
Original article

Parental Family Violence and Mental Health among parents and their offspring in the Southern Province, Rwanda

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Abstract

Background

Children who witness violence between parents have an elevated risk of developing mental disorders as well as being victims or perpetrator of family violence (FV) in their future relationships when compared with children from non-violent family.

Objectives

To assess links between both parental FV and mental disorders, and mental disorders in their offspring.

Methods

One hundred and thirty eight (138) participants dispatched in two categories: spouses/partners (N: 89; 40 Males) and offspring (N: 49; 20 Males) have been recruited from eight District Police Unities (DPU) of the Rwandan Southern Province to participate in this cross-sectional study during a 7 months period. This study used the student “t” to examine the links between parental FV and mental disorders in offspring.

Results

Parental FV was linked with PTSD, psychopathic and addiction behavior symptoms in offspring. Parental anxious attachment was linked with anxiety and addiction behavior symptoms in offspring and the risk of being perpetrator or victims of FV. Parental avoidant attachment was linked with depression symptoms in offspring. Further, both parental low self-esteem and PTSD were linked with depression and PTSD symptoms in offspring.

Conclusion

The results indicate that FV and mental disorders experienced by parents seem to affect offspring's mental health and generate specific mental disorders. Therefore, the intervention programs should focus on the treatment of both parental and children mental disorders.

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Keywords: Family Violence, mental disorders, parents and offspring

Background

Although society tends to think of the family as a relatively safe place, a safe harbor and a place of care where spouses love each other and their children, families are often a source of child abuse, sibling abuse, abuse of parents, dating abuse, spouse abuse, and elder abuse. The World Health Organization (WHO) defines family violence (FV) as: "any behavior within a family that causes physical, sexual or psychological harm, including acts of physical aggression, sexual coercion, psychological abuse and controlling behaviors".[1]

On a global scale, one-third of women (35%) which corresponds to 818 million women have experienced either physical or sexual Intimate Partner Violence or non-partner sexual violence at some point of their lifetime.[2] FV is more prevalent in

Africa (37%) and South-East Asia (38%) than in Europe (25%) and the Americas (30%).[2,3]

In Sub-Saharan Africa, more than 75% of woman beating is justified, for example, when a woman is considered as not meeting her husband's and society's expectations.[3,4]

In Rwanda, a survey conducted in 2010 revealed that more than 50% of female respondents reported having experienced FV, while 38% of male respondents had perpetrated FV.[5,6] Relatedly, there are significant numbers of clinical cases of family members who have beaten up (murdered) each other or undergone any kind of abuse in their families.

Considerable authors have found that FV is associated with significant

mental disorders in family members.[7,8]

The literature highlights that the individuals who are victims of family violence may develop mental disorders and the ones who have mental problems have an increased risk of perpetrating FV. On the one hand, studies on mental and physical impact of FV on survivors revealed that exposure to FV increased the risk of mental illness, alcohol and drug abuse and poor physical health problems,[9,10]but on the other hand, scholars found that mental disorders such as schizophrenia-spectrum disorders, bipolar disorder, depressive disorder, anxiety disorder, alcohol use disorder, drug use disorder, ADHD and/ or personality disorders in men were associated with a 2-8 times higher risk of FV against women (compared with the general population), and a 2-4 times higher risk of FV when compared with unaffected siblings.[11-13]

Furthermore, alcohol and other drugs may also be used by victims of family

violence to relieve the physical and emotional pain of abuse.[14]

More worryingly, over 75% of violent behaviour in the family occurs in the presence of children,[15] which is often associated with serious risk for long-term physical and mental health problems, and social adjustment problems in children.[16]

Although the offspring who witness violence between parents may also be at greater risk of poor outcomes in their future relationships, the impacts on male and female children are different. For instance, a boy who witnesses his mum being abused is ten times more likely to perpetrate FV against his wife as an adult, but a girl who lives in the same condition is 6 times more likely to be sexually abused than one who lives in a non-abusive family.[17]

Scholars revealed three forms of child victimization in cases of FV such as “direct child abuse, exposure to FV, and the co-occurrence of child maltreatment and exposure to FV”. [15] The current study focused on children exposed to family violence

between their parents to further our understanding of the adverse effects of parental family violence and parental mental disorders on children's mental health.

In a meta-analysis of 118 studies, authors found that 63% of children who had witnessed family violence had poor mental health outcomes,[18] because these children are often affected by family problems and violence as one of environment factors[19] and inherited mental disorders from parents, for example PTSD.[20] Common mental disorders identified in children exposed to FV are PTSD, depression, and anxiety symptoms that have been connected with chronic diagnoses and health risk behaviours.[21,22] They often report more mood swings, feeling fear, despair, anger, frustration, shame, insecurity, self-blame and low self-esteem as compared to non-exposed children.[15,21] Further, it was found that adolescent offending and aggression were associated with childhood/adolescents' experience of parental violence.[23,24]

However, the severity and longevity of the effects of parental mental disorders and family violence on offspring are determined by the nature, severity and extent of those problems and accessibility of protective factors. Offspring's responses within families are different; some offspring are able to involve in supportive and nurturing environments despite the presence of parental problems, others will not be able to cope with family violence at all and hence become more affected.

Overall, the literature on transmission of parental mental disorders to children suggested that possible mechanisms of the general vulnerability to the development of mental disorders in children are mediated by both genetic and environmental factors. In Rwanda, more efforts have been put on mental health of women who had experienced FV[5,6] but a little is known about the mental health of the offspring who lives in violent family while they are seen suffering from significant mental health problems in our daily practices.

Therefore, the objectives of this study were twofold. Firstly, this study aimed to identify a link between parental family violence and mental health problems in offspring. Secondly, this study sought to identify a link between parental and offspring mental health problems. We hypothesized links between parental family violence and Post-Traumatic Stress Disorder (PTSD), addiction behavior, anxiety, psychopathy, and depression symptoms and attachment styles in offspring. We further hypothesized links between (a) Parental anxious attachment and children anxiety symptoms; (b) Parental avoidant attachment and children depressive symptoms; (c) Parental low self-esteem and children depressive symptoms; (d) parental and children PTSD symptoms.

Methods

Design

This study used a cross-sectional study design to assess links between Family Violence and Mental Health problems among parents and offspring at the Anti-Gender based violence & Child Protection Program of

Police in south of Rwanda. The study period was of seven months from mid-May to mid-December 2017.

Participants' recruitment

A total of 138 participants dispatched in two categories: spouses/partners (N: 89; 64%; 40 males) and offspring (N: 49; 36%; 20 males) from all eight District Police Unities (DPU) in south of Rwanda have participated in this study according to the Daniel's formula:

$$n = \frac{z^2 p(1-p)}{d^2} = \frac{(1.96)^2 \cdot 0.1(1-0.1)}{(0.05)^2} = 138.2976 \approx 138$$

Where n = sample size, Z = Z statistic for a level of confidence, P = expected prevalence or proportion, and d = precision.[25] The age range was 16-17 years for offspring and 34-67 years for spouses. Inclusion criteria were to be (i) a spouse or an offspring from violent family attending to Anti-Gender Based Violence and Child Protection Program of Police and (ii) children aged 16-17 who had witnessed parental FV at least one year. All participants voluntarily accepted to participate in this study.

Measures

Two data collection tools were used in this study, one for spouses and another for offspring. The data collection tool for spouses had five sections such as sociodemographic characteristics, a self-constructed Likert questionnaire assessing family violence factors, the Rosenberg Self-Esteem Scale,[26] the PTSD Symptoms Scale-interview DSM-5,[27] and the experience in close relationships-revised (ECR-R) questionnaire.[28] However, the data collection tool for offspring included the 20-item Center for Epidemiological Studies Depression Scale for Children (CES-DC),[29] the Triarchic Psychopathy Measure (TriPM),[30] the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST),[31] and the 66-item revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R).[32]

For parents, section one assessed the sociodemographic characteristics with six items; age, forms of marriage, occupation and place of residence.

These variables were measured using frequencies (Table 1).

Section two was a 38-items self-constructed Likert questionnaire assessing Family Violence factors.

The items are rated on four point Likert scale ranging from false (1), somewhat false (2), somewhat true (3) to true (4).

This questionnaire was generated from family violence theories by a deductive process from theories, variables, components and finally to indicators. Each item of the questionnaire had its corresponding indicator, therefore, the number of items were equivalent to that of indicators.

This study constructed its own Family Violence questionnaire because it needed a theory-based and inclusive questionnaire and that also contains adapted items to the study context. This study used a factors analysis to assess the structure of this questionnaire and found a coherent structure made up of individual factors and family-social factors. The

Cronbach's alpha was 0.80 in our sample.

Section three was the Rosenberg Self-Esteem Scale,[26] a 10- item self-reported measure that assessed spouses' general self-worth in this study. It included five positive statements and five negative statements concerning a person's sense of self-respect and value. Each item was rated on a four-point Likert scale ranging from 1 (strongly agree), 2 (agree), 3 (disagree) to 4 (strongly disagree). The total score ranged from 0 to 30, and 30 indicated the highest self-esteem. The Cronbach's alpha was .70 in our sample.

Section four was the PTSD Symptoms Scale-interview DSM-5 which was used to make a PTSD diagnosis and assess the severity of symptoms.[27]

The severity of symptoms were rated on a five-point Likert scale ranging from 0= not at all; 1=once per week or less/a little to 6 or more times a week/severe. The PTSD diagnosis was determined by counting the number of symptoms endorsed per symptom cluster. To meet diagnostic criteria

one intrusion symptom, one avoidance symptom, two cognition and mood symptoms, and two arousal and reactivity symptoms were needed. The duration of more than one month (criterion F) and clinically significant distress or impairment (criterion) were also required.

The totaling the 20 PSS-I-5 symptom ratings determined the PTSD. The total score ranged from 0 to 80. The Cronbach's alpha was .91 in our sample.

Section five was the experience in close relationships-revised (ECR-R) questionnaire[28] which was a 36-item measure of adult attachment style. The ECR-R measured individuals on two subscales of attachment: Avoidance (i.e. Items 19 – 36) and Anxiety (the first 18 items). To obtain a score for attachment-related anxiety, we take an average of person's responses to items 1 – 18 and for attachment-related avoidance, we took an average of a person's responses to items 19 – 36.[28]

Higher scores on the Anxiety and Avoidant subscales indicate higher

levels of attachment anxiety and attachment avoidance, respectively. The Cronbach's alpha for anxious and avoidant attachment was .75 and .74 respectively in our sample.

For children; Section one was the 20-item Center for Epidemiological Studies Depression Scale for Children (CES-DC) self-report measure that evaluated depressive symptoms in children aged 6-17 years. All items were scored as: 0 = not at all, 1 = a little, 2 = some, 3 = a lot except for items 4, 8, 12, and 16 scored as: 3 = not at all, 2 = a little, 1 = some, 0 = a lot. Total scores ranged from 0 to 60.[29] The Cronbach's alpha was .87 in our sample.

Section two was the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). The ASSIST was a ten classes used to detect and manage substance use and related problems in primary and general medical care settings.[31]

The ASSIST total score is obtained by summing questions' scores. For Alcohol, the scores are interpreted as following: 0-10: Low Risk, 11-26: Moderate Risk, 27+: High Risk, and

for all other substances: 0-3: Low Risk, 4-26: Moderate Risk, 27+: High Risk. For any substance, a score of 27 or higher suggests a high risk of dependence on that substance for a patient. The Cronbach's alpha was .71 in our sample.

Section three was the 66-item revised version of the Screen for Child Anxiety Related Emotional Disorders (SCARED-R).[32] The SCARED-R was a self-report questionnaire that assessed the symptoms of panic disorder, generalized anxiety disorder, social phobia, separation anxiety disorder, obsessive compulsive disorder, post-traumatic stress disorder and specific phobias in children aged from 8 to 17.[32] Items are rated from 0 (never) to 2 (often). Total score and sub-scores can be obtained by adding up relevant items (i.e. items of total scale or subscales). A total score of ≥ 25 indicated the presence of an Anxiety Disorder.[32] Cronbach's alpha was .95 in our sample.

Section four was the 58-item Triarchic Psychopathy Measure (TriPM). TriPM was a self-report questionnaire that

assessed psychopathy and concerns of three distinct phenotypic constructs: boldness, meanness and disinhibition. Separate subscale assessed a construct and subscale scores are summed to yield a total psychopathy score .[33] Items 2, 4, 10, 11, 16, 21, 25, 30, 33, 35, 39, 41, 44, 47, 50, 52, 57 are coded as follows: true = 0; somewhat true = 1; somewhat false = 2; False = 3. All other items are coded as follows: True = 3; somewhat true = 2; somewhat false = 1; False = 0. Although the age ranges for the TriPM used to be 18 years and older,[30] the recent study of its construct validity on non-forensic sample in Italy found that the measure had excellent reliability and was minimally influenced by age and education.[34] Also the ages of children (i.e. 16-17 years) were much close to formal 18 years. The Cronbach's alpha was .71 in our sample.

Tool translation

This study applied the Brislin's back-translation method for the translation of the data collection tools.[35] Firstly, four English-Kinyarwanda speaking clinical psychologists translated the

version that had been adapted from the English (a) into Kinyarwanda (A). Secondly, the "consensus" version (A) was back-translated by two other bilingual persons, who had no previous knowledge of the original. After which a general agreement was found for each item of the Kinyarwanda (A) version.

Data collection

Spouses and children were invited and approached to participate in this study at the Anti- Gender based violence & child protection program of Police in eight District Police Units (DPU) of the Rwandan Southern Province (Huye, Gisagara, Nyanza, Nyaruguru, Nyamagabe, Ruhango, Kamonyi, Muhanga). The study objectives and other pertinent information were clearly explained to the participants in the meeting room, and they were reassured that their responses would be confidential, anonymous, and that they could withdraw at any time.

All participants have provided written consent forms before data collection. The investigator was there to help

illiterate participants by reading the question and recording the participant's selected response.

Data analysis

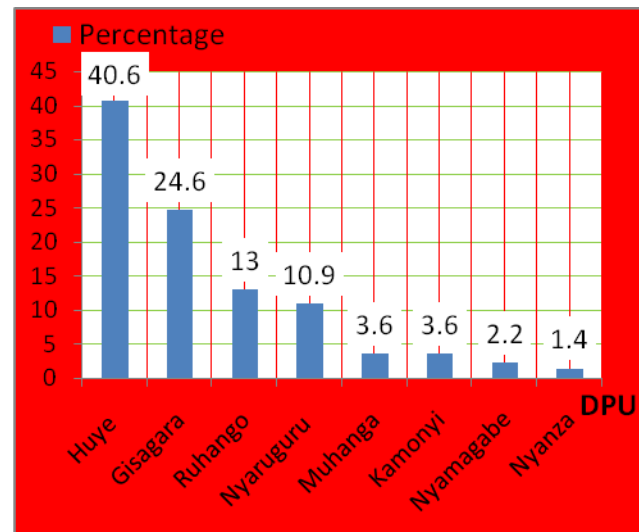
Statistical analysis was conducted using “t” of Student for independent samples to assess links between family violence and mental health status of the offspring. The model assumes that a difference in the mean score of the dependent variable is found because of the influence of the independent variable that distinguishes the two groups (Parents and offspring).

Ethical considerations

Permission to conduct this study was obtained from the Institutional Review Board of the University of Rwanda, College of Medicine and Health Sciences. Additionally, regional Commissioner of Police/Rwandan Southern Province had provided permission to conduct the study in their setting. All participants signed the consent and assent forms prior to data collection.

Results

Sociodemographic characteristics of the 138 participants were presented. The majority were selected from DPU of Huye (40.6%), followed by Gisagara (24.6%) and the minority were selected from DPU of Nyanza (1.4%, Figure 1). Almost all participants were cultivators (63%) followed by students (24.6%) and the least was traders (0.7%, Table 1). The majority were females (56.5) and married (64%, Table 1). Of those married, the majority were legally married (76.4%). Figure 1 percentage of participants in each District Police Unity



The spouses had experienced different forms of violence: psychological violence (37%), economical violence (29%), physical violence (26%), and

sexual violence (8%). The results showed that the numbers of those who faced all forms of violence were (41%).

7% of the whole sample and the high

Table1. Socio-demographic characteristics (n=138)

Variable	n (%)
Age	
16	44(32)
17	7 (5)
32-38	12 (8.6)
39-45	21 (15.5)
46-52	28 (20)
53-59	18 (13)
60-67	8 (5.8)
Marital status	
Single	49 (36)
Married	89 (64)
Forms of marriage	
Illegal marriage	68 (76.4)
Legal marriage	21 (23.6)
Occupation	
Cultivators	87 (63)
Students	35 (26)
Unemployed	6 (4)
Traders	3 (2)
Others	7 (5)
Forms of family violence(FV)	
Psychological violence	51 (37)
Physical violence	40 (29)
Economical violence	36 (26)
Sexual violence	11 (8)
All forms of FV	10 (7)
Two forms of FV	57 (41)

Prevalence of mental disorders in spouses and offspring

Spouses had elevated clinical levels of PTSD symptoms (65.17%), low self-esteem (46.1%), anxious attachment (57%) and avoidant attachment (43%). About the psychopathy, the offspring with boldness, meanness and disinhibition symptoms were 41%, 22%, and 37% respectively. Offspring also had clinically levels of symptoms of depression (86%), anxiety (92%), PTSD (46%) and addiction behavior: (47.4%) for alcohol use and 52.6% for other drug use.

Links between family violence and mental disorders among parents and the mental health dysfunction of offspring

This study supposed links between parental family violence and Post-Traumatic Stress Disorder (PTSD), addiction behavior, anxiety, psychopathy, and depression symptoms and attachment styles in offspring. This study also hypothesized links between (a) Parental anxious attachment and children anxiety symptoms; (b) Parental avoidant attachment and children depression symptoms; (c) Parental low self-esteem and children depression and PTSD symptoms (d) parental and children PTSD symptoms. Using “t” of Student, we found links between parental family

violence and mental health status of offspring. Family Violence was associated with PTSD symptoms ($t=19.76$, $p<.001$), psychopathic symptoms ($t=5.97$; $p<.001$), and addiction behavior ($t=15.91$; $p<.001$) in offspring. Furthermore, links were detected between parental anxious attachment and anxiety symptoms in offspring ($t=7.42$; $p<.001$), parental avoidant attachment and depression symptoms in offspring ($t=17.83$; $p<.001$), parental anxious attachment of parents and addiction in offspring ($t=16.11$; $p<.001$), parental low self-esteem and depression symptoms in offspring ($t=-5.06$, $p<.001$), parental low self-esteem and PTSD symptoms in offspring ($t=7.75$, $p<.001$), and parental and children PTSD symptoms ($t=9.43$, $p<.001$) (Table1).

Table 1. Links between Family Violence, mental disorders among parents and the mental health dysfunction of offspring

Variables	“t” of student and p values
Family violence and Psychopathy symptoms among offspring	t=5.97; p=.000000
Family violence and PTSD symptoms among offspring	t=19.76; p=.000
Family violence and addiction behavior among offspring	t=15.91; p=.000
Parental avoidant attachment and depression symptoms among offspring	t=17.83; p=.000
Parental low self-esteem and PTSD symptoms among offspring	t=7,75, p=.000000
Parental anxious attachment and anxiety among offspring	t=7.42; p=.000000
Parental anxious attachment and addiction among offspring	t=16.11; p=.000
Parental low self-esteem and depression symptoms among offspring	t=-5.06; p=.000000
Parental PTSD symptoms and PTSD symptoms among offspring	(t=9.43, p<.001)

Discussion

The current study had two main objectives: 1) to identify links between parental family violence and mental health problems in offspring and 2) to examine links between parental and offspring mental health problems. Our study indicated two main findings about the development of mental disorders in offspring living in violent families.

Firstly, our findings showed that family violence was significant

associated with psychopathy, PTSD symptoms and addiction behavior in offspring. Regardless of the impacts of parental mental disorders on offspring, our findings suggested that children exposed to parental family violence may have an increased risk of developing psychopathy, PTSD and addiction behavior (i.e. alcohol and drug abuse).

As psychopathy is the combination of personality disorder traits related to criminal and other antisocial behaviors, the children who

repeatedly witness the manipulative and coercive behaviors showed by the perpetrators of family violence can end up developing such behaviors.[36] Consistent with literatures, Van Heugten and Wilson found that criminal behavior and youth aggression were high in youth who had witnessed violence between parents.[37] A boy who had witnessed his mother being abused was ten times more likely to perpetrate IPV against his wife as an adult.[17,38]

Our findings also suggested that the children who witness violence between parents are vulnerable to developing PTSD symptoms and addiction behavior. As the primary criteria for PTSD diagnosis is the exposure to extremely threatening events[39], authors noted that events that fall in the realm of family violence can include physical or emotional aggression where one parent is a victim and another is a perpetrator.

The actions vary widely in severity, from minor aggression (e.g., pushing, shoving, slapping) to death of a family member which is meaningful and

significant of trauma.[40] Relatedly, Hyde-Nolan and Juliao in theory of violence as trauma found that the failure to integrate abuse memories in addition to inability to incorporate the experiences of abuse into structure of large memory led the victims seem to have the tendencies to re-experience the trauma.[41]

According to Hyde-Nolan and Juliao's model, the victims repeat the trauma in their behaviors, physiological and emotions via the neuroendocrine pathways.[42] As with all traumatic events, only a portion of the children who experience violence exposure in their homes will develop PTSD. Authors also noted that alcohol and other drugs may be used by children from violent family to relieve the symptoms of mental problems.[14] Noting that the children were aged 16-17 years old in this study, they might have intervened in stopping fight between parents or helping the victims to beat the perpetrator.

Secondly, our findings indicated associations between parental anxious attachment and anxiety and addiction

symptoms in offspring, and parental avoidant attachment and depression symptoms in offspring. Also both parental low self-esteem and PTSD symptoms were linked with depression symptoms and PTSD symptoms in offspring. Regardless of the impacts of parental family violence, our findings indicated that both parental anxious and avoidant attachment were linked with anxiety, addiction symptoms and depressive symptoms, and parental low-self-esteem were associated with depressive symptoms in offspring.

Consistent with the literature, history of parental mental disorders predisposes offspring to increased rates of depression and other mental health problems when compared to offspring of healthy parents.[43] This is possibly because the mothers are emotionally absent and often unable to care for the children's emotional needs.[44] For example, "mothers who have PTSD tend to be quicker and more impulsive in their actions toward their children and also to underestimate their children's distress".[44] However, Perroud et al.

found that Rwandan women survivors of the 1994 genocide perpetrated against Tutsi could transmit PTSD symptoms to their offspring. Their findings showed that PTSD was associated with epigenetic modifications that similarly found in the mothers and their offspring.[20] The same was shown in a very recent study on epigenetic transmission of PTSD in the Rwandan population.[45]

The findings of this study also indicated that parental anxious and avoidant attachment were linked with anxiety, addiction and depressive symptoms in offspring. In line with our findings, scholars revealed that parental anxious and avoidant attachments were linked to increased internalizing or anxiety symptoms, and substance use in offspring.[46,47] Hazan and Shaver suggested that person's attachment pattern in adulthood is a reflection of his or her attachment history.[48]

As such, attachment insecurity poses an elevated risk for the development of anxiety, the use of cognitive avoidance to control anxiety, and high levels of

overall pathology.[49] Significant authors also found that insecure attachment arises more often in populations of offspring who had been victims of physical abuse or neglect.[50,51] Therefore, history of insecure attachment in infancy contributed to emotion regulation difficulties in preschool years, and such difficulties were associated with anxiety and depressive symptoms in middle childhood.[52,53]

Scholars for tenets of attachment theory also found that one of the strongest predictors of adolescent substance abuse was the strength of the attachment between the adolescent and his mother.[54,55] Further, an insecure relationship in infancy was associated with negative peer relationship representations in preadolescence, which were associated with an increased anxiety and substance use in adolescence.[56]

Our findings also indicated that parental low self-esteem was associated with depression symptoms and PTSD symptoms in offspring. Although there is a lack of literature

linking parental self-esteem and mental disorders in offspring, Small found that parent's feeling of self-worth were associated with the behaviors he or she employs when interacting with adolescents and the child's independence and desire for great autonomy.[57] These links were frequently found to exist in mothers than fathers; more worryingly, mothers are often identified as the victim of FV.[57]

Generally, our findings highlighted that the combination of parental family violence and mental health problems are associated with more adverse health problems in offspring than single one. Being the recipient of parents' aggressive words and actions may harm offspring's perceptions of themselves as deserving and lovable individuals.[40] The offspring may also have low self-worth and guilt due to their perceptions that they should have tried to protect the victim or to stop the violence, but failed to do so.[58]

Limitation

There are some limitations to this study: This study is limited to its

cross-sectional design; an inductive and longitudinal design with a high sample can help for good inferences. The assessment of mediators and moderators between parental family violence and mental health problems, and mental disorders in offspring using epigenetic approach is needed for a better understanding of this phenomenon. Further studies also may refine analyses between Family Violence and Psychological Disorders in offspring using ANOVA, MANOVA and Pathways analyses.

Finally, the current study suffers from mono-method bias, as it relies exclusively on self-report measures of psychopathic traits, someone being assessed for violence and psychopathy may not self-report accurately in an attempt to look better. Therefore, future study should benefit from inclusion of Interview-Based Assessment of Antisocial Personality Disorder (ASPD) as defined in DSM-IV[59] and in the main diagnostic codes section (II) of DSM-5.[39]

Conclusion

Overall, the findings of this study highlighted that either parental family violence or parental mental health problems seemed to affect mental health function of offspring. Parental family violence was linked to psychopathy, PTSD symptoms and addiction behavior in offspring.

Moreover, parental anxious and avoidant attachment were linked to anxiety and addiction symptoms, and depression symptoms respectively. The results also indicated that both parental low self-esteem and PTSD symptoms were associated with depression symptoms in offspring and PTSD symptoms in offspring. The above results suggest that the measure of prevention and providing care to mental ill patients from violent families in Rwanda should focus on the treatment of both parental and children mental disorders.

Authors 'contributions

TU, JN, EH, IM and JM contributed to the conception, design, data analysis and interpretation, and writing of the manuscript.

Conflict of interest

The authors confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work.

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