another in the model
34
35 14 based on a P-value less than or equal to 0.05 is the cut-off for the significance of multivariable
36
37 15 analysis. Biologically plausible interactions between variables will also be assessed in the main
38
39 16 model there is no interaction found between variables, then we will check for confounders. STATA
40
41 17 version 17 will be used for the analysis.
42
43
44

45
46 18 Qualitative data will be transcribed, i.e., the data collected from focus groups discussion, and two
47
48 19 independent coders will review the transcript and develop a codebook from the responses. A
49
50 20 qualitative content analysis using Atlas.ti software (Berlin, Germany) will be performed to identify
51
52 21 recurrent themes/sub-themes related to perspectives and opinions regarding DV prevention.
53
54

55 22 **LIMITATIONS AND VALIDITY**

56
57

1 **INTERNAL VALIDITY**

2 The study has a few biases addressed in both designs and will be addressed in the analysis phase.

3 **RECALL BIAS**

4 Some of the questions required the participant to recall, especially related to domestic/intimate
5 partner or gender-based violence that happened in the past, and there will be possible to recall
6 issues. Appropriate data collection measures will be taken to mitigate the risk of recall. Hospital
7 records for violence can be checked if available to avoid recall bias.

8 **WISH BIAS**

9 Certain questions in the questionnaire can produce wish bias if a participant tries to hide certain
10 information related to personal information or violence. To address this bias, the questionnaire is
11 designed so that these questions will be asked less sensitively. However, the possibility of wish
12 bias cannot be excluded.

13 **EXTERNAL VALIDITY**

14 The results will be generalized to all women of reproductive age (15-49 years). The factors may
15 differ in different settings like social, cultural, and religious norms.

16 **ETHICS AND DISSEMINATION**

17 The approval for the study was obtained from Aga Khan University's Ethical Review Committee
18 (ERC Ref # 6114). The data collectors will be given proper training on ethical consideration and
19 sensitivity of the topic before beginning the interview process. A proper process for the data
20 collection will be followed to comply with ethical considerations. The complete data collection
21 process, including consent, will be taken in a separate room or place. Data collection will be done

1 behind closed doors at the participant's home. Suppose the participant will not beis not
2 comfortable. In that casis note, she will be called with her house head permission at a separate
3 place like the community hall, community head's house, lady health visitor (LHV) clinic or Basic
4 Health Units (BHUs). There will be no force on data collection if her husband or house head
5 refuses to give permission. Data collectors will be properly trained to handle any unwanted
6 situations. They will be given proper counseling training, especially during emotional breakdowns
7 and situations, to empathize with the participant. Data collectors will be females, either Nurse,
8 LHVs, or Psychology students, and should have the proper experience to provide emotional
9 support and comfort.

10 Furthermore, during data collection, the participant's name will be kept anonymous to ensure
11 anonymity and confidentiality. All participants will be given complete information about the study,
12 and only after that will they provide their consent which shall be voluntary. Participants will also
13 be informed that they can discontinue the interview process during the interview without facing
14 any consequences. Before going to ask a sensitive question related to the study, permission will be
15 granted from the participant, the collected data will be protected, and access will be only given to
16 primary investigators. Participants will also be referred to appropriate counseling and assistance
17 as per need and requirement. The article will be published after data collection and analysis in the
18 journal to disseminate the results.

19 **REFERRALS FOR DOMESTIC VIOLENCE VICTIMS**

20 Participants who will need medical attention or have any adverse health consequences due to
21 violence will be referred to Non-governmental organizations (NGOs) or health facilities for proper
22 counseling and medical help. Before the study, such organizations will be identified and listed for
23 referral in Quetta. This study will not bring any direct benefit to the participants. However those

1 who would ask for help and who do not will be provided with NGOs, phone numbers, and hospital
2 contacts to seek help if they need it.

3 **PUBLIC HEALTH IMPLICATION**

4 Violence against women is increasingly seen as a public health problem globally. This will help
5 fill research gaps for associated factors with domestic violence against women in Quetta. The
6 findings from this research will help different sectors to develop the interventions and the
7 government to plan and strategize strict laws and policies to control or end the violence against
8 women in Pakistan. Moreover, this will generate evidence through numbers for further
9 understanding of the cause and reasons of violence and will be a pioneer for violence research in
10 Quetta Balochistan.

11 **PATIENT AND PUBLIC INVOLVEMENT**

12 Study protocol- No patient involved

13 **ABBREVIATIONS**

14 DHS: Demographic Health Survey

15 DV: Domestic Violence

16 FGD: Focus Group Discussion

17 HCW: Health Care Worker

18 NGOs: Non-governmental Organizations

19 **Declaration**

20 **Consent for publication**

1
2
3 1 Not Applicable
4
5

6 2 **Availability of data and materials**
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9 3 Data and materials are available to the corresponding author, which can be shared at a reasonable
10
11 4 request.
12
13

14 5 **Competing interests**
15

16
17 6 The authors declare no competing interest.
18
19

20 7 **Funding**
21

22
23 8 Not Applicable
24
25

26 9 **Authors' Contribution**
27

28
29 10 SM- Conceptualization & Writing original draft
30
31

32 11 SS- writing, reviewing and editing
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34

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