Master thesis in Medicine

Traumatic experience and health consequences in young men and women in Rwanda

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0. ABSTRACT

Introduction/Background

Rwanda – a small, hilly, low-income country in the sub-Saharan Africa. Between April and to middle of July in 1994, one million people were murdered in what was a mass slaughter – a genocide. Two millions became refugees. Women and young girls were systemically raped, and fathers and children had to witness the encroachments. Of Rwandan adults, 75% had to flee their homes. Somehow, all Rwandans were traumatized.

Purpose

To investigate what health outcomes that can be found in young Rwandans, 20-35 years of age, with experiences of traumatic episodes during the genocide period and during lifetime and if differences can be seen between men and women.

Method

An epidemiological study has been performed with interviews following a questionnaire in the Southern province of Rwanda. In total, 917 Rwandans participated in the study, 477 women and 440 men. The data has been analysed for men and women separately. Cross tabulations and logistic regression analyses have been performed with odds ratios with 95% confidence intervals.

Results

This study has shown that women in general have poorer health than men. When it comes to traumatic episodes experienced, men suffer more if exposed during 1994 and women if exposed during lifetime. Men and women also have a worse health outcome if they live in a poor household. The health outcomes are mainly physical symptoms, major depressive episode (MDE) current, suicidality and generalized anxiety disorder (GAD).

Discussion/Conclusions

It might be the case that men who have experienced traumatic episodes during 1994 are more capable of using violence themselves. Due to difficulties coping with memories and grief, they have more mental health problems compared to those not exposed. Women are to a greater extent exposed during lifetime, which might indicate exposure to domestic violence. Living in a poor household might also add on to the usage of violence.

1. INTRODUCTION

1.1 Purpose

Between April and to the middle of July 1994, 10% of Rwanda's then 8 million inhabitants were murdered in what was a mass slaughter, a genocide [1]. Women and young girls were raped systemically and husbands and sons had to witness the encroachments. Of Rwandan adults, 75% had to flee their homes. 73% reported that a close family member was killed and one third reported witnessing the death of one or more family members [2].

The purpose of this study is to investigate to what extent young men and women in rural Rwanda, 20-35 years of age, have been exposed to traumatic episodes during and after the genocide period and how this affects their physical and mental health today. A set of symptoms mirroring general distress, physical diseases and general wellbeing will be used as health indicators.

1.2 Aim

To find out if those men and women who have been exposed to traumatic episodes during life and/or during the genocide period suffer from poor general health, physical symptoms, depression, suicidality and/or anxiety disorder. Is there an increased risk of these conditions if you have been exposed?

2. BACKGROUND

2.1 History of the genocide

In the time before Rwanda were colonialized, the Hutu and Tutsi lived side-by-side without tension. The Tutsi was mainly cattle-herders and had a higher social status than the Hutu who was peasants and cultivated the soil.

The Europeans in the 19th century was obsessed with race and anthropological thinking. Arriving to Rwanda they divided the three peoples of Rwanda (Hutu 85%, Tutsi 14% and Twa 1%) and graded them after their physical appearance where Tutsi was considered to be the most prominent and beautiful. They were also considered to be the most like the Europeans and therefore regarded as the more active and intelligent than the others.

The Germans were the first to colonize Rwanda between 1895-1916. Rwanda in that period of time had a very strong monarchist leadership where king Musinga was the leader of the country. The Germans presence gave leeway to transformation towards centralisation where the Tutsi people were given more power over the Hutu principalities. The Germans though did not influence the Rwandese society in depth.

In early 20th century the Belgians took over the colonization since the Germans were weak after the First World War. They deepened the approach that the Germans had initiated. In 1931, king Musinga was forced to leave the throne and his son, Mutara III Rudhigwa, took over the power. King Rudhigwa had a close cooperation with the Belgians and together they introduced Christianity in the country, which made the Belgian authorities able to form Rwanda after their own values. The church initiated school, health care and developed the

infrastructure. The Belgians also opened up the market for export, even though Rwanda tried to fight against in the beginning.

In 1932, the Belgians introduced a system where it was mandatory for the Hutu, Tutsi and Twa to carry an identity card showing their ethnic belonging. Since the Tutsi was perceived as more intelligent than the Hutus – they were put in leading positions, sometimes at the expense of fired Hutu in those positions. The Belgian presence in Rwanda was ended in 1959 and they left when there was almost total dominance of Tutsi people in all leadership functions; 43 chiefs out of 45 were Tutsi, as well as 549 out of 559 sub-chiefs. This was very disturbing to the Hutu population.

In 1959 king Rudhigwa died and thereafter the organised massacre of Tutsis began. Thousands of people died or became refugees. In 1961 the first election was held, where the Hutu-leader Gregoire Kayibanda was elected. In 1962 Rwanda were called independent, separated from Burundi, and a one-party ruling system was introduced. The regime was characterised by wanting to eliminate the Tutsis. This was the beginning of the further oppression of the Tutsi people. Between 1959 and 1973 700.000 Tutsi fled the country, forced to be refugees in neighbouring countries.

In 1973 MRND (Mouvement Révolutionnaire et Nationale pour Développement) was elected and president Juvénal Habyarimana came to power. He was a dictatorial leader who favoured his own ethnic group, the Hutu. MRND was also responsible for “Interahamwe”, the young military Hutus who wanted to create Hutu-power on the cost of Tutsi lives. This way of thinking was totally integrated in the society and made leeway for the possibility of a genocide.

In 1990 a multi-party system was introduced by force after pressure from the western countries, help-organisations and also from Rwandese Patriotic Front (RPF), an organisation created by Tutsis that had fled the country. During October in 1990 the Tutsis who had been forced refugees decided to recapture their country and joined the RPF and civil war was a fact. Between 1990 and 1994 the situation in Rwanda was strained with a lot of tension and unrest. Habyarimana took advantage of the tense situation to incite against the Tutsis. The opposition were imprisoned, tortured and murdered. Several attacks of so called 'rehearsal massacres' were held during the years 1990 to as late as February 1994. Intense propaganda was used to get the majority to see their neighbours, colleagues and dear ones as enemies and to mistrust them. Radio television 'Des Milles Collines' was used to create hatred, to give instructions and justify the killings. The Tutsis were called inyenzi, cockroaches, in the media. At the same time, the president lost more and more control over the extremists.

The 6th of April 1994, president Habyarimanas airplane was shot down when flying over Kigali, the capital city of Rwanda. All aboard died including the president himself. Soon after, the riot started. Within 45 minutes roadblocks had been put up and all houses had been searched. The death list was already prepared; shots could be heard in less than an hour. Hutu people with power that not followed the Interahamwe were at the top of the list as well as all Tutsis, especially those in important positions. The genocide was instant. Women were raped and beaten - often in front of their own families. Children watched their parents being tortured, beaten and murdered. Even the highly regarded elderly generation was killed. There were no sanctuary to find, not even the churches were safe. The United Nations left, and with them many other help organisations and diplomats. The Rwandans were abandoned by the

world. The genocide killed approximately 800,000-1,000,000 and made 2,000,000 people refugees.

The genocide first came to an end in July 1994 when the RPF finally were able to mobilise troops to stop the genocide and save ten thousands of people. All infrastructure was destroyed. In total, 2/3 of the population was displaced[1].

Everyone was a victim somehow, if not directly exposed, his or her relatives were. Some had to witness their loved ones being murdered. Others were relatives to perpetrators. All Rwandans were affected.

2.2 Demography

Rwanda is a very small country in the centre of the sub-Saharan Africa. With only 26,338 km^2 it is as big as the area of the Swedish region of Småland. Rwanda is hilly with a tempered tropical highland climate, which makes it green and thriving. It borders Burundi to the south, Tanzania to the east, Uganda to the north and the Democratic Republic of the Congo to the west[3]. It is divided into four provinces with 30 districts, where most of the population lives in rural areas (85%)[4].

In July 2013 the estimate number of people living in Rwanda was 12,012,589 and the population growth rate is high[5, 6]. There are 408 inhabitants per square kilometre, which makes the population density among the highest in Africa. The birth rate is still high, 40.2 births/1000 inhabitants and year. The death rate is 14.9. Life expectancy is 58 years, with a lower expectancy for men (56 years). The official language is Kinyarwanda, with English as

the second language since some years[6]. The second language used to be French and it is only the younger generation that know English well.

Of the men, 81 percent earn their living through agriculture as 93 percent of the women[3]. Since they are not employed they do not consider themselves having a job, which makes it more difficult to estimate employment within the population. The country has a situation of absolute poverty, where the number of poor within the population was estimated to 45 percent in 2011[5].

2.3 Rwanda today

Rwanda has made regular efforts to stimulate investment in the industry and to develop the service sector. This has now shown to bear fruit since the service sector has contributed more to the economy than the agricultural sector in the recent years even though most Rwandans are working in agriculture. To make the agriculture more efficient, agrarian reforms are being introduced to address problems such as small farming of less than one hectare, low rate of investment and poor techniques. Specialized training in this is mainly addressed to women for empowerment. Improvement of labor quality, regionalize crops and expand the farming techniques to optimize the agriculture are other areas that the reform are working with. Both agricultural sector and industrial sector increased from 2009 to 2010. Exports grew with 20 percent in 2010 after a decrease of 25 percent in 2009[3]. Because of the high population density food production does not keep pace with demand, which requires food imports. The limitation of being a small, landlocked economy made Rwanda join the East African Community to initiate regional trade with neighbouring countries. Energy shortages, lack of transportation linkages to other countries and instability in neighbouring states, still limits the growth of the private sector though. Despite this, the GDP has recovered to an average annual

growth of 7-8 percent since 2003, meaning that Rwanda has managed to stabilize and rehabilitate the economy to pre-1994 levels[6].

The Rwanda parliament has a female majority of 64%, which is more than any other country in the world. And thanks to this female majority, more laws are seen to empower women[7].

2.4 Education

The Rwanda demographic and health survey 2010 reports that 22 percent of the women and 16 percent of the men have never attended school. Of those finishing primary school 9 percent are women and 10 percent are men. Only 2 percent of women and men have completed secondary school, and only 1 percent of women and 2 percent of men have higher education than secondary school. Despite low numbers of men and women finishing primary school, 77 percent of the women and 82 percent of the men can read a whole sentence and therefore considered literate.

However, such estimates vary depending on geography. Among people living in urban areas, such as the capital city of Kigali, the numbers are higher than in rural areas as in the Western province for example. The numbers have increased during the years, along with household standards of living. In households with high living standard, there's almost no gap at all between men and women's educational level up to secondary school[3].

Nowadays, primary school is free and mandatory for all children. The primary school enrolment is today above 95 percent[8]. In the age group 15-24 the proportion of girls who have attended or completed primary school is exactly equal to that of the boys, 71 percent.

2.5 The health system

In 2009 the access to care was enhanced by Rwanda's government through various activities. Partly by improving the infrastructure but mainly by the introduction of the very important community-based health insurance program called *Mutuelle de Santé*. Studies have shown that 75 % of the population live within 5 kilometres from a health facility centre[4]. The health insurance program was at first a pilot project but introduced in 2003 for the entire country. It gives access to basic primary health care services for 85 % of the population, where an annual payment of 1.8 USD per household member along with a fee of 10 % of the healthcare cost for each visit are paid [9]. The system has made healthcare more accessible to the poor, as to all of the population and health has improved in the country.

The health system in Rwanda is structured like in most low-income countries. In each district there are community health workers (CHWs), approximately three per village, who can assist with family planning, basic preventive and curative services and health education. The CHWs are complementary to the healthcare centres, which usually are staffed with nurses and provide healthcare such as child and maternal health care, vaccinations, treatment of communicable diseases (mainly malaria, HIV and tuberculosis) and acute healthcare. For more advanced care, the district hospitals have approximately 10-15 physicians who can provide basic surgery including caesarean sections and suturing etc[4].

When it comes to mental healthcare there are no psychiatrists at the district hospitals. Nevertheless there are nurses specialized in mental health that can do a first clinical judgement of the patients mental health status and take care of those in need of further care. Severe psychiatric diseases, such as schizophrenia and bipolar disorders, are sent to the centralised psychiatric clinic at Ndera hospital, Kigali. At the moment there are only 6

psychiatrists in the entire country, with some more under education. Three of them are at Ndera, the other three in the Kigali-area. This corresponds to 0.06 psychiatrists/100,000 inhabitants, which is extremely low in a global perspective.

2.6 Major depression

Major depression is characterised by emotions of sadness with unclear reasons for it. There should be a distinct change in mood, such as sadness or irritability present accompanied with other psychiatric symptoms such as weight loss, insomnia and feelings of guilt[10]. The instrument used to diagnose major depression is usually the DSM IV. Nevertheless, another instrument easier to handle have been developed called the Mini International Neuropsychiatric Interview (M.I.N.I), which is based on the DSM IV-criteria and the ICD-10 system. Evaluations of the M.I.N.I-questionnaire have shown high validity and reliability, it is intended for personal interviewing, easy to use for trained interviewers[11, 12].

Depression is a common disorder and WHO has estimated that approximately 350 million people are affected over the world. The lifetime prevalence differs for different countries and reasons why is not known but are probably due to stigma and cultural differences. Risk factors for depression include low education, poverty, genetics, chronic illnesses and exposure to violence and exposure to other traumatic episodes in life[13].

Regarding Rwanda, studies have shown that in the rural area of Kanzenze commune in the Western province, the rate of depression were estimated to 15.5 percent in 2002[14]. A study from 2012, mainly studying posttraumatic stress disease (PTSD), could show by use of the M.I.N.I-questionnaire that 22.7 percent of the population suffered from depression[15]. These numbers are similar to what is seen in the rest of the world.

2.7 Generalized anxiety disorder (GAD)

Generalized anxiety disorder (GAD) is a psychiatric disorder where the affected are suffering from anxiety on a daily basis for unclear reasons. Diagnostic criteria are that this must have been on-going for at least six months. Lifetime prevalence of GAD is approximately between 5-6 % and it is twice as common in women as in men. It is also common with physical symptoms and coexisting psychiatric illnesses with major depression as the most frequent disorder. In the group with coexisting major depression, there is an increased risk of suicide[16]. The instruments used for diagnosis are also the DSM IV-criterions and the M.I.N.I-questionnaire.

2.8 Suicidality

Rates of suicide are higher among men than women in most countries; China is one exception where young women in rural areas more often commit suicide. The most common predominant factor of suicide is mental illness. A Danish study has shown that risk factors for suicide are retirement, unemployment, sickness absence and being single[17]. These factors could also indicate an unbalanced living situation due to mental illness. The issue is very complex and statistics not always reliable. The suicide risk assessment is usually constructed as a questionnaire designed to encircle the severity of suicidal thoughts, if existing. There are several instruments to measure suicidality and the M.I.N.I-questionnaire is one of them.

3. ETHICS

Ethical perspective

According to research ethics – all research that includes sensitive personal data has to be overlooked by a Research Ethics-committee. This means that the study cannot be carried through if the persons participating might become harmed by the study. It also means that the

participants have to give an informed consent where they approve of the data being used for research and the participant have to be well informed of the purpose of the study and how the data us going to be used[18].

The research protocol and tools were approved for scientific and ethical integrity by the Rwanda National Ethic Committee (Review Approval Notice N^{o} 165/RNEC/2011) and the National Institute of Statistics of Rwanda (N^{o} 1043/2011/10/NISR). All participants where informed and gave their written consent, all according to the WMA Declaration of Helsinki. Men and women were asked the same questions. The questions were read to them out loud in their own language, Kinyarwanda, so conceivable illiteracy or language barriers as far as possible would be eliminated and the amount of misunderstandings minimized. All interviews took place in complete privacy, where the participant decided location of the interview. Female respondents were interviewed by female interviewers and male respondents by male interviewers. All above according to The Declarations of Human Rights. Hard copy data is safely stored at the National University of Rwanda, School of Public Health in Kigali.

The information collected is of a sensitive nature since the participants are answering questions not only about their own living standards, occupations and their own health but they are also answering questions about interpersonal violence, family situation and partner's characteristics, for example. This means that the person participating might take a risk, depending on their living situation. It might also put a partner or family member at risk. For many of the participants, painful memories will be brought up due to traumatic events experienced. Some will also be "diagnosed" with mental conditions, such as depression, without being aware of that this is the case.

4. METHOD

4.1 The data collection

This is an epidemiological study where professional interviewers, following a questionnaire, have held constructed interviews. The data was collected between December 2011 and January 2012. The questionnaire consists of 344 questions and they are covering household standard (socio-demographic background), social support and family setting, level of education, general wellbeing and health status, experiences of interpersonal violence, experiences of traumatic events, experiences of violence etc. It also includes help seeking behaviour and barriers to care. It was constructed based on previously validated instruments, one designed for men and one designed for women. Traumatic episodes were measured by a revised version of the Harvard Trauma Questionnaire, which has been used in several other post conflict settings and in is thoroughly validated in different countries and languages[19]. In addition to the questionnaire the participants also answered the Mini International Neuropsychiatric Interview (M.I.N.I 5.0.0.) for mental disorders covering major psychiatric disorders according to DSM-IV and ICD-10 such as major depression, generalized anxiety disorder, bipolar disorders, suicidality, PTSD and substance use.

The Rwandan Institute of Statistics have done a two-stage random selection of participants in the Southern province of Rwanda among the age group 20-35 years of age. They have used the same procedures as for the nation-wide demographic health survey. A pool of experienced interviewers (clinical psychotherapists) of the same age and sex as the participants got additional training to carry through this task. For the participant's safety, the interviews were held in private, no partner or spouse was present and only one person within the household was asked to participate. The participant decided location for the interview. In villages, every fifth household were asked to participate. In households where no one answered the door, the

interviewers returned up to three times to se if anyone was at home. If they were not, the neighbouring house was picked instead. If the first participant were a man, the next eligible participant was to be a woman. Out of all households asked, only two turned down the offer to participate, which gives a final response rate at 99.8%. In total 917 Rwandans (477 women and 440 men) answered the questionnaire.

4.2 The population studied

Table 1. The socio-demographic and psychosocial factors of the total sample.

	Men (n=440)		**Women** (n=477)		**Total** (N=917)	
PARTICIPANTS CHARACTERISTICS	*n*	%	*n*	%	*N*	%
Age groups *(n=908)*						
20-24	148	33,8	127	27,0	275	30,3
25-29	144	32,9	156	33,2	300	33,0
30-35	146	33,3	187	39,8	333	36,7
Marital status *(n=912)*						
Married/cohabitant	236	53,8	342	72,3	578	63,3
Divorced/widowed	2	0,5	33	7,0	35	3,8
Single	201	45,8	98	20,7	299	32,8
Number of children *(n=915)*						
No children	211	48,1	96	20,2	307	33,6
1 to 3 children	192	43,7	275	57,8	467	51,0
> 3 children	36	8,2	105	22,1	141	15,4
Level of education *(n=904)*						
Secondary school and university level	50	11,5	67	14,2	117	12,9
Complete primary school and vocational training	105	24,2	73	15,5	178	19,7
Incomplete primary school and no schooling	278	64,2	331	70,3	609	67,4
Occupation *(n=910)*						
Civil servants	6	1,4	9	1,9	15	1,65
Skilled workers and students	49	11,2	35	7,4	84	9,23
Unskilled workers and not employed	383	87,4	428	90,7	811	89,12
Personal income per month *(n=912)*						
*<17,500 RWF**	382	87,4	445	93,7	827	90,7
≥17,500 RWF	55	12,5	30	6,3	85	9,3
**(<1 USD in income, per day)*						
HOUSEHOLD CHARACTERISTICS	*n*	*%*	*n*	*%*	*N*	*%*
Members in the household *(n=882)*						

≤2	89	21,8	53	11,2	142	16,1
3 to 5	253	62	269	56,8	522	59,2
>5	66	16,2	152	32,1	218	24,7
Household income per month *(n=883)*						
*<17,500 RWF**	333	79,5	361	77,8	694	78,6
17,500-35,900 RWF	55	13,1	63	13,6	118	13,3
≥36,000 RWF	31	7,4	40	8,6	71	8,0
Living standard *(n=917)*						
Improved living standard (at least one improved item)	366	83,2	305	63,9	671	73,2
Poor living standard (none of the items)	74	16,8	172	36,1	246	26,8
Assets in the household *(n=917)*						
Improved household (at least one improved item)	323	73,4	331	69,4	654	71,3
Poor household (none of the items)	117	26,6	146	30,6	263	28,7

The age group studied was 20-35 years old. No men asked were under the age of 21. The dichotomised variable for age was divided in the groups ’20-29’ and ’30-35’ years of age.

Marital status was dichotomised as ‘married/cohabiting’ or ‘single/divorced’. Number of children was dichotomised to ‘have no children’ and ‘have children’. Education was dichotomised to ‘no education/incomplete primary school’ and ‘complete primary school/secondary school/vocational training/university” where incomplete primary school was considered as not having any schooling. Occupation was dichotomised with ‘skilled workers/students/civil servants’ in one group and ‘unskilled workers/not employed’ in the other. Personal income per month had a dividing line at 17500 RWF (Rwandan francs), which is less than 1USD in income per day.

Household characteristics included number of people in the household dichotomised to ‘1-5’ and ‘more than 5’. Household income per month was dichotomised like the personal income per month with the dividing line at 17500 RWF. ‘Living standard’ and ‘Assets in the household’ were dichotomised as if the participant possessed at least one of the listed items,

they were considered to have an improved living standard/improved household. Examples of improved living standard were if the household had electricity, a latrine/toilet or piped water into the house for example (section A27-A30 in the questionnaire). Improved household were if the household possessed a radio, a TV, a bicycle, a car etc. (section A31-A32).

4.3 Analyses

The data was put in to SPSS and analysed for men and women separately. Since most of the questions had several alternatives as answers, the questions had to be dichotomised for usage in the cross tabulations. The data that I have used as independent variables in my master thesis are "traumatic episodes during lifetime" and "traumatic episodes during the genocide period". In the questionnaire, the year 1994 plus/minus one year is due to that the participants were asked about at what age they were exposed instead of what year it happened. Therefore, to take into account recall bias on age at traumatic episode and not when in time it happened (year), the traumatic episodes were included for 1994 plus/minus one year. The traumatic episodes are listed below (fig 1.1.).

E1. TRAUMATIC EPISODES	Yes	No	At what age
Have you been imprisoned, kidnapped, held captive	☐	☐	_____
Have you been a refugee, forced to flee from your home to escape danger or persecution	☐	☐	_____
Have you experienced forced separation from family members	☐	☐	_____
Have you experienced a life-threatening injury	☐	☐	_____
Have you experienced a murder or unnatural death of a family member or a friend	☐	☐	_____
Have you been robbed, mugged, threatened with a weapon	☐	☐	_____
Have you experienced imprisonment of close family member	☐	☐	_____
Have you witnessed a traumatic event to a loved one	☐	☐	_____
Have you ever been raped by a stranger	☐	☐	_____
Have you ever felt forced to have sex in exchange for money or other benefits	☐	☐	_____
Have you witnessed repeated violence between family members	☐	☐	_____
Have you witnessed physical or sexual violence against family member, by someone outside of the family	☐	☐	_____

Have you witnessed someone being badly injured or killed	☐	☐	_____
Have you witnessed atrocities, e.g. mass killings mutilated bodies	☐	☐	_____
Have you been in a combat situation	☐	☐	_____
Any other life threatening or very disturbing event	☐	☐	_____

Fig. 1.1. Have you ever in your life experienced any of the following events?

One question out of the 17 original questions "Have you as a child, been baldy beaten by parents or those who raised you" (E9) was removed since almost all of the participants sometime had been badly beaten as a child and the Rwandan researchers decided to remove that one after discussion with the principal investigator.

The dependent variables were health outcome such as "general health", "physical symptoms", "major depressive episode past" (MDE past), "major depressive episode current" (MDE current), " suicidality" and "general anxiety disorder" (GAD). General health was divided into 'excellent/good/moderate' and 'poor/very poor'. Physical symptoms were divided into '0-1 symptoms' and '2-13 symptoms' (see fig. 1.2.) If the participant answered 'almost daily' on the questionnaire, they were considered to have the symptom. 'Weekly' and 'never/almost never' – they were not considered to have the symptom. The mental health subgroups were divided into 'yes' or 'no' – with 'no' as no e.g. major depressive episode according to the M.I.N.I-questionnaire (DSM-IV criteria) since they did not fulfil the criteria of having a major depression.

C2. PHYSICAL SYMPTOMS	Almost daily	Weekly	Never/almost never
Stomach pain	☐	☐	☐
Heart palpitations	☐	☐	☐
Breathing problems	☐	☐	☐
Irritability	☐	☐	☐
Restlessness	☐	☐	☐
Anxiety	☐	☐	☐
Depression	☐	☐	☐
Headache	☐	☐	☐
Fatigue	☐	☐	☐
Chest pain	☐	☐	☐
Low back pain	☐	☐	☐
Pain in the joints	☐	☐	☐

Muscular problems	☐	☐	☐

Fig. 1.2. Are you suffering from any of the following symptoms and if so how often?
Frequencies for traumatic experience as well as frequencies of general and mental health conditions within the population are presented in 'Table 2' and 'Table 3' for men and women separately. P-values ≤ 0.05 were considered to be significant.

Cross tabulations between experience of traumatic episodes and health variables were also performed with odds ratios and their 95% confidence intervals to indicate risk factors, see 'Table 4'. This to see what health outcomes that were associated with experiences of traumatic episodes. Cross-tabulations for associations between socio-economic factors and health variables are presented in 'Table 5'.

The statistically significant results found were tested in logistic regression analyses, 'Table 6', where the dependent variables were the health outcomes such as general health and MDE current. The cofounders that were tested were those who proved statistically significance in the bivariate analyses in 'Table 5'.

5. RESULTS

5.1 The exposure

The exposure of "traumatic episodes during lifetime" and "traumatic episodes during the genocide period" are shown in 'Table 2' below. It also shows how the frequency of traumatic episodes experienced is divided within the population.

Table 2. Exposure to traumatic episodes during lifetime and the genocide period with accumulated episodes.

	Men (n=440)		**Women** (n=477)		**Total** (N=917)	
EXPOSURE	n	%	n	%	N	%
Traumatic episodes lifetime (n=917)						
Exposed to at least one of the 16 items	323	73,4	399	83,6	722	78,7
Not exposed	117	26,6	78	16,4	195	21,3
Traumatic episodes during genocide period (n=917)						

Exposed to at least one of the 16 items	165	37,5	169	35,4	334	36,4
Not exposed	275	62,5	308	64,6	583	63,6
FREQUENCY	n	%	n	%	n	%
Number of traumatic episodes experienced (=917)						
No traumatic episodes	62	14,1	51	10,7	113	12,3
1-2 traumatic episodes	161	36,6	168	35,2	329	35,9
3-4 traumatic episodes	111	25,2	130	27,3	241	26,3
5 to 13 traumatic episodes	106	24,1	128	26,8	234	25,5

Out of the 440 men in the study, 323 have been exposed to some traumatic episode during their lifetime, and 165 out of 440 were exposed during the genocide period. For women, 399 out of 477 have been exposed to a t least one traumatic episode during lifetime and 169 out of 477 were exposed during the genocide period.

When it comes to the amount of traumatic episodes experienced, as much as 1 out of 4 have experienced 5 or more of the listed traumatic episodes. None of the participants had experienced more than 13 traumatic episodes out of the 16 listed in the questionnaire.

5.2 General and mental health

The spread of general and mental health in the population are shown in 'Table 3'.

Table 3. General and mental health conditions in the population. N=917.

	Men (n=440)		**Women** (n=477)		**Total** (N=917)		**P-value***
HEALTH CONDITIONS	n	%	n	%	n	%	
General health *(n=917)*							
Excellent/Good/Moderate	327	74.3	312	65.4	639	69.7	
Poor/Very poor	113	25.7	165	34.6	278	30.3	0.003
Physical symptoms (n=857)							
No or 1 symptom	385	94.1	285	63.6	670	78.2	
2-13 symptoms	24	5.9	163	36.4	187	21.8	<0.001
Major depressive episode past *(n=911)*							
No depressive episode	401	91.6	363	76.7	764	83.9	
Depressive episode	37	8.4	110	23.3	147	16.1	<0.001
Major depressive episode current *(n=915)*							
No depressive episode	386	87.9	350	73.5	736	80.4	
Depressive episode	53	12.1	126	26.5	179	19.6	<0.001
Suicidality *(n=915)*							

No suicidal symptoms	396	90.4	373	78.2	769	84.0	
Episode of suicidality	42	9.6	104	21.8	146	16.0	<0.001
Generalized anxiety disorder (GAD) *(n=913)*							
No episode of GAD	292	66.5	288	60.8	580	63.5	
Episode of GAD	147	33.5	186	39.2	333	36.5	0.071

*The p-value shows the difference between men and women.

General and mental health among men is in general better than among women. Out of the men 25.7% are considering themselves having a poor or very poor health compared to 34.6% of the women. Women have to greater extent physical symptoms, 34.6% of the women have two or more symptoms on a daily basis compared to 5.9% of the men. They also suffer to greater extent of major depressive episodes; both MDE past and MDE current show higher numbers among women. Women also suffer form suicidal thoughts and attempts 21.8% of the women compared to 9.6% of the men. When it comes to GAD, the difference is not as significant. Out of the women 39.2% have had an episode of GAD compared to 33.5% of the men.

5.3 Effects on health outcome

Table 4. Association between traumatic episodes and health outcomes, presented as crude odds ratios with 95% confidence interval. N=917

	Men (n=440)													
	General health					**Physical symptoms**					**Major depressive episode past**				
	Good		Poor		OR (95% CI)	No or 1		2 to 13		OR (95% CI)	No MDE		MDE		OR (95% CI)
	n	%	n	%		n	%	n	%		n	%	n	%	
Traumatic episode lifetime	225	68.8	98	86.7	2.96 (1.64-5.35)	276	71.7	23	95.8	9.08 (1.21-68.09)	289	72.1	32	86.5	2.48 (0.94-6.53)
Traumatic episode genocide period	123	37.6	42	37.2	0.98 (0.63-1.53)	141	36.6	14	58.3	2.42 (1.05-5.60)	140	34.9	24	64.9	3.44 (1.70-6.97)
	Major depressive episode current					**Suicidality**					**GAD**				
	No MDE		MDE		OR (95% CI)	None		Suicidality		OR (95% CI)	No GAD		GAD		OR (95% CI)
	n	%	n	%		n	&	n	%		n	%	n	%	
Traumatic episode lifetime	277	71.8	45	84.9	2.21 (1.01-4.85)	287	72.5	34	81.0	1.61 (0.72-3.60)	201	68.8	122	83.0	2.21 (1.35-3.63)
Traumatic episode genocide period	137	35.5	28	52.8	2.04 (1.14-3.63)	142	35.9	23	54.8	2.17 (1.14-4.11)	95	32.5	70	47.6	1.89 (1.26-2.83)

The exposure to traumatic episodes and health outcome are listed in 'Table 4' below.

	Women (n=477)														
	General health					**Physical symptoms**					**Major depressive episode past**				
	Good		Poor		OR (95% CI)	No or 1		2 to 13		OR (95% CI)	No MDE		MDE		OR (95% CI)
	n	%	n	%		n	%	n	%		n	%	n	%	
Traumatic episode lifetime	253	81.1	146	88.5	1.79 (1.03-3.12)	223	78.2	149	91.4	2.96 (1.60-5.48)	298	82.1	97	88.2	1.63 (0.86-3.08)
Traumatic episode genocide period	100	32.1	69	41.8	1.52 (1.03-2.25)	91	31.9	67	41.1	1.49 (1.00-2.22)	124	34.2	42	38.2	1.19 (0.77-1.85)
	Major depressive episode current					**Suicidality**					**GAD**				
	No MDE		MDE		OR (95% CI)	None		Suicidlaity		OR (95% CI)	No GAD		GAD		OR (95% CI)
	n	%	n	%		n	&	n	%		n	%	n	%	
Traumatic episode lifetime	285	81.4	113	89.7	1.98 (1.05-3.74)	304	81.5	95	91.3	2.40 (1.15-4.98)	233	80.9	163	87.6	1.67 (0.99-2.83)
Traumatic episode genocide period	120	34.3	49	38.9	1.22 (0.80-1.86)	122	32.7	47	45.2	1.70 (1.09-2.64)	95	33.0	72	38.7	1.28 (0.87-1.88)

This indicates that men who were exposed to traumatic episodes during lifetime had a statistically significant risk of poorer general health (OR 2.96, 95% CI 1.64-5.35) and more frequently physical symptoms (OR 9.08, 95% CI 1.21-68.09) compared to those not exposed. Men also suffered from 'MDE current' (OR 2.21, 95% CI 1.01-4.85) and 'GAD' (OR 2.21, 95% CI 1.35-3.63) if exposed during lifetime. Nevertheless, 'MDE past' (OR 2.48, 95% CI 0.94-6.53) also gave high odds ratio in that group. Suicidality gave no statistical significance.

If exposed during the genocide period, the 'physical symptoms' gave a statistically significant result (OR 2.42, 95% CI 1.05-5.60) as well as 'MDE past' (OR 3.44, 95% CI 1.70-6.67), 'MDE current' (OR 2.04, 95% CI 1.14-3.63), 'suicidality' (OR 2.17, 95% CI 1.14-4.11) and 'GAD' (OR 1.89, 95% CI 1.26-2.83). General health did not give any statistically significance.

Women also had an increased risk of poorer general health (OR 1.79, 95% CI 1.03-3.12) and more frequently physical symptoms (OR 2.96, 95% CI 1.60-5.48) when exposed to traumatic episodes during lifetime. They also suffered from 'MDE current' (OR 1.98, 95% CI 1.05-3.74) and 'suicidality' (OR 2.40, 95% CI 1.15-5.00). Nevertheless, 'GAD' (OR 1.67, 95% CI 0.99-2.83) showed high odds ratio.

If exposed during the genocide period 'general health' (OR 1.52, 95% CI 1.03-2.25) and 'suicidality' (OR 1.70, 95% CI 1.09-2.64) gave statistical significance. 'Physical symptoms' (OR 1.49, 95% CI 0.99-2.22) also gave high odds ratio. In this group 'GAD', 'MDE past' and 'MDE current' did not give any statistically significant findings.

5.4 Socio-demographic and psychosocial variables and mental health disorders

'Table 5' are presenting the association between socio-demographic and psychosocial variables and mental disorders for men and women separately. The mental disorders chosen are the ones that gave statistical significance in 'Table 4', either for traumatic experience lifetime or traumatic experience during genocide period, regardless if it was for men or women. This for narrowing down data and make it more comprehensible.

Table 5. Association between sociodemographic and psychosocial variables and mental health disorders. Crude odds ratios with 95% confidence intervals. N=917

	Men (n=440)											
	MDE current		**Odds ratio** (95% CI)	***p***	**Suicidality**		**Odds ratio** (95% CI)	***p***	**GAD**		**Odds ratio** (95% CI)	***p***
PARTICIPANTS CHARACTHERISTICS	n	%			n	%			n	%		
Age (n=470)												
21-29 years old	33	11.3	1		34	11.7	1		95	32.6	1	
30-35 years old	20	13.7	1.24 (0.69-2.25)	0.48	8	5.5	0.44 (0.20-0.97)	0.04	52	35.6	1.14 (0.75-1.73)	0.54
Marital status (n=473)												
Married/cohabiting	30	12.7	1		19	8.1	1		81	34.5	1	
Single/divorced	23	11.4	0.88 (0.50-1.57)	0.67	22	10.9	1.40 (0.74-2.68)	0.30	66	32.5	0.92 (0.62-1.36)	0.67
Number of children (n=476)												
No children	24	11.4	1		22	10.5	1		66	31.3	1	

1 or more children	29	12.7	1.13 (0.63-2.01)	0.68	20	8.8	0.82 (0.43-1.55)	0.53	81	35.7	1.22 (0.82-1.82)	0.33
Level of education (n=475)												
Incomplete primary school/no schooling	38	13.7	1		31	11.2	1		100	36.1	1	
Complete prim. school/vocational training/ sec. school/university	13	8.4	0.58 (0.30-1.12)	0.10	10	6.5	0.55 (0.26-1.16)	0.11	45	28.8	0.72 (0.47-1.10)	0.13
Occupation (n=472)												
Skilled workers/ students/civil servants	5	9.1	1		4	7.4	1		15	27.3	1	
Unskilled workers/not employed	48	12.6	1.44 (0.55-3.78)	0.46	38	9.9	1.38 (0.47-4.03)	0.55	131	34.3	1.39 (0.74-2.61)	0.30
Personal income per month (n=475)												
≥17500 RWF	46	12.0	1		38	9.9	1		130	34.1	1	
<17500 RWF	7	12.7	1.07 (0.46-2.49)	0.88	4	7.3	0.71 (0.24-2.07)	0.53	16	29.1	0.79 (0.43-1.47)	0.46
HOUSEHOLD CHARACTERISTICS												
Members in the household (n=474)												
1-5 members	42	12.3	1		33	9.7	1		124	36.4	1	
>5 members	7	10.6	0.85 (0.36-1.97)	0.70	4	6.1	0.60 (0.21-1.76)	0.35	18	27.3	0.66 (0.37-1.18)	0.16
Household income per month (n=464)												
≥17500 RWF	9	10.5	1		8	9.3	1		25	29.1	1	
<17500 RWF	44	13.2	1.30 (0.61-2.79)	0.49	32	9.6	1.04 (0.46-2.34)	0.93	116	34.9	1.31 (0.78-2.20)	0.31
Living standard (n=477)												
Improved living standard (at least one improved item)	46	12.6	1		39	10.7	1		126	34.5	1	
Poor living standard (none of the items)	7	9.5	0.73 (0.31-1.67)	0.45	3	4.1	0.35 (0.11-1.17)	0.08	21	28.4	0.75 (0.43-1.30)	0.31
Assets in the household (n=477)												
Improved household (at least one improved item)	31	9.6	1		26	8.1	1		98	30.4	1	
Poor household (none of the items)	22	18.8	2.17 (1.20-3.94)	<0.01	16	13.7	1.80 (0.93-3.49)	0.08	49	41.9	1.65 (1.06-2.55)	0.03

	Women (n=477)											
	MDE current		**Odds ratio** (95% CI)	***p***	**Suicidality**		**Odds ratio** (95% CI)	***p***	**GAD**		**Odds ratio** (95% CIl)	***p***
PARTICIPANTS CHARACTHERISTICS	n	%			n	%			n	%		

Age (n=470)												
21-29 years old	81	28.6	1		69	24.4	1		111	39.2	1	
30-35 years old	43	23.1	0.75 (0.49-1.15)	0.19	35	18.7	0.71 (0.45-1.13)	0.15	72	39.1	1.00 (0.68-1.46)	0.98
Marital status (n=473)												
Married/cohabiting	91	26.7	1		67	19.6	1		130	38.3	1	
Single/divorced	35	26.7	1.00 (0.64-1.60)	1.00	37	28.2	1.62 (1.02-2.57)	0.04	54	41.2	1.13 (0.75-1.70)	0.57
Number of children (n=476)												
No children	18	18.8	1		19	19.8	1		28	29.2	1	
1 or more children	29	12.7	1.72 (0.99-3.02)	0.05	85	22.4	1.17 (0.67-2.04)	0.59	158	41.9	1.75 (1.08-2.85)	0.02
Level of education (n=475)												
Incomplete primary school/no schooling	92	27.9	1		75	22.7	1		138	41.9	1	
Complete prim. school/vocational training/ sec. school/university	34	23.6	0.80 (0.51-1.26)	0.33	29	20.1	0.86 (0.53-1.39)	0.54	48	33.6	0.70 (0.46-1.05)	0.09
Occupation (n=472)												
Skilled workers/ students/civil servants	12	27.3	1		9	20.5	1		12	27.9	1	
Unskilled workers/not employed	112	26.2	0.95 (0.47-1.91)	0.88	95	22.2	1.11 (0.52-2.39)	0.79	171	40.1	1.73 (0.87-3.47)	0.12
Personal income per month (n=475)												
≥17500 RWF	120	27.0	1		102	22.9	1		178	40.3	1	
<17500 RWF	4	13.3	0.42 (0.14-1.22)	0.10	2	6.7	0.24 (0.06-1.03)	0.04	6	20.0	0.37 (0.15-0.93)	0.03
HOUSEHOLD CHARACTERISTICS												
Members in the household (n=474)												
1-5 members	92	28.7	1		77	23.9	1		126	39.3	1	
>5 members	33	21.7	0.69 (0.44-1.09)	0.11	27	17.8	0.69 (0.42-1.12)	0.13	59	39.3	1.00 (0.68-1.49)	0.99
Household income per month (n=464)												
≥17500 RWF	29	28.4	1		26	25.2	1		34	33.3	1	
<17500 RWF	97	26.9	0.93 (0.57-1.51)	0.75	77	21.3	0.80 (0.48-1.34)	0.40	149	41.5	1.42 (0.89-2.25)	0.14
Living standard (n=477)												
Improved living standard (at least one improved item)	80	26.3	1		67	22.0	1		121	40.1	1	
Poor living standard (none of the items)	46	26.7	1.02 (0.67-1.56)	0.92	37	21.5	0.97 (0.62-1.53)	0.91	65	37.8	0.91 (0.62-1.34)	0.63
Assets in the household (n=477)												
Improved household (at least one improved item)	69	20.9	1		66	19.9	1		119	36.3	1	

Poor household (none of the items)	57	39.0	2.42 (1.58-3.71)	<0.01	38	26.0	1.41 (0.89-2.23)	0.14	67	45.9	1.49 (1.00-2.21)	0.05

Among men in the poorest category with no assets in the household, the risk of suicidality was less than among those with a somewhat better living standard (OR 0.44; CI 0.20-0.97), while the risk of 'MDE current' (OR 2.17; CI 1.20-3.94) and 'GAD' (OR 1.65; CI 1.06-2.55) were elevated.

Women being single/divorced were at risk of 'suicidality' (OR 1.62; CI 1.02-2.57) while having children contributed to 'MDE current' (OR 1.72; CI 0.99-3.02) and 'GAD' (OR 1.75; CI 1.08-2.85). No assets in the household, i.e. poverty, also indicated risk of 'MDE current' (OR 2.42; CI 1.58-3.71) and 'GAD' (OR 1.49; CI 1.00-2.21) among the women in this study while having a low personal income per month seemed to be a protective factor for 'GAD' (OR 0.37; CI 0.15-0.93); for 'suicidality' (OR 0.24; CI 0.06-1.03) the same trend was seen, however not statistically significant.

5.5 Possible cofounders

In 'table 6' below logistic regression analyses are presented for men and women separately. The variables tested are those who gave some statistically significance in the bivariate analyses (see 'Table 4' and 'Table 5') but we included also some variables close to statistical significance for theoretical reasons as these has been shown in other studies to contribute to mental disorders. The mental disorders used are a selection and when MDE current and GAD were tested in 'Table 4', they gave the same pattern, why MDE current was chosen to represent them both.

Table 6. Logistic regression analysis for traumatic experience and mental disorders, adjusted odds ratio with 95% confidence interval. N= 917

	Men (n=440)			
	MDE current		**Suicidality**	
	Crude OR (95% CI)	Adj OR (95% CI)	Crude OR (95% CI)	Adj OR (95% CI)
Traumatic episodes lifetime	2.21 (1.01-4.85)	2.17 (0.99-4.78)	1.61 (0.72-3.60)	1.68 (0.75-3.77)
Age (30-35 years old)	1.24 (0.69-2.25)	1.11 (0.61-2.04)	0.44 (0.20-0.97)	0.39 (0.18-0.88)
No assets in the household	2.17 (1.20-3.94)	2.13 (1.17-3.88)	1.80 (0.93-3.49)	1.97 (1.00-3.86)
Traumatic episodes during genocide period	2.04 (1.14-3.63)	1.96 (1.09-3.52)	2.17 (1.14-4.11)	2.36 (1.23-4.54)
Age (30-35 years old)	1.24 (0.69-2.25)	1.06 (0.57-1.95)	0.44 (0.20-0.97)	0.36 (0.16-0.81)
No assets in the household	2.17 (1.20-3.94)	2.13 (1.17-3.88)	1.80 (0.93-3.49)	1.93 (0.98-3.81)

	Women (n=477)			
	MDE current		**Suicidality**	
	Crude OR (95% CI)	Adj OR (95% CI)	Crude OR (95% CI)	Adj OR (95% CI)
Traumatic episodes lifetime	1.98 (1.05-3.74)	1.97 (1.03-3.76)	2.40 (1.15-4.98)	2.49 (1.20-5.20)
Have children	1.72 (0.99-3.02)	1.47 (0.83-2.62)	1.17 (0.67-2.04)	1.13 (0.64-2.01)
Low personal income per month	0.42 (0.14-1.22)	0.50 (0.17-1.50)	0.24 (0.06-1.03)	0.25 (0.06-1.06)
No assets in the household	2.42 (1.58-3.71)	2.20 (1.41-3.42)	1.41 (0.89-2.23)	1.28 (0.80-2.05)
Traumatic episodes during genocide period	2.04 (1.14-3.63)	1.18 (0.76-1.83)	1.70 (1.09-2.64)	1.83 (1.16-2.87)
Have children	1.72 (0.99-3.02)	1.48 (0.83-2.63)	1.17 (0.67-2.04)	1.09 (0.61-1.93)
Low personal income per month	0.42 (0.14-1.22)	0.51 (0.17-1.52)	0.24 (0.06-1.03)	0.23 (0.05-0.99)
No assets in the household	2.42 (1.58-3.71)	2.20 (1.42-3.41)	1.41 (0.89-2.23)	1.30 (0.81-2.09)

For men, association between traumatic experience lifetime and MDE current (OR 2.21; 95% CI 1.01-4.85) lost its statistical significance when adjusting for age and assets in the household (OR 2.17; 95% CI 0.99-4.78). However, assets as signalling poverty remained as a strong risk factor. Association between traumatic experience during genocide period and MDE current (OR 2.04; 95% CI 1.14-3.63) kept its statistical significance after adjustments (OR 1.96; 95% CI 1.09-3.52).

For the association between traumatic experience lifetime and suicidality, there were no statistical significance and remained so after adjusting for age and assets in the household. Age continued to be a protective factor (OR 0.39; 95% CI 0.18-0.88). Association between traumatic experience during genocide period and suicidality (OR 2.17; 95% CI 1.14-4.11) remained statistical significant after adjusting for age and assets (OR 2.36; 95% CI 1.23-4.54) and as for the previous, age kept its statistical significance as a protective factor.

For women, after adjusting for some rather strong factors associated with MDE current, traumatic episode lifetime remained statistically significant (OR 1.97; 95% CI 1.03-3.76) and so did also assets in the household, here used as a proxy for poverty. For association between traumatic experiences during genocide period, MDE current lost its statistical significance (OR 1.18; 95% CI 0.76-1.83) where poverty remained as a risk factor (OR 2.20; 95% CI 1.41-3.42).

Association between traumatic experiences lifetime and suicidality kept statistical significance after adjustments (OR 2.49; 95% CI 1.20-5.20), but none of the sociodemographic and psychosocial variables adjusted for had statistical significance for suicidality. Traumatic experience and suicidality also kept the statistical significance, and in this group a low personal income became statistically significant as a protective factor (OR 0.23; 95% CI 0.05-0.99).

For GAD, the health outcomes gave the same pattern as for MDE current and therefore only MDE current was chosen to be presented in this table.

6. DISCUSSION

6.1 Summary of findings

The results of this study show that men during the genocide period were slightly more exposed to traumatic episodes than women. Women, on the other hand had to a greater extent been exposed to traumatic episodes during lifetime.

In general – women suffered more often from poor general health, physical symptoms and mental disorders than men within the population in total. Women were more suicidal, more often depressed and had more physical symptoms on a daily basis compared to the men. Generalized anxiety disorder (GAD) though did almost not at all differ between the sexes.

Men who experienced traumatic episodes during 1994 were in worse health than men who experienced traumatic episodes during lifetime. The most common disorders were physical symptoms, MDE past, MDE current, suicidality and GAD.

Women who experienced traumatic episodes during 1994 had not to the same extent problems with health outcome as the women who were exposed to any traumatic episode during their lifetime. Those women suffered from poor general health, physical symptoms, MDE current, suicidality and GAD.

Looking into socio-demographic and psychosocial factors and health outcome, lack of assets in the household was the most important risk factor for MDE current for both women and men. For men and suicidality, higher age showed some protection. Women, on the other hand, if being single, they were more likely to have been suicidal. Having children was also a risk

factor for depression among women. A protective factor for women was having an income <17500RWF per month.

In the logistic regression analyses, MDE current and traumatic experiences lifetime for men, and traumatic experiences during genocide period for women, lost their significance when adjusted for poverty. This shows that in these groups, poverty is more important than the traumatic experience itself.

6.2 Discussion

Men have a slight predominance of traumatic experiences during the genocide period while women to a greater extent have been exposed to traumatic events during lifetime. This is probably due to that women are more often exposed to interpersonal violence such as sexual and physical violence from the husband. One theory could be that men that have been exposed to traumatic episodes tend to use more violence, but this is controversial according to the critics. It is found though that women that have experienced traumatic episodes and interpersonal violence do suffer from poor general and mental health[20]. When looking into traumatic experiences during lifetime versus traumatic experiences during the genocide period and health outcome we can see that if exposed to traumatic events in your every day life, the experiences you had twenty years ago will probably not give the same impact as the on-going and recently experienced trauma. Women also have more physical symptoms and mental disorders than men in general.

Women are at risk of suffering from depression and GAD if they have children or live in a poor household. Single women suffered to a higher extent than married women from suicidal thoughts. Rwandan women play a big role in the family setting. They cook, clean and take

care of the children, carrying them on their back from infant to toddler. In addition to that, they work in the fields cultivating the soil every day. It is a strained environment for the women, who have a big responsibility for the well being of the family. In the same way, they are expected to have families and to have children to take care of. These expectations might be the reason why single women feel that they are not as valuable in the society. And if they are single mothers they have two risk factors for mental illness.

In Rwanda, measuring poverty and unemployment are difficult since most of the population are considered unemployed. At the same time, they work with self-sufficient farming and therefore estimation of poverty is difficult since they provide the families with food from their own crops. Trading goods is also common. For that reason it is better to measure poverty by assets in the household and living standard. Assets in the household have shown to be important both for women and men.

So, no assets in the household equals that the household is poor. Living in poverty is a risk factor among men for depression and GAD. Men, who more often are the financial providers of the family, feel responsibility to give the family a decent economical situation. If you have access to a mobile phone for example, the chance of getting an employment or in other ways earning an income for the family increases. If you have a car – you can have a taxi business. The social status also increases if you possess any of the items, showing that you can provide your family and that you earn money.

Men traumatised by experiences during the genocide period tend to suffer from physical symptoms, GAD, be more suicidal and suffer from MDE past and MDE curren.. If exposed

during lifetime, they do not seem to be as affected. Nevertheless, they still have problems with MDE current and GAD as well as they considers themselves to have poor general health.

When visiting Ndera Psychiatric Hospital in Kigali, Rwanda, we met with Dr Bizoza Rutakayile – one of the six psychiatrists in the country. He told us that there is a Rwandan saying that "men cry on the inside", meaning that it is not accepted for men to openly show grief or sorrow in the same way as it is for women. Because of this, they tend to seek care at late stages of mental health problems and there are more men taken care of with psychosis and bipolar disease than women at Ndera. He has also seen a pattern through the years where untreated persons with flashbacks, painful memories and physical symptoms later often suffer from major depression, GAD, suicidality etc. When that in turn is not stopped in time, they develop psychotic diseases. "A pathway I have discovered in many cases", he says.

This could explain the fact that men that have been exposed to traumatic events during the genocide period have a worse health outcome than those not exposed. They might not process what they have experienced in time. This might also indicate that the trauma that men have experienced during their lifetime is not of the same character as the trauma experienced during 1994, and might be more accepted to talk about.

According to Dr Bizoza, there are several action plans to find those who might be at risk. One important part is to train physicians working at the district hospitals in mental disorders and how to detect mental illness in early stages. In April every year, the month where the genocide started in 1994, teams of psychiatrists, nurses and psychotherapists are put together and sent to peripheral areas to detect early stages of mental disorders connected to the genocide. "Everyone has been traumatised somehow ". Many people recall memories and

grief during that period of the year. The team can take care of those who are in need and offer appointments at Ndera to get psychotherapy or inward treatment. Compliance is a problem though because of fear of marginalisation and stigma. The ones that do show up and get help, group therapy has shown to be efficient since they get a chance to develop a mutual support from people in the same situation. Activities to generate an income and to be part of a context are also very important for recovery, according to Dr Bizoza.

To reduce stigma and encourage people to seek help, information is given through media, TV and advertising. Regarding that not all of the population are considered literate, there is a great chance that those in need are not able to take part of the information. In this study we have shown that those who live in poverty, where they do not have access to radio or TV, are a risk group for mental disorders and there is a great chance that they are not able to take part of written information. This might result in that they do not seek help to the same extent.

Women also have a tendency to have symptoms of suicidality or have done attempts to suicide to a greater extent than men, which is unusual compared to other parts of the world[17]. Among the men, the same thing with generalized anxiety disorder. In Rwanda almost equally as many men as women have GAD. In other countries where GAD has been studied, it tends to be twice as common in women than in men[16].

Something that would be interesting to investigate is if the persons that have experienced several traumatic episodes have more problems with their health outcome than those who have experienced less traumatic episodes. Another interesting aspect would be what traumatic experiences that are common among women versus men. Are women more exposed to trauma by members in the family and men by unknown assailants?

Another is if the exposed are more capable of using violence themselves, e.g. domestic violence, because of their traumatic experiences? It would also be interesting to investigate more about the mental health-care problems in Rwanda. Are the ones that need help really taken care of?

When visiting the District Hospital in Kabgayi, Rwanda, we talked to some staff there to get an insight in the cultural differences between Sweden and Rwanda and how they think that the general opinion of these matters are. It has to be taken into account that the persons that we talked to are not part of the study; it is their own personal opinion that is brought up here and not based on any truths or other studies made. In their perspective, the mental health problems are not a big issue. Those that need to be taken care of are taken care of, and that is usually the most severe cases. “You do not see people wandering the streets talking to themselves”. Nevertheless, there are still small groups that believe in demons and that the affected can be healed by the church or by traditional healers. Asking about depression and the fact that there are cases where people are suffering from decreased mood and sadness without being crippled by it, they did not see it as a problem, they are considered to be taken care of by their families. And this might be true, that the cultural differences are that people in Sweden do not have a family safety net to count with when needed. Nevertheless, the numbers says that depression is as common in Rwanda as it is in many other parts of the world[14].

The capacity in the mental health-care is not yet fully developed. If you have a minor depression, it is not seen as a problem that should be solved by the health-care. Because of this, there is a risk of adding on to stigma and marginalisation. If you seek care – you cannot be provided with the help that you need.

From my perspective, there is more depth to the problem than that. Depression for example, makes millions of people suffer over the world. They might function in their every day life but it does not have any quality. They might not perform as well at their jobs or in their social lives as they would if they were not ill. Above all, there are treatments that are very efficient and there are treatments that will cure. It should be accessible to the ones that need it. It has to be accepted by the society and the health-care system. It needs to be available and with good quality.

There are on-going studies in the same material on barriers to care, help-seeking behaviour and interpersonal violence. These are not published yet, but will clarify some of the questions that have been raised during this study.

6.3 Methodological considerations

This study is an epidemiological study based on structured interviews. The participants were carefully selected and randomly picked from the Southern province and all data collected have been stored at the School of Public Health, Rwanda, for the participants' safety. The information received is of a sensitive nature and there is a risk of underreporting among the respondents. To minimize the risk of that, well-trained interviewers in about the same age and same sex as the respondent were used for the task, which has been shown to be favourable and to reduce reporting bias and non-responses.

The data have been analysed in a scientifically rigorous way. However, there is not possible to draw any conclusions on the direction of the association, as this is a cross sectional study in which risk factors and outcome were sampled at the same point in time.

7. CONCLUSION

It might be the case that men who have experienced traumatic episodes during 1994 are more capable of using violence compared to those not exposed. Due to difficulties coping with memories and grief, they have more mental health problems compared to those not exposed. Women are to a greater extent exposed to traumatic episodes during lifetime, which might indicate that they are exposed to domestic violence. Living in a poor household is a strained situation both physically and mentally, which might also add on to the usage of violence. If the men exposed to traumatic episodes are the perpetrators of the women who experience trauma later in life is not studied in this paper. It is an interesting hypothesis though and should be further investigated.

Stigma and marginalisation are common, and there are still preconceptions about mental illness. Information is the key ingredient to develop acceptance and access to care. And it should not only be accessible through advertising. Those who probably need it the most are not for sure taking part of the information. “Mutelle des Santes” are providing 85% of the population with health-care, this opens up for some kind of screening in connection with medical appointments would be optimal to find those who need help. There is also a need for a more accessible mental health-care with more psychiatrists educated, which is something that Rwanda is struggling with.

Another thing is to improve the economy for those who are poor. If they are provided with some kind of contribution or support it might take some weight off of these families. It would be even better if job opportunities could be created so that they would be able to win a context, an income and social status by contributing to the society.

For both women and men, equality is important and Rwanda is one of the few countries that have more women than men in the parliament, which indicate that they are on the right track. Still there is a long way to go, especially within the family setting. Women take on a big role when it comes to housework and parenting and as we can see in this study, women with children have more often depression and generalised anxiety disorder. This has not been seen in men.

Education is of course also very important as it contributes to equality, acceptance, knowledge and self-confidence – especially in young women. Rwanda has a mandatory elementary school of nine years for both boys and girls, which is good and the product of that investment will be proven for sure in the future.

8. POPULÄRVETENSKAPLIG SAMMANFATTNING

Rwanda är ett litet land i Östafrika inklämt mellan Uganda, Kongo, Burundi och Tanzania. År 1994 utsattes landet för ett folkmord, en rad traumatiska händelser som påverkar befolkningen än idag. Mellan 800 000 och en miljon människor blev dödade och två miljoner människor tvingades fly. De som överlevde hade sett och upplevt fruktansvärda saker och många blev traumatiserade för livet.

Denna studie har tittat på hur unga rwandier, 20-35 år, mår idag snart 20 år efter folkmorden. Fysiska och psykiska symtom har använts som mått på hälsan hos dessa individer. Strukturerade intervjuer hölls i en slumpvis utvald grupp med hjälp av två frågeformulär som förutom frågor om livssituation, inkomst och familjesituation med mera också direkt kunde ställa diagnoser så som depression, generellt ångestsyndrom och självmordsbenägenhet för att se utbredning av psykiatriska sjukdomar. Data analyserades sedan för män och kvinnor separat.

Resultatet av studien var att män till en högre grad blivit utsatta för traumatiska händelser under folkmorden, medan kvinnor i högre utsträckning än männen utsatts för traumatiska händelser under sin livstid. Männen mådde också sämre om de utsatts under 1994, medan kvinnor mådde sämre om de utsatts under livet. Vi kunde också se att de som lever i fattigdom har större risk att utveckla psykiatriska sjukdomar, fysiska symptom och ha sämre generell hälsa än de som lever under bättre förhållanden.

Slutsatserna av detta blir att män som utsatts för traumatiska händelser under folkmorden förmodligen i större utsträckning använder våld själva, och att kvinnor på grund av detta är mer utsatta för våld i hemmet. Om man dessutom lever under fattiga förhållanden så blir

pressen på familjesituationen ännu hårdare och kanske att det också bidrar till ökad användning av våld.

Att kvinnor som utsatts för våld under livet mår sämre än de som utsatts under 1994 är ett tecken på att de som lever i ett hem där man utsätts för våld regelbundet påverkas mer av sin livssituation idag än de upplevelser de haft för 20 år sedan. Kvinnor med barn mår också sämre, troligtvis en konsekvens av att de känner ett ansvar att inte utsätta dem för traumatiska upplevelser i sin tur. Kvinnor i Rwanda förväntas ta en stor del av ansvaret för hushållet och barnen. Män verkar dessutom söka vård mer sällan och kommer först då de är i betydligt sämre skick. I Rwanda, liksom på många andra håll i världen, så får män inte visa sin sorg på samma sätt som kvinnor. Liksom här i Sverige så finns det också en viss syn i samhället på psykiska sjukdomar som ofta är stigmatiserat vilket gör att de som behöver undviker att söka hjälp. Dessutom är den psykiatriska vården i landet betydligt mindre utvecklad vilket gör det svårare att få den hjälp som behövs i tid.

Om kärnan i problemet kan synliggöras så skulle det vara möjligt att förebygga inte bara den psykiska hälsan i landet, utan också hjälpa dem som upplevt traumatiska händelser och förebygga risken av att de själva använder eller blir utsatta för våld. Om man dessutom kan hjälpa dem ur fattigdom genom att ge dem en kontext i samhället med jobb och en inkomst, så kommer även detta säkerligen att förebygga risken för våld i hemmet.

Vidare forskning på samma material vad det gäller beteende kring att söka hjälp, barriärer till vård och våld i nära relationer bedrivs i skrivande stund. Resultatet av dessa kommer att ge en vidare bild av problemets natur och vart insatser bäst ger effekt.

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11. APPENDICES

11.1 Men's questionnaire

Logo GU **Logo NUR**

Traumatic experiences, mental disorders and barriers to care among young men and women in Rwanda

Men's Questionnaire

Final version 110827

University of Gothenburg, Sweden

The Sahlgrenska Academy

Institute of Medicine

Unit of Social Medicine

National University of Rwanda

Dept of Epidemiology and Biostatistics

School of Public Health

INDIVIDUAL CONSENT FORM

Hello, my name is ----------. I work for the National University of Rwanda, School of Public Health. We are conducting a survey in the Southern Province to learn about people's mental health, their access to health care and to understand more about why it is sometimes difficult to get treatment for emotional problems and mental illnesses. This household has been chosen by chance and we would like to interview a male person in this household that is between 18-35 years of age for this study.

The questions cover general household information, but also questions on health matters and on experience of difficult situations in life that may have happened in the past or at present. I want to assure you that all of your answers will be kept strictly confidential. You have the right to stop the interview at any time, or to skip any questions that you don't want to answer. There are no right or wrong answers. Some of the topics may be difficult to discuss, but many people find it useful to get the opportunity to talk. Your participation is completely voluntary but your experiences could be very helpful to other people. The research supervisor may visit you one more time to check that the interview was conducted correctly.

Do you have any questions?

Do you agree to be interviewed?

NOTE WHETHER RESPONDENT AGREES TO INTERVIEW OR NOT

[ ] NO, DOES NOT AGREE TO BE INTERVIEWED → THANK PARTICIPANT FOR HIS/HER TIME AND END.

[ ] YES, AGREES TO BE INTERVIEWED

……

Signature of the respondent + address

Is now a good time to talk?

It's very important that we talk in private. Is this a good place to hold the interview, or is there somewhere else that you would like to go?

If someone feels bad about being interviewed, he should be advised to a clinic for assistance. Also, if a mentally ill person is identified during interviewing, he should also be referred to this clinic. Transportation will be provided. The clinic is Butare Teaching hospital, Kabgayie hospital, Cyangugu, Gikongoro hospitals.

If you have further questions or comments about the study, please contact:
Joseph Ntaganira, MD, Assoc Professor, survey supervisor
School of Public Health, National University of Rwanda
E-mail: jntaganira@yahoo.com
Cell Phone: (250) (0)78 886 47 20

Ändrad fältkod

Administration form

Identification

LOCATION (CAPITAL/TOWN = 1, PROVINCE = 2): ……..
WARD/VILLAGE ……
CLUSTER NUMBER ……
HOUSEHOLD NUMBER ……
NAME OF HOUSEHOLD HEAD: ……
Date:……..
Interviewers name:……

If not able to perform the interview, why:

¤ Refused (specify why): _____
¤ Dwelling vacant or address not a dwelling
¤ Dwelling destroyed
¤ Dwelling not found, not accessible
¤ Entire household absent for extended period
¤ No household member at home at time of visit
¤ Household respondent postponed interview

QESTIONNAIRE COMPLETED
DATE:……..
LOCATION: ……..
¤ Urban or
¤ Rural
INTERVIEW CONDUCTED IN LANGUAGE:……..
QUALITY CONTROL PROCEDURE CONDUCTED:…….. (1 = yes, 2 = no)

Field supervisor
Name:……
Date:……..

Questionnaire checked by
Name:……..
Date:……..

Content

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START THE INTERVIEW!

A. SOCIO-DEMOGRAPHIC BACKGROUND

Participant characteristics – here follows questions on yourself and your living conditions

A 1. What is your sex? **This is the men questionnaire so only women should be interviewed by use of this version! Please tick box anyway**

□ Man
□ Woman

A 2. What is your age (in years)?……

A 3. Place of living

□ Sector (UMURENGE)
□ Cell (AKAGARI)
□ Village (UMUDUGUDU)

A 4. What is your marital status?
□ Married
□ Cohabiting
□ Separated/widowed
□ Divorced
□ Not married, single

A 5. How many children do you have?.....

A6. How many miscarriages have your wife/partner experienced?
□ 0
□ 1-2
□ 3-4
□ 5-6
□ > 6

A 7. Have you and your wife/ partner <u>TRIED</u> to become pregnant during the last 12 months?
□ Yes
□ No

A8. Have your wife/partner become pregnant during the last 12 months?
□ Yes
□ No

A9. Is your wife/partner currently pregnant?
□ Yes
□ No

A 10. Have you and your wife/partner had problems to become pregnant in the time before the last 12 months?
□ Yes
□ No

A 11. Have any of your children died (after birth)?
□ Yes
If yes, how many:……..
If yes, what was the reason:……
□ No

A12. Have you experienced that your baby died in your wife/partner's womb?
□ Yes
□ No

A13. How many people live in your household? ……..

A 14. Have you ever attended school?

□ Yes

□ No

A 15. What level of education did you reach?

□ Primary level but not complete (less than 6 years)

□ Primary level complete (6-7 years)

□ Post-primary, Vocational training

□ Secondary school, Senior 1-4

□ Secondary School, Senior 5-6

□ Tertiary, University level

□ Don't know

Highest level of education achieved (record # of years of class).....

A 16. Are you employed and earn an income?

□Yes, Full time paid employment

□Yes, Irregular work, i.e. once in a while

- If so, how many hours per week ……..

□ Yes, Seasonal work/part of the year

□ No, I do not earn an income

A 17. What kind of work do you do?

□ I am a student

□ I work as a non-skilled worker (examples: shop-keeper, farmer, agriculture, watchman, guard…)

□ I work as a skilled worker (examples: clerk, dressmaker, hairdresser, pharmacist, carpenter, plumber, bus driver, assistant nurse….)

□ I work as a civil servant (teacher, nurse, medical doctor, law, company/business sector, banking….)

□ I am not employed

A 18. How high is your monthly income on average?

□ Less than 17,500 RWF

□ 17,500-35,000 RWF

□ 36,000-99,000 RWF

□ 100,000-199,000 RWF

□ 200,000-499,000 RWF

□ More than 499,000 RWF

A 19. What is your personal main source of income?

□ None

□ Salary

□ Pension

□ Maintenance grant

□ Disability grant

□ Other

Partners' characteristics – here follows some questions related to your wife/partner

A 20. Are you currently involved in a relationship with someone?
□ Yes
□ No

A 21. Age of your wife/partner (in years):_____

A 22. Has your wife/partner ever attended school?
□ Yes
□ No
□ I am not married

A 23. What level of education did your wife/partner reach?
□ Primary level but not complete (less than 6 years)
□ Primary level complete (6-7 years)
□ Post- primary, Vocational training
□ Secondary school, Senior 1-4
□ Secondary school, Senior 5-6
□ Tertiary, University level
□ Don't know
□ I am not married

Highest level of education achieved by your wife (record # of years of class).....

A 24. Is your wife/partner employed and earn an income?
□Yes, Full time paid employment
□Yes, Irregular work, i.e. once in a while, but he does earn a salary
- If so, how many hours per week ……..
□ Yes, Seasonal work/part of the year
□ No, He does not earn an income
□ I am not married

A 25. What is your wife/partner's occupation?
□ She is a student
□ She works as a non-skilled worker (shop-keeper, farmer, agriculture…)
□ She works as a skilled worker (clerk, carpenter, plumber, bus driver….)

□ She works as a civil servant (teacher, nurse, medical doctor, law, company/business, banking….)
□ She is not employed
□ I am not married

A26. What is your wife/partner's income per month?
□ Less than 17,500 RWF
□ 17,500-35,000 RWF
□ 36,000-99,000 RWF
□ 100,000-199,000 RWF
□ 200,000-499,000 RWF
□ More than 499,000 RWF
□ I am not married

Household characteristics

A 27. What type of house do you live in?
□ Shack
□ Traditional dwelling, (hostel, outbuilding)
□ Combination of buildings
□ Flat, maisonette
□ Modern house

A 28. What is the main source of drinking water for members of your household?
□ Piped water into the house
□ Piped water into yard/plot
□ Public tap
□ Water from well or borehole
□ Surface water: Spring/ River/ Stream/Pond/Lake/ Dam/ Rainwater
□ Tanker truck

A 29. What kind of toilet facility does your household have?
□ Flush toilet inside
□ Improved latrine, chemical toilet, flush toilet outside
□ Latrine
□ No toilet

A 30. What type of fuel does your household mainly use for cooking?
□ Dung
□ Firewood
□ Charcoal
□ Paraffin, kerosene

□ Gas from bottle, LPG
□ Electricity from grid, town gas

A 31. Does your household have?
□ Electricity
□ A radio
□ A television
□ A telephone
□ A refrigerator
□ Nothing of these

A 32. Does any member/s of your household have:
□ A bicycle
□ A motorcycle
□ A car
□ A mobile phone
□ A computer

A33. What is the total household income per month? (this is the sum of what all household members bring in taken together)
□ Less than 17,500 RWF
□ 17,500-35,000 RWF
□ 36,000-99,000 RWF
□ 100,000-199,000 RWF
□ 200,000-499,000 RWF
□ More than 499,000 RWF

B. SOCIAL SUPPORT

Now I will ask you questions on the help and support that you might need in some situations in life from a close friend or relative.

B 1. Do you have a friend or family member that will assist you if you become ill?
□ Always
□ Often
□ Sometimes
□ Never

B 2. Do you have any friend or a family member who would do any of the following if you suddenly need it:
a. Share food with you?
□ Always
□ Often
□ Sometimes
□ Never
b. Share housing with you?
□ Always
□ Often

□ Sometimes
□ Never

c. Lend you money?
□ Always
□ Often
□ Sometimes
□ Never

d. Help you with guidance to improve your situation when you have problems?
□ Always
□ Often
□ Sometimes
□ Never

B 3. Do you have any friend or a family member who will offer support to you if you run into personal problems?
□ Always
□ Often
□ Sometimes
□ Never

B 4. Do you belong to any association?
□ **Yes - such as a cooperative, church group, women's group, youth group, sports organization…**
□ No

C. PHYSICAL HEALTH

Here follows some questions on your general health

C 1. Would you say your overall health is:
□ Excellent
□ Good
□ Moderate
□ Poor
□ Very poor

C 2. Do you suffer from any of the following symptoms and if so how often?

	Weekly		**Never/almost never**			**Almost daily**	
a. Stomach pain	□		□			□	
b. Heart palpitations	□		□			□	
c. Breathing problems	□		□			□	
d. Irritability		□			□		
	□						
e. Restlessness	□		□			□	
f. Anxiety	□		□			□	
g. Depression		□			□		
	□						
h. Headache	□		□			□	

i. Fatigue	□	□	□
j. Chest pain	□	□	□
k. Low back pain	□	□	□
l. Pain in the joints	□	□	□
m. Muscular problems	□	□	□

C 3. Do you suffer from any of the following diseases <u>today</u>?

	Yes	No	
a. Tuberculosis	□	□	
b. HIV/AIDS	□	□	
c. Malaria	□	□	
d. Sexually transmitted infection	□	□	
e. Blindness	□	□	
f. Joint disease	□	□	
g. Cancer	□	□	
h. Heart disease	□	□	
i. Accident with injury	□	□	
j. Respiratory disease	□	□	
k. Diarrhoea		□	□
l. Intestinal worms	□	□	
m. Alcohol-related disease		□	□
n. Skin disease		□	□
o. Diabetes mellitus	□	□	
p. Dental problems	□	□	

Any other disease, please specify:_____

Now follows a few questions on alcohol intake and on HIV knowledge

C 4. How often do you drink alcohol? Would you say it is:

□ Every day or nearly every day
□ Once or twice a week
□ 1 – 3 times a month
□ Occasionally, less than once a month
□ Never

C 5. On the days that you drank in the <u>past 4 weeks</u>, about how many alcoholic drinks did you usually have per day? ……

C 6. In the <u>past 12 months</u>, have you experienced any of the following problems, related to your drinking?

		YES	NO
a)	money problems	□	□
b)	health problems	□	□
c)	conflict with family or friends	□	□
d)	problems with authorities (bar owner/police, etc)	□	□
x)	other, specify……		

……
..

D. GENERAL WELL-BEING

Now follows some questions on your emotional well-being.

D 1. How have you felt during the past week?

Place an 'x' in the box that agrees best with each statement.

	All the time	Often	Sometimes	Never
a. I have felt sad and down	□	□	□	□
b. I have felt calm and relaxed	□	□	□	□
c. I have felt energetic, active and go ahead	□	□	□	□
d. When I woke up, I felt alert, rested and full of enterprise	□	□	□	□
e. I have felt happy or pleased and satisfied with my personal life	□	□	□	□
f. I felt satisfied with my life situation	□	□	□	□
g. I felt I live the kind of life I want to live	□	□	□	□
h. I have been happy to deal with the day's work or to make new decisions	□	□	□	□
i. I have felt that I can cope with serious problems or changes in my life	□	□	□	□
j. I have felt that life is full of interesting things	□	□	□	□

E. TRAUMATIC EVENTS

Now I would like to ask you questions about traumatic events that might have happened to you. I know that some of these questions are very personal. However, your answers are crucial for helping to understand the conditions in Rwanda. Let me assure you that your answers are completely confidential and will not be told to anyone. You are the only person in this household to whom these questions will be asked. If someone arrives during the discussion then we will change the subject.

E 1. Have you ever in your life experienced any of the following events? *(if YES, ask at what age this happened.)*

	Yes	No	At what age

1. Have you been imprisoned, kidnapped, held captive □ □
---
2. Have you been a refugee, forced to flee from your home to escape danger or persecution □ □
---
3. Have you experienced forced separation from family members □ □ ----------
4. Have you experienced a life-threatening injury □ □ ----------
5. Have you experienced a murder or unnatural death of a family member or a friend □ □ ----------

6. Have you been robbed, mugged, threatened with a weapon □ □ ----------

7.Have you experienced imprisonment of close family member □ □ ----------
8. Have you witnessed a traumatic event to a loved one □ □

9.Have you as a child, been badly been beaten by parents or those who raised you □ □ ----------
10. Have you ever been raped by a stranger □ □
---
11. Have you ever felt forced to have sex in exchange of money or other benefits? □ □
---
12. Have you witnessed repeated violence between family members □ □ ----------
13. Have you witnessed physical or sexual violence against a family member, by someone outside of the family □ □ ----------
14. Have you witnessed someone being badly injured or killed □ □ ----------
15. Have you witnessed atrocities, e.g. mass killings mutilated bodies □ □ ----------
16. Have you been in a combat situation □ □
---
17. Any other life threatening or very disturbing event □ □

.....

F. EXPERIENCES OF VIOLENCE

Now I would like to ask you some more questions, these are about your experience of different forms of violence and I know that some of these questions are very personal. Let me assure you that your answers are completely confidential and will not be told to anyone. You are the only person in this household to whom these questions will be asked. If someone arrives during the discussion then we will change subject. If there are certain questions that you feel are very sensitive or difficult, you do not have to answer them.

CONTROLLING BEHAVIOUR

F1. I am now going to ask you about some situations that are true for many women but also for men. Thinking about your <u>current or most recent</u> wife/partner, would you say it is generally true that:

	YES	NO	Don't know
a) She tries to keep you from seeing your friends	□	□	□
b) She tries to restrict contact with your family of birth	□	□	□
c) She insists on knowing where you are at all times	□	□	□
d) She ignores you and treats you indifferently	□	□	□
e) She gets angry if you speak with another woman	□	□	□
f) She is often suspicious that you are unfaithful	□	□	□
g) She expects you to ask her permission before you go to seek help and advice for from somebody	□	□	□
h) She controls how you spend your money	□	□	□

The next questions are about things that happen to men, and that your current partner, or any earlier partner may have done to you.

PSYCHOLOGICAL VIOLENCE

F 2. Has your current wife/partner, or any other partner ever….	A)		B) Has this happened <u>in the past 12 months</u>?		C) <u>In the past 12 months</u> would you say that this has happened once, 2-3 times or >3 times? If not at all, tick No.				D) <u>Before the past 12 months</u> would you say that this has happened once, 2-3 times or >3 times? If not at all, tick No.			
	Yes	No	Yes	No	No	One	2-3	>3	No	One	2-3	>3
a. Insulted you or made you feel bad about yourself												
b. Belittled or humiliated you in front of other people?												
c. Done things to scare or												

intimidate you on purpose (e.g. by the way he looked at you, by yelling and smashing things)?												
d. Threatened to hurt you or someone you care about?												

PHYSICAL VIOLENCE

F 3. Has your current wife/partner or any other partner ever…….	A)		B) Has this happened <u>in the past 12 months</u>?		C) <u>In the past 12 months</u> would you say that this has happened once, 2-3 times or more than 3 times. If not at all, tick No.				D) <u>Before the past 12 months</u> would you say that this has happened once, 2-3 times or more than 3 times? If not at all, tick No.			
	Yes	No	Yes	No	No	One	2-3	> 3	No	One	2-3	>3
a. Slapped you or thrown something at you that could hurt you?												
b. Pushed you or shoved you or pulled your hair?												
c. Hit you with his fist or with something else that could hurt you?												
d. Kicked you, dragged you or beaten you up?												
e. Choked or burnt you on purpose?												

f. Threatened to use or actually used a gun, knife or other weapon against you?												

SEXUAL VIOLENCE

F 4. Did your current or former wife/partner ever…….	A)		B) Has this happened in the past 12 months?		C) In the past 12 months would you say that this has happened once, 2-3 times or more than 3 times. If not at all, tick No.				D) Before the past 12 months would you say that this has happened once, 2-3 times or more than 3 times? If not at all, tick No			
	Yes	No	Yes	No	No	One	2-3	>3	No	One	2-3	>3
a. Did your current or former wife/partner ever physically force you to have sexual inter-course when you did not want to?												
b. Did you ever have sexual intercourse you did not want to because you were afraid of what your current or former wife/partner might do?												
c. Did your current or former wife/partner ever force you to do												

something sexual that you found degrading or humiliating?												

F 5. Has any <u>other person than your wife</u> used physical or sexual violence towards you?
□ YES
□ NO

F 6. If 'YES' to this question, who was this person?
□ Father
□ Mother
□ Sisters
□Brothers
□ Any other member of your family
□ Father-in-law
□ Mother-in-law
□ Brother-in-law
□ Any other member of your husband's family
□ A friend
□ A neighbor
□ A teacher
□ Your employer
□ A colleague at work
□ A stranger
□ Any other person……..

G. PERCIVED NEED FOR MENTAL HEALTH CARE

Now I will ask you questions about your emotional health and help seeking behavior.

G 1. Have you ever been so emotionally troubled that you felt a need to seek help? (If difficult to understand explain it as: Depression, anxiety, exhausted, felt bad about myself, sleeping problems…etc)
□ No
□ Yes

G 2. Who did you seek help and support from? *If more than one person, please state your first, second and third choice with a number beside the statement*
□ Wife/Partner
□ Parent
□ Other relative
□ Friend
□ Teacher
□ Religious person

□ Community health worker

□ Traditional healer
□ Traditional birth attendant
□ Other……..
□ Have not been emotionally troubled to seek care

G 3. Did you seek care from any health care staff/health unit?
□ No
□ Yes
□ Have not been emotionally troubled to seek care

G 4. Where did you go for help? *If to more than one place indicate, please indicate the first, second and third place with a number beside the statement*

□ To a health centre or district hospital (nurse, midwife, assistant medical doctor, medical doctor)
□ To a district hospital to see mental health professional (mental health nurse, clinic psychologist, or a psychiatrist)
□ To a mental health clinic/mental hospital
□ To a traditional healer/birth attendant
□ To a private clinic
□ Other:
……
……
……
……
□ Have not been emotionally troubled to seek care

H. HELP SEEKING AND BARRIERS TO CARE

Now follows some question related to <u>why you did not seek care</u> at any health clinic.

H 1 . If you did not seek care from any <u>health staff at a health clinic</u>, what were the reasons? (*several options can be ticked, but rank the three most important in each section)*

	YES	**NO**
It was too far away to get there	□	□
There was no transport available	□	□
I could not afford to pay the transport costs	□	□
I could not pay the fee at the health care center	□	□
I have no health insurance		□
	□	

Other reasons, please specify:
……
……
……
……
□ Have not been emotionally troubled to seek care

H 2. Did any of the following reasons stop you from seeking health care?
More than one reason can be indicated

	YES	**NO**
I did not know where to go for treatment		□
□		
I was too embarrassed to discuss my problems with anyone	□	□
I did not believe that I would get proper treatment	□	□
I did not believe that treatment could help me	□	□
I thought my problem was one I should be able to cope with myself		□
□		
I thought that the problem would disappear by itself		□
□		
I was afraid of the consequences of seeking care (treatment, tests, hospitalization, operations…)	□	□
I did not want any help	□	□
I got help from another source	□	□
Other responsibilities such as taking care of children/family members		□
□		

Other reasons, please specify:
……
……
……
……
□ Have not been emotionally troubled to seek care

H 3. Did any of these factors stop you from seeking health care?
More than one reason can be indicated

	YES	**NO**
I was afraid that somebody I knew would see me at the at the health care clinic	□	□
I was ashamed to show others how emotionally troubled I was		□
□		
I was afraid that the health care staff would have negative attitudes towards me	□	□
I was afraid to bring bad name to my family if I disclosed to health staff that I felt emotionally troubled	□	□
I do not trust that health staff will keep my problem confidential		□
□		

Other reasons - please specify:
……

……
……
……
□ Have not been emotionally troubled to seek care

Now follows some general questions on help-seeking behaviour and barriers to care to be answered by everyone

H 4. If anyone close to you would feel emotionally troubled, would you advise that person to seek health care?
□ Yes - go to question J 1
□ No – continue with next question

H 5. If you would NOT advice a person to seek health care due to emotional problems, is it due to any of the following reasons?
(several options can be ticked, but rank the three most important ones in each section)

	YES	**NO**
It is too far away to get there	□	□
There is no transport available	□	□
He/she can not afford to pay the transport costs	□	□
He/she can not pay the fee at the health care center		□
	□	
He/she might not have health insurance		□
	□	

H 6. Or is it due to any of the following ?

More than one reason can be indicate	**YES**	**NO**
I did not know where to advice them to go for treatment		□
	□	
He/she might be embarrassed to discuss such problems with me		□
	□	
I do not think they will get proper treatment at the facility	□	□
I did not believe that treatment could help him/her		□
	□	
I think he/she should be able to cope with the problem		□
	□	
I think that the emotional problem will disappear by itself		□
	□	
I am afraid of the consequences for him/her of seeking care (treatment, tests, hospitalization, operations…)	□	□
I do not think they want any help	□	□
I advice him/her to seek help from another source	□	□

H 7. Did any of these factors stop you from advising someone to seek health care for emotional troubles?
More than one reason can be indicated

	YES	NO
-I would be ashamed if others saw him/her emotionally troubled	□	□
- I am afraid the health care staff would have a negative attitude towards him/her	□	□
- I am afraid it would bring a bad name to our family if he/she disclosed feeling emotionally troubled	□	□
-If he/she went for treatment, people would know about his/her problems	□	□
-I do not trust that staff keeping his/her problem confidential	□	□

H 8. To whom would a person with emotional troubles go for help?

……
……
……

J. PERSONAL EXPERIENCES OF VISITS TO HEALTH CARE CLINICS

To the interviewer:

J 1. Are you satisfied with the care you received when you sought care for emotional problems at the health care clinic?

□ Yes
□ No
□ If 'No', why not?.....
……
……
……
……
□ Have not been emotionally troubled to seek care

J 2. Did you feel that the health staff listened to you and answered your questions?

□ Yes
□ No
□ Have not been emotionally troubled to seek care

J 3. When you were at the health care clinic, did the health staff inform you what kind of treatment you were to receive for your emotional problems?

□ Yes
□ No
□ Have not been emotionally troubled to seek care

J 4. Do you think that the Ministry of Health is doing anything for those suffering from emotional problems?
□ Yes
□ No

J 5. Have you ever used traditional medicine to cure emotional problems?
□ Yes
□ No

J 6. If yes, how satisfied were you with the traditional medicine treatment?
□ Very satisfied
□ Satisfied
□ Dissatisfied
□ Very dissatisfied
□ No opinion

K. ADMISSION TO HOSPITAL

Here follows some question on hospital care, the first ones refer to hospital admission due to any emotional health problem (K1 to K 2.) Then follows some questions on hospital admission due to any other health problem than emotional troubles (K 3).

K 1. Within the past 12 months, have you been admitted to a district hospital overnight for <u>emotional/mental problems</u>?
□ No
□ Yes
If 'YES', Total number of nights: _____

K 2. Within the past 12 months, have you been admitted overnight or longer to a psychiatric hospital?
□ No
□ Yes
If 'Yes', what was the name of the hospital?_____
Total number of nights: _____

K3. Within the past 12 months, have you been admitted to a district hospital overnight for <u>any health problem other than emotional problems</u>?
□ No
□ Yes
If 'YES', Total number of nights: _____

L. SELF-EFFICACY FOR SEEKING CARE FOR MENTAL ILLNESS

Below are several statements about your confidence in your ability to seek mental health care if you ever needed it. For each statement, rate how confident you are

<u>from 1=no confidence, to 10=complete confidence</u> in your ability to do each behavior. There are no right or wrong answers. We are interested in your viewpoints on this (To the Interviewer: make a circle around the number indicated)

L 1. If you need mental health care, I feel confident in my ability to:

a. Find a place to get mental health treatment

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

b. Get transportation to a mental health care service

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

c. Pay for the transportation to mental health care service

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

d. Pay the fee for the mental health care service, if there is one

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

e. Clearly tell the staff what is troubling me

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

f. Understand the information given to you by the staff

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

g. Be able to follow the treatment recommendations made by the staff

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

h. Cope well with the consequences of seeking care (for example, treatments, tests, hospitalizations, sanctions)

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

i. Cope well with family or friend's reactions to me seeking mental health treatment

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

j. Cope well with the attitudes that the staff may have towards me

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

k. Overcome any embarrassment I may have about seeking mental health treatment

No confidence = 1 2 3 4 5 6 7 8 9 10 = Complete confidence

M. PSYCHIATRIC DISORDERS

MINI and the following modules:

A. Major depressive episode
B. Suicidality
H. Post-traumatic stress disorder
N. Generalised anxiety disorders

11.2 M.I.N.I questionnaire

Instructions on how to use the MINI instrument.

The MINI is divided into several modules of which we will use four. Some training is needed to understand how to correctly tick the boxes!
General information:

- At the beginning of three of the modules, **screening question(s)** corresponding to the main criteria of the disorder are presented in a **gray box**.
- At the end of each module, there is a **diagnostic box** where the interviewer is to indicate whether the diagnostic criteria were met.
- Read out the questions to the participant exactly as they are worded.
- Sentences in CAPITAL LETTERS are instructions for interviewers and should not be read to the participant

In the questionnaire:

- In the grey box, *If all questions here are responded with* NO – move to the next module. If any of the screening questions in the grey box is answered with a YES, please continue with the questions that follow in the module.
- In the box at the end of each module, the interviewer is to circle a YES or a NO, depending on whether the diagnostic criteria were met or not.

Module 1. MAJOR DEPRESSIVE EPISODE

A1	Have you been consistently depressed or down, most of the day, nearly every day, for the past two weeks ?	NO	YES	1
A2	In the past two weeks, have you been less interested in most things or less able to enjoy the things you used to enjoy most of the time ?	NO	YES	2
	IF BOTH ARE = NO, GO TO THE NEXT MODULE (module 2, Suicidal behavior), OTHERWISE CONTINUE BELOW			
A3	**Over the past two weeks, when you felt depressed and/or uninterested :**			
a	Was your appetite decreased or increased nearly every day or did your weight decrease or increase without trying intentionally? IF **YES** TO EITHER, INDICATE **YES**	NO	YES	3
b	Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning wakening, or sleeping excessively)?	NO	YES	4
c	Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still, almost every day?	NO	YES	5

d	Did you feel tired or without energy, almost every day?	NO	YES	6
e	Did you feel worthless or guilty, almost every day?	NO	YES	7
f	Did you have difficulty concentrating or making decisions, almost every day?	NO	YES	8
g	Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead ?	NO	YES	9

A4 ARE **3** OR MORE OF THE ANSWERS IN **A3** CODED **YES** ? IF SO INDICATE **YES** IN THE BOX, OTHERWISE IT IS 'NO'.

NO	YES
MAJOR DEPRESSIVE EPISODE CURRENT	

IF YES IN THE BOX (=MAJOR DEPRESSIVE EPISODE CURRENT) THEN CONTINUE HERE :

A5a	During your lifetime, did you have other periods of two weeks or more when you felt depressed or uninterested in most things, and had most of the problems we just talked about ?	NO	YES	10
A5 b	Was there an interval of at least 2 months without depression and/or lost of interest between your current episode and your last episode of depression ?	NO	YES	11

IS **A5b** CODED **YES?** IF SO, INDICATE **YES** IN THE BOX, OTHERWISE IT IS 'NO'.

NO	YES
MAJOR DEPRESSIVE EPISODE PAST	

Module 2. SUICIDALITY

In the past month did you :

C1	Think that you would be better off dead or wish you were dead ?	NO	YES	1
C2	Want to harm yourself ?	NO	YES	2
C3	Think about suicide ?	NO	YES	3
C4	Have a suicide plan ?	NO	YES	4
C5	Attempt suicide ?	NO	YES	5

In your lifetime

C6	Did you ever make a suicide attempt ?	NO	YES	6

IS AT LEAST **1** OF THE ABOVE RESPONDED WITH A **YES** ? IF SO, INDICATE **YES** IN THE BOX, OTHERWISE IT IS 'NO'

IF YES, **SPECIFY** THE LEVEL OF SUICIDE RISK AS FOLLOWS :

C1 or C2 or C6 = YES : LOW
C3 or (C2 +C6) = YES : MODERATE
C4 or C5 or (C3 + C6) = YES : HIGH

NO	**YES**
SUICIDE RISK ***CURRENT***	
LOW	☐
MODERATE	☐
HIGH	☐

Module 3. POSTTRAUMATIC STRESS DISORDER

I1	Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual or threatened death or serious injury to you or someone else ? GIVE EXAMPLES OF TRAUMATIC EVENTS : SERIOUS ACCIDENT, SEXUAL OR PHYSICAL ASSAULT, A TERRORIST ATTACK, BEING HELD HOSTAGE, KIDNAPPING, HOLD-UP, FIRE, DISCOVERNG A BODY, UNEXPECTED DEATH, WAR, NATURAL DISASTER...	NO	YES	1
I2	During the past month, have you re-experienced the event in a distressing way (i.e., dreams, intense recollections, flashbacks or physical reactions) ? **IF BOTH ARE = NO, GO TO THE NEXT MODULE (Module 4, General Anxiety Disorder), OTHERWISE CONTINUE BELOW**	NO	YES	2
I3	**In the past month :**			
a	Have you avoided thinking about the event, or have you avoided things that remind you of the event ?	NO	YES	3
b	Have you had trouble recalling some important part of what happened ?	NO	YES	4
c	Have you become less interested in hobbies or social activities ?	NO	YES	5
d	Have you felt detached or estranged from others ?	NO	YES	6
e	Have you noticed that your feelings are numbed ?	NO	YES	7
f	Have you felt that your life would be shortened because of this trauma ?	NO	YES	8
	ARE **3** OR MORE **I3** ANSWERS RESPONDED WITH A **YES** ? IF SO INDICATE A YES, OTHERWISE IT IS 'NO'	NO	YES	

I4	**In the past month :**			
a	Have you had difficulty sleeping ?	NO	YES	9
b	Were you especially irritable or did you have outbursts of anger ?	NO	YES	10
c	Have you had difficulty concentrating ?	NO	YES	11
d	Were you nervous or constantly on your guard ?	NO	YES	12
e	Were you easily startled ?	NO	YES	13
	ARE **2** OR MORE **I4** ANSWERS RESPONDED WITH A **YES** ? IF SO, INDICATE A **YES**, OTHERWISE IT IS NO	NO	YES	
I5	During the past month, have these problems significantly interfered with your work or social activities, or caused significant distress ?	NO	YES	14
	IS **I5** CODED **YES** ? IF SO INDICATE **YES** IN THE BOW, OTHERWISE IT IS 'NO'	**NO**	**YES**	

POSTTRAUMATIC STRESS DISORDER
CURRENT

Module 4. **GENERALIZED ANXIETY DISORDER**

O1 a	Have you worried excessively or been anxious about several things of day to day life, at work, at home, in your close circle over the past 6 months ?	NO	YES	1
b	Are these worries present most days ?	NO	YES	2
	IF BOTH ARE = NO, YOU ARE FINISHED WITH THE QUESTIONNAIRE, OTHERWISE CONTINUE BELOW			
O2	Do you find it difficult to control the worries or do they interfere with your ability to focus on what you are doing ?	NO	YES	3
	When you were anxious over the past 6 months, did you, almost every day :			
O3				
a	Feel restless, keyed up or on edge ?	NO	YES	4
b	Feel tense ?	NO	YES	5
c	Feel tired, weak or exhausted easily ?	NO	YES	6

d	Have difficulty concentrating or find your mind going blank ?	NO	YES	7
e	Feel irritable ?	NO	YES	8
f	Have difficulty sleeping (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively) ?	NO	YES	9

ARE **3** OR MORE **O3** ANSWERS RESPONDED WITH **YES** ? IF SO, INDICATE **YES**, OTHERWISE IT IS 'NO' IN THE BOX

NO	**YES**
GENERALIZED ANXIETY DISORDER ***CURRENT***	