Mental health in war-affected populations
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Mental Health in War-Affected Populations

This book addresses mental health problems in populations in non-western war-affected regions, and methods to mitigate these problems through interventions focusing on social reintegration. It describes a number of studies among war-affected populations in widely different areas: refugees from the Rwandan genocide living in refugee camps in Tanzania, the population of a province in Afghanistan, and inhabitants of a northern district of Rwanda, respectively.

Like in other postconflict regions, mental health problems appeared to be highly prevalent in the populations studied. Therefore, mental health care should be an integral part of any emergency response and health care in postconflict regions.

Only recently has the insight been developed that humanitarian aid adopts a public-health approach and be community-based rather than focus on specific trauma complaints through specialized care. This constitutes a marked change in the thinking about care to populations affected by war and oppression.

The research findings presented in this book corroborate these insights. In addition, these studies constitute a major contribution to the evolution of an effective psychosocial support program based on these premises. The second intervention program described here primarily aims at social reintegration and bonding. It has been running in Rwanda from 2006 onwards, and has reached thousands of beneficiaries. It appears to positively affect both social bonding and mental health.

The studies in this book provide us with important new insights, indicating a new direction for future community-based psychosocial intervention programs for populations living in war-affected regions.

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Mental Health in War-Affected Populations
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Chapter 1

Introduction
1. Introduction

Collective violence occurs on a daily basis in many parts of the world. It may be defined as the instrumental use of violence by people who identify themselves as members of a group—whether this group is transitory or has a more permanent identity—against another group or set of individuals, in order to achieve political, economic or social objectives.\(^1\) It can take various forms, including war, terrorism or other violent political conflict within or between states; state-perpetrated violence such as genocide, repression, disappearances, torture and other human rights abuses; organized violent crime such as banditry and gang warfare. The impact of violent conflict on health can be very great in terms of mortality, morbidity and disability.\(^1\)

This thesis presents a set of research projects relating to populations residing in low-income countries recently affected by collective violence, or in refugees camps close by. Over the course of time during which our studies took place, theory and insights developed. There was a substantial increase of knowledge with respect to prevailing mental health and psychosocial problems in war-affected nonwestern populations, and a significant change in views on approaches to help mitigate these problems. Undeniably, this thesis represents these developments, and therefore may also be read as an account of this history. Its final chapter will discuss the development of views over time and the practical implications of our findings.

Overall study objectives

The overall objectives of the studies presented in this thesis were:

- to assess the mental health condition of populations affected by collective violence;
- to establish the adequacy of large-scale psychosocial interventions for such populations, aiming at social reintegration.

Mental health consequences

Mental health problems

The violence and cruelty of armed conflict is associated with a range of psychological and behavioural problems. In 2001, the World Health Organization (WHO) stated that ‘in situations of armed conflict throughout the world, the most common conditions were depression, anxiety and psychosomatic problems such as insomnia, or back and stomach aches.’\(^2\) Up to some years ago, the number of epidemiological studies addressing the mental health of...
populations living in nonwestern postconflict areas at the community level was limited. Out of the community-level mental health surveys among war-affected populations published in the 1990s and early 2000s, three addressed survivors of the ex-Yugoslavia wars that raged in the 1990s. Two others presented combined data from four groundbreaking, interrelated studies by De Jong and colleagues, conducted in Algeria, Cambodia, Ethiopia, and Gaza. Prevalence rates of assessed posttraumatic stress disorder (PTSD) found in these postconflict settings were 37.4%, 28.4%, 15.8%, and 17.8%, respectively. Rates of mood disorders varied from 5.8% to 23.3%; rates of anxiety disorders from 11.3% to 42.3%, rates of somatoform disorders from 1.6% to 8.7%, and rates of any common mental health disorder from 27.8% to 62.3%. The researchers particularly pointed to the different determinants that symptoms of PTSD can have in different populations affected by mass violence, and to the high prevalence rates of mental disorders other than PTSD related to armed-conflict-associated violence. A review in 2007 of epidemiological findings relating to war-affected populations across Africa, the Middle East, and Southeast Asia showed a variety of syndromes like PTSD, depression, complicated bereavement reactions, substance abuse disorders, anxiety, somatisation, disturbed anger control, and functional disability. A later review and meta-analysis of data from 81,866 refugees and other conflict-affected persons from 40 countries focused on PTSD and depression in particular, as these disorders are the most prevalent in such populations. Due to varying methodological characteristics of the surveys included, the interstudy variances were substantial. Rates of reported PTSD varied between 0% and 99%; depression rates varied between 3% and 85.5%. Weighted prevalence estimates derived from a subset of methodologically robust surveys ranged between 13% and 25%.

Psychosocial problems
Results from the latter study also support the notion that broader ecological-social factors interact with personal exposure to trauma in shaping mental health responses. This is endorsed by a growing number of researchers and humanitarian aid experts, who stress that collective violence also affects individuals through the destruction of the social world which embodies their history, identity, and living values. As stated in the IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings, mental health and psychosocial problems in war-affected populations are highly interconnected. Significant problems of a predominantly social nature include pre-existing social problems (e.g., extreme poverty, political oppression), and emergency-
induced social problems (e.g., disruption of social networks, family separation). Similarly, problems of a predominantly psychological nature include pre-existing problems (e.g., severe mental disorder), and emergency-induced problems (e.g., nonpathological distress; depression and anxiety disorders). Thus, psychological problems in populations affected by collective violence encompass far more than the experience of psychiatric disorder.

**Psychosocial interventions**

Findings as mentioned above may inform policies and strategies that focus on improving conditions in the recovery environment in mitigating the mental health effects of mass conflict and displacement. It is advocated that interventions should aim at strengthening community and family supports as well as providing focused support or specialized care, thereby bridging the divide between psychosocial and trauma-focused frameworks. Resilience in individuals may be promoted at a community level by reinforcing protective factors such as belongingness and intergroup relations, or the maintenance of traditions and cultures. Psychosocial support programs may comprise elements aiming at the mobilization of a community’s capacity for interpersonal support, activating family and social networks, supporting parenting programs, educational activities, or facilitating communal activities like singing, storytelling and religious worship.

**Social capital**

In strengthening community structures the notion of social capital seems to be relevant, as it relates to the re-establishment of social cohesion, social networks, and collective action. The more a social network is characterized by norms of trustworthiness and reciprocity, the greater the social capital it represents. Social capital then reflects the strengths by which people and groups are held together and which make cooperative action possible. While the relationship between social capital and health has been widely recognized, there are also clear indications that social capital is associated to mental health. This relation, however, seems to be more complex. The effects of social ties vary with gender, socioeconomic position, and stage in life. Also, individual networks, and therefore person-related social support and coping behaviour, are contingent on outer layers of ties like civic associations and voluntarism. Contextual factors seem to not only mediate the relationship between various components of social capital but also between these and health outcomes. The link between social capital and mental health may be relevant with regards to postconflict recovery, especially if social capital could be intentionally promoted.
**Introduction**

**Study locations**

Our studies were conducted at three different locations, notably: in a refugee camp in Tanzania, close to its northwestern border; in an eastern province of Afghanistan; and in a northern district of Rwanda. In effect, these studies relate to populations which reside in, or have fled from two countries, Rwanda and Afghanistan. Both countries have long histories of violence.

Rwanda was subsequently ruled by Germany and Belgium from 1894 to 1963. Both colonizing powers grossly classified its population along an ethnic divide between Tutsi and Hutu, while privileging the Tutsi. During a Hutu rebellion from 1956 to 1959, 100,000 people were killed. Tutsi refugees in Uganda formed their own party, the Rwandan Patriotic Front (RPF). In 1990, the armed wing of the RPF (the RPA) invaded northern Rwanda, which started off a civil war. A ceasefire in 1993 seemed to end the hostilities, but a genocidal period in 1994 killed 800,000 Tutsi and moderate Hutu. Subsequently, the RPA defeated the Hutu militias and took over control.

In Afghanistan, a communist coup in 1978 started off a period of mass arrests and tortures. During the Soviet occupation from 1979 to 1989, a fierce guerrilla war was fought by and between Mujahedin entities. After the defeat of the Soviets, a civil war raged until the Taliban gained control over most of the country by the end of the 1990s. They settled a regime which was both oppressive and hostile to the western world. From 1999 onwards the United Nations imposed economic sanctions, and ultimately the USA attacked. In 2002 the Taliban was defeated, after which regional warlords regained control.

**Specific study objectives**

The overall study objectives mentioned earlier were pursued by establishing:

- the mental health condition of two populations which differed greatly with regards to geopolitical history, sociocultural background, and actual living conditions, notably: inhabitants of Afghanistan and Rwanda;
- the way prevalence estimates of mental health disorders may influence mental health policy or intervention programming;
- the feasibility and local adequacy of two psychosocial interventions primarily aiming at social reintegration of populations residing in completely different settings, shortly (refugee camps Tanzania) and more than 10 years (Rwanda) after collective violence;
- the possibility to validate an instrument for crosscultural use to assess the effect of a psychosocial intervention, while not focusing on separate psychiatric diagnostic categories;
Chapter 1

- the effect of community-based sociotherapy on mental health in northern Rwanda;
- the possible connections of social capital with mental health and its relevance for postconflict recovery.

Chapters of this thesis
This thesis contains two epidemiological studies, an instrument validation study, two intervention process descriptions, an intervention outcome study, and a theoretical review. The sequence of chapters of this thesis does not follow this division. Chapters have been grouped on the basis of logical coherence. The order of chapters also reflects the chronology of our studies, and thereby the development of relevant insights and knowledge over the intervening period.

Epidemiological studies (Chapters 2 and 4)
The objective of our first epidemiological study, presented in Chapter 2, was to establish the general mental health condition of a refugee camp population. It was conducted shortly after a period of massive violence in Rwanda. Médecins sans Frontières provided medical humanitarian emergency aid for the hundreds of thousands of refugees flowing into the camps that arose just across the border of the neighbouring countries, Tanzania and Zaire (now DR Congo). We assumed that many refugees suffered from psychological problems originating from a range of recent traumatic experiences and otherwise adverse events. At the time, however, little knowledge existed about prevalence rates of mental health needs in refugee communities. We identified nine studies on the subject, only four of which had been performed at community level.23-26 Only one of these had been conducted in a nonwestern setting; this study yielded rates of symptoms correlating with depression and PTSD of 55% and 15%, respectively, in Cambodians living in Thailand-Cambodia border camps.24 As there was a need for additional epidemiological data, we performed a survey among refugees from the atrocities in Rwanda residing in four camps in the northwestern part of Tanzania. Our study aimed to establish the mental health condition of the population; it therefore focused on the detection of psychiatric cases in general, instead of symptom rates of particular psychiatric disorders such as PTSD or depression.

Our second community-level epidemiological study was performed among survivors of war living in an open setting in Afghanistan (Chapter 4). This study was conducted in collaboration with the aid agency HealthNet International, which at the time ran a program aiming to help rehabilitate the health-care
system in the region in question. This time, our survey focused on symptoms of the specific psychiatric disorders which had been proven to be the most prevailing in postconflict contexts, notably: PTSD, depression and anxiety disorder.

**Intervention process descriptions (Chapters 3 and 5)**

In this thesis, changing insights also manifest themselves across the chapters addressing intervention models. At the time of the Rwanda crisis it was not self-evident that a mental health or psychosocial program for survivors of collective violence would primarily focus on social reintegration. The model which we piloted in refugee camps in Tanzania and Zaire (Chapter 3) did, however. It constituted a shift away from the trauma-focused approach which seemed to have become standard over the preceding years, and which was mainly modelled upon psychosocial programs for survivors of the wars in the ex-Yugoslavia region.\(^{27}\) Later, when we started implementing the community-based sociotherapy program in northern Rwanda (Chapter 5), intervention strategies with a scope beyond psychiatric disorders only, targeting communities rather than individuals and taking a public health or ecological approach, had become state-of-the-art in the eyes of many professionals in the field.\(^{28,11-13}\)

**An intervention outcome study (Chapters 6 and 7)**

While considering the implementation of the psychosocial intervention program in Rwanda mentioned above, we were aware that categorical mental disorders did not fully suit as indicators for prevailing psychological needs.\(^{29-31}\) Therefore, the program focused on the general population. No diagnostic entry criteria were used. All the same, we aimed to establish the effect of the intervention on mental health, and struggled to conduct a controlled study with a suitable and locally validated instrument. In accordance with the decision to refrain from defining diagnostic inclusion criteria, general mental health (instead of one or more specific diagnostic categories) was measured as intervention outcome.

**Social capital (Chapter 8)**

The attention for social reintegration in intervention programming naturally led to an interest in social capital. The relevance of the social capital construct for mental health in war-affected populations is discussed in Chapter 8 of this thesis, with the use of, among others, outcomes from our studies on the sociotherapy program in Rwanda as a reference.
References

Chapter 2

The prevalence of mental health problems in Rwandan and Burundese refugee camps

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2. The prevalence of mental health problems in Rwandan and Burundese refugee camps

Abstract

Objective: We examined the prevalence of mental health problems among refugees living in camps that emerged in Tanzania during the Rwanda crisis that started in 1994. Method: Using the 28-item version of the General Health Questionnaire (GHQ-28), we examined two samples: a random sample (n=854) and a sample of clients of a psychosocial support program in these camps (n=23). Sensitivity, specificity, and positive and negative predictive values were estimated for several cutoff scores of the GHQ-28. Results: The prevalence of serious mental health problems was estimated at 50% (Se 12%). When using the GHQ-28 as a screener, a cutoff score of 14 is recommended. Conclusion: Given the high prevalence of mental health problems, psychosocial programs for large refugee populations should aim at strengthening community structures and supporting groups instead of focusing on individuals. The screening capacity of the GHQ-28 could be used to identify mentally vulnerable groups.

Introduction

It is widely known that the prevalence of psychiatric disorders among refugees is relatively high. Refugees are a population at risk, exposed to specific destructive influences on their mental health, both from traumatization in the past and from hardship of their present situation in exile. We don’t know much, however, about the extent of mental health problems among refugees living in the huge and overcrowded refugee camps in developing countries that arise after collective violence and where living conditions are insecure. This lack of knowledge is mainly caused by the lack of instruments with proven validity in the specific linguistic group and culture, needed to make crosscultural diagnoses or carry out screening surveys, and by the situation in these refugee camps which, to put it mildly, doesn’t allow for thorough medical anthropological and cultural psychiatric research.

According to Kolb, many cases of posttraumatic stress disorder (PTSD) go unrecognized by the medical community in general. In refugee populations, this phenomenon is partly due to difficulties in making crosscultural diagnoses and confusing PTSD with the stress that accompanies the acculturation process. Studies on refugees (Table 1) report a wide range of prevalence estimates of psychiatric disorders. This large variation in prevalence estimates may be caused
by the variety in cultural backgrounds of the study samples and the settings in
which these studies were carried out. Most prevalence studies, however, were
carried out in a relatively safe situation in a country of resettlement. Our study
specifically focuses on the mental health condition of people still living under
very poor and insecure conditions in refugee camps in Africa.

During the genocides of 1993 and 1994, hundreds of thousands inhabitants of
Burundi and Rwanda had to flee their countries. In the vicinity of a Tanzanian
village called Ngara, just across the Rwandan border, several camps emerged,
eventually harbouring over 400,000 refugees. Because of the massacre that
took place in their country, most of the refugees had hurriedly left behind their
properties, sources of income and social environment. During their flight, they
were at risk to be confronted with killings and other atrocities. As a result,
it was likely that many of them had been psychologically traumatized. As the
refugee population was an ethnic and political mixture, there was a general
feeling of insecurity and a paranoid atmosphere in the camps. In addition, the
camps were over-crowded, living conditions were very primitive, and infectious
diseases were a continuous threat. People depended on relief goods to meet basic
needs like food, water and sheeting. In short, the camp population had been
confronted with extremely distressing experiences, and the stress was ongoing.

In some of the camps, the Dutch section of Médecins sans Frontières (MSF)
started a health program focused on medical aid, water and sanitary facilities.
Two months later, a psychosocial intervention based on the MSF intervention
model called Emergency Psycho-Social Care (EPSoCare) was added.15

There are several reasons to implement a psychosocial intervention from the
very first stage of an emergency program. The two most important are: 1) It
is important to identify individuals in poor mental condition who lack social
support. They may not be able to actively seek their way to relief goods. As a
consequence their lives are at stake, more than already is the case. 2) Early
detection and support may help to prevent psychopathology. If, however, camp-
populations are immensely large like in the Tanzanian camps, no psychosocial
intervention could adequately cover the number of people at risk. One may
nevertheless aim at raising awareness of the psychological issue and increasing
the support capacity among the population itself. Apart from the possible impact
on the prevention of psychopathology, this may help unburden the existing
health facilities. In case of psychosocial problems, the help seeking behaviour of
the population may change direction, towards emotional and practical support
instead of medical aid.
Our intervention program was implemented in four refugee camps (Benaco, Musuhura, Lumasi and Lukole) and covered a population of 360,000. Following the EPSoCare working model, community workers mobilized and co-ordinated practical and emotional support for psychosocial problem cases from within the community. Within the framework of the program, we carried out a survey to determine how many people were in need of psychosocial support because of their mental condition.

**Material and methods**

1. *The General Health Questionnaire*

   Newly arising, huge refugee camps are not settings in which individuals can be subjected to sophisticated diagnostic procedures. Besides substantial cross-cultural problems, the political tension and high level of fear in the camps in Tanzania caused great caution towards outsiders. Because of this general paranoid attitude, we wondered if any survey would be feasible and whether reliable data could be obtained. After discussing the issue with local staff and relief workers it was decided that a screening survey could be carried out, but only if the instrument used comprised ‘neutral’ questions. The screener should not comprise any reference to political issues or the violent conflict in the recent past. This condition excluded all questions directly aiming at trauma and trauma-related complaints. The General Health Questionnaire (GHQ) fulfilled this condition.

   The GHQ is a self-report questionnaire directed towards the detection of functional psychiatric disorders in the community and in primary care. In this capacity the instrument has been extensively tested in various cultures and linguistic groups, generally yielding positive results. The instrument can also be used to assess the prevalence of psychiatric cases in a population, and to assess the severity of individual psychopathology. Although it was initially assumed that the GHQ would not be able to identify psychotic states like in schizophrenia or psychotic depression, subsequent experience with the instrument has shown that these conditions are usually detected.16

   In this study the 28 item version of the GHQ has been used, which is comprised of 4 subscales: somatic complaints, anxiety, social dysfunctioning and severe depression. The GHQ-28 was translated into Kinyarwanda and Kirundi (the national languages of Rwanda and Burundi) by four French-, Kinyarwanda- and Kirundi speaking local staff members who had been working for the program for a long time, and one translator with knowledge of English, French and Kinyarwanda. Two expatriate staff members, a medical doctor and a psychiatric
nurse provided supervision. Special attention was paid to nuance, idiom and connotation; if required, words or expressions were replaced by more idiomatic phrases. Kirundi and Kinyarwanda show many similarities; the Burundese translators only made their version after having shown to fully understand the French/Kinyarwanda version. Back translation into English was done by two translators who worked for other organizations and who had not seen the questionnaire before. Their translation led to some adjustments.

All interviewers were trained by the first author in co-operation with the above-mentioned translator, who had attended all translation sessions. All other organizations working in the camps were informed. The refugee population was informed through its camp-responsibles by the United Nations High Commissioner for Refugees (UNHCR), the refugee organization of the United Nations that co-ordinated the different aid programs.

As a substantial part of the refugees could neither read nor write, the GHQ questions were read to the interviewees.

2. Case definition

To determine how many refugees were in need of psychosocial support, we had to find a very practical case definition for refugees with mental health problems serious enough to impede their capacity to cope with the recent past and the actual circumstances (‘non-copers’). In our study, non-coping has been operationalized as: admittance to the MSF psychosocial program. Clients entered the program by themselves, pressured by their social environment, or because they were referred by community or health workers. The program didn’t select cases by the use of circumspect clinical criteria, because it started without knowledge of the nature of problems, the culture-bound idioms of distress, the threshold to enter the program, or the influence of other than mental health factors (e.g., material needs or political motives). It is important to realize that entering the program was not an obvious thing to do; one took the great risk of easily being considered a lunatic by one’s neighbours. Additionally, the program didn’t provide material help. So there could hardly be any reason to enter the program other than mental breakdown, and this operationalization means a high threshold for non-coping.

3. Sample

For the present study two samples from the refugee population were interviewed. Sample 1: the ‘non-copers’: 23 clients of the MSF psychosocial program, spread over three 3 refugee camps, were interviewed when entering the program.
Sample 2: a random sample of 854 refugees, equally spread over the four camps. Sampling was based on the number of refugees who were registered as inhabitants of the camps by the UNHCR, the percentage of refugees older than 14 years, and the average number of people living in one tent. Local staff members of the MSF psychosocial program interviewed people in their own as well as in another, less familiar camp. Ten people in the Benaco and Lumasi camps refused to answer the questionnaire. Mistrust was always the reason for this refusal, especially when people associated the interview with the threat of forced repatriation. In two cases the interviewers in Lumasi camp prematurely had to leave a certain area of the camp because of an alarming situation; this meant a loss of about 40 planned interviews. Four questionnaires of the complete sample could not be used because of too many missing values. Altogether the data of about 54 respondents (6%) in sample 2 were missed.

4. Statistical methods

Based on the GHQ data collected in sample 1 (non-copers=cases) and sample 2 (mixture of cases and non-cases), and assuming that:

1. The number $T_i$ of refugees with GHQ-score $i$ in sample 2 (random sample from total refugee population) follows a multinomial distribution.

2. The probability of being a case, given GHQ-score $i$ follows the logistic model:
   $$\ln[\text{Prob(case|GHQ-score=i)/(1-Prob(case|GHQ-score=i))}]=\alpha + \beta i$$

3. Sample 1, the 23 clients of the MSF psychosocial program, is a random sample of non-copers in general.

The prevalence of cases and the sensitivity, specificity, positive and negative predictive values are estimated using the maximum likelihood method. Calculations were performed in the statistical Package S-plus 4.5. The maximum likelihood was found using the function ms of that package.

Results

Our random sample consisted of 854 refugees with a minimum age of 15 years and a mean age of 31.3 years (S.D. 12.9 years). 57% were women, 42% were men. 87% didn’t enjoy any formal education or only primary school (Table 2).

Table 3 shows the distribution of GHQ-scores for the random sample and the sample of non-copers, respectively. The mean GHQ-score is 13.6 (S.D. 8.0) in the random sample, and 19.4 (S.D. 4.3) in the sample of non-copers. $P$-values for the difference of means (Mann-Whitney) and SDs (Levene) both were <.01.

The prevalence of non-copers in the refugee camps is estimated at 0.50 (Se .12). This means that approximately half the population in the four refugee camps is
expected to have mental health problems serious enough to impede their coping capacities in a way that would justify admittance to a psychosocial support program.

The relation between non-coping and the GHQ-total follows a logistic model with parameters $\alpha = -6.2$ (Se 2.8) and $\beta = .45$ (Se .26); overall goodness of fit $\chi^2_{11.91 df} 26 P = .99$.

When using the GHQ in new populations, Goldberg advised to recalculate sensitivity and specificity for this population. Table 4 shows the sensitivity, specificity, negative and positive predictive values for the GHQ in our sample. Table 5 shows the relation between mean GHQ-score and sex, age and education. Higher GHQ-scores correlate with higher age and with a lower level of education.

**Discussion**

This study was carried out in exceptional and difficult circumstances. The atmosphere in the refugee camps was threatening and sometimes violent, and there was a general feeling of insecurity. Refugees feared to be repatriated or displaced to other camps by force, and suspected humanitarian organizations to collaborate to this end. In this context, it was extremely difficult and even hazardous for a Western humanitarian organization to carry out a survey. For this survey, the GHQ-28 appeared to be sufficiently 'neutral'. In two cases however, a paranoid reaction to the interview caused our personnel to leave the area, in spite of our effort to inform the population through its leaders about the aim of the interviews.

The prevalence of mental health problems is estimated as approximately 50%. Given the standard error of 0.12, however, the *de facto* prevalence may be 26% minimally and 74% maximally (the 95% confidence interval). Even in the first case, a huge number (90,000) of individuals have serious psychological problems. However, as pointed out by one reviewer, this translation to a confidence interval may not be very accurate for two reasons: because of the relatively low number of cases as such and because of the resulting uncertainty regarding the correctness of the logistic model used. Although the goodness of fit test suggests that the logistic model is the right one and this model was also used in other studies, the power of the test is rather low and extrapolation from other studies may not be valid. Therefore, the 95% confidence interval provided above should only be regarded as indicative for the precision of the current study.

A prevalence of ± 50% may not seem extraordinary. Given the deplorable living circumstances of the refugees in the camps and the traumatic events in their recent past, one might have expected a much higher number. It must be
realized, however, that we did not use the GHQ as a screener for detecting minor psychological morbidity. In this study the GHQ was used to detect people in a more serious condition. Our case definition implies crossing the high threshold to enter a psychosocial program. The percentage of people within the population with psychological problems including minor psychiatric problems is probably much higher than 50%.

In a study among Cambodian refugees living in Thailand–Cambodia border camps, 55% and 15% had symptom scores that correlated with Western criteria for depression and posttraumatic stress disorder (PTSD), respectively. Also, 15% to 20% reported health impairments limiting activity, and moderate to severe bodily pain. Unlike in this study, in our survey we could not make separate (DSM or ICD) diagnoses. Our findings, however, suggest a magnitude of the mental health problem comparable to that in the population studied by Mollica et al. Findings from other previous studies concerning refugees are hard to compare to our findings, because all studies either didn’t examine a border camp situation or didn’t refer to a community sample (see Table 1).

Goldberg suggested to test the GHQ again in every new population, to find out which cutoff score should be used. The sensitivity and specificity of scores may vary among different populations, and are also influenced by the case definition which is used. In this study the actual situation made it impossible to use structured and standardized assessment procedures so we had to use a practical, ‘simple’ case definition. The psychological barrier towards seeking support from a psychosocial support program probably provides good reason to presume that clients indeed were non-copers.

If using the GHQ-28 as a screener for ‘noncoping’ in the population which we studied, we would choose a cutoff score of 14. Using this relatively high cutoff score we would miss about 10% of the cases. However, lowering the cutoff score sharply decreases the positive predictive value, meaning an increasing number of false positives. Given the huge number of cases, and the limited resources and manpower in the refugee camps, lowering the cutoff score seems no option. Compared to the recommended cutoff score when using the GHQ-28 in general populations, which is 5, 14 may seem extraordinarily high. In our opinion there are four possible explanations for this high threshold score: 1) we used a more severe case definition than usual with the GHQ; 2) as a consequence of the extremely bad living conditions, baseline GHQ-scores of the population were already markedly high; 3) the questions of the GHQ are not specific enough for this culture; and 4) reading out the questions to the subjects instead of using the list as a self-report questionnaire may have influenced the answers. On the one hand it may
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have increased the validity. When using a rater-administered instrument, there is, during the interview, some scope for correction of a poor translation or other cultural discrepancies. By further inquiry, the rater can establish whether the subject’s answer is based upon correct understanding of the item, and that the reply is valid. This is different for self-report questionnaires. On the other hand, given the paranoid atmosphere in the camps, the necessity to reply verbally and directly to the interviewer may unintentionally have influenced the answers of the subjects in an undesirable way.

Conclusions

The outcomes of this study have two main implications for psychosocial programs which are carried out in comparable circumstances: 1) Given the huge number of people in need of help, it is not feasible to provide individual support to all of them. Psychosocial interventions should focus on strengthening community structures and providing support to larger groups, e.g., through population-wide psychoeducation campaigns or the management of therapeutic activity centres. 2) Although it doesn’t make sense to use the GHQ as a screener in the population at large, the instrument’s screening capacity can be used to help identify groups in need of special attention. These would be groups in which a relatively large proportion (substantially more than 50%) has a GHQ-28 score of at least 14. Apart from a community based and culturally adequate public health approach, special intervention methods may be developed for certain categories of cases. The actual threshold of choice for these, however, depends on factors such as: the size of the population, professional resources and the planning horizon of the program. If one is familiar with the idioms of distress in the language and culture concerned, one can also consider using certain specific symptoms as indicators for a special intervention. Obviously, alarming mental states like florid psychosis and suicidality will be identified and must be dealt with adequately. Individual support, however, should not become common practice.

Despite the difficult circumstances, the procedure followed in this study made it possible to come up with quantitative data about the mental health condition of nonwestern refugees living in camps. The most important drawback of our study is the somewhat arbitrary case definition used. Future studies in refugee camps in less extreme conditions may offer opportunities to use more standardized and internationally used case definitions.
Chapter 2

References


### Table 1. Studies on the prevalence of separate psychiatric diagnoses in refugees

<table>
<thead>
<tr>
<th>AUTHOR, SAMPLE &amp; SETTING</th>
<th>PTSD</th>
<th>Depression</th>
<th>Any psychiatric disorder</th>
<th>N</th>
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<tr>
<td>Mollica et al., 1987; Indochinese refugees; psychiatric clinic (USA), treatment study</td>
<td>50% *</td>
<td></td>
<td></td>
<td>52</td>
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<td>Kroll et al., 1989; Southeast Asian refugees; community clinic (USA)</td>
<td>13.9% *</td>
<td>73.3% *</td>
<td></td>
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<td>Kinzie et al., 1990; Indochinese refugees; psychiatric clinic (USA); current (a) and past (b)</td>
<td>a: 70% # b: 5% # a: 81% #</td>
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<td></td>
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<tr>
<td>Hinton et al., 1993; refugees, newly arriving from Vietnam; community cohort (USA)</td>
<td>5.5% #</td>
<td>18.4% #</td>
<td></td>
<td>201</td>
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<tr>
<td>Mollica et al., 1993; Cambodians; community cohort within Thailand-Cambodia border camps</td>
<td>15% #</td>
<td>55%</td>
<td></td>
<td>993</td>
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<tr>
<td>Clarke et al., 1993; Cambodian adolescent refugees; community cohort (USA)</td>
<td>32% # (7% with depression)</td>
<td>4% #</td>
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<td>69</td>
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<tr>
<td>Hauff &amp; Vaglum, 1994, 1995; Vietnamese boat-refugees; on arrival (a) and 3 years later (b); community cohort (Norway)</td>
<td>a: 10% * b: 10% *</td>
<td>b: 17.7% Ø b: 22.3% Ø</td>
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<td>145</td>
</tr>
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<td>Weine et al., 1995; Bosnian refugees volunteering for clinical psychiatric assessment (via agencies managing resettlement) (USA)</td>
<td>65% #</td>
<td>35% #</td>
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<td>Lavik et al., 1996; refugees with multicultural background; psychiatric out-patient unit (Norway)</td>
<td>46.6% #</td>
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* DSM-III  # DSM-III-R  Ø ICD-8
Table 2. *Demographic characteristics of the random sample (n=854)*

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<tr>
<th>CHARACTERISTICS</th>
<th>NUMBER OF RESPONDENTS</th>
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<td><strong>Age (Years)</strong></td>
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<td>15-29</td>
<td>481</td>
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<td>30-59</td>
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</tr>
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<td>Post-primary school</td>
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* Due to rounding the sum of frequencies is not always 100%
Table 3. Distribution of GHQ-scores in random sample \((n=854)\) and in sample of non-copers \((n=23)\)

<table>
<thead>
<tr>
<th>GHQ-score</th>
<th>Number of individuals in random sample (percentage)</th>
<th>Number of individuals in non-copers (percentage)</th>
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<td>4</td>
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Table 4. Estimated sensitivity, specificity, positive and negative predictive values (with standard errors) of the GHQ-28 at different cutoff scores

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<td>1.00 (.00)</td>
<td>1.00 (.01)</td>
<td>.51 (.13)</td>
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Table 5. GHQ-scores related to demographic characteristics in random sample (n=854)

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<tr>
<th>VARIABLE</th>
<th>MEAN GHQ-SCORE (S.D.)</th>
<th>P-VALUE AND TEST</th>
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<tr>
<td><strong>Gender</strong></td>
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<td></td>
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<tr>
<td>Female (n=489)</td>
<td>13.6 (8.1)</td>
<td>(P=.53)</td>
</tr>
<tr>
<td>Male (n=359)</td>
<td>13.3 (7.9)</td>
<td>Mann-Whitney</td>
</tr>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-29 (n=481)</td>
<td>11.1 (7.7)</td>
<td>(P&lt;.001)</td>
</tr>
<tr>
<td>30-59 (n=342)</td>
<td>15.2 (7.8)</td>
<td>Kruskal-Wallis</td>
</tr>
<tr>
<td>≥60 (n=26)</td>
<td>17.4 (7.5)</td>
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<td>(P&lt;.001)</td>
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<td>Kruskal-Wallis</td>
</tr>
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<td>Post-primary school (n=53)</td>
<td>11.9 (7.6)</td>
<td></td>
</tr>
<tr>
<td>Secondary school (n=38)</td>
<td>11.2 (7.9)</td>
<td></td>
</tr>
<tr>
<td>‘Superior school’ (n=2)</td>
<td>8.6 (6.7)</td>
<td></td>
</tr>
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</table>
Chapter 3

A protocol for psychosocial intervention in refugee crisis; early experiences in Rwandan refugee camps

Scholte WF
Van de Put WACM
De Jong JP

3. A protocol for psychosocial intervention in refugee crisis; early experiences in Rwandan refugee camps

Abstract
This paper describes the conceptual framework and application of a working model (EPSoCare) for psychosocial intervention for refugees living in camps in low-income countries. The intervention’s main objective is social reintegration of individuals with psychosocial problems. The model was applied in pilot programs in camps with survivors of the 1994 genocide in Rwanda. The interventions aimed to cover 360,000 refugees in camps in Tanzania, and 230,000 in a camp in Zaire. The pilot programs were heavily impacted by the prevalent insecurity in the camps and the atmosphere of mistrust resulting from it, as well as by the insufficiency of social services. The development of psychoeducation material took more time than expected. Medical staff was not very willing to be trained in psychosocial concepts. The course of the programs showed the need for protocols with a well-defined target group and support offer, and a clear-cut working plan.

Introduction
Until the 1990s, it was widely believed that a stabilized situation was a precondition for a successful psychosocial care program for refugees. After the multitude of psychosocial projects in Kosovo in 2000, the provision of psychosocial care during the emergency phase of a refugee crisis seems to be generally accepted. There is great variety in the historical, political, social and cultural contexts of refugee crises, and refugees’ psychosocial needs cannot be addressed adequately without tailoring interventions to these contexts. Factors such as the populations’ prior cohesion or the recipient country’s attitude towards an influx of refugees may play a determining role in what is needed and feasible. It is impossible, however, to foresee the contexts of future refugee crises. Much of the essential information, such as the composition and actual location of a stricken population, can only be gathered once a crisis takes place. Therefore, ready-made protocols are running the risk of being inadequate. Besides, the help provided by different aid organizations under the heading of “psychosocial” is diverse. It has become the subject of considerable debate surrounding its (cultural) adequacy and effectiveness, without any recourse to data evaluation studies.1-5

Clear definitions and protocols will increase the pace of implementation, and establish structured management and improved accountability of
intervention programs. In pursuit of guidelines with built-in procedures to adjust interventions to various contexts and circumstances, the Dutch section of Doctors Without Borders (Médecins Sans Frontières, MSF) developed an intervention model directed specifically to psychosocial assistance in the acute phase of a humanitarian crisis. The intervention model, called Emergency Psychosocial Care (EPSoCare), was designed in 1994 on the basis of previous programs and a number of exploratory missions in disaster areas and/or refugee situations (Uganda 1992, Sudanese refugees 1993, Burundi refugees 1993, India 1993).

It was first applied in the aftermath of the Rwandan genocide. In 1994 an unprecedented explosion of violence occurred in Rwanda and an estimated 800,000 people died within a few months. A large outflow of refugees occurred and refugee camps were consequently established. As part of the emergency response, MSF carried out psychosocial intervention programs in two locations.

In this paper we will address the conceptual framework underlying the EPSoCare model, the model’s first applications, the problems encountered while applying the model, and the lessons we learned.

**EPSoCare’s conceptual framework**

The model is aiming to provide support for people with psychosocial problems. The term “psychosocial problems” here refers to either psychological problems arising from a disturbed social situation (e.g., depression resulting from social isolation), or social problems stemming from mental disorder (e.g., violent conduct resulting from emotional hyper arousal). Following the EPSoCare intervention model, the support provided is primarily directed towards the individual’s social reintegration. It is not so much psychotherapeutic in nature, but rather focuses on the reinforcement of social relations, networks and institutions which enable people to find support from each other: the community’s own support capacity.

Two characteristics of the intervention model are essential. Firstly, the intervention should be embedded in a comprehensive relief program. It presumes cooperation with other aid programs to ensure the provision of basic needs such as food, water, shelter and sanitation, as well as possibilities for referral to social assistance and practical care facilities. Secondly, the intervention should aim to improve existing mutual support mechanisms in the target group, since these may not only allow members of the community to come to terms with shock experiences, but also facilitate rehabilitation of the community as such. Although the effects of shocking experiences have a certain universality,
important culture-specific differences exist in interpreting and coming to terms with trauma.\textsuperscript{10-15}

Therefore, anthropological knowledge of the community concerned is essential. Social norms, beliefs, customs and coping styles prevailing within the community must be identified. The supporting potential of social circles, such as may be formed by religious, professional, tribal or familiar relatedness, must be valued and mobilized. Because of their knowledge of, and participation in the refugee community, members of the community itself are the designated implementers of the intervention.

Different phases in a refugee crisis determine different needs and consequently different types of program activities (see summary chart). In most refugee crises, the first days to weeks of unpredicted refugee influx are characterized by chaos. Physical survival, basic needs and acute medical aid constitute priorities. In this phase the program’s coordinators (at least two professionals with clinical psychological and anthropological expertise) are already at the spot. An anthropological assessment will help identify key informants among the population, which will in turn lead to the recruitment of a first small team of refugees. These will be instructed to find those refugees for whom, as a result of emotional and physical exhaustion, the threat of total collapse is most acute. A very basic one-day training will allow the team to refer these people to relevant and available resources in the camp. In this phase, the intervention is thus solely aimed at ensuring that material and physical help are made available for those who are not able to come and collect it themselves. Here, the target group consists of manifestly confused, bewildered, apathetic or withdrawn persons; those who have mental problems but are capable to take care of their most basic needs should be identified later.

A next phase (the first months following phase I) may show growing coordination of emergency aid, while social structures among the refugee population have not yet stabilized. Most families are still busy gaining and maintaining control over an uncertain and unpredictable situation and over their own functioning. An emotion-focused therapeutic approach, especially single-session techniques or unsystematic therapy, could have an undermining effect at this stage.\textsuperscript{16,17} Debriefing or any psychotherapeutic activity requires thorough and prolonged training and supervision. The intervention’s main focus in this phase is on strengthening existing coping mechanisms, combating social isolation, and further reassurance and normalization by systematically providing information on common stress reactions which may be experienced without an understanding of their origin. The goal is to facilitate the reconstruction of these basic coping
mechanisms and social structures that were devastated by the crisis. The team now consists of two to three expatriate specialists and five to fifteen refugees, who have been identified as eligible through key informants among the refugees and local CV-files of the United Nations High Commissioner for Refugees (UNHCR, the United Nations’ refugee organization responsible for the coordination of the aid to refugees). In an interactive and ongoing process the team gathers culture-specific and situation-based relevant information. The team internally discusses the relevance and applicability of basic psychological and psychopathological reactions, and sets out the details of the program. It designs and implements a short training course for those who are most in touch with the community: community leaders (e.g., teachers, religious leaders) and community workers (social workers employed by humanitarian agencies).

The course focuses on the recognition of psychosocial problems, and the application of an intervention directed at reintegration of the individual into his/her social context. Main elements of this intervention are to raise awareness of, and provide information on psychological issues; to give behavioral advice to individuals as well as the people around them (e.g., the advice not to withdraw but to share time together, to seek or provide emotional support, distraction or practical help, or to fulfil certain activities or pursuits); to guide people to related community members who could provide support (relatives, neighbors, fellow-believers, etc.); to refer people to health or community services where necessary (e.g., in case of physical disease or obvious material needs). The help offered is thus very much in line with existing social patterns and prevailing coping mechanisms.

At the same time the team translates information, gathered from the start of the program, into a psychoeducation campaign. Psychoeducational materials will contain culture-relevant information, i.e. they will avoid using concepts and words that may lead to misunderstanding, and mention those expressions of distress and coping mechanisms that are known to the population. The campaign is directed at the community at large, to raise awareness of the mental health issue, to provide information on common stress reactions and how to discriminate these (continuity, duration) from pathology, and to indicate ways to provide and receive emotional support. All available and adequate communication tools are utilized, such as brochures/newspapers, group discussions, theatre, and radio. A later, third phase can be spoken of when the community shows some stability of structure and order. Problems and/or symptoms, however, may persist in spite of the social surrounding’s support capacity. Interventions now aim to provide emotional support through communal therapeutic activities. The individual or
family concerned is offered admittance to culturally adequate and applicable therapeutic group activities, prepared by the team in the second phase during an interactive process as described above. The therapeutic groups are composed of members who show a natural cohesion, such as women, children, elderly, neighbors, or religious groups. Depending on the nature of the activities, groups can contain up to some thirty people. Activities can vary from crafts or artistic skills to rituals or verbal exchange, depending on what is commonly practiced by the population as an activity providing emotional outlet or healing.

A final step in the program is to decide whether, after about half a year’s presence, it is to be closed down or whether the activities need to be continued in a different set-up. Criteria to base this decision on should be formulated per context, at the start of the intervention.

The model’s first applications

The first program that was based on the model was run in Tanzania, around the village of Ngara, in a group of four refugee camps with a combined population of 360,000. The second program was run in the former Zaire, in the Katale camp that provided shelter for 230,000 refugees. This camp was formed after hundreds of thousands of Rwandans flooded into the town of Goma within days, many of whom died from cholera shortly after arrival.

The psychosocial programs ran for 18 months in the Ngara camps (starting June 1994) and for 12 months in Katale (starting October 1994), where it was integrated into the MSF emergency program after this had been running for 5 months. In both locations teams composed of expatriates (an anthropologist, a psychologist and a psychiatric nurse) and refugees implemented the programs in what turned out to be quite different settings.

*The Ngara camps.* An anthropologist was present from the moment the first camp was established. Principal tasks were the integration of the psychosocial element into the MSF program, monitoring the creation of social structures within the camp community and, via personal contacts with the refugees, establishing teams in each of the four camps covered by the program. The teams together contained an average of 25 members through the course of the program. Clear explanation of the objectives of the program resulted in good cooperation with other aid agencies not primarily providing psychosocial care, whose community workers were eventually trained by the program’s teams. Within 1 year, 2250 community workers were trained in the identification of possible clients and in mobilizing support. Ultimately, and despite initial resistance, it was possible to train all medical facility personnel in the identification of psychosocial problems.
Psychoeducation was carried out for the greater part through mass distribution of brochures. The team estimated that half of the camp population was literate, which they believed would guarantee at least one individual in each tent or hut being able to read the brochure. A total of 75,000 brochures were distributed, providing information about stress, normal and pathological stress reactions, possible ways to help each other, and how to access the additional help available in the EPSoCare program.

The expatriate teams decided not to impose any clinical (perhaps culturally inadequate) standards on the refugee teams members. The population itself made the ultimate selection; whoever registered for the program, or was referred by his/her relatives, neighbors or community workers, was in principle offered help through the program. The majority of people appeared to present with symptoms that in DSM-IV terms, would be categorized as PTSD, depression, or a dissociative disorder (American Psychiatric Association, 1994). There were also frequent calls for individual or medical care, e.g., in case of psychotic states.

In the teams’ effort to provide support, many individuals were offered long-term and frequent contact, although individual assistance was not the EPSoCare model’s preferred choice. Ultimately, the teams themselves gave support to 392 individuals, including 60 children. The total number of people reached by the program was much higher, but the large number of community workers trained by the teams made it impossible to monitor (and supervise) their supportive activities.

Katale camp. The camp was badly co-ordinated. Because no agencies employing community workers were present for a long time, the EPSoCare staff employed and trained a group of 18 outreach workers, who were active throughout the camp (see figure). The team also arranged training for roughly 300 health workers and, once they were present, 220 community workers.

In designing the psychoeducation campaign, the team, in contrast to Ngara, concluded that literacy would be a problem. Psychoeducation took the form of face-to-face contacts, group discussions and role play, which would provoke immediate response; there was thus less chance of misunderstandings arising, e.g., concerning terminology. It was also possible to combine educational information provision with care giving: team members were immediately confronted with individuals’ actual problems, and consequently gave advice or mobilized support.

Like in the Ngara program, and consequent to the contextual sensitivity inherent in the working model, no clinical criteria to enter the program were
set on beforehand. Clients presented with the same categories of symptoms as in Ngara.

The program’s own outreach workers ultimately helped 1343 people. They saw clients on average twice a week over a period of 5 months. The outreach workers, each of whom had a clearly defined working area within the camp, were monitored and supervised by the team. Contacts with clients were primarily supportive and informative by nature, and were regarded as essential in replacing community support that was absent in this politicized setting. At a later stage, two experimental “third phase” activities were carried out: Cooperation was established with an organized group of practicing traditional healers present in the camp, and a therapeutic activity center was installed for women and children with psychological problems that had resulted in extreme social isolation. The objective of this center was to reduce stress complaints and to increase the activity level and number of social contacts during a 4-week program. Women were involved in income-generating activities like weaving baskets and repairing clothes; activities for children included drawing, drama and singing.

Problems in applying the model

The teams encountered successes and hardship in implementing the model. Community workers were trained, outreach programs were started, medical staff was trained, psychoeducation was delivered, and last but not least: clients were identified and helped. The coverage in Katale was small, and the total coverage of the Ngara program is unknown. Different kinds of problems were encountered in the implementation phase. We will list them here in chronological appearance, and discuss their backgrounds below.

A continuous problem was the security situation, which impacted implementation of the programs, from the level of access to the target population, selection of staff and development of communication, to the identification of local support mechanisms. In combination with the time it took to develop the psychoeducation material, this delayed operationalization of the model. Referral options proved to be limited. The overall inexperience of the teams in carrying out a psychosocial support program added to the delays. Collection of data was not possible as planned. In the course of the intervention it became clear that it was extremely difficult for the teams to decide who was, and who was not to be identified as “someone with a psychosocial problem.” The pressure on the teams to accept all as individual clients impeded timely development and implementation of group interventions.
Lessons learned
The EPSoCare working model is designed for rapid psychosocial interventions. In the chaotic situation of the Ngara and Katale camps, working with the model provided at least minimal structure and logic in preparing these interventions. The essentials of the intervention could be carried out. The structured approach allowed monitoring of the implementation process from the start, and helped the teams to provide interventions within a relatively short time span—although there were severe constraints that originated from the following factors:

The socio-cultural background of the Rwandan people
The teams encountered great difficulty in identifying existing local support mechanisms. In Katale camp, practically every family had lost one or more relatives, either during the war or because of the cholera epidemic. Mourning made the struggle for survival even more difficult, and resulted in little willingness to give mutual support.

Security issues were also important here. Katale camp was dominated by well-organized Hutu militias, which hampered the establishment of alternative social structures, as the teams noticed while considering using the social structures of the scouting movement that had been very strong in Rwanda. The militias considered any organized task carried out by the scouts a threat, and scouts actually have been killed for it.

The development of psychoeducation material was more time-consuming than expected. Coming to an agreement, within the teams, on the exact wording of messages that would be appropriate for the total population was a painstaking process. Correct, meaningful translation of concepts (e.g., “being nervous”) that were new to many was an underestimated process in the model design, as literate and illiterate Rwandans would use different words for the same phenomena. Once a culturally appropriate text was agreed upon, mass distribution of brochures turned out to be an effective way to provide psychoeducation in Ngara, where the majority of the population was literate. Psychoeducation via face-to-face contacts, given by the team itself as done in Katale, is immediate, offers the possibility of further discussion, and merges information giving with support provision. Coverage, however, easily gets reduced and becomes unsystematic. In group discussions and role plays there is a risk of stigmatization or reprisal. This should be minimized by skilled guidance, protecting individuals by only demonstrating and allowing constructive comments.
While security issues are relevant in many refugee settings, there were specific elements for the Rwandan crisis. The ongoing intimidation and political activity was a continuation of a process that eroded mutual trust in Rwanda for decades. The complex pattern of disintegration of the social fabric of Rwandan society, leading to more insecurity and consequently more fragmentation, is an important factor in the origins of the genocidal killings, as much as it is a factor in blocking healing processes.

The actual situation in the camps

Within the camps, security was a problem on all levels. Victims and aggressors, political activists and neutral civilians lived side by side. Conflict continued in the camps, murders took place on a regular basis, and people were afraid to speak out. The selection of local team members was complicated by actually having to include a check on involvement in the earlier killings (which obviously could only be done by interviewing the people concerned and checking formal records). ‘Innocence’ thus became a selection criterion that sometimes preceded competence. This affected trust between the local team members. Some feared they would be seen as political activists working under the direction of western powers. The fear held by many refugees that there would be reprisals if they spoke out about the violence they had experienced further complicated the process of entering into dialogue with the community.

While the interventions’ main objective, social reintegration, presumes some cohesion and solidarity within the community, political insecurity in the camps prohibited the re-creation of communal networks. This tempted helpers to develop a strong sense of attachment with clients, resulting in an emphasis on long-term individual contacts, and possibly causing further demotivation of potential social resources. Others may have started to count on ‘outside help’ instead of taking initiative themselves.

Another important assumption in the intervention model was the availability and accessibility of social and medical services. Community workers, however, were nonexistent for a long time in one of the program locations (Katale). Final responsibility for the provision of services for refugees lies with the UNHCR, and the responsibility for social services was not taken. Consequently, there was no opportunity to refer people to such facilities.

There was resistance of medical staff to being trained in psychosocial concepts by the EPSoCare team. This was in part due to social status: medical staff did not want to be trained by refugee team members who were not medical doctors. Another aspect was the fear of medical staff, feeling heavily overburdened, that
psychosocial and mental health awareness would rather add to their workload than lessen it. It took much longer than expected to address this vicious cycle. It was finally recognized on clinical grounds, and later quantified by means of systematic research, that one third of those attending the field-clinics were seeking help for complaints that indicated somatized psychosocial problems.\textsuperscript{19,20} This helped to convince the staff that there was a need for awareness. The inexperience of the general MSF team, where doubt existed initially about whether an early psychosocial intervention was both helpful and feasible, was one factor in the delay of relevant training. This absence of experience slowed down both the start and the general course of the program. There was at the time no pool of qualified candidates to implement the project, and a lack of existing material on which to build training curricula. In view of the growing demand for an evidence base for humanitarian interventions\textsuperscript{21} the pilot EPSoCare projects sought to monitor the efforts made. In humanitarian crises, organizational reasons as well as ethical considerations constrain methodology for research. The first difficulty was in establishing a functional information system to monitor clients and activities of the outreach workers. The refugee team members were not able to systematically collect data. In spite of continuous supervision, documenting contacts with clients proved to be too problematic for local staff. They had technical difficulties in systematically recording and coding data (e.g., demographics, symptomatology, action taken, outcome), but, more importantly, also found it difficult to apply these systematics in their emotional role of care-provider. Security prevented others to actually get the job done, as data recording had a threatening effect on the refugees in a situation where death-lists had been used. Monitoring the achievements of the large number of trained community and health workers turned out to be a practical impossibility, which impeded quality control and evaluation of the program. At the time, we also considered it as ethically unacceptable to identify, assess and follow-up individuals in psychological need to act as a control group for the sake of a randomized controlled trial. Next to that, tension in the camps did not allow for taking unbiased and safe interviews in sites were the teams had no contacts yet and no interventions were scheduled. There were insufficient resources and time to explore alternatives, such as comparing the effect of different interventions. At both locations, the involvement of MSF in the psychosocial interventions ended abruptly. As a result of the politicizing of the camps and the misuse of relief supplies, MSF withdrew all its programs as soon as it became apparent that
there was no further reason to speak of a medical emergency. The psychosocial programs had to be handed over rapidly to another international agency that decided to stay, before third phase interventions could be completely implemented.

**The conceptual model**

A major shortcoming of the model was that it offered no precise definition of the nature of solutions that would be pursued in case of psychosocial problems. It was assumed that trained outreach workers would try to re-establish contact between clients and resources for social support in the camp, but this turned out not sufficiently to be the case. The model did not provide guidance in dealing with the exceptional complexity and fragmentation of the social fabric in the camps. The community and group interventions we had expected to develop in the course of the project materialized very slowly, leaving the emphasis of the work on general psychoeducation and individual support. Practical engagements in groups can be therapeutically effective, even if, for cultural or security reasons, participants may not be very open-hearted. We observed that the activity center in Katale enabled gradual and careful mutual exploration, thereby enhancing mutual support. Therapeutic group approaches probably could have been set up earlier. Focusing on social reintegration and using therapeutic approaches, though separately mentioned in different phases of the EPSOcare working model, cannot be strictly separated in practice.

Also, a clear definition of what would constitute a client for the programs was not available. The current debate on the adequacy of psychosocial interventions in humanitarian crises comes down to the question if one can clearly define which individuals need help from outside, why and how (are we imposing western/medical standards and practices?), and whether screening and outcome instruments are available with proven validity in the specific linguistic group and culture.\(^1,4,5\) The level of mental health problems (defined as justifying a support offer) among the refugees was estimated as extremely high.\(^22\) The most important criterion according to the model was the level of self-sufficiency of families or individuals. But while in any situation it would have been difficult to stick to a definition of self-sufficiency, the conditions in the camps made it hard to refuse any requests for help. The emphasis was on the community’s demand, rather than on staff’s assessment: active case-finding was done through the population itself. Individuals with psychosocial problems were indicated to the outreach/community workers by their own social surroundings (this, admittedly, carries the risk of bias of all kinds). Consequently, the teams felt no need for a screening
instrument. Besides that, no screening or outcome instruments with proven validity in this specific linguistic group and culture were available, and time was too short for their development on the spot. The EPSoCare model did not provide a sufficient answer to the frequent calls for individual, medical care. For psychiatric cases, a psychosocial approach wasn’t always the most adequate response, while at the same time ‘de-medicalizing’ psychosocial problems was one of the model's objectives.

Conclusion
There is a need for ready-made work plans for rapid post-war psychosocial interventions, which are appropriate to different circumstances and cultures. In protocols, it should be clearly defined which people will be considered for support by the program, and how these individuals will be found in the community or selected from those seeking help.

Interventions should contain an operational research component to improve our knowledge of psychological morbidity in emergencies, and to be able to demonstrate the validity and effectiveness of methods. The methodological problems met in the pilot interventions described here were not inherent to this particular refugee crisis. In any humanitarian emergency intervention, the formation of control groups, case definition, cultural validation of instruments and systematic data collection will be extremely complicated.

In the EPSoCare model, the idea is to limit interventions to social reintegration in the first phases, while later on therapeutic approaches can be provided for those who need more individual help. The attempt to “de-individualize” psychosocial problems would have benefitted from earlier involvement of medical staff—who could have referred individuals to groups, while outreach workers could have referred some of their case load to health staff. Also, obvious psychiatric symptoms need to be addressed primarily at a medical level.

As for the security situation, the vicious cycle of violence, lack of trust, and eroding mutual support leading to more violence, was clearly a serious obstacle in the programs’ implementation. In itself this is by no means an argument to “wait for security,” but rather an argument to focus interventions in general on ongoing insecurity. A condition for future psychosocial interventions is that the international community present guarantees a minimal level of security.
Chapter 3

References


# Summary chart of EPSoCare intervention model

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<thead>
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<th>Characteristics</th>
<th>Objectives</th>
<th>Activities</th>
<th>Time plan</th>
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<tbody>
<tr>
<td><strong>First Phase</strong></td>
<td>Influx of refugees in area/camp</td>
<td>Connect the most debilitated individuals to the emergency aid</td>
<td>Expatriates: Identify first refugee staff, provide one-day training and supervision. Refugee Staff: Identify the most emotionally/physically debilitated individuals, connect these to food/water distribution, material and health care.</td>
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<tr>
<td></td>
<td>Mental shock</td>
<td></td>
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<tr>
<td></td>
<td>Arrival of first emergency aid</td>
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<tr>
<td></td>
<td>Struggle for life</td>
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<td></td>
<td>Growing co-ordination of emergency aid</td>
<td></td>
<td></td>
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<tr>
<td><strong>Third Phase</strong></td>
<td>Recognizable living patterns and social structures</td>
<td>Consolidation of support system</td>
<td>Expatriates: 1. Continue coordination, training, supervision and monitoring 2. Prepare close down or hand-over of program. Refugee staff: 1. Continue training and supervision 2. Apply therapeutic interventions for groups. Outreach workers: 2. Continue provision of support and consultation.</td>
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<td></td>
<td>Basic security</td>
<td>Application of therapeutic group interventions</td>
<td></td>
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<tr>
<td></td>
<td>Available basic material resources</td>
<td>Preparation for closing or handing over program</td>
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Chapter 4

Mental health symptoms following war and repression in eastern Afghanistan

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4. Mental health symptoms following war and repression in eastern Afghanistan

Abstract

Context: Decades of armed conflict, suppression, and displacement resulted in a high prevalence of mental health symptoms throughout Afghanistan. Its Eastern province of Nangarhar is part of the region that originated the Taliban movement. This may have had a distinct impact on the living circumstances and mental health condition of the province's population. Objectives: To determine the rate of exposure to traumatic events; estimate prevalence rates of symptoms of posttraumatic stress disorder (PTSD), depression, and anxiety; identify resources used for emotional support and risk factors for mental health symptoms; and assess the present coverage of basic needs in Nangarhar province, Afghanistan. Design, Setting and Participants: A cross-sectional multicluster sample survey of 1011 respondents aged 15 years or older, conducted in Nangarhar province during January and March 2003; 362 households were represented with a mean of 2.8 respondents per household (72% participation rate). Main outcome measures: Posttraumatic stress disorder symptoms and traumatic events using the Harvard Trauma Questionnaire; depression and general anxiety symptoms using the Hopkins Symptom Checklist; and resources for emotional support through a locally informed questionnaire. Results: During the past 10 years, 432 respondents (43.7%) experienced between 8 and 10 traumatic events; 141 respondents (14.1%) experienced 11 or more. High rates of symptoms of depression were reported by 391 respondents (38.5%): anxiety, 524 (51.8%); and PTSD, 207 (20.4%). Symptoms were more prevalent in women than in men (depression: odds ratio [OR], 7.3 [95% confidence interval {CI}, 5.4-9.8]; anxiety: OR, 12.8 [95% CI, 9.0-18.1]; PTSD: OR, 5.8 [95% CI, 3.8-8.9]). Higher rates of symptoms were associated with higher numbers of traumas experienced. The main resources for emotional support were religion and family. Medical care was reported to be insufficient by 228 respondents (22.6%). Conclusions: In this survey of inhabitants of Nangarhar province, Afghanistan, prevalence rates of having experienced multiple traumatic events and having symptoms of anxiety, depression, and PTSD were high. These findings suggest that mental health symptoms in this region should be addressed at the population and primary health care level.
Mental health symptoms in Afghanistan

Introduction

Nangarhar province is part of the Pashtun belt that covers southern and eastern Afghanistan and Pakistan’s North West Frontier province. The Taliban movement is rooted in Pashtun tribal culture and in the ideology of the radical Deobandi-sect of Sunni islam, blending both into a rigid social and religious system with strict seclusion of women from public life and harsh punishment of any violation of social rules.\(^1\) The Taliban took the Pashtunwali (the Pashtun code of conduct) far beyond the tribal norm and was uncompromising in its aim to return society to the “purity” of an idealized seventh century.\(^2\)

In the 1980s, the Nangarhar province was the scene of heavy fighting between the former Soviet Union army and the mujahideen forces. The cave complexes of Tora Bora, situated in Nangarhar’s district Pachir wa Agam, used to be a center of mujahideen forces, where prisoners were interrogated and many were killed. Later, it was used by Al Qaeda. The bombing raids launched by the United States on Afghanistan from October to December 2001 had a large impact on the region and triggered an exodus from Jalalabad city to neighboring districts and Pakistan.

The fall of the Taliban regime ended the extreme conservatism, but did not lead to an overall liberalization in Nangarhar province. Individuals doubt the stability of the new government, and fear that current liberal behavior could be punished in the future. Other potential stressors in the actual situation are unemployment, general poverty, and an ongoing lack of security in the region.

Given the country’s past and present sociopolitical and economic situation and its recent history of violence and persecution, the prevalence of mental health disorders is expected to be high. In a survey conducted during the Taliban regime in 1998 among a community sample of women living in Kabul or in refugee camps in Pakistan, 97% reported symptoms of major depression and 86% reported significant anxiety symptoms.\(^3\) Of 310 children and adolescents aged 8 to 18 years interviewed during a community survey in Kabul, 80% said they were sad, frightened, and unable to cope with life; 40% had lost a parent; and 67% had seen dead bodies or parts of bodies on the street.\(^4\) A qualitative study in the Herat province reported a general increase in psychosomatic problems, anxiety, depression, and domestic violence.\(^5\) In a study using the General Health Questionnaire among a community sample of Afghan refugees in southern Iran, 34.5% of respondents reported mental health symptoms.\(^6\)

We conducted a survey among the general population of Nangarhar province to determine the rate of exposure to traumatic events; estimate prevalence rates
of symptoms of posttraumatic stress disorder (PTSD), depression, and anxiety; identify resources used for emotional support and risk factors for mental health symptoms; and assess the present coverage of basic needs.

**Methods**

*Survey design*

From January 27 to March 18, 2003, we conducted a 2-stage, 40-cluster sample survey. The study population included all individuals aged 15 years or older, who were residing within the recognized borders of Nangarhar province (Figure 1). Because no accurate list of villages and their population sizes existed, a new list was assembled from district information obtained through the United Nations Children’s Fund (UNICEF) Expanded Programme on Immunization. Our estimation of total population size was based on the number of children aged 5 years or younger, vaccinated in the Oral Polio Vaccination Program, and assuming that these children formed 20% of the population. District coordinators for UNICEF were asked to list all villages and their population size. If population figures were unavailable for specific villages, we asked for an indication of the relative size (large, medium, or small) of the settlement. Water and sanitation records of the Danish Committee for Aid to Afghan Refugees were used to complete district lists. Our final list consisted of 1606 villages and settlements. This list included UNICEF’s division of the city of Jalalabad into 4 segments. Using the primary sampling frame, we estimated the total population of Nangarhar province to be slightly more than 1.6 million individuals, which corresponds with UNICEF’s estimations.7

To determine the sample size for our study, we assumed a prevalence rate of 50% of mental health-related problems. We estimated that a minimum of 770 participants would be required for a 95% confidence interval (CI) to detect a prevalence rate between 45% and 55%. The required minimum was increased to 1100 because we anticipated nonresponse to be 30%. Based on available information on household size and age distribution, we further assumed an average of 4 adults per household. Therefore, a minimum of 275 households would need to be included. However, we planned to include a larger sample: 400 households, a trade-off between the desired numbers of clusters and of households. With probability proportional to population size, we selected 40 clusters in the first sampling stage: 33 in rural areas and 7 in the city of Jalalabad (Figure 1 and Figure 2).

In the second stage of sampling, 10 households were selected within each cluster. Identification of cluster samples differed for urban areas and rural villages. No
maps of the selected villages were available. In small settlements, we first asked the village leader to list all families and then selected 10 households using a random number table. In larger communities, we asked a village leader to list all mosques, and then selected 1 mosque using a random number table; next, we asked the mullah to list all families and we randomly selected 10. Maps were available for the city of Jalalabad and Nangarhar province. By blindly throwing a pen onto a map, a spot was selected as a starting point for the survey. The first house on the left was selected for the first interviews. The next house was selected to be the closest house to the left when leaving the house just surveyed. This procedure was repeated until 10 households within the cluster had been surveyed. All members of the selected households aged 15 years or older were requested to participate.

We selected 9 male and 6 female interviewers who were fluent in the Pashtu language and were able to read and write. They were trained over a 5-day period, which included a field test. Supervision occurred on a day-to-day basis throughout the survey. To ensure privacy, we encouraged interviewers and participants to complete the questionnaires in private places. Participants were paired up with same-sex interviewers. If household members were not at home, interviewers and household members agreed on a day to complete the interview. If potential participants were still absent or unwilling to respond at the second visit, background information and reasons of nonresponse were noted. Formal review and approval of this survey has been given by the medical ethical committee of the University of Amsterdam, Amsterdam, the Netherlands. Because of the high illiteracy of the Afghan population (UN 1999 estimation: 64%),[8] informed consent was obtained from each respondent by reading aloud an explanatory text and then asking for participation.

**Instruments**

All instruments in this study were designed as self-reported questionnaires. Due to the high illiteracy rate, we used the questionnaires as a structured interview in which questions were read aloud to each participant. We collected demographic information on sex, age, marital status, education level, religion, and ethnicity. Ethnicity was defined by respondents who chose from a preselected list. All questionnaires were translated into Pashtu with the help of a bilingual mental health expert and back-translated by another who was blinded to the first translation.

To assess mental health symptoms, we used the Harvard Trauma Questionnaire (HTQ) and the Hopkins Symptom Checklist (HSCL-25). In addition, we asked
questions about physical, social, and mental well-being. We chose these instruments to obtain information on common, nonspecific psychiatric problems and to gather information on symptoms of specific disorders such as PTSD, anxiety, depression, and related life events.

The HTQ combines the measurement of PTSD symptoms over the past 4 weeks and traumatic events experienced over the past 10 years. Trauma event questions were adapted for specific events among the Afghan population in a similar way as was done in a national mental health survey in Afghanistan in 2002. Because rape appeared to be a delicate issue to address, the interviewers often asked participants if they had ever “heard of” or “knew” someone who had been raped—this being the only wording sufficiently acceptable to elicit a response. Consequently, this question about “witnessing” rape may also have covered “experiencing” it. The PTSD items are derived from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). We determined if an individual met symptom criteria for the occurrence of PTSD according to a scoring algorithm proposed by the Harvard Refugee Trauma Group on the basis of DSM-IV diagnostic criteria. This definition of PTSD requires a score of 3 or 4 on at least 1 of 4 reoccurring symptoms, at least 3 of 7 avoidance and numbing symptoms, and at least 2 of 5 arousal symptoms.

The HSCL-25 is a widely used screening instrument measuring symptoms of anxiety and depression among individuals during the past 30 days. Symptoms are scored on a 4-point Likert scale. The HSCL-25 comprises 2 subscales for anxiety and depression (score range, 1-4). It has been consistently shown in several populations that the total score is correlated with severe emotional distress of unspecified diagnosis, and the depression score is correlated with major depression as defined by the DSM-IV. Both instruments have been validated in various countries and cultures, although at the time not yet in Afghanistan, and were previously used in postconflict settings.

To assess resources used for emotional support, we used the following procedure based on the outcomes of focus group interviews and field tests: we asked respondents to think about a situation or event that once made them sad, worried, or tense. We made it clear that they did not need to reveal that situation. We then asked with whom they had talked for emotional support in that specific situation. Respondents could choose from 11 listed options (which also included places): direct family, family in law, friends, neighbors, mullah, shire, or holy place, Allah, village health volunteer/traditional birth attendant, physician, herbalist, or other. To assess the present sufficiency of basic needs, we asked respondents if shelter, food, drinking water, and medical care were sufficiently, reasonably, or not sufficiently available.
Data analysis
Statistical analyses were performed using SUDAAN statistical software (Research Triangle Institute, Research Triangle Park, NC), which accounts for complex sampling designs. All presented data were adjusted for clustering and assigned a population-based weighting factor, based on the population size of each cluster in our final listing of all 1606 villages and settlements. Data were not weighted for nonresponse. Multivariate linear regression models were used to assess the effects of demographic variables and exposure variables on continuous variables (anxiety and depression). To analyze dichotomous outcomes, such as PTSD symptoms, we used multivariate logistic regression models. The results obtained from the regression models were based on partial, not sequential analyses. All P-values were derived from adjusted Wald F tests based on these regression models, except for those derived from the analysis of resources used for emotional support, which were based on adjusted Wald \( \chi^2 \) tests. When a characteristic had a natural ordering (e.g., age, number of traumatic events), a test for linear trend was performed. For the analysis of the effect of exposure variables on mental health outcomes, P-values were based on the comparison between those having experienced the event and those who had not. \( P < .05 \) was considered statistically significant. Bonferroni corrections for multiple comparisons were applied when comparing traumatic events (\( P < .002 \)), the number of traumatic events (\( P < .01 \)), and resources for emotional support (\( P < .005 \)).

Results
Sample characteristics
A total of 351 households were surveyed. From these, 1013 individuals aged 15 years or older were interviewed. In the households surveyed, there were 382 (27%) nonresponders, mostly because of practical reasons such as the respondent being absent; 6 persons refused to be interviewed. Due to the loss of stratification data of 2 respondents, the data of 1011 respondents could eventually be used for analysis (representing a 72% participation rate). Three clusters that could not be visited for security reasons were not replaced by newly selected clusters because at the time the imminent attack on Iraq called for evacuation preparedness. Demographic sample characteristics are summarized in Table 1. Nearly all respondents belong to the Pashtun ethnic group (their national proportion is 44\%) and most live in rural areas. 55% were women. Most were married. 88% of female participants and 44% of male participants had not received any education. A majority of men (87%) reported having jobs, most of them being a farmer or stockbreeder; practically all women were housewives. 96% of the men
and 69% of the women reported being in good physical health. 22% of female respondents and 16% of male respondents indicated they had ever been told by a physician, (mental) health professional, or healer that they had a mental illness.

**Basic needs**

At the time of the survey, 228 (22.6%) respondents indicated that access to medical care was not sufficient. Food was available for 98.0% of individuals; drinking water, 92.9%; and shelter, 94.0%.

**Exposure**

A modification of the list of potential trauma events as recited in the HTQ is shown in Table 2. High percentages of the participants reported having experienced multiple traumatic events over the past 10 years. 14% reported experiencing 11 or more traumatic events. 71% experienced a lack of access to medical care and 69% experienced a lack of food or water. 67% indicated that they have been close to death during the previous 10 years. 62% experienced or witnessed the Coalition-led bombardments in 2001 and 61% experienced other shelling or rocket attacks from mujahideen or former Soviet Union forces. 61% of all participants had to suddenly flee at some point and 50% had lived in a refugee camp.

**Mental health**

Table 3 shows estimated mean scores on the HSCL-25 and the HTQ, along with 95% CIs. For the HSCL-25, the estimated mean total score is 1.79 (1.44 for men and 2.10 for women). Mean scores for the HSCL-25 subscales show high levels of symptoms of depression and anxiety, especially among women. When using a standard cutoff score of 1.75, the depression symptom scale scores yield estimated prevalence rates of 38.5% (16.1% in men and 58.4% in women). On the anxiety symptom scale, estimated prevalence rates were 51.8% (21.9% in men and 78.2% in women). The HTQ yielded an estimated total prevalence of 20.4% for PTSD symptoms (7.5% in men and 31.9% in women).

**Sociodemographic factors and mental health outcomes**

We performed multivariate analyses of the effect of selected demographic factors to mental health outcomes. Table 4 shows mean scores of the HSCL-25 scales for symptoms of anxiety and depression and estimated prevalence rates of participants who met PTSD symptom criteria in relation to separate
demographic variables and adjusted for all other listed demographic variables. For all mental health outcomes, higher symptom scores were associated with being female, experiencing poor physical health, and reporting previous mental illness. Higher scores of depression were associated with being older and having received less education. Limited education was also associated with high scores of anxiety. Symptoms of PTSD were associated with marital status and ethnicity, that is, being single and belonging to the Tajik ethnic minority group.

Exposure to traumatic events and mental health outcomes
We also performed multivariate analyses of the effect of war-related traumatic events to mental health outcomes. Table 5 shows mean scores of the HSCL-25 scales for symptoms of anxiety and depression and ORs (95% CIs) for participants who met PTSD symptom criteria in relation to the number of traumatic events experienced, as well as to separate traumatic events. All demographic variables listed in Table 4 were controlled for in the analysis. There was a significant linear increase in all selected mental health outcomes with increasing numbers of traumatic events. All trauma exposure variables were significant at the $P<.002$ level for anxiety and depression scores, except having been injured by a landmine, separated from the family, rape, missing family, recent bombardments, or being kidnapped. Traumatic events that were associated with high PTSD symptom scores were: having experienced a lack of food or water, or a lack of shelter, having been tortured, having had to flee suddenly, having loss of property, having been kidnapped, and having been close to death.

Resources for emotional support
98% (989) of the respondents mention ‘Allah’ as the main resource for emotional support when feeling sad, worried, or tense. The second preferred resource was direct family members (812; 81.0%). Family-in-law was mentioned more by women (348; 34.9% compared with 21.1% [206 men]); married women generally live with the husband’s direct family. Males scoring high on symptoms of depression and anxiety (scale score≥1.75) reported seeking support from village health volunteers or traditional health attendants more often than those men with lower symptom scores ($P<.001$). Females with high depression symptom scores reported seeking less support from their direct family ($P<.001$), family-in-law ($P=.009$), friends ($P<.001$), and neighbors ($P<.001$) than did females with lower scores.
Comment
This survey, conducted in early 2003 among the population of Nangarhar province, Afghanistan, shows a high prevalence of symptoms of anxiety, depression, and PTSD. Anxiety and depression symptom scores were even higher than usually found in postwar situations, but not PTSD symptoms.

However, studies of community samples of Afghan refugees living in Holland and Iran, respectively, reported similar findings. This may be related to the country’s tragic recent history. During the past 25 years, individuals in Afghanistan have continuously experienced war and civil unrest. The Soviet occupation was followed by violence subsequently from the mujahideen forces, the Taliban regime, and a Coalition-led military campaign. In addition, a 4-year regional drought forced many Afghans to leave their homes in search of food and water.

Our study had a number of limitations. First, we did not ask respondents when during the previous 10 years they had experienced traumatic events and what were the period of onset and the course of their symptoms. As a consequence, we cannot draw conclusions about the chronicity of mental health symptoms and their relation to traumas experienced. The existence of a relationship is plausible because there is a linear increase of symptom prevalence rates with growing numbers of traumas experienced. Another limitation to this study is the fact that our main measurement instruments have not yet been validated in Afghanistan. Validity has been proven, however, in various languages and cultures. In addition, these instruments only provide outcomes on symptom levels, not diagnoses.

While women generally show higher levels of mental health symptoms than men do, scores in female participants of this survey were extremely high. Previous studies have provided insight in the mental health consequences of the subordination of women in social life in Afghanistan, particularly under the Taliban regime but also before and after. The differences in outcomes also may reflect differences in coping patterns as preferred by, or available to, women compared with men.

The overall prevalence rates of mental health symptoms found in this survey are lower than those reported from a national survey conducted in Afghanistan in 2002. Slight differences between methods applied during the national and this survey may have contributed to this. For example, in this survey we attempted to include all adult household members (excluding those who were disabled). The national survey included 1 nondisabled member and 1 disabled member (if any) from each household.
The variance in outcomes between this and the national survey may also be explained by cultural and geographic differences of the participants. First, during the Taliban regime repression and restrictions were much harsher in the country’s central and northern part with its non-Pashtun population than in Nangarhar, which is a conservative Pashtun area. Second, there has been less continuous fighting in this province than in other regions. The city of Jalalabad suffered heavily in the 1980s during the Russian occupation, but was more or less spared since. Kabul, in contrast, was targeted for years by various factions. The front between Taliban and the Northern Alliance has been shifting alternately to the North and to the South for a long time, bringing violence to the country’s central and northern regions. Third, this survey sample contains a larger urban proportion than the national survey. Jalalabad’s population may have been protected by a greater social connectedness and infrastructure. This may be more relevant in light of the relatively intact state of the city of Jalalabad compared with Kabul. Finally, the population of Jalalabad may have experienced less insecurity because the city is located close to the Pakistan border, therefore providing an easier fleeing route than from Kabul.

These hypotheses are not entirely in concurrence with the experienced numbers of traumatic events as reported. Although it is suggested that circumstances have generally been less harsh in Nangarhar than elsewhere, most traumatic events were reported more frequently than in the national survey. Some of these, however, such as lack of shelter, food, water, and medical care, and death of family members or friends due to illness or lack of food, may be associated with economic and social decline rather than to repression or war. Others, like shelling or rocket attacks, having had to flee, living in refugee camps, and the Coalition-led bombings, may relate to armed violence that took place outside the period of Taliban regime; belonging to the Pashtun belt then did not provide protection, and many temporarily fled to Pakistan. Events like beatings, interrogations, and harassments probably have taken place under the Taliban regime, and these are reported more often in the national survey.

In this study, religion and the family were reported as the main resources for emotional support; women do not or cannot frequently make use of any other resources. There is an indication that women with mental health symptoms withdrew from social resources. Both men and women in distress did not report seeking support from physicians. This may relate to a general access problem; although our findings suggest that the present coverage of basic needs is reasonably sufficient, a quarter of the population report this is not the case for medical care.
Conclusion
Among the population of Nangarhar province, Afghanistan, many have experienced traumatic events during a long history of armed conflict, repression, and insufficiency of needs. Mental health symptoms are highly prevalent, especially in those who experienced multiple traumas and in women. The capacity of primary health-care workers to raise awareness of basic options for support or treatment and to address mental health needs should be strengthened.
Mental health symptoms in Afghanistan

References


Figure 1. Geographic distribution of 37 clusters in Nangarhar Province, Afghanistan, included in survey sample.
Figure 2. Sampling stages of survey

1606 Urban and Rural Clusters in Nangarhar Province

40 Clusters Selected Using Probability Proportional to Size Sampling
  7 Urban Clusters
  33 Rural Clusters

37 Clusters Surveyed
  7 Urban Clusters
  30 Rural Clusters
  3 Clusters Could Not Be Visited for Security Reasons

10 Households Randomly Selected in Each Cluster

370 Households Targeted
  8 Households Not at Home, Size of Households Unknown

362 Households Surveyed
  11 Households Not at Home, Size of Households Known

351 Households Had 1 or More Respondents

All Household Members Aged 15 Years or Older Targeted

1395 Household Members in 362 Households

382 Nonrespondents
  335 Not at Home
  12 Disabled or Ill
  11 Too Dangerous to Participate
  18 Moved
  6 Refused
  1013 Respondents

1011 Respondents Included in Data Analyses
  2 Excluded (No Stratification Data)
Table 1. Characteristics of respondents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Total (N = 1011)</th>
<th>Male (n = 469)</th>
<th>Female (n = 542)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group, y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>302 (30.0)</td>
<td>152 (32.5)</td>
<td>150 (27.9)</td>
</tr>
<tr>
<td>25-34</td>
<td>265 (26.3)</td>
<td>98 (20.9)</td>
<td>167 (31.0)</td>
</tr>
<tr>
<td>35-44</td>
<td>202 (20.1)</td>
<td>77 (16.5)</td>
<td>125 (23.2)</td>
</tr>
<tr>
<td>≥45</td>
<td>237 (23.6)</td>
<td>141 (30.1)</td>
<td>96 (17.8)</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>206 (20.7)</td>
<td>117 (24.9)</td>
<td>89 (16.9)</td>
</tr>
<tr>
<td>Married</td>
<td>770 (77.4)</td>
<td>350 (74.6)</td>
<td>420 (79.8)</td>
</tr>
<tr>
<td>Widowed</td>
<td>19 (1.9)</td>
<td>2 (0.4)</td>
<td>17 (3.2)</td>
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<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pashtun</td>
<td>933 (92.4)</td>
<td>430 (91.9)</td>
<td>503 (92.8)</td>
</tr>
<tr>
<td>Tajik</td>
<td>33 (3.3)</td>
<td>19 (4.1)</td>
<td>14 (2.6)</td>
</tr>
<tr>
<td>Pashayi</td>
<td>43 (4.3)</td>
<td>19 (4.1)</td>
<td>24 (4.4)</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>680 (67.7)</td>
<td>205 (44.0)</td>
<td>475 (88.1)</td>
</tr>
<tr>
<td>Primary school</td>
<td>60 (6.0)</td>
<td>53 (11.4)</td>
<td>7 (1.3)</td>
</tr>
<tr>
<td>Religious school</td>
<td>86 (8.6)</td>
<td>76 (16.3)</td>
<td>10 (1.9)</td>
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<td>Middle school</td>
<td>80 (8.0)</td>
<td>75 (16.1)</td>
<td>5 (0.9)</td>
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<tr>
<td>High school</td>
<td>43 (4.3)</td>
<td>42 (9.0)</td>
<td>1 (0.2)</td>
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<tr>
<td>More than high school</td>
<td>56 (5.6)</td>
<td>15 (3.2)</td>
<td>41 (7.6)</td>
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<tr>
<td>Location</td>
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<td></td>
<td></td>
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<tr>
<td>Urban</td>
<td>199 (19.7)</td>
<td>104 (22.2)</td>
<td>95 (17.5)</td>
</tr>
<tr>
<td>Rural</td>
<td>812 (80.3)</td>
<td>365 (77.8)</td>
<td>447 (82.5)</td>
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<tr>
<td>Job</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>410 (41.0)</td>
<td>404 (87.1)</td>
<td>6 (1.1)</td>
</tr>
<tr>
<td>No</td>
<td>60 (6.0)</td>
<td>60 (12.9)</td>
<td>0</td>
</tr>
<tr>
<td>Housewife</td>
<td>531 (53.0)</td>
<td>0</td>
<td>531 (98.9)</td>
</tr>
<tr>
<td>Physical health state†</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>185 (18.3)</td>
<td>18 (3.8)</td>
<td>167 (30.8)</td>
</tr>
<tr>
<td>Good</td>
<td>826 (81.7)</td>
<td>451 (96.2)</td>
<td>375 (69.2)</td>
</tr>
<tr>
<td>Previous mental illness†</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>187 (19.0)</td>
<td>76 (16.3)</td>
<td>111 (21.5)</td>
</tr>
<tr>
<td>No</td>
<td>795 (81.0)</td>
<td>390 (83.7)</td>
<td>405 (78.5)</td>
</tr>
</tbody>
</table>

*The percentages are weighted and adjusted for survey design.
†As reported by the respondent.
Table 2. Traumatic events experienced during the past 10 years

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total (N = 1011)</th>
<th>Male (n = 469)</th>
<th>Female (n = 542)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of traumatic events</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-3</td>
<td>154 (14.4)</td>
<td>103 (20.8)</td>
<td>51 (9.8)</td>
</tr>
<tr>
<td>4-7</td>
<td>284 (27.8)</td>
<td>143 (30.4)</td>
<td>141 (25.6)</td>
</tr>
<tr>
<td>8-10</td>
<td>432 (43.7)</td>
<td>133 (29.4)</td>
<td>299 (56.4)</td>
</tr>
<tr>
<td>≥11</td>
<td>141 (14.1)</td>
<td>90 (19.4)</td>
<td>51 (9.3)</td>
</tr>
<tr>
<td>Lack of food or water</td>
<td>694 (68.9)</td>
<td>264 (57.0)</td>
<td>430 (79.4)</td>
</tr>
<tr>
<td>No access to medical care</td>
<td>711 (70.8)</td>
<td>253 (54.8)</td>
<td>458 (84.9)</td>
</tr>
<tr>
<td>Lack of shelter</td>
<td>563 (56.0)</td>
<td>215 (46.8)</td>
<td>348 (64.1)</td>
</tr>
<tr>
<td>Imprisonment</td>
<td>137 (13.9)</td>
<td>129 (28.0)</td>
<td>8 (1.4)</td>
</tr>
<tr>
<td>Injury due to knife, gunshot, or fighting</td>
<td>114 (11.5)</td>
<td>93 (20.1)</td>
<td>21 (3.9)</td>
</tr>
<tr>
<td>Injury due to landmine</td>
<td>35 (3.3)</td>
<td>22 (4.4)</td>
<td>13 (2.3)</td>
</tr>
<tr>
<td>Separation of family</td>
<td>40 (4.1)</td>
<td>32 (7.1)</td>
<td>8 (1.5)</td>
</tr>
<tr>
<td>Witnessing or experiencing rape†</td>
<td>5 (0.5)</td>
<td>2 (0.5)</td>
<td>3 (0.6)</td>
</tr>
<tr>
<td>Murder of family or friend</td>
<td>165 (17.1)</td>
<td>105 (23.9)</td>
<td>60 (11.1)</td>
</tr>
<tr>
<td>Murder of someone known</td>
<td>176 (18.2)</td>
<td>118 (26.8)</td>
<td>58 (10.6)</td>
</tr>
<tr>
<td>Death of family/friend due to illness/lack of food</td>
<td>434 (43.5)</td>
<td>225 (48.4)</td>
<td>209 (39.1)</td>
</tr>
<tr>
<td>Missing or lost family</td>
<td>67 (6.7)</td>
<td>39 (8.2)</td>
<td>28 (5.4)</td>
</tr>
<tr>
<td>Torture</td>
<td>150 (15.0)</td>
<td>101 (21.9)</td>
<td>49 (8.9)</td>
</tr>
<tr>
<td>Interrogation or harassments</td>
<td>202 (20.3)</td>
<td>135 (29.4)</td>
<td>67 (12.3)</td>
</tr>
<tr>
<td>Beatings by armed groups</td>
<td>169 (19.0)</td>
<td>110 (23.8)</td>
<td>59 (10.9)</td>
</tr>
<tr>
<td>Recent bombardments by Coalition forces</td>
<td>614 (62.2)</td>
<td>237 (52.0)</td>
<td>377 (71.1)</td>
</tr>
<tr>
<td>Shelling/rocket attacks from mujahideen or former Soviet Union forces</td>
<td>606 (60.8)</td>
<td>216 (46.8)</td>
<td>390 (73.2)</td>
</tr>
<tr>
<td>Having to flee</td>
<td>602 (60.9)</td>
<td>237 (52.2)</td>
<td>365 (68.7)</td>
</tr>
<tr>
<td>Loss of property</td>
<td>388 (40.1)</td>
<td>155 (34.7)</td>
<td>233 (44.9)</td>
</tr>
<tr>
<td>Lived in refugee camp</td>
<td>512 (49.9)</td>
<td>187 (39.3)</td>
<td>325 (59.3)</td>
</tr>
<tr>
<td>Being kidnapped</td>
<td>19 (1.9)</td>
<td>10 (2.2)</td>
<td>9 (1.6)</td>
</tr>
<tr>
<td>Being close to death</td>
<td>666 (67.3)</td>
<td>290 (63.4)</td>
<td>376 (70.7)</td>
</tr>
</tbody>
</table>

*The percentages are weighted and adjusted for sample design.
†The number of male respondents was 447 instead of 469, the number of female respondents was 530 instead of 542, indicating a possible response bias for this item.
Table 3. Mental health outcomes among respondents

<table>
<thead>
<tr>
<th>Mental Health Outcome</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hopkins Symptom Checklist-25</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total symptom score (n = 1010)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SE)</td>
<td>1.79 (0.03)</td>
<td>1.44 (0.02)</td>
<td>2.10 (0.03)</td>
</tr>
<tr>
<td>Median (SE)</td>
<td>1.68 (0.04)</td>
<td>1.30 (0.03)</td>
<td>1.97 (0.03)</td>
</tr>
<tr>
<td>Intraquartile range</td>
<td>1.28-2.10</td>
<td>1.14-1.60</td>
<td>1.67-2.51</td>
</tr>
<tr>
<td><strong>Depression symptoms (n = 1010)</strong></td>
<td></td>
<td>7.31 (5.4-9.8)</td>
<td></td>
</tr>
<tr>
<td>No. (%) of respondents [95% CI] with scale score ≥1.75</td>
<td>391 (38.5) [35.1-42.0]</td>
<td>77 (16.1) [12.8-19.4]</td>
<td>314 (58.4) [54.2-62.6]</td>
</tr>
<tr>
<td>Mean (SE)</td>
<td>1.71 (0.03)</td>
<td>1.42 (0.02)</td>
<td>1.97 (0.03)</td>
</tr>
<tr>
<td>Median (SE)</td>
<td>1.59 (0.03)</td>
<td>1.27 (0.04)</td>
<td>1.86 (0.03)</td>
</tr>
<tr>
<td>Intraquartile range</td>
<td>1.24-1.95</td>
<td>1.11-1.59</td>
<td>1.57-2.29</td>
</tr>
<tr>
<td><strong>Anxiety symptoms (n = 1010)</strong></td>
<td></td>
<td>12.79 (9.02-18.14)</td>
<td></td>
</tr>
<tr>
<td>No. (%) of respondents [95% CI] with scale score ≥1.75</td>
<td>524 (51.8) [18.0-22.8]</td>
<td>102 (21.9) [18.0-25.9]</td>
<td>422 (78.2) [74.0-82.5]</td>
</tr>
<tr>
<td>Mean (SE)</td>
<td>1.91 (0.03)</td>
<td>1.47 (0.03)</td>
<td>2.29 (0.04)</td>
</tr>
<tr>
<td>Median (SE)</td>
<td>1.74 (0.05)</td>
<td>1.29 (0.02)</td>
<td>2.15 (0.06)</td>
</tr>
<tr>
<td>Intraquartile range</td>
<td>1.27-2.36</td>
<td>1.06-1.67</td>
<td>1.75-2.79</td>
</tr>
<tr>
<td><strong>Harvard Trauma Questionnaire</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PTSD symptoms (n = 1009)</strong></td>
<td></td>
<td>5.78 (3.75-8.90)</td>
<td></td>
</tr>
<tr>
<td>No. (%) of respondents [95% CI] meeting Harvard Refugee Trauma Group scoring algorithm</td>
<td>207 (20.4) [18.1-22.8]</td>
<td>36 (7.5) [5.6-9.4]</td>
<td>171 (31.9) [27.9-35.9]</td>
</tr>
<tr>
<td>Mean (SE)</td>
<td>1.92 (0.02)</td>
<td>1.66 (0.02)</td>
<td>2.15 (0.03)</td>
</tr>
<tr>
<td>Median (SE)</td>
<td>1.87 (0.03)</td>
<td>1.55 (0.03)</td>
<td>2.08 (0.04)</td>
</tr>
<tr>
<td>Intraquartile range</td>
<td>1.49-2.23</td>
<td>1.34-1.87</td>
<td>1.77-2.42</td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; OR, odds ratio; PTSD, posttraumatic stress disorder.
*Percentages are weighted and adjusted for sample design. There was 1 male with missing data for the Hopkins instrument and 2 males for the PTSD assessment.
†Unadjusted OR for sex for comparison of mean values.
### Table 4. Effects of selected variables on mental health outcome measures

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Depression Symptoms</th>
<th>Anxiety Symptoms</th>
<th>PTSD Symptoms</th>
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<tbody>
<tr>
<td></td>
<td>Adjusted Mean (SE)</td>
<td>P Value</td>
<td>Adjusted Mean (SE)</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
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</tr>
<tr>
<td>Male</td>
<td>1.51 (0.03)</td>
<td>&lt;.001</td>
<td>1.58 (0.03)</td>
</tr>
<tr>
<td>Female</td>
<td>1.84 (0.03)</td>
<td></td>
<td>2.13 (0.03)</td>
</tr>
<tr>
<td><strong>Age group</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>1.57 (0.03)</td>
<td>.006†</td>
<td>1.76 (0.04)</td>
</tr>
<tr>
<td>25-34</td>
<td>1.75 (0.03)</td>
<td></td>
<td>1.96 (0.04)</td>
</tr>
<tr>
<td>35-44</td>
<td>1.71 (0.04)</td>
<td>.01†</td>
<td>1.91 (0.04)</td>
</tr>
<tr>
<td>≥45</td>
<td>1.71 (0.03)</td>
<td></td>
<td>1.86 (0.03)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>1.67 (0.02)</td>
<td>.94</td>
<td>1.87 (0.02)</td>
</tr>
<tr>
<td>Single</td>
<td>1.69 (0.04)</td>
<td></td>
<td>1.85 (0.05)</td>
</tr>
<tr>
<td>Widowed</td>
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<td></td>
<td>1.77 (0.12)</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pashtun</td>
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<td>.11</td>
<td>1.86 (0.02)</td>
</tr>
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<td>Tajik</td>
<td>1.85 (0.08)</td>
<td></td>
<td>2.08 (0.10)</td>
</tr>
<tr>
<td>Pashayl</td>
<td>1.69 (0.05)</td>
<td></td>
<td>1.83 (0.07)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>1.70 (0.02)</td>
<td></td>
<td>1.90 (0.03)</td>
</tr>
<tr>
<td>Primary school</td>
<td>1.74 (0.06)</td>
<td></td>
<td>1.95 (0.07)</td>
</tr>
<tr>
<td>Religious school</td>
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<td>.002†</td>
<td>1.71 (0.05)</td>
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<tr>
<td>Middle school</td>
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<td></td>
<td>1.81 (0.05)</td>
</tr>
<tr>
<td>High school</td>
<td>1.56 (0.04)</td>
<td></td>
<td>1.76 (0.04)</td>
</tr>
<tr>
<td>More than high school</td>
<td>1.56 (0.05)</td>
<td></td>
<td>1.78 (0.07)</td>
</tr>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>1.68 (0.03)</td>
<td>.83</td>
<td>1.67 (0.03)</td>
</tr>
<tr>
<td>Rural</td>
<td>1.67 (0.02)</td>
<td></td>
<td>1.86 (0.02)</td>
</tr>
<tr>
<td><strong>Physical health state</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>1.60 (0.02)</td>
<td></td>
<td>1.77 (0.02)</td>
</tr>
<tr>
<td>Poor</td>
<td>2.05 (0.06)</td>
<td></td>
<td>2.34 (0.05)</td>
</tr>
<tr>
<td><strong>Previous mental illness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1.64 (0.02)</td>
<td></td>
<td>1.80 (0.03)</td>
</tr>
<tr>
<td>Yes</td>
<td>1.81 (0.04)</td>
<td></td>
<td>2.12 (0.03)</td>
</tr>
</tbody>
</table>

Abbreviation: PTSD, posttraumatic stress disorder.
*Each demographic characteristic has been adjusted for all other characteristics listed in the table.
†Indicates linear P value.
### Table 5. Exposure to traumatic events affecting mental health outcomes

<table>
<thead>
<tr>
<th>No. of traumatic events</th>
<th>Anxiety Symptoms</th>
<th>Depression Symptoms</th>
<th>PTSD Symptoms, Unadjusted</th>
<th>Adjusted*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>4-7</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>8-10</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>≥11</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Lack of food or water</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>No access to medical care</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Lack of shelter</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Imprisonment</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Injury due to knife, gunshot, or fighting</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Injury due to landmine</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Separation of family</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Witnessing or experiencing rape</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Murder of family or friend</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Murder of someone known</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Death of family or friends due to illness/lack of food</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Missing family</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Torture</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Interrogation or harassments</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Beatings by armed groups</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Recent bombardments by Coalition forces</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Shelling or rocket attacks from mujahideen or former Soviet Union forces</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Having to flee</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Loss of property</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Lived in refugee camp</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Being kidnapped</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
<tr>
<td>Being close to death</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
<td>1.00†</td>
</tr>
</tbody>
</table>

Abbreviation: PTSD, posttraumatic stress disorder.

*Each variable has been adjusted for sex, age, marital status, ethnicity, education, location, physical health status, and self-reported previous mental illness.
†Statistically significantly different at P<.002 level (Bonferroni correction).
‡Statistically significantly different at P<.001 level (Bonferroni correction).
§Statistically significantly different at P<.01 level (Bonferroni correction).
Chapter 5

Community-based sociotherapy in Byumba, Rwanda

Richters A
Dekker C
Scholte WF

Adapted from article published in: Intervention 2008; 6(2): 100-116.
5. Community based sociotherapy in Byumba, Rwanda

Summary
A community-based sociotherapy program was implemented in the North of Rwanda in 2005; it is still running. Over the first 27 months of the program’s course, 3700 beneficiaries participated in the intervention groups. This chapter describes the context of the setting and the backgrounds of sociotherapy. It explains its principles, and argues why the introduction of this approach was appropriate in postgenocide Rwanda. It then focuses on the development and implementation of the program, and the reception by its various stakeholders.

Introduction
The Byumba Diocese of the Episcopal Church of Rwanda (EER; Eglise Episcopale au Rwanda) started a sociotherapy program in the Byumba province* of Rwanda in September 2005. The local population is severely affected by a history of war which finally resulted in a genocide. The goal of the program was to help establish social re-bonding and reduce mental distress. After a training period of 3 months and an additional month of field preparation, sociotherapy groups started to function in January 2006 in a selection of areas spread over the province. Soon after, stakeholders started to express their appreciation of the program and its results. During a conference in Rwanda’s capital city Kigali in January 2007, the Byumba sociotherapy program was introduced to practitioners and policy makers working in the areas of mental health, trauma counselling, psychosocial care and reconciliation in Rwanda and its neighbouring countries. The conference and subsequent exchanges with practitioners and policy makers resulted in an expansion of the sociotherapy activities to other areas of Byumba province, the introduction of a program in South Kivu, Congo, and the preparation of programs in other regions of Rwanda.

Byumba in context
The former Byumba province is located in the north of Rwanda; it borders Uganda. The invasion by the Rwanda Patriotic Front (RPF) from Uganda into Rwanda in 1990 marked the start of a civil war in the north of the country. Many

* In January 2006, the Rwandan government established new provinces, five in total. Byumba Province, one of the previous twelve provinces, was divided up. One part now belongs to the new North Province and the other part to the new East Province. Byumba Diocese still covers the same geographical area as before. In this chapter, that area is still referred to as Byumba province. Also, the name the Episcopal Church of Rwanda was recently changed to Anglican Church of Rwanda. In this chapter, however, the old name EER will be used.
members of the RPF, predominantly of Tutsi origin, were second-generation refugees who had fled to Uganda and settled there from 1959 onwards, escaping the ethnic purges in Rwanda. The RPF entered Rwanda as an army of liberation, but was perceived by the majority of the population as an army of occupation. Over the following years, the invasion led to massive displacements of people to refugee camps further south in Rwanda. Low-intensity fighting alternated with massacres, including one in Byumba. During and after the 1994 genocide, people fled to refugee camps in neighbouring countries where they stayed for several years.\textsuperscript{1}

The war (1990-1994) and the genocide (1994) affected men, women and children of all ages. The population experienced ceaseless atrocities, such as killings, sexual violence, torture, destruction of property, and social rejection. Over the second half of the 1990s and the first half of the 2000s, a substantial part of the population consisted of widows, widowers, orphans, physically disabled persons, prisoners and ex-prisoners. As a representative of the Byumba Diocese put it: “There was a general feeling of insecurity, powerlessness and despair among the population. Many displayed a loss of self-care and -interest, and a lack of future perspective. Some showed frequent aggressive outbursts. Others were aimlessly wandering around without courage or a plan to survive.”

The return of displaced persons and refugees after the genocide generated additional problems, that were related to a complicated reintegration process. Within the population, categories of people could be distinguished that were each vulnerable for specific reasons:

- **Women.** Almost 60\% of the Byumba population is female. Men had been the main targets of the killings or were still in prison, leaving many women behind. Life had been, and still was, harsh for women in particular. They had been exposed to violence, rape, and loss of family members and properties. For many, education had stopped abruptly during the war and never started again. Many had lived in refugee camps. All women and children (often accompanied by one or more adopted orphans) returning from the camps had been confronted with a disrupted society. Some had had to take on previous tasks of husbands and sons who stayed in prison.

- **Released prisoners.** Upon their return, released prisoners found they had lost their jobs, properties and roles in society. Many experienced domestic problems, e.g., their wife might have brought another man into the home or might have given birth to another man’s children. Female prisoners might have found their husband married to another woman. The sudden release of groups of prisoners in 2003 had also caused increased fear in society, which added to the ex-prisoners’ difficulties to cope.
- Orphans. Whether blood-related to their host families or not, orphans were not always treated equally to the father’s and/or mother’s own children, and were often marginalized from their communities. Another group of orphaned children had started heading households themselves, thereby taking care of younger brothers or sisters without the necessary means to do so properly.
- Other particularly vulnerable groups were single mothers, people living with HIV/AIDS, youngsters who were jobless, victims of domestic violence, and wives/widows in/of polygamous marriages.

Extreme poverty is one issue that cutted across all categories and affected the majority of people. Byumba province’s poverty percentage is above the country average. The average income per family per month is around US $10. Poverty is one of the reasons for the many conflicts over property. Poverty is also closely related to a lack of education. A third of the children below 15 years of age lack education, and only a very small minority receive secondary or postsecondary education. Almost half of the adult population is illiterate. The proportion of people infected with HIV/AIDS is also above the country average.

**Sociotherapy**

The idea to offer sociotherapy to populations in postconflict countries was born in Dutch refugee clinics, where participants in sociotherapy groups expressed the wish that “their people at home had known this method before the conflicts erupted into violence.”

Sociotherapy has been practiced in Europe in group settings called therapeutic communities. The foundations of the sociotherapeutic approach were laid by British psychiatrists during the Second World War, when society had to cope with many psychiatric casualties of war. Rapoport characterized the approach as it had developed since as ‘community acting as a doctor’. Since the 1970s, sociotherapy is an element of the mental health care provision in various clinical settings in the Netherlands. Bierenbroodspot, a main instigator of this development, incorporated the basic principles underlying sociotherapy (democracy, nondirectivity, equality, a focus on reality, and an orientation to the future) into the following practical-technical rules: 1) two-way communication at all levels; this warrants that all participants are informed about what goes on in a group, and can use that information in decision-making; 2) decision-making at all levels; this promotes, among other things, sympathy with a group as a whole and with its individual members; 3) shared leadership; this actually means democracy, the sharing of power and responsibility; 4) consensus in decision-making; no decision is forced, and discussion continues until consensus
Community-based sociotherapy in Byumba, Rwanda

is reached; 5) social learning by actual social interaction; this learning will also benefit group participants in their social interaction in the wider society. Sociotherapy differs from psychotherapy by its therapeutical use of the milieu—the totality of the setting in which the listed principles and methods are applied—as a model that confronts a person with his ‘outside world’. This is contrary to confronting an individual with his ‘inside world’ during psychotherapy.3 Over the last two decades, sociotherapy as a therapeutic group-approach has been adapted for the treatment of victims of political violence and war. This particularly happened in two clinics providing mental health services for traumatized refugees who now reside in the Netherlands (Stichting Centrum 245 and Equator Foundation). As the approach was to be adapted for use with refugees instead of Dutch patients, the main issue requiring revision was its sensitivity to cultural, social, and political aspects of (mental) health problems. It also had to be attuned to the particular fragility of feelings of safety among survivors of violence. For example, because such feelings may easily be triggered or increased among group participants, group facilitators must take on a regulating role in the starting phase of group sessions, and only slowly delegate responsibility (e.g., for decision making) to the participants. Facilitators also need to be sensitive to the social, political and cultural aspects of issues of proximity and distance, and to dissolve tensions in case of disrespectful communication and enemy projections.

Facilitating a sociotherapy group

Facilitating a sociotherapy group requires an open-minded and observing listening attitude. The main issue for a starting group is the ‘inter-esse’;4 how participants handle the interpersonal space and the tension commonly caused by unfamiliar togetherness. Group facilitators apply didactical forms to gradually question daily social norms that limit participants’ space. How do participants deal with different values, norms, expectations, as well as positive and negative experiences?5 A facilitator’s sensitivity and skills in handling fragile social relations is a key determinant for the way the first phase of a group process develops. This, combined with the potential social power of a given group, determines the dynamics, development, and effectiveness of a sociotherapy group. According to de Vries,6 sensitivity is founded on in-depth knowledge of the political, socio-cultural and personal experiential dimensions of the context in which group members live, and from which their problems originate. Key questions for facilitators of sociotherapy groups of war-affected participants are: is the observed behavior perceived as normal in the particular postconflict
situation? How do people affected by extreme forms of political violence share common space?

Vignette

The following quote from a facilitator, explaining what dignity means in the context of sociotherapy, illustrates characteristics of a facilitator: knowledge of the social context, an open mind, the ability to question social norms, and not impose one’s own views.

“You all know that in the past a girl who gives birth to a child before marriage was rejected; dumped in hostile areas to die there. Even nowadays people call a child born in that way ‘ikinyendaro’ (a bastard). Of course this is degrading for both the mother and the child. For that single mother, her dignity was lost. A few months ago, there were local youth leader elections. I remember there was a lady, who was single mother, who was campaigning. She felt enough self-confidence and dignity to do so. Normally voters ask the candidate questions. In her attempt to counter those who might oppose against her single motherhood, she said, ‘I am so and so, I have done six years of secondary school but I have a child at home.’ As soon as she had said that, all people who had gathered, booed her! Now I don’t think that she would repeat it, even if some of us would be standing behind her and would be supporting her. I don’t think that she would dare to bring it out because of the humiliation she experienced. My point is: Who, of the people present there, was decent? Does one have dignity when one annihilates others’ efforts? Are we still talking about dignity or about the hegemony of a perceived normality?”

(Source: Report from a focus group discussion, facilitated by a local researcher, Theoneste Rutayisire)

Phases of sociotherapy

In the sociotherapy approach tailored to victims of war and political violence, the principles and practical-technical rules distinguished by Bierenbroodspot (see above)³ are applied in six phases, each having its own focus: safety, trust, care, respect, rules, and memories.

Safety. The goal of the safety phase is to explore what is going on in the ‘interpersonal space’, to create an atmosphere in which people feel safe, and start developing group cohesion. The exercises can be categorized as emotionally
binding. A practical example is an exercise lasting three hours, during which participants are guided methodically in developing their own code of group conduct.

Trust. Loss of trust in others and in institutions is a main consequence of exposure to serious traumatic events. To rebuild trust, a facilitator needs close cognitive and social-emotional attention, as well as care for the individual in the group. Creative and enjoyable listening exercises can be used and dialogue and decision making be trained, while the lead in sessions is given to the participants, and the group practices to comply to its own code of conduct. Basic concepts of group functioning can be taught. As it is key that a facilitator hands over responsibility to the group, this phase requires commitment, risk-taking and balancing skills.

Care. Care—in the sense of being cared for, self-care, and caring for others—includes mutual acknowledgement. In this phase of sociotherapy, sympathies for individual group members develop in each participant, and the group acts as ‘a carrier of social events’. A facilitator now observes how group dynamics, the tension caused by togetherness, and different values, norms, expectations, and positive and negative experiences are dealt with. An example of an exercise in this phase is a discussion on the experience of social rejection. Subgroups can share examples of the experience of social disintegration during past violence, and subsequently enact these in plenary role plays. In a next step, emotions evoked by attention and care versus neglect and rejection can be explored.

Respect. In this phase, the focus is on the need of survivors of systematic violence to repeatedly test the other person’s reliability and the degree of respect and acknowledgement encountered. Showing awareness and knowledge of the variety of factors making up the context of the violence that someone has experienced, may make this person feel respected. Facilitating and safely streamlining a social-political discussion may contribute to recognition experienced by group participants. Apart from group discussions, role plays are effective instruments in this phase. Games played can be used to exercise the safeguarding of rules.

Rules. Now, rules of different social systems are questioned. Thereby, feelings of autonomy as well as a future perspective are promoted. As a practical example, a group may compare rules of the existing social systems in their society with their own code of conduct or the sociotherapy principles learned. A group may also reflect on the rules and decision-making practices within the basic groups they belong to, such as families, schools and associations.

Memories. Processing traumatic memories is not an objective of sociotherapy, but memorizing traumatic events during group sessions may be unavoidable for participants. If safety, trust, care, respect and rulemaking have been established
within a group, participants may share such memories and experiences. In such cases, a facilitator carefully tries to contain the emotional level and to prevent participants from being overwhelmed.

**The idea of sociotherapy in Byumba**

Seven church denominations have traditionally been represented in Byumba province. More have come into the area after the war and genocide. Like in the rest of Rwanda, the majority of the Byumba population considers itself to be Christian. Five percent of the population is Muslim. After the violent period in 1994, the EER Byumba Diocese realized that community-based psychosocial, educational and microfinancial support was needed. It started to support the population of Byumba province, not discriminating on religious or ethnic grounds, through a holistic set of spiritual and socioeconomic development strategies.

The idea of applying sociotherapy at a community level originates from discussions between a sociotherapist from Equator Foundation, her travel companion (an anthropologist), and an EER Byumba pastor in Rwanda in 2004. As expressed by this pastor, counselling was only moderately successful in helping people to recover from the suffering caused by mass violence in the past. Short training sessions in trauma counselling as offered occasionally to staff members of the Diocese, were never followed up in terms of setting up a counselling or treatment program. Such programs operated mainly in the capital city of Kigali, and hardly reached rural areas like Byumba province. Sociotherapy seemed to be a possible solution for this lack of (semi-)professional support, if implementation at community level (instead of clinical settings) would be feasible.

While embracing the sociotherapy approach in the past century, the European movement supporting the concept of therapeutic communities had furthered the idea that “a community created in the ‘reverse image’ of a society at large can be therapeutic for the casualties of that society.” The situation of Byumba as described above obviously called for the reversal of key elements of it. Massive traumatization had severely affected the well-being of many individuals. Common life and valued institutions had largely been disrupted. The social fabric had been damaged; there was a rupture of social bonds, distrust of people and institutions, and destruction of previous sources of support. Consequently, the misery had especially affected the population as a community, rather than only as individuals, even though each person inevitably processed the effects in his or her own way.

It is often postulated that justice and reconciliation can reduce people's
suffering. In postgenocide Rwanda, so-called gacaca processes (a modernized form of traditional Rwandan conflict resolution) were installed to contribute to justice, healing and reconciliation. Like other institutions, the legal system was also basically destroyed during the genocide. Most of Rwandan judges and lawyers had either fled or been killed. It was estimated that it would take more than hundred years to judge all perpetrators of the genocide. The lack of security experienced in the recent past, however, caused the population to also distrust interventions aimed at justice and reconciliation. In addition, next to positive results, the gacaca processes also contributed to new societal tensions. Victims and perpetrators were confronted with each other; past painful experiences were recalled, potentially causing re-traumatization; some of the victims were more or less forced to testify, while being afraid of repercussions by the accused; and sometimes, innocent people were falsely accused and imprisoned.

Analogous to the seeming impracticability of judging so many perpetrators, it would take decades to provide individual psychological support for all Rwandans traumatized by the war. The combination of omnipresent mental health problems and social disruption called for the introduction of a community-based approach that could reach a substantial number of people within a relatively short period of time, and with a minimum of financial means. Educating people to apply such approach would also contribute to the building of human capital. An additional reason for such an approach was that it might accomplish what gacaca in many cases failed to accomplish, i.e. reconciliation.

The experiences with sociotherapy in Europe as described above, showed its capacity to contribute to feelings of safety, trust, care and respect, and to help increase the self-supporting capacity of individuals and groups. Also, the approach appeared to be applicable for participants with a wide variety of cultural backgrounds. Therefore, when searching for a community-based approach, sociotherapy seemed to be a proper intervention method for a community-level program in Rwanda.

**Development of the program**

*Recruitment of staff and trainees*

The implementing organization, EER Byumba, appointed a local program coordinator and a secretary as staff members for the sociotherapy program. The Diocese also developed recruitment criteria for the first group of thirty-two people to be trained as group facilitators. These criteria were: emotional stability and proven trustworthiness; ability to reflect and eagerness to learn; receptivity to, and an understanding of the suffering of others; preparedness to
participate as a volunteer in the training; potential to transfer the knowledge, skills and experiences gained during the training; and willingness to voluntarily act as a facilitator for a 3-year period. It was decided that there should be an equal number of men and women. Trainees were selected and seconded by seven different local churches and by two public organizations. Most of the trainees appeared to have a secondary school level education. Some had enjoyed higher education and were working as teachers, priests or pastors, leaders of local government councils, civil servants, or staff of other non-governmental organizations (NGOs).

Training was provided by an experienced Dutch sociotherapist, who at the time was affiliated to both the Equator Foundation in Amsterdam and the Leiden University of Applied Science in the Netherlands. Over a period of 8 weeks, 32 volunteers were trained in 2 groups of 16 each. Subsequently, these 32 recruited another group of 75 volunteers, which they themselves trained for 2 days a week over a period of 4 weeks.

Manual development
The expatriate trainer's daily reports, together with the training programs developed later by the first group of 32 local facilitators, formed the basis for the development of a sociotherapy manual for field use. The manual was written in the local language (Kinyarwanda) by the secretary of the program and a local translator who had been involved in the training. In the field, the facilitators used their own notes made during the training, which added to the local ownership of the program.

Entry criteria
With and among the first group of trained group facilitators, it was extensively discussed whether certain criteria, such as belonging to an identified 'vulnerable group' (see above), should be applied for entering sociotherapy groups. No agreement was reached on any criterion. Finally, there was unanimous consent that no entry criteria for group participation should be applied. There were various reasons for this decision: 1) It was generally felt that all Rwandans, including program staff and facilitators, had suffered from the past violence and its consequences. For example, the 32 trainees collectively had lost 365 close relatives and 1295 friends, classmates, neighbours, or colleagues. Applying entry criteria would automatically mean the exclusion of others, which was considered as highly undesired; 2) When selecting individuals, these people would run the risk of being stigmatized; 3) Community cohesion would benefit most from
sociotherapy groups that represented a cross-section of the population; 4) A group with too many problems might be too hard to deal with for beginning facilitators. In due course, having received additional training and having gained experience, facilitators might be able to handle more complicated cases.

Incentives
The initial plan was to have 1 full-day session per week, which might necessitate the provision of drinks and food. The issue generated different opinions and emotions among program staff and facilitators. After the Bishop of EER Byumba had expressed his view that providing reimbursement would not help break the circle of victimhood and dependency, go against the core idea of sociotherapy and mean “the end of the program,” the length of the sessions was set at 3 hours per week. No material incentives for participation would be provided.

Implementation
During the first series of sessions, 45 pairs of ex-trainees facilitated groups of around 10 participants each. It was also allowed to work with smaller groups. Though larger groups were discouraged, they frequently practiced. Groups were started in urban as well as rural settings. Age was not used as a selection criterion, although no persons younger than 16 years of age participated. Groups would meet 15 times, after which new participants were given an opportunity to join. It turned out that many were eager to join. Also, participants started to stay together after the end of the sessions. After 15 weeks, separation often proved to be emotionally difficult for both participants and facilitators. Self-financed farewell ceremonies and aftercare meetings with facilitators gradually became common practice. Many groups took the initiative to save money to support individual members, or to start income-generating associations. Over the course of 2 years, groups were composed of ex-prisoners, widows, orphans, HIV/AIDS affected people, single mothers, secondary school students, mixed groups, and groups of a cross-section of men, to be followed by a group of their wives.

Follow-up training
Two program staff members and the members of the so-called Leading Team (5 facilitators democratically elected by their peers) received further training in capacity building and program management. The first group of 32 facilitators was given additional training in sociotherapy and group dynamics. In 2008, all participated in an exam testing their knowledge and skills. It consisted of an oral part, a written contribution to a book on sociotherapy in Byumba, and a
contribution to a local symposium where the range of sociotherapy methods was presented. All facilitators that had passed that exam received a certificate testifying that the owner had fulfilled part of the requirements for a higher vocational education degree.

Reception of the program
Stakeholders of the program were the EER, trainees, facilitators, beneficiaries (including group participants’ relatives, friends and neighbors), local authorities, and the donor (Dutch development organization Cordaid). All responded positively to the content of the program and its results. However, as Lees et al. put it: “The question ‘how does it work?’ is still unanswered, since it is difficult to tease out the mechanisms at work inside such a complex and multi-faceted treatment as a therapeutic community.” This also applied to the Byumba program. Therefore, a scientific research project with qualitative and quantitative elements was carried out to determine what made it work, and what its impact was in terms of improving the mental health, social functioning and social capital of its participants. Outcomes from the qualitative studies in question have been published by Richters et al. Chapters 6 and 7 of this thesis present some outcomes of the quantitative part of this research; other results have been or will be published by Verduin et al.

Participants
Based on comments given and a participation rate of 87.5%, it may be concluded there was a general appreciation of the sociotherapeutic approach among the 3,700 people that took part in the program between January 2006 and April 2008. Over this period, facilitators provided weekly sociotherapy sessions to 45 to 60 groups.
Group participants practiced and discussed what they gained from sociotherapy at home and in their immediate environment. When asked what sociotherapy is, a woman who had lost nine children said: “I had completely isolated myself, until the facilitators invited me into a group. The other women in this group helped me to handle my current life situation. These women are my new family. Sociotherapy for me means respect, togetherness and a new family.” A 30-year old man said: “Since I was released from prison, life has been very hard. Everyone looks down on me. In this sociotherapy group I am treated as a person of full value, I count as a human being and not just as prisoner number x. In the future I want to stay part of this group.” The issues most frequently discussed during sessions were poverty, war and genocide, gacaca, domestic problems,
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land conflict, social conflict, social reintegration, education, health, poisoning, polygamy, suicide and worries about the future.

Vignette

The following excerpt of the report of a sociotherapy session illustrates the evolvement of a discussion in this group.

“It all began when Celestin mentioned equality as an advantage of closed families, just as other points had been listed. But as soon as he said it, Laurent raised his hand to object and said: ‘What do you mean by equality? There is no way that a man can be equal to his wife, I don’t believe that, it is not possible.’ Knowing what he had said in the previous meetings, I (the researcher) chipped in and asked him what he himself understood by ‘gender equality.’ He replied by saying: ‘The way I understand equality is like today my wife has cooked the meals, made the bed and cleaned the house and tomorrow she says it is your turn to do what I did yesterday because we are equal now. But that is wrong. I cannot accept it, because as a man, I know my task is to cut firewood, farm, etc. I will not ask my wife to take on those tasks, she knows hers and I know mine.’ As soon as he had said that, Francois raised his hands to differ with him. He said: ‘I don’t agree with you, because first of all you don’t understand what equality is about, it is not about tasks at home, it is about being equal before the law, the way we all are equal before God.’ When he mentioned God, Laurent smiled and said: ‘I am glad you are bringing up God. When you read the Bible you better do it well. In the Bible it is clear God created woman out of the limb of a man, so how can they be equal?’ But Francois was not convinced and he gave an example of what happened in his family: ‘My Dad was rich, we had a good number of goats and cows, but when the time came for us to go to school, my Dad only sent us boys and left our sister at home to look after the animals. He used to say: “What else would a girl do apart from looking after animals?” And he said: ‘You all know it, my Dad was a wealthy person, and this is what I mean. Had he known that we are equal, he would have let our sister go to school like us.’ At this point I (the researcher) noticed that the participants took over the lead completely and we, the facilitators, sat there just watching how they exchanged views (meaning that they felt safe and self-confident).”

(Source: Byumba sociotherapy research report by Theoneste Rutayisire. The participants’ names have been changed to ensure anonymity.)
Facilitators

Out of the 107 trained facilitators, 13 left the program, for valid reasons: finding a full-time job, moving house due to heritage of land, or marriage elsewhere. Facilitators worked on a voluntary basis, but were given small incentives, food and travel fees. While working in couples, their individual attendance rate was 84%. They appeared to be motivated by: the positive impact of sessions on themselves; to help bear the suffering of Rwanda; receiving a certificate after performance; receiving additional training that enabled them to support the start of income-generating associations.

Local authorities

The sociotherapy program had not only been requested for, but was also supported by Byumba authorities, who were involved from the start of the program. Local leaders noticed positive effects. One female leader said about widows who participated in sociotherapy groups: “Before, I considered them as pitiful outcasts, as they did not collaborate with others in common activities, arguing they were too poor. But today they look smart; they wear clean clothes, attend meetings, participate in many activities, and operate in agricultural associations.” The EER Bishop noted in 2006 that the sociotherapy program socialized people. The headmaster of a secondary school said: “Neighbors, friends and colleagues visited each other after the war and genocide. Those meetings were always formal and aloof in character. We used to keep things inside. The sociotherapy method invites our people to meet in another way. It enables them to share daily worries and reflect on the painful past in a safe way. This is highly appreciated.” A specific expression of the appreciation of sociotherapy was its integration in the poverty eradication program of what was previously the Kisaro District in Byumba Province.

Vignette

“Shortly after sociotherapy came to Byumba, it elicited many different reactions, some of which expressed appreciation. Group facilitators appreciated the approach because it showed so many similarities with what was common in their culture. Others—from the training team to participants of sociotherapy groups—were amazed, wondering how it was possible for people to become friends and trust each other in such a short period of time! Some even wondered how people could easily become like members of one family. (...) While asking myself these
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and many others questions, it came to me that this sociotherapy method is a kind of gacaca system. (...) However, in sociotherapy there is democracy; everyone has the full right to express himself, and conclusions are only drawn when there is consensus within the group. In the traditional gacaca the population only had a limited say. The last words were reserved for the committee of the people with integrity.”

(Source: Pastor Emmanuel Ngendahayo, coordinator Byumba Sociotherapy Program)

The donor
In April 2006, upon the first positive responses to the sociotherapy program, the Dutch donor agency Cordaid encouraged the organization of a national workshop in Rwanda’s capital Kigali, under the heading: ‘The role of sociotherapy in community healing’. Representatives of different local NGOs, authorities, local organizations, universities, and the Rwandan Ministry of Health attended the workshop, together with delegates from Burundi, Uganda, DR Congo, and the Netherlands. Similarities and differences between various approaches in trauma healing, psychosocial support and reconciliation were discussed. The impact of the Byumba program was acknowledged, and delegates identified the method as valuable and potentially complementary to other interventions in the field. In particular, the program’s capacity to provide care to many within a limited period of time was appreciated. The delegates indicated they considered sociotherapy as a potentially relevant method for the whole Great Lake region. After the positive reception of the Byumba program, Cordaid agreed to proceed with it. Subsequently, it was explored if, and what kind of, body-oriented therapy might be an appropriate addition to the sociotherapy approach. Supervision for facilitators, expansion the program within Byumba province, and the development of another program in Nyangezi, DR Congo, were allowed. This latter program started in September 2007 with a first training. Field implementation followed in January 2008. Later, a third program was implemented in Nyamata, Rwanda.
Challenges

Major success factors of the sociotherapy program in Byumba have been the commitment of its staff and group facilitators, the active support of the EER Byumba, and the careful way the program was embedded in local structures and adapted to local culture. Challenges remain, however, as will be discussed below. Both facilitators and participants have made various demands for an extension of the program: to raise the number of group sessions; provide after-care for the beneficiaries; differentiate and add treatment methods; support income-generating activities; expand activities to other areas. Taken together, these demands were too much for the program to carry. It would require more coordination and more financial funding, which was not available. Although facilitators themselves urged to be allowed to give more support to the beneficiaries they were confronted with, this would exceed their capacities. However, it was obvious that for certain participants sociotherapy did not suffice to help alleviate the most serious trauma-related symptoms. There was a frequent call for individual trauma-focused counselling or psychotherapy. One may argue that individual psychological care provision could work against sociotherapy in its striving for social bonding, and that it could prevent beneficiaries from sharing issues within a sociotherapy group. Still, if resources would be available, an individual support offer to those with serious complaints which persisted despite support through sociotherapy, could meet existing psychological health needs. Such an addition would complement the program in a way consistent with the widely embraced IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings.15

Any new initiative needs the time and the opportunity to mature, and so did the Byumba sociotherapy program. Training, supervision and emotional support for the facilitators need ongoing attention. Also, proper steering of a larger and more complicated, multidisciplinary program requires investment in the development of the management skills of the program staff. Unfortunately, while in a period of economic adversity, when NGOs are struggling for survival and governmental bodies clearly set other priorities, major investments in programs such as the underlying are not be expected. The optimal situation would be the development of a differentiated support offer, combining community and focused psychosocial support with specialized mental health care, and with links to initiatives in related areas necessary for recovery, such as economy, justice and governance.
References

Chapter 5

Chapter 6

Psychometric properties and longitudinal validation of the Self-Reporting Questionnaire (SRQ-20) in a Rwandan community setting: a validation study

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6. Psychometric properties and longitudinal validation of the Self-Reporting Questionnaire (SRQ-20) in a Rwandan community setting: a validation study

Abstract

Background: This study took place to enable the measurement of the effects on mental health of a psychosocial intervention in Rwanda. It aimed to establish the capacities of the Self-Reporting Questionnaire (SRQ-20) to screen for mental disorder and to assess symptom change over time in a Rwandan community setting. Methods: The SRQ-20 was translated into Kinyarwanda in a process of forward and back-translation. SRQ-20 data were collected in a Rwandan setting on 418 respondents; a random subsample of 230 respondents was assessed a second time with a 3-month time interval. Internal reliability was tested using Cronbach’s alpha. The optimal cutoff point was determined by calculating Receiver Operating Curves, using semistructured clinical interviews as standard in a random subsample of 99 respondents. Subsequently, predictive value, likelihood ratio, and interrater agreement were calculated. The factor structure of the SRQ-20 was determined through exploratory factor analysis. Factorial invariance over time was tested in a multigroup confirmatory factor analysis. Results: The reliability of the SRQ-20 in women (α=.85) and men (α=.81) could be considered good. The instrument performed moderately well in detecting common mental disorders, with an area under the curve (AUC) of 0.76 for women and 0.74 for men. Cutoff scores were different for women (10) and men (8). Factor analysis yielded five factors, explaining 38% of the total variance. The factor structure proved to be time invariant. Conclusions: The SRQ-20 can be used as a screener to detect mental disorder in a Rwandan community setting, but cutoff scores need to be adjusted for women and men separately. The instrument also shows longitudinal factorial invariance, which is an important prerequisite for assessing changes in symptom severity. This is a significant finding as in nonwestern postconflict settings the relevance of diagnostic categories is questionable. The use of the SRQ-20 can be considered an alternative option for measuring the effect of a psychosocial intervention on mental health.

Background

A psychosocial intervention in Rwanda

The country of Rwanda experienced extreme violence during a genocidal 3-month period that started in April 1994. Over the preceding years, the country’s northern Gicumbi district had already been confronted with repeated acts of violence stemming from the same ethnic conflict. Although 16 years have passed since, many inhabitants still suffer from the emotional sequelae.
Since early 2006 a psychosocial community intervention is carried out in the Northern Province in Rwanda, in and around a small city called Byumba. It is a therapeutic group intervention (sociotherapy) aiming at social bonding and mental health recovery.1-3 No diagnostic criteria for participation have been defined, and the intervention is open to any adult (≥16 years) wanting to participate. Community members can also personally be invited when considered psychosocial problem cases by local sociotherapy group facilitators. Under the lead of these facilitators, sociotherapy groups meet weekly during a period of 15 weeks. Every 4 months a new series of groups start. Groups contain adult participants of both sexes with a wide age distribution.

Measurement of mental health in a postconflict setting
When contemplating our choice for an instrument to measure the intervention’s effect on mental health, we were aware of the questionnable relevance of diagnostic categories as defined by DSM-IV 4 or ICD-105 in a population recently affected by systematic violence.6-8 The high prevalence estimates of specific mental health problems usually established in such populations may reflect normal responses to severe environmental stress rather than disorders.9,10 Additionally, the intervention studied does not focus on subjects suffering from any specific disorder. Instead, local community leaders’ lay criteria for being a psychosocial problem case determine who will be beneficiaries of the intervention. Therefore, we chose to use a general case-finding instrument rather than one or more instruments indicative of specific diagnoses. For this purpose we selected the Self-Reporting Questionnaire (SQR-20).11,12

Validity of instrument translation
As the SRQ-20 had never been used in Rwanda before, we needed to translate the instrument into the country’s local language, Kinyarwanda, and to establish its validity and optimal cutoff point. English-language research instruments must be carefully adapted and translated before use in another culture. Different terminologies exist to classify criteria such adaptations must meet.13 Manson14 discusses adaptation of instrument items in terms of comprehensibility (meaning of item is evident), acceptability (item is not offensive), relevance (item relates to the underlying construct) and completeness (item fully covers equivalents between cultures). When connecting these terms to the forms of equivalence between original and translated instruments as mentioned earlier by Flaherty et al.,15 comprehensibility relates to semantic equivalence, acceptability to technical equivalence, relevance to content equivalence, and completeness to semantic, criterion or conceptual equivalence.13
Chapter 6

**Longitudinal validity**

We did not only use the SRQ-20 for its original purpose, i.e. case detection, but also to assess changes in scores over time. To our knowledge such use of the instrument has only been described once, but no data were provided about its longitudinal validity. We had to establish the instrument’s capacity to meet additional psychometric criteria regarding its factorial solution. Changes in the score of a symptom checklist preferably reflect changes in the severity of the (possible) disorder. However, changes in test score may also reflect a reappraisal of the items, i.e. a reappraisal of the symptoms or a reappraisal of their impact. This makes changes in mean scores difficult to interpret. If the factorial solution of the instrument is stable over time, the latter sort of change can be ruled out since item loadings are affected by a reappraisal of the items. Consequently, factorial invariance of the SRQ-20 is a prerequisite for assessing changes in symptom severity.

**Study objectives**

The aim of this study was multiple. First we assessed the SRQ-20’s capacity to screen for mental disorder in a Rwandan community setting. Next, we evaluated the psychometric properties of the instrument. Finally, we tested the stability of the factorial solution over time.

**Methods**

**Study site and population**

The sample for this study includes a mixture of beneficiaries of the intervention and their relatives, friends or close collaborators as well as individuals who were randomly selected in a nearby region not reached by the intervention.

**Instrument**

The SQR-20 could be expected to show reliability and validity for case detection in the Rwandan context. The instrument is a 20-item subset of the SRQ developed by the World Health Organization for screening the presence of mental disorder in patients contacting primary health care settings. The complete SRQ consists of 25 questions, which have to be answered by “yes” or “no.” Of these 25 questions, 20 are related to neurotic symptoms, 4 to psychotic symptoms and 1 to convulsions. The SRQ-20 consists of the neurotic items only. These reflect depressive symptoms, anxiety, and psychosomatic complaints and have been found to detect probable cases of common mental disorder with reasonable accuracy. The instrument met several criteria for use in this study, which was carried out
by interviewers with limited training, within a limited period of time, among a large number of respondents, most of whom were illiterate. It is a self-report questionnaire; for illiterate respondents the questions may be read aloud by interviewers. Its administration time is 5–10 minutes. The questions of the instrument are written in a simple, easy-to-understand language, and cover many important areas of psychopathology. The SRQ-20 has been used in many community-based surveys conducted in developing countries. Additional to the widespread use of the 20-item version, the decision not to include items related to psychosis for the present study was also based on information from sociotherapy group facilitators: psychotic persons tended not to participate in the groups; not any psychotic participant was known of. The SRQ-20 items are scored 0 (“no,” symptom absent) or 1 (“yes,” symptom present). Item scores are summarized to obtain a total score. A score above cutoff point indicates the existence of a probable mental disorder. A cutoff score of 8 is widely used. However, optimal cutoff scores are shown to vary considerably across cultures, languages, settings, gender et cetera. Factor structures of the SRQ-20 also vary across populations, ranging from 2 to 7. Overall correspondence among the factor structures of the SRQ-20 is not found. So, at this stage the use of factor structures as subscales is not recommended. Besides, the variation in cutoff scores and factor structures emphasizes the need for performing separate validity studies among different populations.

Instrument translation
For this study, all SRQ-20 items were translated into Kinyarwanda by a bilingual Rwandan collaborator of the evaluation study (ThR), who was familiar with the intervention program and the (mental) health issues addressed by the instrument. Blind back-translation was done by another bilingual Rwandan, who was independent from, and not familiar with the intervention program or the study. This back-translation was examined by the first translator together with two other researchers (WFS, FV), which led to one minor change in the translation. Subsequently, the comprehensibility, acceptability, relevance and completeness of all items were discussed with the eight Rwandan interviewers working for the evaluation study. No changes were considered necessary.

Study sample
The SRQ-20 was administered to a sample of 418 adults (16 years and up). Amongst these were 97 intervention (sociotherapy) group participants who had been selected randomly out of 10 sociotherapy groups in or relatively near the study site (Byumba city) and yet correctly representing the intervention group
with respect to gender and to urban or rural living situation; 92 relatives, friends or close collaborators of intervention group participants, i.e. 1 such person for every participant (these persons had each been randomly selected out of 5 persons listed by every group participant); and 229 randomly chosen other inhabitants of the district (the effectiveness study’s control group). This sample will be referred to as the baseline sample (BA). Informed consent was obtained by use of an explanatory text, which because of the high illiteracy rate was read aloud. The interviewers were 4 men and 4 women who had been trained by two of the researchers (WFS, FV) during a 3-day training. They were all Rwandan sociology students at the Institut Polytechnique de Byumba. They administered the questionnaire in a respectful way, not stopping respondents at “yes” or “no” and allowing more lengthy explanations.

A subsample of 99 was formed to establish the instrument’s local validity and optimal cutoff point. This subsample will be referred to as the clinical interview (CI) sample. As no diagnostic or screening instrument with proven validity in a Rwandan context exists to be used as a “gold standard,” this subsample was clinically assessed by experienced clinicians. Meetings of intervention group participants and their selected relatives, friends or close collaborators were organized for administration of the SRQ-20. All respondents scoring 8 or above and an equal number scoring 7 or below, irrespective of whether they were intervention group participants or not, were also assessed by the clinicians, who were blind for the SRQ-20 scores. This procedure was repeated over similar meetings with different respondents until 99 clinical assessments were completed.

Unfortunately, these assessments could not be done by trained clinicians from the same culture as the respondents. Rwanda harbors only 3 native psychiatrists, and these were not available for the study. Instead, the assessments were carried out by 3 of the Dutch researchers (WFS, FV, AvL), who are clinicians as well; all have broad experience in assessing psychopathology in nonwestern populations. They conducted a semistructured interview, covering listed core symptoms of the disorders that were most likely to prevail in the specific context, i.e. depression, posttraumatic stress disorder, generalized anxiety disorder and panic disorder. The interview also included questions to exclude psychosis and normal grief. If an assessor concluded that any of the mentioned disorders was present or possibly present in a subject, this subject was recorded as a “case.” Interview agreement among the assessors was obtained by the following procedure: The assessors themselves designed the list of core symptoms as mentioned above. Next, two assessors witnessed an assessment carried out by the third one, after which all three independently made their own conclusions about “caseness” of the respondent. There wasn’t any verbal or nonverbal communication between
the three clinicians until all three had separately made and documented their diagnostic conclusions. The assessors took turns in taking the witnessing or the interviewing role. This procedure was followed 16 times, 15 times of which all 3 assessors drew identical conclusions. This resulted in 96% overall agreement and an interrater reliability (Fleiss’ kappa) of 0.92. Since the assessors did not each by themselves conduct assessments of the same subjects, these agreement statistics might be inflated. The assessments were carried out with the aid of two of the intervention program’s translators, familiar with western as well as local psychological idioms, and aware of the relevance of literal and neutral translation. The translators were also quite familiar with the clinicians, which allowed them to note and clarify possible (crosscultural) misunderstandings between interviewers and respondents.

To assess the instrument’s longitudinal validity a second, larger subsample (230 respondents) was reassessed with the SRQ-20 by the same interviewers after a 3-month period, i.e. right after the intervention. This subsample will be referred to as the reassessment (RA) sample. It was formed by all sociotherapy group participants and their relatives, friends or close collaborators who were available for both assessments, completed by a random selection of respondents from the control group matched on sex and age.

**Data analysis**

T-tests were conducted to compare mean scores of the SRQ-20. Internal reliability of the instrument was analyzed with Cronbach’s alpha. Receiver operating characteristics (ROC) curves were used to explore the overall accuracy of the instrument, in order to distinguish correctly between case and noncase, characterized by an area under the curve value (AUC). AUC values range from 0 to 1.0, in which a value of 1.0 indicates a perfect prediction and a value of 0.5 indicates a prediction equal to chance. It was tested whether the criterion value of the SRQ-20 exceeded chance level (AUC>0.5). Diagnostic sensitivity is the probability of a positive test result given the condition is present. Specificity is the probability of a negative test result given the condition is absent. Subsequently, a positive predictive value (PPV) is the probability of a positive diagnosis after a positive screening, and negative predictive value (NPV) is the probability of a negative diagnosis after a negative screening. Predictive values range from 0 to 1, in which a value closer to 1 reflects a better predictive value. Positive likelihood ratio (PLR) and negative likelihood ratio (NLR) provide direct estimates of an individual’s chance of caseness. Likelihood ratios incorporate both sensitivity and specificity of the test. The PLR indicates how much the odds of the disease increase when a test is positive. The NLR indicates how much the odds of the disease decrease when a test is negative.
The degree of agreement between the results from the SRQ-20 and the clinical interviews is expressed both in percentage agreement and in Cohen’s kappa coefficients. A kappa value of 1 reflects a perfect agreement between both observers, a kappa value of 0 reflects a degree of agreement as expected on base of chance. Kappa values in the range of 0.4–0.75 can be interpreted as fair, kappa values exceeding 0.75 as good, and kappa values below 0.2 as slight agreement. Diagnostic sensitivity and diagnostic specificity were plotted against each other to establish the optimal cutoff point. ROC-analysis and assessment of the psychometric qualities of the SRQ-20 were performed in the CI sample.

To test the longitudinal factorial invariance of the SRQ-20 we used exploratory factor analyses and confirmatory factor analyses. A product–moment correlation coefficients matrix was used to perform the factor analyses. We started with performing an exploratory factor analysis using principal axis factoring extraction in the BA sample to uncover the covariances between the twenty items of the SRQ-20. To facilitate interpretation, varimax rotations were performed on the initial factor solutions. Based on the Kaiser-Guttman rule, factors with eigenvalues larger than 1 were retained for subsequent analyses. An item was assigned to a factor and used for factor labelling if its loading on that respective factor was larger than 0.35 and its loading to any other factor smaller than 0.35. Subsequently, confirmatory factor analyses were performed. Confirmatory factor analysis (CFA) involves testing a series of hypothesized models relating to the instrument’s measurement properties across samples. We started with testing the absolute fit of the factor structure in the BA and RA sample, consecutively. Subsequently, we used multigroup CFA to examine the extent of measurement invariance across these samples. In this analysis the fit between two hypothesized factor models is compared. We distinguish the following models: 1) Model A: a model in which the number and pattern of factors are equal across samples; 2) Model B: model A with the additional constraint that factor loadings are equal across samples; 3) Model C: model B with the additional constraint that covariance matrices of factors are equal across samples; 4) Model D: model C with the additional constraint that error variances are equal across samples. Increment of fit between 1) model A and model B; 2) model B and model C; 3) model C and model D was tested using a $\chi^2$ test. If $\Delta \chi^2$ is not significant, the hypothesis of factorial invariance is tenable. Sample sizes were adequate to test the fit of medium-sized models. Datanalyses were performed using PASW 17.0. Confirmative factor analyses were performed using Amos 16.0.
Results

Sociodemographic characteristics
Male–female ratios were around 2:3 for the BA and CI samples and around 1:3 for the RA sample. Mean ages were around 35 years for the BA and CI samples and around 37 years for the RA sample. See Table 1.

Predictive validity
Reliability of the SRQ-20 over all samples is considered good (alphas ranging from 0.83 in CI sample to 0.87 in BA sample). Reliability in men and women, respectively, was also considered good (men: \( \alpha = .81 \); women: \( \alpha = .85 \)). Mean total score of the SRQ-20 is 8.5 (S.D.=3.5). Total scores showed no significant differences between men and women. Persons diagnosed having a mental disorder by the clinicians scored significantly (\( T(97)=4.325; \ P<.00 \)) higher (mean=11.3; S.D.=4.1) compared to those having no mental disorder (mean=7.3; S.D.=4.2). As no cases of psychosis were identified during clinical interviews, the existence of psychosis can be ruled out as a cause for disagreement between SRQ-20 scores and clinical diagnoses.

The SRQ-20 performed moderately well in detecting common mental disorders. The AUC was 0.76. When analysed separately for men and women the SRQ-20 showed to perform equally well in men (AUC=.74) and women (AUC=.76). See Figure 1 and Table 2.

In evaluating the SRQ-20 as a potential screener for common mental disorder the most appropriate cutoff score is a trade-off between a high sensitivity and an acceptable specificity. In Rwanda, the SRQ-20 performs moderately well as a screener with a score of 10 as the optimal local cutoff point (sensitivity 0.69; specificity 0.79; see Table 3). The SRQ-20 performed better in women than in men. Cutoff scores differed also between men and women. The optimal cutoff point for men is 8 (sensitivity 0.69; specificity 0.65), while the optimal cutoff point for women is 10 (sensitivity 0.81; specificity 0.80). In evaluating likelihood ratios the optimal cutoff score combines the largest PLR with the smallest NLR. Both positive and negative predictive values and positive and negative likelihood ratios confirm the optimal cutoff scores. The PPV’s of the cutoff scores can be considered good. The NPV’s are relatively poor. This is consistent with the assumption that common mental disorder is prevalent in this traumatized society.

Cohen’s kappa values of the SRQ-20 for the optimal cutoff scores were found fair in the total sample and among the women. The kappa value was poor to moderate for men.
Exploratory factor analysis
Principal factors extraction with varimax rotation was performed on all items of the SRQ-20 for the total sample (n=418). Five factors were extracted, explaining 38% of the total variance. The number of items included for all five factors was 14. Six SRQ-20 items were not assigned to any factor, due to factor loadings <.35 (items 4, 5, 14 and 17) or factor loadings >.35 on multiple factors (items 6 and 8). The factors reflected the following content: factor 1: emotional and bodily symptoms of depression (items 1, 2, 3, 9 and 10); factor 2: disability (items 11, 12 and 13); factor 3: digestive complaints (items 18 and 20); factor 4: lack of energy (items 7 and 19); and factor 5: loss of self esteem (items 15 and 16). Eigenvalues ranged from 5.80 to 1.02.

Confirmatory factor analysis
To determine whether the SRQ-20 factor structure was invariant over time, single and multi sample confirmatory factor analysis was performed on the 5 factors of the SRQ-20. The 5 factors were hypothesized to covary with one another. The assumption of normality was evaluated through AMOS 16.0. The RA sample showed significant skewness. Mardia’s coefficient for multivariate kurtosis was 9.289 in the BA sample and 17.122 in the RA sample, indicating a non-normal multivariate distribution of the data. No outliers were observed (using Mahalanobis distance). CFA was performed using data from the BA sample (n=418) and RA sample (n=230). There were no missing data. We identified the fit of the hypothesized model in the single samples. In the BA sample the hypothesized model showed good fit with the data, where $\chi^2(67)=93.243$, RMSEA=.031, RMR=.008, GFI=.97, CFI=.98 and TLI=.97. In the RA sample the model showed excellent fit with the data, where $\chi^2(67)=70.001$, RMSEA=.014, RMR=.008, GFI=.96, CFI=1.00 and TLI=.99. Subsequently we conducted a multisample CFA. Maximum likelihood estimation was employed to test the fit of all models. The hypothesized model fitted the data well ($\chi^2(134)=163.27, P=.043$). A follow-up Bollen-Stine bootstrapped analysis was performed with 200 replications to correct for non-normality of the data. This resulted in better $\chi^2$ and $P$-values, $\chi^2=146.36$ and $P=.214$. No significant differences were found between the unconstrained model and the models with constrained factors, factor loadings and covariances. There was, however, a significant difference between model C and model D, indicating a longitudinal invariance on the residual level. See Table 4 for detailed multigroup-comparison fit indices.
Discussion
This study shows the SRQ-20 can be used as a screener to detect mental disorder in a Rwandan community sample. However, cutoff scores need to be adjusted. Rwandan women and men have different optimal cutoff scores. Among men a cutoff score of 8 was optimal, among women a cutoff score of 10 was optimal. Differences between men and women were also found in a validation study among a traumatized population in Eastern Afghanistan. Compared with other traumatized populations, the cutoff in the Rwandan population is relatively low, suggesting a more introvert expression of psychological distress.

In the present study, the SRQ-20 performed less well in males than in females. This may be due to the country’s atmosphere, which is still paranoid after the mass violence that took place. Especially men show a tendency not to trust others easily and to keep problems inside. Qualitative information consistently points out that men in Rwanda generally do not share emotional problems. This may have impacted the intervention’s effect on men as well as the validity of data collected from male respondents. It may also explain the difference in optimal cutoff points between men and women.

A comparable problem may apply to ethnic background. Given the country’s recent history this is an extremely sensitive issue, not to be addressed by interviewers during a brief one-time meeting. Besides, many residents have a mixed Hutu–Tutsi background—the distinction which is usually made.

Yet, one cannot rule out the possibility that ethnic background impacted the way people responded to the intervention as well as to certain questions of the interview, and therefore acts as an independent variable. The same goes for age, as age impacts the mental health consequences of past experiences. Our study samples represent all age groups, and therefore our findings only apply to the use of the SRQ-20 in random community samples.

For the present study we used a stratified sample to ensure sufficient variance in our SRQ scores. The actual prevalence of psychopathology in the Rwandan community is unknown and, as a result, we were not able to weigh the sample accordingly in our analyses. This is an important limitation of our study. Misrepresentation of the prevalence rate does not affect PPV and NPV estimations, but it does bias sensitivity, specificity, PLR, NLR, agreement and kappa estimations. However, the extent of this bias is unknown. Several studies in war-affected populations (particularly in Rwanda) found extremely high rates of depression, PTSD and other anxiety disorders. The prevalence in our sample was 69%. It should be noted that we did not use diagnostic instruments but a screener, thereby identifying possible cases and capturing a variety of possible diagnoses in one measure. Therefore, a very high prevalence could
be expected in our sample, quite possibly representing the actual prevalence. Future research is needed to confirm the sensitivity and specificity estimates of the SRQ-20 in a Rwandan community sample.

When dichotomous items are concerned, ideally a tetrachoric matrix should form the input of the exploratory factor analysis and confirmatory factor analyses.\textsuperscript{45} In our case, the resulting tetrachoric matrix calculated using SPSS-Macro TetCorr Version 2.3\textsuperscript{46} from our data was nonpositive definite, which made it impossible to compute a factor solution using principal axis factoring. This is a common problem in analyzing symptom data, often caused by large correlations, insufficient sample size, or a non-normal underlying distribution.\textsuperscript{45,47} Principal component analysis is less sensitive to these issues, but since our purpose was to structure the correlations among our variables, e.g., to explore a parsimonious representation among our measured variables instead of reducing the number of items, we decided against it. Also, the bias caused by using this method of analysis is less important when exploring the clustering of the items is the main purpose of the analysis, as it was in our case. All things considered, we chose to employ a less sophisticated method of analysis, i.e. employing a Pearson's correlation matrix as basis for our factor analysis. Previous studies on the factor structure of the SRQ also used a Person correlation matrix as basis of their analyses.\textsuperscript{21,29,30}

Since the factor structure of the SRQ-20 in this study proves to be time invariant, the instrument meets an important criterion to measure symptom change over time.\textsuperscript{17} The results show that the number of factors, factor loadings and covariances of the factors remain equal over time. Only at residual level time invariances exist. This residual invariance might account for the differences in factor structures found across cultures. It is, however, important to realize that differences exist between our BA and RA samples, which may have caused residual invariance. Also, residual variances are reflective of individual variances in response to factors such as the intervention.\textsuperscript{48} That is, at pretest the variances will be more homogeneous because individuals are more similar with regard to their level of psychological complaints. At posttest individual differences will be more pronounced because some participants respond favorably to the intervention, whereas others do not. Furthermore, in our samples data were not multivariate normally distributed. It is known that non-normality inflates the $\chi^2$-statistic of overall model fit, thereby increasing the chance of type 1 errors, i.e. the chance to abusively reject a hypothesized model.\textsuperscript{49} Overall, methodologists agree that the test of equal residual variances is highly stringent and will rarely hold in realistic datasets.\textsuperscript{50} Residual invariance is therefore not as important to the evaluation of measurement invariance as the test of equal form and factor loadings.
The data in our samples were categorical and non-normal in nature. Maximum likelihood estimation (MLE) of models with this type of data is not recommended. Asymptotic Distribution Free (ADF) or robust weighted least square estimator (WLSMW) might be a more appropriate choice. Unfortunately, the use of ADF requires sample sizes that exceed 1,000 cases and small models. So, while ADF analysis may be theoretically optimal, it is not a practical method. Also, WLSMW is not offered in AMOS 16.0. Since MLE is less problematic when analyzing the covariance matrix, and since Fouladi found in a simulation study that the Bollen-Stine test of overall model fit performed well relative to other methods of testing model fit, we decided to estimate the model with MLE and additional Bollen-Stine bootstrapping.

The factor structure of the SRQ-20 in this study differed from factor structures reported in literature. Even in comparable settings numbers and contents of factors showed differences. For instance, in a primary care sample in an Eastern Afghanistan postconflict setting, the SRQ-20 resulted in two factors, namely “common disorder” and “social disability.” This study further emphasizes the need to establish the optimal cutoff scores for each setting, and not to use factors as separate subscales.

Lastly, this study confronted the researchers with various crosscultural challenges. Extensive qualitative research and ample time and human resources are required to optimally deal with issues like the local validity of items of the SRQ-20, limited response options (“yes” or “no”), and culturally sensitive clinical assessment. Our limited resources to tackle these issues may have impacted the cross-cultural validity of our findings.

**Conclusions**

The SRQ-20 can be used as a screener to detect mental disorder in a Rwandan community sample. However, cutoff scores need to be adjusted. In this study setting, the instrument also shows longitudinal factorial invariance, which is an important prerequisite for assessing changes in symptom severity. This is a significant finding as in nonwestern postconflict settings the relevance of diagnostic categories is questionable. The use of the SRQ-20 can be considered an alternative option for measuring the effect of a psychosocial intervention on mental health.
References


46. Enzmann D (2007). Tetcorr version 2.3. Available at: http://www2.jura.uni-hamburg.de/instkrim/kriminologie/Mitarbeiter/Enzmann/Software/Enzmann_Software_.html


Table 1. Sociodemographic characteristics of the three study samples

<table>
<thead>
<tr>
<th></th>
<th>Baseline (BA) sample</th>
<th>Clinical Interview (CI) sample</th>
<th>Re-assessment (RA) sample</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of respondents</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>418</td>
<td>99</td>
<td>230</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males, no (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>163 (39.0)</td>
<td>42 (42.4)</td>
<td>55 (23.9)*</td>
</tr>
<tr>
<td>Females, no (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>255 (61.0)</td>
<td>57 (57.6)</td>
<td>175 (76.1)</td>
</tr>
<tr>
<td><strong>Age (mean, S.D.)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16-87 (μ=35.3; S.D.=15.0)</td>
<td>16-74 (μ=34.7; S.D.=14.1)</td>
<td>16-77 (μ=37.2; S.D.=13.9)*</td>
</tr>
<tr>
<td>**Treatment condition¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct, no (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>97 (54.8)</td>
<td>52 (52.5)*</td>
<td>90 (39.1)*</td>
</tr>
<tr>
<td>Indirect, no (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>92 (23.2)</td>
<td>47 (47.5)</td>
<td>77 (33.5)</td>
</tr>
<tr>
<td>Control, no (%)</td>
<td></td>
<td>229 (22.0)</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>63 (27.4)</td>
</tr>
</tbody>
</table>

* P<0.05, means and proportions tested against the total sample

¹ direct = sociotherapy group participants; indirect = relatives, friends or close collaborators of sociotherapy group participants; control = random community sample
**Figure 1.** Receiving Operator Characteristic (ROC) curve of the SRQ-20 scores in the presence or absence of caseness as diagnosed by the clinicians

![ROC Curve](image)

Diagonal segments are produced by ties.

**Table 2.** SRQ-20: Area under the curve, lower and upper limit

<table>
<thead>
<tr>
<th></th>
<th>AUC</th>
<th>LL</th>
<th>UL</th>
<th>Z-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.74</td>
<td>0.59</td>
<td>0.90</td>
<td>3.077</td>
<td>0.013</td>
</tr>
<tr>
<td>Female</td>
<td>0.76</td>
<td>0.62</td>
<td>0.91</td>
<td>3.467</td>
<td>0.002</td>
</tr>
<tr>
<td>Total</td>
<td>0.76</td>
<td>0.66</td>
<td>0.86</td>
<td>4.815</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
### Table 3. Psychometric properties of the SRQ-20 with different cutoff scores

<table>
<thead>
<tr>
<th>Cutoff</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
<th>PLR</th>
<th>NLR</th>
<th>Agreement</th>
<th>kappa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.69</td>
<td>0.59</td>
<td>0.81</td>
<td>0.43</td>
<td>1.67</td>
<td>0.52</td>
<td>62%</td>
<td>0.24</td>
</tr>
<tr>
<td>8*</td>
<td>0.69</td>
<td>0.65</td>
<td>0.83</td>
<td>0.47</td>
<td>2.01</td>
<td>0.47</td>
<td>67%</td>
<td>0.31</td>
</tr>
<tr>
<td>9</td>
<td>0.54</td>
<td>0.69</td>
<td>0.77</td>
<td>0.44</td>
<td>1.74</td>
<td>0.67</td>
<td>64%</td>
<td>0.21</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.81</td>
<td>0.66</td>
<td>0.90</td>
<td>0.48</td>
<td>2.38</td>
<td>0.28</td>
<td>70%</td>
<td>0.39</td>
</tr>
<tr>
<td>9</td>
<td>0.81</td>
<td>0.71</td>
<td>0.91</td>
<td>0.52</td>
<td>2.78</td>
<td>0.27</td>
<td>74%</td>
<td>0.44</td>
</tr>
<tr>
<td>10*</td>
<td>0.81</td>
<td>0.80</td>
<td>0.92</td>
<td>0.62</td>
<td>4.16</td>
<td>0.23</td>
<td>81%</td>
<td>0.56</td>
</tr>
<tr>
<td>11</td>
<td>0.69</td>
<td>0.83</td>
<td>0.87</td>
<td>0.61</td>
<td>4.03</td>
<td>0.38</td>
<td>79%</td>
<td>0.50</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.76</td>
<td>0.61</td>
<td>0.86</td>
<td>0.45</td>
<td>1.97</td>
<td>0.39</td>
<td>66%</td>
<td>0.31</td>
</tr>
<tr>
<td>8</td>
<td>0.76</td>
<td>0.66</td>
<td>0.87</td>
<td>0.48</td>
<td>2.12</td>
<td>0.37</td>
<td>69%</td>
<td>0.36</td>
</tr>
<tr>
<td>9</td>
<td>0.69</td>
<td>0.70</td>
<td>0.84</td>
<td>0.49</td>
<td>2.30</td>
<td>0.44</td>
<td>70%</td>
<td>0.35</td>
</tr>
<tr>
<td>10*</td>
<td>0.69</td>
<td>0.79</td>
<td>0.86</td>
<td>0.57</td>
<td>3.22</td>
<td>0.39</td>
<td>76%</td>
<td>0.45</td>
</tr>
<tr>
<td>11</td>
<td>0.55</td>
<td>0.86</td>
<td>0.82</td>
<td>0.62</td>
<td>3.86</td>
<td>0.52</td>
<td>77%</td>
<td>0.42</td>
</tr>
</tbody>
</table>

* Optimal cutoff score; scores above this cutoff value give the best indication for possible psychopathology.

Note: PPV: positive predictive value; NPV: negative predictive value; PLR: positive likelihood ratio; NLR: negative likelihood ratio.
**Table 4. Results of multigroup confirmative factor analysis using data from BA sample (n=418) and RA sample (n=230)**

<table>
<thead>
<tr>
<th>Model A: Equal factors</th>
<th>( \chi^2 )</th>
<th>( \Delta \chi^2 )</th>
<th>( \Delta df )</th>
<th>( P )</th>
<th>RMSEA (90% CI)</th>
<th>RMR</th>
<th>GFI</th>
<th>CFI</th>
<th>TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>163.27</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.018 (0.003-0.028)</td>
<td>0.008</td>
<td>0.97</td>
<td>0.99</td>
<td>0.98</td>
</tr>
<tr>
<td>Model B: Equal factor loadings</td>
<td>165.76</td>
<td>2.50</td>
<td>9</td>
<td>0.98</td>
<td>0.016 (0.000-0.025)</td>
<td>0.008</td>
<td>0.97</td>
<td>0.99</td>
<td>0.99</td>
</tr>
<tr>
<td>Model C: Equal covariances</td>
<td>190.29</td>
<td>24.53</td>
<td>15</td>
<td>0.06</td>
<td>0.018 (0.004-0.026)</td>
<td>0.012</td>
<td>0.96</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>Model D: Equal error variances</td>
<td>269.23</td>
<td>78.94</td>
<td>14</td>
<td>0.000</td>
<td>0.030 (0.023-0.036)</td>
<td>0.013</td>
<td>0.95</td>
<td>0.95</td>
<td>0.95</td>
</tr>
</tbody>
</table>

Note: \( \Delta \chi^2 \): nested \( \chi^2 \) difference; \( \Delta df \): nested df difference; \( P \): \( P \)-value assuming the less restrained model to be correct; RMSEA: root mean square error of approximation; 90% CI: 90% confidence interval; RMR: root mean square residual; GFI: goodness of fit index; CFI: comparative fit index; TLI: Tuckler-Lewis Index.
Chapter 7

The effect on mental health of a large-scale psychosocial intervention for survivors of mass violence: a quasi-experimental study in Rwanda

Scholte WF
Verduin F
Kamperman AM
Rutayisire T
Zwinderman AH
Stronks K

7. The effect on mental health of a large-scale psychosocial intervention for survivors of mass violence: a quasi-experimental study in Rwanda

Abstract

**Background:** War has serious and prolonged mental health consequences. It is argued that postemergency mental health interventions should not only focus on psychological factors but also address the social environment. No controlled trials of such interventions exist. We studied the effect on mental health of a large-scale psychosocial intervention primarily aimed at social bonding in postgenocide Rwanda. The program is implemented at population level without diagnostic criteria for participation. It is open to any person older than 15 years, and enables participation of over 1500 individuals per year. We postulated that the mental health of program participants would improve significantly relative to nonparticipants. **Methods and Findings:** We used a prospective quasi-experimental study design with measurement points pre- and postintervention and at 8 months follow-up. One hundred adults from both sexes in the experimental condition entered the study; follow-up measurements were taken from 81 adults. We selected a control group of 100 respondents with similar age, sex and symptom score distribution from a random community sample in the same region; of these, 73 completed the study. Mental health was assessed by use of the Self Reporting Questionnaire (SRQ-20), a 20-item instrument to detect common mental disorders in primary health care settings. Mean SRQ-20 scores decreased by 2.3 points in the experimental group and 0.8 in the control group ($P=.033$). Women in the experimental group scoring above cutoff at baseline improved with 4.8 points to below cutoff ($P<.001$). Men scoring above cutoff at baseline showed a similar trend which was statistically nonsignificant. No adverse events were observed. **Conclusions:** A large-scale psychosocial intervention primarily aimed at social bonding caused a lasting improvement of mental health in survivors of mass violence in Rwanda. This approach may have a similar positive effect in other postconflict settings.

Introduction

Violent conflict has serious and prolonged mental health consequences.$^{1,6}$ Postemergency mental health interventions are mostly aimed at persons at risk of psychiatric disorder, particularly posttraumatic stress disorder (PTSD).$^7$ However, opinions differ regarding the value of such psychological trauma-focused care.$^8$ As organized violence affects individuals as well as communities and social institutions, it is argued that mental health interventions should
not only focus on internal psychological factors but also address aspects of the social environment which could promote healing and adaptation. Unlike trauma-focused approaches, psychosocial interventions focus primarily on stressful environmental conditions, such as the division within communities, the destruction of social networks, and the resulting loss of social and material support. Altering these conditions may foster people’s inherent capacity to recover, cause improvement in nonspecific symptoms among persons with and without specific disorders and, in some cases, be enough to reduce symptoms below the threshold of clinical disease. Psychosocial interventions are preferably implemented at population level and directed at groups rather than individuals. Group interventions have shown to have a positive impact on health outcomes in other areas of public health. In war-affected societies a particular objective may be the restoration of social connectedness and mutual support. To date, the literature on humanitarian responses to disaster does not reflect any substantive discussion of comprehensive psychosocial interventions, and no controlled trials of such interventions exist. We carried out a controlled study to assess the effect on mental health of a psychosocial intervention program which makes use of a therapeutic group approach called sociotherapy. It primarily aims at social bonding and secondarily at mental health improvement. We postulated that the mental health of program participants as assessed with use of the Self Reporting Questionnaire (SRQ-20) would improve significantly relative to nonparticipants.

The intervention has been taking place since early 2006 in Gicumbi district (the former Byumba province) in the north of Rwanda, and is presently still running. The population of Rwanda experienced extreme violence during the genocide of 1994, when within a 3-month period about 800,000 people were killed; roughly 2 million refugees left the country, and around 1 million people were internally displaced. Only a few studies examined the mental health status of Rwanda’s postgenocide population, but all show high rates of mental health disorders, particularly depression and PTSD.

The sociotherapy program is community-based, that is, it is carried out by trained Rwandan community leaders, and is implemented at population level. It enables over 1500 beneficiaries per year to participate. No diagnostic criteria for participation have been defined, as the program aims to be accessible to all community members.

This study took place from October 2007 to September 2008, preceded by a pilot study over 2005–2006. Measurements were taken pre- and postintervention and at 8 months follow-up.
Methods

Ethics statement

Approval for this study was gained from the Medical Ethics Committee of the Academic Medical Center in Amsterdam, Netherlands. This included approval for the consent procedure used (see under paragraph 'Interviews').

Intervention

Sociotherapy has its roots in England during the second world war, when society had to cope with many psychiatric casualties. The technique therapeutically uses interaction between individuals and their social environment to help subjects to reassess and redefine values, norms, relations and possible collaborations. The principal premise is that reaching a certain level of mutual respect, trust, and care in group interaction helps to increase the problem-solving capacity and subjective mental health in individual group participants. In sociotherapy with survivors of systematic violence, safety and the setting of democratic rules are additional primary objectives. The intervention does not specifically aim at sharing or processing traumatic memories. Trauma symptoms are addressed through psychoeducation and advice. Key elements of the working methods are debates and the exchange of experiences and coping strategies among participants, exercises, games and mutual practical support.

The sociotherapy program studied here was set up in collaboration with the Église Episcopale au Rwanda (EER), funded by the development organization Cordaid and technically supported by a Dutch agency, Equator Foundation. Regional and national authorities in Rwanda gave approval. Wide support on community level was gained through public acclamation by the EER. Close collaboration with local staff, allowing local control and embracing local social manners and values, were key to the program’s viability. The program was open to any adult (≥16 years) wanting to participate. Given the large number of applications over the course of time it appeared to fulfill a widely felt need. Also, community members could personally be invited when considered psychosocial problem cases by sociotherapy group leaders. Groups contained 10 to 15 participants and were mostly mixed: both sexes, various ethnic backgrounds, wide age distribution. 45 groups ran simultaneously, having weekly meetings over a period of 15 weeks, lasting 3 hours each. Participants were extremely compliant, although there was no material gain by attending. Group leaders were local people, familiar with the region's history and current living situation. They had received 3 months of training from Equator staff and were regularly supervised. They received no fees, though travel expenses were reimbursed.
Sociotherapy’s most prominent principles and phases have been described elsewhere.\textsuperscript{22,23} The method is not strictly protocolized. In nonclinical, international settings it is essential to continuously tailor it to the actual context and group. Group leaders are allowed to attune their routines to the characteristics of their groups (e.g., degree of trust, nature of problems) and to their own affinity and experience, putting different emphases on elements like rules, role plays, and spirituality. For example, group leaders who are pastors may stimulate praying and singing, while teachers may encourage role plays and debate about social rules; others again may take a less active role, supporting the group to share experiences. There were some core principles, however, that all group leaders complied to: two-way communication, shared leadership, consensus in decision making, and social learning through actual social interaction. Additionally, each subsequent phase of a group had a different focus, notably safety, trust, care, respect, rules and memories. While the exact working mechanism of sociotherapy is not known, it is plausible that in Rwanda it brings people whose relationships have been severely ruptured closer to one another.\textsuperscript{24}

Instrument
Data was collected at the start of the intervention (baseline, T0), directly after (T1), and at 8 months follow-up (T2). Demographic data (sex, age, level of education and socioeconomic status) were documented. Assessments were done by use of the Self Reporting Questionnaire (SRQ-20), an instrument developed by the World Health Organization (WHO) for screening for common mental disorders in primary health care settings. The instrument is often used in developing countries.\textsuperscript{25,26} When patients are literate it can be self-administered, but in developing countries it is usually administered by lay interviewers. It consists of 20 yes/no questions about mood, thinking capacity, feelings of anxiety and physical well-being. “Yes” answers result in a higher score, meaning a poorer mental health condition. Cutoff points vary considerably depending on setting and culture. A cutoff point of 7/8 is widely used.\textsuperscript{27} We (back-)translated the SRQ-20 to the local language, Kinyarwanda, and validated it for the actual context. The capacity of the SRQ-20 to identify probable psychopathology proved to be sufficient for men (AUC=.74) and women (AUC=.76). Reliability was considered to be good (Cronbach’s $\alpha=.83$). The optimal cutoff point was 7/8 for men and 9/10 for women [28]. We also validated the SRQ-20 for its capacity to assess change in symptom severity over time. The instrument’s factor structure proved to be time invariant; the number of factors, factor loadings and covariances of factors remained equal over time.\textsuperscript{28}
**Participants**

A pre- to postintervention test performed as a pilot study among sociotherapy participants \( n=77 \) showed a decrease of 2.7 (S.D. 4.2) of SRQ-20 mean scores (effect size 0.6). To establish a 2.7 effect with a standard .80 power, a minimum of 30 respondents in both the experimental and control group would be needed. To be on the safe side we aimed at larger numbers \( n=100 \) per study group. We did not aim at even higher numbers because of limited time, the large distances between the areas where respondents resided, and the low dropout rate during our pilot study.

**Experimental group.** Out of 45 sociotherapy groups starting simultaneously, the sociotherapy program staff selected 10 groups through connivance sampling, balancing the gender ratio. These appeared to be large groups, and an unexpected high number of 133 participants showed up at the interview sites. At T0 we interviewed all 133, but at T1 and T2 we had to restrict ourselves due to limited time and human resources. Therefore, we invited a random selection of 100 out of the 133 to form our experimental group.

**Control group.** We applied the following procedure to compose a control group that was equivalent at baseline with regard to our main outcome measure, the SRQ-20 score. During our pilot study, 2.5 times more respondents in the experimental group \( n=97 \) had baseline scores above cutoff than in the control group \( n=229 \). For the actual study we therefore aimed to interview 2.5 times \( n=250 \) more respondents than in the experimental group, to later select 100 out of these to compose a control group. We identified 5 regions within Gicumbi district where the program was not or had not been running so far, or for practical reasons would not start over the upcoming year. It could be assumed the inhabitants of these regions had experienced similar trauma exposure. Here, we randomly selected respondents through convenience sampling. Interviewers started at the top of a hill or in the centre of a village and each walked down a different footpath towards scattered houses or huts. An equal number of men and women, at home or in the fields, were randomly chosen and asked to participate. Finally 251 respondents were interviewed. After analysis of the data collected, we selected a group of 100 out of these for which the distribution of SRQ-20 scores matched that of the intervention group. For this purpose we used 8 clusters of scores (0-1, 2-3, 4-5, 6-7, 8-9, 10-12, 13-15, 16-20) and from each cluster randomly selected a number of respondents equal to the corresponding cluster in the experimental group. This final selection of 100 constituted our definite control group.
The effect on mental health of a large-scale psychosocial intervention

Interviews
Eight local interviewers were recruited; all were sociology students at the Institut Polytechnique de Byumba in Gicumbi. Their 1-week training addressed the principles of a longitudinal study design, interviewing techniques and our measuring instrument. They were involved in making the wording of the questions acceptable and understandable for people in Gicumbi. Informed consent was obtained by use of an explanatory text, which because of the high illiteracy rate was read aloud. In case of refusal, demographic data and reasons for refusal would be requested and documented, but no-one refused.

For determination of the socioeconomic status (SES) our interviewers approached respondents of the control group at, or near, their homes, and scored the SES by judging the state of the houses. Participants of the experimental group, however, were interviewed at the spot of their meetings, and were asked to describe the state of their houses themselves.

Statistical analysis
The repeated measures of our primary outcome, the total SRQ-20 score, were analyzed with a linear mixed-effects model (SPSS 16.02), using intervention (participants versus controls), time (T0, T1, T2), and their interactions as fixed-factors. Sociotherapy groups and control group areas, and respondents within the sociotherapy groups and the control group areas were random factors. An intention-to-treat analysis was employed, in which all available measurements of all respondents were analyzed according to the mixed-effects model. Missing data were considered to be missing at random in the repeated measures model. No assumptions on the covariances between the repeated measures were made (covariance type: unstructured). The primary hypothesis on the effectiveness of the intervention was tested with the $P$-value of the interaction test between time and intervention; a $P$-value of 0.05 or less was interpreted as statistically significant. We analysed for the sample as a whole, and stratified for sex and separate sociotherapy groups. Total SRQ-20 scores are presented with the mean. Significant interaction effects are presented with estimates of the differences in mean SRQ-20 scores relative to baseline with 95% confidence intervals. We also present the reliable change index according to Jacobson and Truax.

In addition, we extended the same repeated measures model with the baseline SRQ-20 score as a variant, and then analyzed SRQ-20 score changes. Since the results were comparable, we do not report these. To quantify the variability of the score change between the different sociotherapy groups we calculated the within and between sociotherapy group variances of the score change between T0 and T2 per participant as well as the average score change per sociotherapy group.
group with its 95% confidence interval; here, we calculated the expectation of the posterior distribution of random effects with an empirical Bayesian analysis.

**Results**

**Baseline characteristics**

Baseline measurements took place in September 2007. The two study groups matched on SRQ-20 score distribution, sex and age at baseline (see Table 1). At T1, in January 2008, 90 subjects from the experimental group and 81 from the control group were interviewed, and at T2 (8 months later) 81 and 73, respectively. Of these, only 76 and 66 had been interviewed at both T0 and T1 (see Figure 1). The study groups showed no significant difference in level of education. They differed slightly in SES, with an overrepresentation of both lowest and highest SES groups in the control group.

**Dropout**

Dropout was unexpectedly higher than during the pilot study (see Figure 1). Dropout from the experimental group was mainly caused by illness, leaving the program for unknown reasons and communication problems about day and time of interviewing. One particular sociotherapy group contained scholars; at T2 they had finished school and had moved to different areas. Dropout from the control group was also caused by illness and communication problems, but mostly by moving house. Dropout did not differ significantly between the experimental and the control group ($P=.79$). Dropouts at T1 or T2 from either study group did not differ significantly in sex, age or level of education. Neither was there a difference in sex, age, level of education and SRQ-20 scores between actual respondents and dropouts at T1 and T2.

**Changes in SRQ-20 scores**

Linear mixed-effects model analysis yielded a significant difference between the two study groups in decrease in mean SRQ-20 scores at follow-up (see Table 2 and Graph 1). From baseline to T2 the mean decrease was 2.3 in the experimental group versus 0.8 in the control group, meaning a difference in decreases of -1.59 (95% CI: -2.81 to -0.38). The reliable change index was 0.61 for the experimental group and 0.20 for the control group. After stratifying for men and women, we noted a disparity in the time-intervention interaction. For women, there was a significant difference between the experimental and the control group. The estimate of the difference in decreases of SRQ-20 scores was -2.47 (95% CI: -4.14 to -0.79). Men started with lower SRQ-20 scores in both groups; the groups did not differ significantly in the time-intervention interaction.
We also focused on possible cases, that is: the 63% of females and 37% of males scoring above the respective cutoff values of 9 and 7 at baseline. Table 3 shows their numbers at each measurement.

We then assessed the time-intervention interaction for these possible cases (see Table 4). The mean score of females in the experimental group dropped below cutoff at T1 and improved further at T2. The decrease is significantly larger than in the control group. The estimate of the difference in decreases was -3.08 (95% CI: -4.89 to -1.27). The mean scores of men also decreased in both study groups, but these trends did not differ significantly, and neither subgroup reached a level below cutoff. Individual scores in women decreased to below cutoff in 19 out of 34 (56%) in the experimental group versus 7 out of 34 (21%) in the control group. In men, this was 7 out of 16 (44%) versus 5 out of 18 (28%).

We then assessed the extent to which the sociotherapy effectiveness differed between groups. The variance between participants in the same group (the within groups variance) in SRQ-20 score change between T0 and T2 was 12.79. The between groups variance was 1.84, and therefore the intraclass correlation of the score change was 0.14, suggesting that about 14% of the total variability in the score change might be attributed to factors associated with specific sociotherapy groups. The posterior mean SRQ-20 score change for the 10 sociotherapy groups is illustrated in Graph 2.

**Discussion**

Our results suggest that the mental health of all survivors of mass violence studied here improved over time. Those who participated in the sociotherapy program, however, showed an increased improvement over the duration of the intervention. This improvement continued after the intervention, and the difference in scores between the experimental and the control group was even larger at follow-up. This effect is significant in women, and seems to have clinical relevance: the mean SRQ-20 score of female possible cases in the experimental group dropped significantly, ending below cutoff. This corresponds with our finding that the individual scores of 56% of this subsample dropped to below cutoff, a substantially larger proportion than of female possible cases in the control group (21%). A significant improvement was not noted in male possible cases. However, improvement to below cutoff in male possible cases was more frequent in participants in the intervention program than in the control group: 44% versus 28%.

As no quantitative outcome data of comprehensive psychosocial programs in postconflict settings exist so far, we relied on data from our pilot study to establish an appropriate study sample size. Our trial’s methodological strengths
include adequate follow-up rates, and use of a measure that was locally validated for use as a screening instrument as well as for measuring symptom change over time. We used a quasi-experimental design, composing a control group equivalent to the experimental group with regard to our main outcome measure and to sex and age. Although the latter group could be considered as help seeking while the first is a community sample, the demand for the program has shown to be widespread from the start, and its existence was not yet known to control group respondents. Besides, we think that the ‘one-time opportunity’ character of the intervention starting at a certain location was a key determining factor for participation, rather than a worse-than-usual mental state or greater openness in candidate participants at the start. Additionally, given the similarity of the living conditions of both study groups, the risk of confounding bias may be considered minimal. Yet, as this is not a randomized trial, one cannot completely rule out the existence of hidden systematic group differences. A difference between the study groups was noted in SES at baseline. We do not think that this seriously impacted the actual equivalence of both groups. Gicumbi’s population is extremely poor in general, and actually there is little real variety in SES. Possibly, the difference is caused by the method of SES determination. Contrary to the control group, participants of the experimental group described the state of their houses themselves. This may have resulted in a less divergent SES score distribution in the experimental group. A limitation of this study is that interviewers were not blind to the treatment condition, which may have affected the results. They were, however, in no way linked to the sociotherapy program. Another limitation concerns the lack of detailed data on the proceedings of separate sociotherapy groups.

The applicability of the intervention may have been facilitated by its community-based and contextual-sensitive nature, by the local prestige of its coordinators (EER), and by Rwanda’s long history of organizing communities in group structures. The program’s impact may have been constrained, however, by the country’s still paranoid atmosphere and the prevailing tendency of its inhabitants to keep problems inside, especially among men. Qualitative information consistently pointed out that men in Rwanda generally do not share emotional problems. This may have impacted data from male respondents and the way they actually participated in the intervention. Additionally, the lack of significant effect in men may be explained by better mental health at the start. Trials on mental health interventions in postconflict contexts are rare. The few interventions studied vary from those carried out by multidisciplinary teams and targeting all help-seeking clients or only clinically indicated clients,\textsuperscript{31,32} to interventions directed at psychiatric cases,\textsuperscript{33-35} or school-based programs focusing on children.\textsuperscript{36} To our knowledge, no controlled trials exist of large-scale,
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population-level, psychosocial interventions for survivors of mass violence. Such interventions are in line with the IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings, a consensus document endorsed by all relevant players. This is the first controlled trial of a psychosocial intervention of this kind. The intervention is community-based in the sense that it is owned and carried out by members of the local population. Its sustainability is shown by its ongoing implementation for over 4.5 years now, with over 7,000 participants so far. Our study findings indicate that such an intervention may be clinically relevant and beneficial to mental health problem cases, and that the program, as well as this study, deserve replication in other postconflict contexts. Future studies may establish if the difference in effect between the two sexes found here is related to the actual context or to the intervention method. By collecting data on methods used per group, future studies may also seek to identify favorable and adverse factors within the intervention’s working methods.
Chapter 7

References


The effect on mental health of a large-scale psychosocial intervention

Table 1. Socio-demographic characteristics of experimental and control group at baseline

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Experimental group (n = 100)</th>
<th>Control group (n = 100)</th>
<th>P-value (Chi²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>45 (45%)</td>
<td>47 (47%)</td>
<td>0.78</td>
</tr>
<tr>
<td>Female</td>
<td>55 (55%)</td>
<td>53 (53%)</td>
<td></td>
</tr>
<tr>
<td>Mean Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>years</td>
<td>34.9</td>
<td>38.5</td>
<td></td>
</tr>
<tr>
<td>min-max</td>
<td>16–76</td>
<td>16–73</td>
<td></td>
</tr>
<tr>
<td>standard deviation</td>
<td>15.8</td>
<td>14.1</td>
<td></td>
</tr>
<tr>
<td>P-value (T-test)</td>
<td></td>
<td></td>
<td>0.10</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>nil</td>
<td>48 (48%)</td>
<td>54 (54%)</td>
<td></td>
</tr>
<tr>
<td>primary</td>
<td>42 (42%)</td>
<td>34 (34%)</td>
<td></td>
</tr>
<tr>
<td>secondary 1–3</td>
<td>9 (9%)</td>
<td>9 (9%)</td>
<td></td>
</tr>
<tr>
<td>secondary 4–7</td>
<td>1 (1%)</td>
<td>3 (3%)</td>
<td></td>
</tr>
<tr>
<td>P-value (Chi²)</td>
<td></td>
<td></td>
<td>0.53</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>marginal</td>
<td>6 (6%)</td>
<td>13 (13%)</td>
<td></td>
</tr>
<tr>
<td>poor</td>
<td>83 (83%)</td>
<td>66 (66%)</td>
<td></td>
</tr>
<tr>
<td>sufficient</td>
<td>11 (11%)</td>
<td>21 (21%)</td>
<td></td>
</tr>
<tr>
<td>P-value (Chi²)</td>
<td></td>
<td></td>
<td>0.022</td>
</tr>
<tr>
<td>SRQ-20 score</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>mean</td>
<td>8.41</td>
<td>8.26</td>
<td></td>
</tr>
<tr>
<td>standard deviation</td>
<td>5.05</td>
<td>4.83</td>
<td></td>
</tr>
<tr>
<td>P-value (T-test)</td>
<td></td>
<td></td>
<td>0.83</td>
</tr>
</tbody>
</table>

doi:10.1371/journal.pone.0021819.t001
**Figure 1.** Flow chart of the composition of the study population at three measurements
Table 2. Mean SRQ-20 scores, standard deviations, effect sizes (T0-T2) and P-values for experimental and control group

<table>
<thead>
<tr>
<th>Total (n = 200)</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (sd)</td>
<td>Mean (sd)</td>
</tr>
<tr>
<td>T₀</td>
<td>8.4 (5.0)</td>
<td>8.3 (4.8)</td>
</tr>
<tr>
<td>T₁</td>
<td>7.2 (4.6)</td>
<td>6.1 (4.7)</td>
</tr>
<tr>
<td>T₂</td>
<td>6.1 (3.9)</td>
<td>7.5 (4.8)</td>
</tr>
<tr>
<td>Cohen’s d p</td>
<td>0.51</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Mean (sd) for Men (n=92; exp 45; contr 47)

<table>
<thead>
<tr>
<th>Total (n = 200)</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (sd)</td>
<td>Mean (sd)</td>
</tr>
<tr>
<td>T₀</td>
<td>6.6 (4.6)</td>
<td>9.9 (4.9)</td>
</tr>
<tr>
<td>T₁</td>
<td>5.8 (4.8)</td>
<td>8.3 (4.3)</td>
</tr>
<tr>
<td>T₂</td>
<td>5.3 (4.0)</td>
<td>6.8 (3.8)</td>
</tr>
<tr>
<td>Cohen’s d p</td>
<td>0.30</td>
<td>0.09</td>
</tr>
</tbody>
</table>

Mean (sd) for Women (n = 108; exp 55; contr 53)

<table>
<thead>
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<th>Total (n = 200)</th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (sd)</td>
<td>Mean (sd)</td>
</tr>
<tr>
<td>T₀</td>
<td>6.5 (4.0)</td>
<td>9.8 (5.0)</td>
</tr>
<tr>
<td>T₁</td>
<td>5.8 (5.0)</td>
<td>8.3 (4.8)</td>
</tr>
<tr>
<td>T₂</td>
<td>5.6 (4.0)</td>
<td>7.5 (4.8)</td>
</tr>
<tr>
<td>Cohen’s d p</td>
<td>0.22</td>
<td>0.17</td>
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</table>

P-values

- Cohen’s d p for Total: 0.033
- Cohen’s d p for Men: 0.22
- Cohen’s d p for Women: 0.17

P-values for Experimental group: 0.011

P-values for Control group: 0.852
**Graph 1.** SRQ-20 score changes between T0 and T2 in experimental and control group

![Graph showing SRQ-20 score changes between T0 and T2 in experimental and control group](image)

**Table 3.** Numbers of possible cases in experimental and control group at each measurement

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th></th>
<th></th>
<th>Women</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>T0</td>
<td>T1</td>
<td>T2</td>
<td>T0</td>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td><strong>Experimental group</strong></td>
<td>16</td>
<td>11</td>
<td>7</td>
<td>34</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td><strong>Control group</strong></td>
<td>18</td>
<td>9</td>
<td>9</td>
<td>34</td>
<td>23</td>
<td>17</td>
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</table>

doi:10.1371/journal.pone.0021819.t003
Table 4. Mean SRQ-20 scores, standard deviations, effect sizes (T0-T2) and P-values for possible cases

<table>
<thead>
<tr>
<th></th>
<th>Mean (sd)</th>
<th>T0 (exp)</th>
<th>T1 (exp)</th>
<th>T2 (exp)</th>
<th>T0 (contr)</th>
<th>T1 (contr)</th>
<th>T2 (contr)</th>
<th>Cohen's d</th>
<th>P</th>
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<tbody>
<tr>
<td><strong>Women</strong></td>
<td></td>
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<td>(n = 68; exp 34, contr 34)</td>
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<td>Mean (sd)</td>
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<td></td>
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<tr>
<td>Exp group</td>
<td>13.2 (2.4)</td>
<td>10.4 (3.9)</td>
<td>8.5 (4.1)</td>
<td>0.87</td>
<td>13.2 (2.4)</td>
<td>9.5 (4.3)</td>
<td>8.4 (3.5)</td>
<td>1.60</td>
<td>&lt;0.001</td>
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<tr>
<td>Contr group</td>
<td>13.1 (2.0)</td>
<td>10.7 (2.2)</td>
<td>8.5 (5.5)</td>
<td>0.90</td>
<td>13.1 (2.0)</td>
<td>12.6 (3.9)</td>
<td>11.4 (3.2)</td>
<td>0.64</td>
<td>0.021</td>
</tr>
<tr>
<td><code>t</code>-value</td>
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<tr>
<td>P-value</td>
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<tr>
<td>P-value</td>
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</tbody>
</table>

The effect on mental health of a large-scale psychosocial intervention
Graph 2. Expected mean SRQ-20 score changes between T0 en T2 of ten sociotherapy groups.
Chapter 8

Social capital and mental health: connections and complexities in contexts of postconflict recovery

Scholte WF
Ager AK

Submitted
8. Social capital and mental health: connections and complexities in contexts of postconflict recovery

Abstract
The restoration of social cohesion and cooperative action may provide the basis for sustainable peace and development. Social capital may therefore be a relevant construct for conceptualizing postconflict recovery. Another reason to focus on social capital in war-affected settings is its widely recognized relationship with health. Social capital is increasingly considered an important construct in social policy and health, and it has been written into national and international health policies. As yet, however, evidence is scarce that social capital can intentionally be promoted.

The association between social capital and mental health in particular seems to be more complex. If such association exists, promotion of social capital may impact postconflict recovery both through increased social cohesion and through better mental health. It may also be more cost effective in impacting mental health in war-affected populations than individually focused approaches. The existence and nature of a relationship between social capital and mental health, however, needs to be established more rigorously.

This paper first addresses existing evidence of an association between various components of social capital and health, in particular mental health. It then discusses the relevance and complexities of both the intentional promotion of social capital and its relation to mental health in war-affected populations.

Introduction
Social capital is a way of conceptualizing the social world. The notion in its current use was first referred to in scientific literature in the 1960s, and later developed in particular by the sociologists Paul Bourdieu and James Coleman. Robert Putnam, a political scientist, extended its use and succeeded in attracting much attention to the concept. Today, social capital has been written into national and international health policies. It is increasingly considered a central construct with regards to social policy and health. The core contention of the concept is that social networks are a valuable asset, providing a basis for social cohesion and cooperation. Within networks, trust between individuals can yield trust between strangers, and trust of social institutions. Ultimately it may become a shared set of values, expectations and behaviours. The more a social network is characterized by norms of trustworthiness and reciprocity, the greater the social capital represented. It then acts as the “glue” that holds people and groups together and makes cooperative action possible.
Beyond this basic characterization, a number of alternative formulations of the concept have been proposed. Woolcock has followed Putnam in distinguishing between three major forms of social capital: social bonds (with family and ethnic, national, religious or other groups), social bridges (with other communities) and social links (with the structures of the state). The former are considered “strong ties”—commonly associated with a principally defensive or protective function—while the latter two are “weak ties,” exploited to secure other resources from the environment.

An important distinction can be made between “structural social capital” (i.e. its behavioural component, e.g., rules, procedures, and roles, as may be reflected by civic participation) and “cognitive social capital” (i.e. its perceptual component, e.g., norms, values, and beliefs, as may be manifested in trust). Another distinction is that between the “social cohesion” or “communitarian” theory of social capital, conceptualizing it as the resources available within a community (e.g., trust, norms, mutual assistance), and the “network” theory, defining it in terms of resources within an individual’s social network (e.g., instrumental support, information channels). Analogically, social capital can be seen as a property of groups or communities (“ecological social capital”) as well as of individuals (“individual social capital”). While the construct echoes previous analyses in terms of notions such as social support, the conceptualization is distinguished by an emphasis on trust, networks and norms. Others indicate sense of belonging and civic engagement as essential elements as well. Social capital’s most commonly adopted definition in health sciences recognizes five characteristics: community networks, civic engagement, civic identity (belonging, solidarity, equality), trust in the community, reciprocity and norms of cooperation. Analysis in terms of social capital has for some years been championed by the World Bank, which has invested in projects seeking to define and measure the concept. The organization embraces the construct’s broadest interpretation. This view encompasses not only horizontal associations between people but also bridging ties which transcend social divides (religion, ethnicity, socioeconomic status), as well as the social and political environment. It recognizes the relevance of support from both the state and the private sector to the strength of social groups and, similarly, the dependency of the state on social stability and widespread popular support. As the World Bank states, “Economic and social development thrive when representatives of the state, the corporate sector, and civil society create forums in and through which they can identify and pursue common goals.”
Social capital, health and well-being
While initially considered principally with respect to economic advancement, the relationship between social capital and health and well-being has been widely recognized.\textsuperscript{14,15} Kawachi and colleagues demonstrated its relation with infant mortality, life expectancy, heart disease, and self-rated health in the USA.\textsuperscript{16} A nationwide survey of the adult Russian population showed that human capital (education, social class, etc.) and social capital independently accounted for a notable amount of variance in self-assessed health, while the latter increased physical and emotional health more than the former.\textsuperscript{17} In rural China, cognitive social capital was found to be positively associated with self-reported general health, psychological health and subjective well-being, although no such associations were found for structural social capital.\textsuperscript{18} Findings from this study suggested that mechanisms through which social capital affected health and well-being were more consistently linked to its “network” than to its social cohesion or “communitarian” aspects. In a review of empirical findings, Eriksson lists the consequences of individual social capital, assumed to positively affect health, as: access to social support, health-enhancing social influence and control, social participation (enhancing cognitive skills, belongingness and life meaning), and material resources. For collective social capital, these are trust and collective action (facilitating a health-enabling environment, healthy norms, information and knowledge, collective efficacy and political influence), and material resources.\textsuperscript{19} Despite such work, the overall picture of findings from empirical studies on the relation between social capital and health is unclear. This is mainly due to the present lack of definitional clarity of the construct of social capital. In order to draw consistent conclusions from studies there is a need to consolidate definitions and refine measurement tools.\textsuperscript{19–21}

Social capital and mental health
While research indicates that components of social capital may be related to positive well-being, the evidence for a contribution to mental health in particular is more ambiguous. The effects of social ties vary with gender, socioeconomic position, and stage in life.\textsuperscript{22} Also, individual networks, and therefore person-related social support and coping behaviour, are contingent on outer layers of ties like civic associations and voluntarism.\textsuperscript{22,23} In a systematic review of studies exploring the link between mental illness and individual and ecological social capital, respectively, DeSilva and colleagues noted that in adults there is strong evidence of an inverse association between levels of individual cognitive social capital and common mental disorders.\textsuperscript{24} At
the time of their review, no convincing evidence existed for a similar association regarding individual structural social capital or ecological cognitive and structural social capital. A later survey in Japan, however, suggested that both cognitive and structural social capital at the ecological level may influence mental health.\textsuperscript{25}

In another review of primary evidence linking social capital and mental health, Almedom suggests that social capital can be both an asset and a liability, and he argues that it is more relevant to assess access to social capital than the possession of it.\textsuperscript{26} This is confirmed by a study among homeless persons in a mid-sized southern US city, the findings of which suggest that various forms of bonding social capital (trust, religious affiliation, social support) clearly impact depressive symptomatology, but do not overcome the effect of stressors, such as the lack of access to communal resources.\textsuperscript{27} Patel hypothesizes that the peak in suicide rates observed in England and Wales during the Great Depression may be linked to the breakdown in bridging social capital, as economic recession affects social classes unequally.\textsuperscript{28} A study among youth in Columbia showed that ‘classic’ poverty variables (poor education, unemployment) were more important than social capital as risk factors for mental ill health.\textsuperscript{29} Whitley and McKenzie suggest that high social capital may protect mental health, but could also heighten exclusion of those who are different from the norm.\textsuperscript{30} From their review of relevant literature they conclude that contextual indicators of social capital should be developed, and that research should qualitatively explore which components of social capital have the greatest impact on mental health and well-being.

Social capital has been suggested to be a particularly relevant concept for conceptualising postdisaster rehabilitation. It is assumed that within war-affected populations, existing social support structures are key in mitigating the mental health consequences of violence and loss. A range of qualitative social science studies have highlighted the importance of a social response to disasters that actively engages the political, social, and economic causes of suffering.\textsuperscript{31} Such work also argues for the affected community playing a primary role in initiating and executing any “intervention.” One of the main principles of the Inter-Agency Standing Committee (IASC), a group bringing a broad range of UN and non-UN humanitarian organisations together to strengthen coordination of humanitarian assistance, is to “build local capacities, supporting self-help and strengthening the resources already present.”\textsuperscript{32} They state that “in most emergency situations, significant numbers of people exhibit sufficient resilience to participate in relief and reconstruction efforts,” emphasizing that “affected groups of people typically have formal and informal structures through which
they organize themselves to meet collective needs,” and “it is important to build both government and civil society capacities.”

A recent study by Wind and Komproe on posttraumatic stress in inhabitants of a northern English rural town 1 year after it was struck by a severe flood, indicated an inverse relationship between social capital and posttraumatic stress. Multilevel analyses showed that in communities with high social capital a disaster is less demanding for individual psychosocial resources, thereby suggesting that individual psychological interventions and community interventions aiming to foster social capital exert their effect on mental health via the same individual mechanisms.33 This study clearly supports a preference for community interventions over individually-focused approaches in postdisaster (or postconflict) settings, as the first sort can be implemented with relatively few resources. The study leaves the question unanswered, however, if social capital can indeed be intentionally promoted.

**Promotion of social capital**

In a groundbreaking study of four conflict-affected countries (Cambodia, Rwanda, Guatemala, and Somalia), Coletta and Cullen discuss changes in social capital resulting from violent conflict; the interaction between social capital, social cohesion, and violent conflict; and how conflict prevention, rehabilitation and reconciliation can be promoted by nurturing social capital.34 The authors stress that while violent conflict can destroy primary bonds, it can also create opportunities for bridges to other networks, thereby facilitating social capital to serve as a key source of reconciliation and reconstruction. They conclude that social cohesion and a society’s capacity to manage conflict are determined by the interface of social capital with the integration of vertical and horizontal relations and crosscutting, bridging ties. As the authors state: “The development of civic institutions that cut across traditional bonding social capital to form new links crossing ethnic, religious, age, income and gender lines can provide the basis for the mediation, conflict-management, and conflict-resolution mechanisms that all societies require to sustain peace and development.” Coletta and Cullen provide clear examples of how governments and international actors promote decentralization, civic participation, social inclusion, empowerment, and the strengthening of grassroots movements.

Pronyk et al. studied an intervention in South Africa—albeit not a postconflict setting—that aimed at changes in solidarity, reciprocity and social group membership through an approach which combined group-based microfinance with participatory gender and HIV training.35 A randomized trial indicated that social capital was successfully strengthened: after 2 years there were higher levels of structural and cognitive social capital, while economic and social gains had enhanced participation in social groups.
Social capital and mental health

These two studies show how social capital may intentionally be promoted, but did not establish the effects of measures taken on health outcomes. However, a longitudinal study among postconflict communities in Nicaragua did simultaneously establish the effects of an intervention on both social capital and health.36 It showed that systematic interventions promoting management and leadership development significantly increased levels of cognitive social capital, including solidarity, harmony and sociability, and also higher levels of civic participation and political empowerment. No such relation was found for trust. The researchers suggest that the interventions sensitized community members to the noted aspects of social capital, but that trust and the translation of attitudes into more behavioural responses (i.e. into structural social capital) may take more time. They also point to indications that in nonwestern cultures cognitive and structural components may be disconnected. For example, in such contexts structural components such as the existence of associations and civil society organizations might be inspired by strategic choices, funding opportunities and “associational entrepreneurship,” rather than by trust and a horizontal cooperative spirit.37 Brune and Bossert’s study in Nicaragua found that higher levels of social capital, notably participation and contribution to a group, were related to positive individual health behaviours. Cognitive components were associated with positive community health outcomes. The latter study thus serves as an illustration of how contextual factors may not only mediate the relationship between various components of social capital but also between these and health outcomes. This is especially relevant in less developed countries and/or postconflict communities.

Building social capital in Rwanda

In Rwanda, where an estimated 800,000 people were killed and millions were displaced during a genocidal period in 1994, a community-based therapeutic group intervention called sociotherapy has been taking place since early 2006.38 The intervention aims to facilitate a reassessment and redefinition of values, norms, relations and possible collaborations, through an increase of the level of mutual respect, trust and care in group interaction. Key elements of the working method are debates and the exchange of experiences and coping strategies among participants, exercises, games and mutual practical support. The program is open to any adult wanting to participate. Groups contain 10 to 15 participants and are mostly mixed: both sexes, various ethnic backgrounds, and with a wide age distribution. Weekly meetings take place over a period of 15 weeks, lasting 3 hours each. The program has, to date, enabled the participation of over 10,000 beneficiaries.39
Both quantitative and qualitative research has indicated that the sociotherapy program in Rwanda helps to improve the mental health of participants. There is also strong qualitative evidence that the program contributes to mutual trust, support and co-operation, and helps to increase feelings of security and belonging. It stimulates the sharing of networks and prompts the start of income-generating associations. One woman, an HIV-infected widow who expressed her appreciation of the program and was asked why, spontaneously listed the essential effects of the intervention as follows:

“I can share my story; other people's stories make me feel less alone; we have started feeling responsible for one another; we have actually started supporting one another; we share networks.”

To assess the program's impact on social capital by use of quantitative methods, the short version of the Social Capital Assessment Tool (Short A-SCAT) was adapted for local use. The instrument has been extensively validated in two resource-poor settings (Vietnam and Peru). It was chosen because of its limited length and its presumed relevance for the context of Rwanda. Items of the Short A-SCAT can be categorized in three sections: support (received from groups or individuals), civic participation (collaboration within own neighbourhood, communication with leaders), and cognitive social capital (belonging, trust, safety). A baseline assessment suggested potential independence of these various elements of social capital, and indicated how cautiously concepts like belonging and trust should be used. For example, while 83% of the respondents indicated feeling part of their neighbourhood and 84% feeling safe there, 48% indicated not trusting people in general and, indeed, 56% expected people to take advantage of them given the chance. Analysis of postintervention data from assessments by use of the Short A-SCAT indicated a positive impact of the sociotherapy intervention on one specific element of social capital, namely civic participation (Verduin et al., manuscript in preparation). Our study outcomes thus suggested that both mental health and social capital may successfully be promoted by one sole intervention. It remained unclear, however, if the effects on both outcomes were related to one another, and if the salutary effect on social capital would always exclusively apply for the element of civic participation. Further study is required to confirm the sensitivity of the Short A-SCAT as a measure of social capital in such settings; to determine if specific elements of social capital can intentionally be promoted by sociotherapy in different settings; and to unravel the possible links between the effects of the program on mental health and social capital, respectively.
Conclusions
In war-affected populations there is often severe disruption of society’s cohesion. Commonly communities and networks have become fragmented, societal institutions perturbed, cultural values undermined, and material resources destroyed. Additionally, grief and traumatization, along with insufficient health services and a lack of generally felt security, give rise to an increase of mental health problems.

While social capital provides a basis for social cohesion, there are indications that elements of it are linked to mental health. Also, there is broad consensus that mental health and psychosocial programs in postconflict situations have the most impact and cost effectiveness when targeted at community, group and population levels, rather than solely toward individuals. Taking that one step further, such interventions may primarily aim at raising the amount of social capital, e.g., through promoting interpersonal support and intergroup relations, and meanwhile positively affect mental health.

As yet, only few studies, among which our study in Rwanda, have indicated that social capital may intentionally be promoted. Our work there also hints at the potential role of strengthening social capital in supporting mental health and well-being, but indicates the major complexities in disentangling pathways of influence. Future studies may establish which elements of social capital are associated with mental health and well-being in war-affected populations, and how; and if interventions may particularly promote these elements of social capital.
References


Chapter 9

General discussion and conclusions
Chapter 8

9. General discussion and conclusions

Mental health in populations affected by collective violence
This thesis comprises research projects which were conducted in low-income, postconflict contexts. The first objective of our studies was to assess the mental health condition of populations affected by collective violence. To this end, we studied two populations which differed greatly with regards to geopolitical history, sociocultural background, and actual living situation. We also wanted to establish the way prevalence estimates of mental health disorders may influence mental health policy or intervention programming for the setting in question.

Epidemiological studies
We performed two epidemiological surveys. Both populations studied had been affected by collective violence, but otherwise had quite different histories, backgrounds and current conditions. The first study was conducted among Rwandan refugees living in refugee camps. A relatively limited period of extreme collective violence had happened recently, and the actual living conditions were unfamiliar, chaotic, harsh and insecure. The Afghan population studied in our second survey had experienced over 20 years of warfare, but the current situation was more or less stable, and families lived within their own compounds and communities.

Validity issues and findings
As our 1995 survey among Rwandan refugees in camps took place in a highly paranoid and politicized atmosphere, a condition to the instrument used was that it would be perceived as completely neutral, not referring to violence in the past. Also, it should allow for administration within a minimum of time, and language used needed to be very simple. We used the 28 items version of the General Health Questionnaire (GHQ-28), a screening instrument for mental ill health which does not focus on particular psychiatric disorders such as PTSD or depression. As the instrument had not been used in a Rwandan context before, we calculated its sensitivity and specificity for this particular population. The estimated sensitivity, specificity, positive and negative predictive values found for different GHQ-28 cutoff scores, indicated that a cutoff value of 14 was appropriate in this setting. Compared to the recommended score of 5 for use of the GHQ-28 in general populations, a value of 14 seems extremely high. This may relate especially to our case definition, which was more severe than usual with the GHQ-28, and to the extreme actual living conditions, causing baseline scores to be markedly high already. The way we validated the GHQ-28 for local use may
be considered exceptional, as meeting our case definition was not determined through a clinical assessment or the application of a gold standard. Instead, all members of the study population seeking support from our intervention program automatically qualified as cases. Findings of our survey suggested that 50% (SE 12%) of the refugee population suffered from serious mental health problems. In 2003, when we conducted our survey in Afghanistan, our moves were less restricted by security problems, and more time was available for interviewing. Also, various studies in low-income postconflict settings had shown by now that symptoms of PTSD, depression and anxiety were the most prevailing.2-6 We chose to use instruments screening for these specific diagnostic categories, notably the Harvard Trauma Questionnaire (HTQ) and the Hopkins Symptom Checklist (HSCL-25). Our study yielded high reported symptom rates of depression (36.5%), anxiety (51.8%), and PTSD (20.4%). Prevalence rates were higher in women than in men, with odds ratios of 7.3, 12.8, and 5.8, respectively. These findings must be viewed while taking into consideration that we had failed to validate our instruments for local use. The publication of our study gave reason to an accompanying editorial in which, among other things, the authors addressed the relevance of local validation of instruments used in cross-cultural settings, as cutoff scores and clinical interpretation of findings may differ greatly between populations or contexts.7 Later, this was particularly confirmed for the Afghan cultural context by Ventevogel et al., who explored the validity of the HSCL-25 and the Self-Reporting Questionnaire (SRQ-20) locally. As was concluded, our survey may have overestimated the prevalence of mental disorders among women and underestimated the prevalence in men.8

Relevance of findings
Our findings in the Rwandan refugee camps suggesting massive psychological suffering, contributed substantially to the general awareness of the mental health needs of refugees. It added to the scientific evidence of the devastating impact of mass violence on mental health, and to recognition of the urgency to address mental health needs as part of emergency responses to refugee crises. The publication of our study prompted the then director-general of the World Health Organization to write an accompanying editorial, stressing the relevance of community-based psychosocial care as an integral part of emergency response and of the public health-care system in camps and national services.1 The strength of our study in Afghanistan became particularly manifest through one major implication: it helped convince the national authorities in Kabul of the magnitude of the country’s mental health problem. In the first declaration of the new minister of public health, 4 months after the simultaneous publication
of our survey and a comparable study by Lopes Cardozo,\textsuperscript{11} mental health was nominated as one of the national health policy priorities.\textsuperscript{12} Another strength of the study was that our findings provided information on the main resources of emotional support of the population in question, thereby indicating the values and community structures which an intervention should aim to restore primarily. Today, it is generally known which mental health symptoms or disorders are highly prevalent in postconflict settings, and that these symptoms tend to persist long after the conflict has ended.\textsuperscript{6,13} The authors of the abovementioned editorial in \textit{JAMA}, however, questioned the relevance of data produced by this kind of epidemiological research.\textsuperscript{7} Indeed, by 2004 there was growing awareness that symptoms reported in postconflict settings might represent distress stemming from environmental instability rather than psychopathology. Therefore, prevalence rates might only have clinical significance if associated with functional impairment. All the same, the number of mental health professionals in low-income settings would far from suffice to provide adequate support to all persons at risk of mental disorder.\textsuperscript{9,10} For these reasons, it can be assumed that prevalence rates of mental health symptoms do not suffice to reflect the psychosocial needs of those that have experienced life-threatening events, displacement and the collapse of their communities. Neither do they inform us about the most suitable and feasible ways to offer support in the prevailing circumstances.

However, epidemiological data may still be valuable for informing postconflict mental health policies or intervention programs, if associated with a disability assessment and an identification of current stressors, mental health and psychosocial problems and needs, and protective factors from the perspective of the affected population,\textsuperscript{14,15} and with data on the cost effectiveness of a possible policy or program.\textsuperscript{16} For the sake of validity, mental health assessments should preferably be conducted using culturally grounded measures.

The relevance of most of these conditions is illustrated through developments and findings after our Afghanistan study took place: 1) Miller and colleagues showed the validity of a locally developed 22-item instrument (the ASCL) to identify indicators of distress in Afghanistan.\textsuperscript{17} The ASCL comprises several indigenous items and items familiar to Western mental health professionals. Although the researchers found scientific support for the validity of the PTSD-construct in this context, both depression and general distress as measured by use of this ASCL correlated more highly with war-related traumatic stress than did PTSD.\textsuperscript{18} 2) Another study in Afghanistan, performed by the same group, compared the role of war experiences with daily stressors as predictors or moderators of mental health outcomes and functional impairment. They found convincing evidence
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for a major role of daily stressors. The donor community appeared to be very reluctant to provide sufficient financial funding for the intended mental health policy in Afghanistan, because data on the cost effectiveness of public mental health interventions were not available.

**Psychosocial interventions aiming at social reintegration**

The second objective of our studies was to establish the adequacy of large-scale psychosocial interventions for populations affected by collective violence, aiming at social reintegration. To this end, we studied two psychosocial interventions primarily aiming at social reintegration, targeting populations residing in completely different settings, shortly (refugee camps in Tanzania and Zaire) and more than 10 years (an open setting in Rwanda) after collective violence, respectively. We also explored the possibility to validate an instrument for crosscultural use to assess the effect of a psychosocial intervention, while not focusing on separate psychiatric diagnostic categories. Next, we established the effect of community-based sociotherapy on mental health in northern Rwanda. Finally, we theoretically explored the possible relevance of social capital for postconflict mental health recovery.

*Emergency psychosocial care in refugee camps*

At the time we implemented psychosocial intervention programs in refugee camps in Tanzania and the former Zaire (1994-1995, Chapter 3), most mental health programs in postconflict settings had a clinical orientation, focusing on trauma-related psychological problems. Although humanitarian aid organizations did provide help under the heading of ‘psychosocial,’ no publications existed on any such intervention models; most seemed to either focus on individual counselling or on the provision of community services. The model we envisaged in the refugee camps primarily aimed to help restore the communities’ own social support networks, by mobilizing the supporting potential of social circles such as formed by religious, professional, tribal or family relatedness. Individuals might be advised not to withdraw but to share time together, to seek or provide emotional support, distraction or practical help, or to fulfil certain activities or pursuits; to guide people to related community members who could provide support (relatives, neighbours, fellow-believers, etc.); to refer people to health or community services where necessary (e.g., in case of physical disease or obvious material needs). This appeared to be seriously hampered by the extreme distrust and animosity prevailing in the refugee populations. Other factors constraining the program’s success were the unfamiliarity with psychosocial issues among the emergency-oriented agencies involved, resistance to it among medical personnel, and the lack of guidelines for dealing with severe psychiatric
Chapter 9

symptoms. The importance of the latter in complex emergencies was rightly stressed in a later publication by Jones and colleagues. The manuscript on this intervention program was published in 2000. Over the period between program implementation and its publication, there had been growing acknowledgement of the relative value of the use of western psychiatric concepts in psychological responses to suffering caused by war in crosscultural settings, especially of trauma-focused approaches. Thereby, our views underpinning a focus on social reintegration had been reinforced. A later survey among 64 acknowledged international experts on mental health and disaster management revealed the need felt to use both a clinical and a social approach, so as to include complementary components that address both individual clinical needs and broader needs of community revitalization. Over the first decade of the current century, various professionals in the field stressed the adequacy of a public health or ecological approach, and advocated for bridging the divide between trauma-focused and psychosocial frameworks. In a recent paper, Olff stressed the importance of the role of social support and bonding in processing psychological trauma, while linking this with human biological factors, i.e. the oxytocin system.

Community-based sociotherapy in an open setting
The community-based sociotherapy program in Rwanda (Chapter 5), running from late 2005 onwards, uses a public health perspective in the sense that it is open to all experiencing psychosocial needs. While it primarily aims at social bonding and does not target specific mental health symptoms, our effect study suggests that it does have significant mental health effects. Apparently, it promotes mental health well-being or recovery for most participants, even though sociotherapy groups may comprise a whole spectrum of ‘cases’, from very problematic to doing rather well, and no mental health professionals are involved as group facilitators. The intervention model may serve as an example for community-based, community-level, psychosocial interventions for survivors of collective violence. It proved to be sustainable and to have the capacity to reach thousands of beneficiaries within years. It is in line with intervention models as suggested later in the literature, and with the IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings, a consenses document endorsed by all relevant players. In the “IASC pyramid,” the model would be classed at the level of interventions strengthening community and family supports, but it would easily allow the addition of focused, nonspecialized supports or specialized services for those for whom the program would not suffice. In Rwanda, specialized care could have complemented the program
for those still experiencing serious mental health problems after participation. Unfortunately, this has not been accomplished due to lack of resources.

**Effect measurement – instrument validation**

For measurement of the effect on mental health of the sociotherapy program in Rwanda, no locally developed, culturally grounded instrument was available.* Therefore, we validated an existing instrument (the SRQ-20) for use in Rwanda. We succeeded to also show its factorial invariance, which is a condition for its repeated use in a longitudinal study design. In concordance with the insights mentioned under the 'Relevance of findings' paragraph above, we used a general mental health screener instead of an instrument identifying symptoms of specific psychiatric disorders. This choice may not go unnoticed as it concerned a (longitudinal) effectiveness study, while obviously screening instruments are designed for use in cross-sectional designs.

**Effect measurement – outcomes**

Our effect study provided evidence of the effectiveness of a psychosocial intervention at community level in a low-income postconflict setting. Mean SRQ-20 scores decreased by 2.3 points in the experimental group and 0.8 in the control group ($P=0.033$). Women in the experimental group scoring above cutoff at baseline improved with 4.8 points to below cutoff ($P<0.001$), which suggests clinical relevance of our findings; men showed a similar trend.

In a recent review of 160 mental health and psychosocial support activities in humanitarian settings which were reported from 2007 to 2010, only 4 interventions classed in the “IASC pyramid” level of “strengthening community and family structures” concerned controlled studies. Three of these were programs for children and adolescents, and only one was targeting adults. The authors of the review in question, however, point at methodological weakness of the latter study. While to date there seems to be consensus on the way mental health and psychosocial support should be provided in postconflict settings, there is hardly any evidence yet for such programs targeting adults. This illustrates the relevance of the data yielded by our study.

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* A great drawback of using a culturally grounded instrument is that one cannot compare its findings to those from other settings. This disadvantage particularly applies to cross-sectional studies. For (longitudinal) effectiveness studies it seems less relevant. When using a context-specific instrument, an intervention’s effectiveness could be expressed through the proportion of subjects actually indicating improvement, and the same could be done in any other context by use of an instruments actually developed in that other context. Then, by taking proportions as outcomes, the effectiveness of the intervention at different locations could be compared equally well as with use of a universally used, standard instrument.
Social capital
The final objective of this thesis was to explore the relevance of social capital for postconflict recovery, by establishing possible connections of social capital with mental health. We hypothesized that both social capital and mental health may intentionally be promoted through one sole intervention.
While the positive effect of the sociotherapy program in Rwanda on mental health has been evidenced (see above), qualitative information is in full support of its salutary effect on social capital. Additionally, quantitative postintervention data indicate a positive impact on one specific element of social capital, namely civic participation (Verduin et al., manuscript in preparation). It remains unclear, however, if, and how, the effects on both outcomes were related to one another. It has been suggested that various components of social capital are likely to each relate to mental health in their own way. Future challenges will be to establish if indeed specific elements of social capital are associated with mental health in war-affected populations and if these elements can be promoted by sociotherapy in different settings, and to unravel the possible links between the effects of such intervention on mental health and social capital, respectively.

Conclusions
The studies presented in this thesis were conducted under difficult circumstances, among populations who were not familiar with any form of research and mostly illiterate. Methods had to attune to the crosscultural nature of the studies. These studies, however, address issues of global relevance. Collective violence occurs on a daily basis in many parts of the world. The violence of war, genocide, repression, torture and other human rights abuses causes immense human suffering. This partly manifests itself through mental health symptoms. Our epidemiological studies added to the awareness of the extent of mental health needs prevailing in war-affected populations, and have shown to impact mental health policy and programming.
It has been acknowledged, however, that those needs are not expressed through psychiatric symptoms only. Problems of a predominantly social nature, whether pre-existing (e.g., extreme poverty) or violence-induced (e.g., the disruption of social networks), have an equally negative impact on postconflict recovery. Our studies have taken this a step further in various ways:
First, we have demonstrated that in nonwestern postconflict settings, it is feasible and culturally adequate to implement a large-scale psychosocial intervention which primarily aims at social reintegration, rather than focusing at recovery from psychiatric disorder. Additionally, by addressing the longitudinal validity of a screening instrument (the SRQ-20), we have shown that there is no need to focus on psychiatric diagnoses to measure an intervention’s effect on mental
health. Next, the sociotherapy program in Rwanda may serve as an example of a sustainable psychosocial intervention; it is the first such intervention reaching thousands of beneficiaries, with proven effectiveness on social capital and mental health.
These outcomes may have major implications for future mental health policy making and program planning in postconflict situations. They may also be relevant for western settings and specialized care settings, as is shown through the treatment program for traumatized refugees of the Equator Foundation in the Amsterdam region in the Netherlands, which equally focuses on mental health recovery and social rehabilitation and participation.
References


Chapter 10

Summary
Introduction
This thesis addressed the prevalence of mental health problems in populations in nonwestern war-affected regions, and methods to mitigate these problems through interventions focusing on social reintegration. At the time of our earliest studies, only limited knowledge existed about community-level prevalence rates of psychiatric symptoms in nonwestern postconflict areas. Also, methods in psychosocial aid provision were mostly undocumented. In general, however, the aid provided seemed to have an individual psychological orientation and use a trauma perspective.

In 1995, shortly after the genocidal violence in Rwanda, we performed an epidemiological study in refugee camps near the Thailand–Rwandan border. There, within the framework of an emergency program by Doctors Without Borders, we also started a psychosocial aid program with an innovative approach focusing on social reintegration. In 2003 we performed an epidemiological study in a strongly differing region, namely in an eastern province of Afghanistan. Over 2007 and 2008 we helped implement a psychosocial aid program in a northern district of Rwanda; it had similar objectives as the program in the refugee camps years before, but its approach was different.

Our study objectives were as follows: next to collecting epidemiological data, we wanted to establish the impact of these findings on the local mental health policy or on separate aid programs. We also wanted to establish the feasibility and adequacy of the psychosocial support programs mentioned above, taking into consideration their focus on social reintegration. Next, we wanted to establish the effect of the most recent intervention, the community-based sociotherapy program in Rwanda, on mental health. To that aim we needed to establish the validity for local use and for effect measurement of our instrument of choice, the Self Reporting Questionnaire (SRQ-20). Finally, we theoretically explored the relation between mental health and social capital, the latter being a construct which represents various elements of social cohesion within and between communities, and which may be a key resource supporting postconflict recovery.

This book comprises seven studies, set out in Chapters 2 to 8.

Epidemiological studies
Chapter 2 describes a prevalence study in 1995 among refugees in camps in Tanzania which arose as a result from the genocidal violence in 1994 in Rwanda. The camps harboured tens of thousands of refugees; the setting was chaotic and insecure, the social climate was politicized and the refugees were distrustful. Fifty percent of our respondents (n=854) had scores on the General Health
Questionnaire (GHQ-28) suggestive of serious mental health problems. This proportion would render any individual support offer completely inadequate. Our findings were indicative of the hugeness of the mental health needs in refugee camps, and called for a support offer reinforcing mutual support structures within the refugee community, rather than focusing on individual counselling. The publication of our study prompted the then secretary general of the WHO to write an accompanying editorial, in which she stressed the relevance of community-based psychosocial care as an integral part of any emergency response and of the health-care system in camps and national services. 

**Chapter 4** addresses a community level epidemiological study among the population of an eastern province of Afghanistan in 2003, after decennia of war and repression. As it had become clear by now that depression, posttraumatic stress and anxiety were the most prevalent mental health problems in postconflict regions, we focused this time on manifestations of these specific psychiatric disorders by use of the Hopkins Symptom Checklist and the Harvard Trauma Questionnaire. Symptoms of posttraumatic stress disorder (in 20.4%) and depression (in 38.5%) were indeed highly prevalent, but in particular anxiety was, more so in women (78.2%) than in men (21.9%). Over the past 10 years, 43.7% of the respondents (n=1011) had experienced 8 to 10 traumatic events, and 14.1% eleven or more. The main resources for emotional support were family and religion. These findings suggested that mental health symptoms should be addressed at the population and primary care level. Our study outcomes contributed to the awareness of mental health care at a national level; 4 months after the publication of our study the Ministry of Health in Kabul nominated mental health care as one of its top-10 priorities.

**Psychosocial interventions**

**Chapter 3** describes the working model and implementation in 1995 of a psychosocial intervention program for Rwandan refugees living in camps, within the framework of a larger project of Doctors Without Borders. In this setting we also performed our first epidemiological study (see Chapter 2). The intervention model aimed at the identification and reinforcement of available resources for emotional and practical support, and at mobilizing people's social networks. This constituted a shift away from the mainly trauma-focused approach which had become standard in situations alike. The intervention program could not be considered a complete success, mainly due to the prevailing anxiety and distrust among the refugees, the unfamiliarity with and resistance towards psychosocial issues among other (mostly emergency-oriented) agencies, and finally the untimely departure of Doctors Without Borders because of the...
insecurity and misuse of relief goods in the camps. In retrospect the setting was too complicated to pilot the intended psychosocial approach, and the working model could have provided more grip to hang on to. Over the years after, however, worldwide consensus emerged about the need for psychosocial care programs in postconflict settings to use an approach with a focus as mentioned above.

Chapter 5 addresses a psychosocial intervention program (community-based sociotherapy), started up by us and running from 2006 onwards in a northern district of Rwanda. It is aiming at social bonding and it does not target trauma symptoms in particular. The intervention comprises 15 weekly group sessions lasting half a day. Groups are facilitated by trained local community leaders. Participation is open to any adult person. Key elements of the working method are debates and the exchange of experiences and coping strategies among participants, exercises, and mutual practical support. Up to 40 groups of 10 to 15 participants run simultaneously, and since the start of the program over 10,000 people have participated. The program is appreciated widely, has expanded to other parts of Rwanda and neighbouring countries, and has independently been run by local organizations for years now. It thus appears to be a feasible, locally adequate and sustainable community-based intervention method, which, by use of a public health approach, meets the most relevant quality demands on humanitarian aid in such settings.

Instrument validation & effect measurement

Chapter 6 addresses the validation proces of the Self Reporting Questionnaire (SRQ-20) for local use in Rwanda. The SRQ-20 is an instrument developed by the WHO to screen for possible mental health problems. We aimed to use the SRQ-20 to measure the effect of sociotherapy (see Chapter 5) on mental health. Therefore, its translated version had to meet the criteria for culture-specific use. Besides, the instrument should have longitudinal validity in order to be used for effect measurement; the SRQ-20 had never been tested with regards to this possible quality before. We were able to show both the cultural and the longitudinal validity of the Rwandan translation of the SRQ-20. Establishment of the instrument’s longitudinal validity has relevance beyond our particular effect study: effect studies of mental health interventions are mostly done by measuring symptoms of specific psychiatric disorders, while there seems to be worldwide consensus about the relative meaning of psychiatric diagnoses in postconflict contexts. Our study showed that mental health intervention outcomes can also be established by use of a measure for general psychological well-being: the SRQ-20, an instrument used in numerous settings.
Chapter 7 describes our study to establish the effect on mental health of the community-based sociotherapy program in northern Rwanda, by use of the now validated SRQ-20. We used a controlled study design, with three measurement moments: right before and directly after the series of group sessions, and at 8 months follow-up. The control group comprised inhabitants of the region who did not participate in sociotherapy. Despite the intervention’s focus on social bonding, it was shown to have a significant positive effect on mental health: the experimental group’s mean SRQ-20 scores decreased by 2.3 points \( (P=.033) \). This effect continued at follow-up after 8 months. Women in the experimental group scoring above the locally established cutoff at baseline improved with 4.8 points to below cutoff \( (P<.001) \), a clinically relevant outcome. This is the first controlled study in history on the effect of a large-scale community level psychosocial intervention in a postconflict setting.

Social capital

Chapter 8 is a theoretical study on the construct of social capital, taking off with a summary of relevant literature on the relation of social capital with health and well-being, and with mental health in particular. Social capital is a measure for cohesion within and between communities; it encompasses concepts like network, mutual trust, reciprocity and cooperation. The larger a community’s social capital, the more potential it seems to have for both economic growth and certain aspects of health and well-being. Therefore, social capital is potentially a key resource supporting postconflict recovery. Social capital’s relation with mental health seems to be more complex. Qualitative research in Rwanda, however, unambiguously showed a positive effect of sociotherapy on social capital, while our quantitative study (see Chapter 7) established its effect on mental health. Support aimed at the increase of social capital thus seems to be potentially effective with regards to mental health. This may serve as another argument in favour of particularly directing psychosocial support programs in such contexts at social bonding and cooperation.

Conclusions

The epidemiological studies within this thesis yielded high prevalence rates of mental health problems and possible psychiatric disorders among nonwestern war-affected populations. These findings not only called for psychosocial care as an integral part of the emergency response and health care in postconflict regions, but also showed that such aid should be provided at the community or primary care level and preferably be community-based. Professionals around
the world have meanwhile become aware that in postconflict regions, symptoms as established through epidemiological studies may not indicate the presence of psychiatric disorders. Our studies on intervention programs focused on psychosocial support programs aiming at social reintegration and bonding, thereby leaving the individual psychological (trauma-)perspective. The effect on mental health of such interventions may be established through measuring general mental health rather than symptoms of psychiatric disorders.

The community-based sociotherapy program in Rwanda reached a large number of people and positively affected social bonding. Our controlled study showed an additional positive effect on mental health. This may be indicative for both the existence of a relation between social capital and mental health and the possibility to impact these two factors through one single intervention. The latter seems to be a relevant finding with regards to efforts to support recovery after mass violence.
Chapter 11

Samenvatting
Inleiding

Dit proefschrift gaat over het voorkomen van mentale problemen onder populaties in niet-westerse oorlogsgetroffen gebieden, en over methoden om deze problemen te verzachten via interventies die zijn gericht op maatschappelijke reïntegratie. Ten tijde van onze eerste studies bestond er nog geen brede kennis over de prevalentie van psychiatrische symptomen in de algemene populatie in niet-westerse postconflictcontexten. Ook was de methodiek van de geboden psychosociale hulp nauwelijks gedocumenteerd; duidelijk was wel dat deze vooral individueel psychologisch was georiënteerd, en met name een traumaperspectief hanteerde.


Naast het vergaren van epidemiologische gegevens, wilden wij vaststellen wat de invloed was van onze desbetreffende bevindingen op het plaatselijke GGz-beleid of op afzonderlijke hulpprogramma’s. Ten aanzien van de genoemde psychosociale hulpprogramma’s wilden wij weten of deze, met hun primaire doelstelling van maatschappelijke reïntegratie, binnen de plaatselijke context uitvoerbaar en passend bleken te zijn. Van het meest recente, het community-based sociotherapy-programma in Rwanda, wilden wij onderzoeken wat het effect was op de mentale toestand van de deelnemers. Daartoe moesten wij eerst de validiteit voor plaatselijk gebruik en de geschiktheid voor effectmeting vaststellen van het beoogde meetinstrument, de Self Reporting Questionnaire (SRQ-20). Ten slotte exploreerden wij theoretisch de relatie tussen psychisch welbevinden en ‘sociaal kapitaal’, een begrip dat de mate uitdrukt van onderlinge verbondenheid binnen en tussen gemeenschappen, en dat mogelijk van belang is voor zowel maatschappelijk als mentaal herstel na grootschalig geweld.

Het boek omvat zeven studies, beschreven in hoofdstuk 2 t/m 8.

Epidemiologische studies

Hoofdstuk 2 betreft een prevalentiestudie in 1995 onder vluchtelingen in kampen in Tanzania die ontstonden tijdens het genocidale geweld in Rwanda in 1994. De kampen, met tienduizenden inwoners, waren chaotisch en onveilig,
de sfeer was er gepolitiseerd en de vluchtelingen waren wantrouwend. Vijftig procent van de door ons ondervraagde vluchtelingen (n=854) had een score op de General Health Questionnaire (GHQ-28) die ernstige mentale problemen suggereerde. Met deze proportie zou een individueel hulpaanbod volkomen inadequaat zijn. De bevinding wees op de enorme omvang van de psychische nood in vluchtelingenkampen, en vormde een pleidooi voor het versterken van onderlinge steunsystemen binnen de vluchtelingengemeenschap, in plaats van de hulp te richten op bijvoorbeeld persoonlijke counseling. De publicatie van de studie trok de aandacht van de toenmalige secretaris-generaal van de WHO, die in een begeleidend editorial pleitte voor opname van community-based psychosocial care in elke emergency response.

Hoofdstuk 4 betreft een epidemiologische studie in 2003 onder de algemene populatie van een oostelijke provincie in Afghanistan, na tientallen jaren van oorlogsgeweld en onderdrukking. Omdat inmiddels bekend was dat in postconflictgebieden depressie, posttraumatische stress en angst het meest voorkwamen, vroegen wij ditmaal naar uitingen van deze specifieke psychiatrische stoornissen, met behulp van de Hopkins Symptom Checklist en de Harvard Trauma Questionnaire. Posttraumatische klachten (20,4%) en depressieve verschijnselen (38,5%) bleken inderdaad verhoogd prevalent, maar het meest prevalent bleken angstverschijnselen – bij vrouwen (78,2%) nog veel meer dan bij mannen (21,9%). Van de ondervraagden (n=1011) had 43,7% gedurende het voorbije decennium acht tot tien traumatische gebeurtenissen meegemaakt, en 14,1% elf of meer. Emotionele steun vond men vooral bij familie en in religie. Deze studieresultaten wezen erop dat de hulpverlening zich met name moet afspelen op het niveau van de algemene populatie en de eerstelijnszorg. De bevindingen droegen bij aan de bewustwording van het belang van GGz in het land: een aantal maanden na publicatie nam het Ministerie van Gezondheid in Kabul mental health care op in de top 10 van prioriteiten.

Psychosociale interventies

Hoofdstuk 3 beschrijft het werkmodel en de uitvoering van een psychosociaal hulpprogramma in 1995 voor Rwandese vluchtelingen in kampen, in het kader van een meeromvattend project van Artsen Zonder Grenzen. In deze setting vond bovengenoemde eerste epidemiologische studie plaats. De bedoelde interventiemarkhoudde richtte zich op het aanboren en versterken van aanwezige emotionele en praktische steunsystemen, en het mobiliseren van de sociale omgeving. Dit was een koerswijziging ten opzichte van de voornamelijk traumageoriënteerde hulpverlening in dergelijke situaties tot dan toe. Het programma was geen onverdeeld succes door de alom heersende
angst en achterdocht onder de vluchtelingen, de algemene weerstand en onbekendheid met psychosociale thema’s bij andere (op praktische of medische noodhulp georiënteerde) aanwezige organisaties, en ten slotte de voortijdige aftocht van Artsen Zonder Grenzen wegens de onveiligheid en het misbruik van de hulp. Achteraf was de setting te gecompliceerd voor een pilot van de bedoelde psychosociale aanpak, en bleek er behoefte aan een nog duidelijker werkmodel. In de jaren nadien ontstond echter wereldwijd consensus dat in postconflictsettings de psychosociale zorg primair de hierboven genoemde doelstellingen moet nastreven.


Instrumentvalidering en effectmeting
Hoofdstuk 6 betreft de validering van de Self Reporting Questionnaire (SRQ-20) voor gebruik in Rwanda. De SRQ-20 is een door de WHO ontwikkeld instrument om op gemeenschapsniveau te screenen op mogelijke psychische problematiek. Wij wilden de SRQ-20 gebruiken om het effect van sociotherapie (zie hoofdstuk 5) op mental health te meten. Daartoe moest de vertaling voldoen aan de validiteitscriteria voor cultuurspecifiek gebruik. Bovendien moest het instrument longitudinale validiteit tonen om het voor effectmeting te kunnen gebruiken, iets wat voor de SRQ-20 nooit eerder was vastgesteld. Wij toonden zowel de culturele als de longitudinale validiteit van de SRQ-20 in de Rwandese taal aan. De aangetoonde longitudinale validiteit van het instrument heeft naast onze voorgenomen effectstudie een algemeen belang: interventie-effecten worden meestal vastgesteld door symptomen te meten van specifieke
psychiatrische diagnosen, terwijl er wereldwijd consensus is ontstaan dat deze in postconflictcontexten slechts van relatieve betekenis zijn. Effecten blijken nu ook gemeten te kunnen worden met een instrument dat de meer algemene psychische toestand vastlegt, de veel gebruikte SRQ-20.

**Hoofdstuk 7** beschrijft onze studie om, met behulp van de nu locaal gevalideerde SRQ-20, in noordelijk Rwanda het effect vast te stellen van community-based sociotherapy op mental health. Het betrof een gecontroleerde studie, met drie meetmomenten: voorafgaand aan en direct na deelname aan de serie groepsbijeenkomsten, en bij follow-up na acht maanden. De controlegroep bestond uit inwoners van de regio die níét deelnamen aan sociotherapie. Ondanks dat sociotherapie primair gericht is op sociale binding, bleek er ook een significant gunstig effect te zijn op de psychische toestand: de gemiddelde SRQ-20-score van de experimentele groep daalde met 2.3 punten ($P=0.033$). Dit effect zette zich voort bij follow-up na acht maanden. De gemiddelde score van vrouwen in de experimentele groep die bij de nulmeting boven het plaatselijk vastgestelde cutoff-punt scoorden, daalde met 4.8 punten naar onder cutoff ($P<0.001$), een klinisch relevante bevinding. Dit is de eerste gecontroleerde studie in de geschiedenis naar het effect van een grootschalige psychosociale interventie op gemeenschapsniveau in een postconflictgebied.

**Sociaal kapitaal**

**Hoofdstuk 8** omvat een theoretische studie over het concept ‘sociaal kapitaal’, beginnend met een beschrijving van relevante literatuur over de relatie van sociaal kapitaal met gezondheid en welbevinden, en met mentale gezondheid in het bijzonder. Sociaal kapitaal is een maat voor de samenhang in en tussen gemeenschappen, en omvat grofweg de begrippen netwerk, onderling vertrouwen, wederkerigheid van diensten en samenwerking. Hoe groter het sociaal kapitaal binnen een gemeenschap, hoe meer potentieel er blijkt te zijn voor economische groei, maar ook voor een aantal aspecten van gezondheid. Daarmee zou sociaal kapitaal een belangrijke factor kunnen zijn voor het herstel van een samenleving na oorlog. De relatie tussen sociaal kapitaal en mentale gezondheid is nog niet geheel duidelijk. In Rwanda echter bleek uit kwalitatief onderzoek een onmiskenbaar gunstig effect van sociotherapy op sociaal kapitaal, terwijl onze kwantitatieve studie (zie hoofdstuk 7) de werkzaamheid ten aanzien van psychisch welbevinden aantoonde. Hulp die zich richt op het vergroten van sociaal kapitaal lijkt daarmee tevens werkzaam te kunnen zijn op mentaal welzijn: een pleidooi te meer om hulpprogramma’s in dergelijke contexten vooral te richten op sociale binding en samenwerking.
Conclusies
De epidemiologische studies, beschreven in dit proefschrift, toonden een zeer hoge prevalentie van psychische problematiek en mogelijke psychiatrische stoornissen onder niet-westerse oorlogsgetroffen populaties. Daarmee riepen zij om aandacht voor psychische zorg in het kader van noodhulp en gezondheidszorg in postconflictgebieden, maar toonden zij ook dat deze zich op het niveau van de algemene populatie of de eerstelijnszorg moet afspelen en bij voorkeur community-based moet zijn. Tegelijkertijd is wereldwijd het besef gegroeid dat de in epidemiologische studies vastgestelde symptomen in postconflictgebieden wellicht geen goede indicatie vormen voor de feitelijke aanwezigheid van psychiatrische stoornissen. Onze studies met betrekking tot hulpprogramma's richtten zich dan ook op psychosociale interventies met als doel maatschappelijke re-integratie en binding, en verlieten het individuele psychologische (trauma)perspectief. Het effect op mental health van zulke hulp kan beter vastgesteld worden door meting van het algemene psychische welzijn dan van symptomen van psychiatrische stoornissen.

Het community-based sociotherapy programma in Rwanda had een zeer groot bereik en was effectief ten aanzien van sociale binding. Daarnaast toonde onze gecontroleerde studie een significant gunstig effect op psychisch welzijn. Dit vormt een aanwijzing voor het bestaan van een relatie tussen sociaal kapitaal en mentaal welzijn, en de mogelijkheid beide tegelijkertijd te beïnvloeden via één interventie. Het laatste lijkt een relevant gegeven voor pogingen om het herstel van een samenleving na grootschalig geweld te bevorderen.
Dankwoord

De studies binnen mijn promotietraject zijn uitgevoerd in samenwerking met telkens wisselende collega’s en organisaties, en in onderling verschillende omgevingen. In dezelfde periode is bovendien mijn primaire werkplek een aantal malen veranderd. Daarom heb ik in de loop der tijd van de kennis en inzet van een groot aantal mensen mogen genieten, en heb ik samen met velen problemen doorgeworsteld en pret gemaakt. Soms verlies je elkaar weer uit het oog, maar allen wil ik bedanken voor de belangrijke rol die zij hebben gespeeld. Er zijn ook mensen die bleven.


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About the author

Pim Scholte (1951) is a psychiatrist who has been affiliated with the Academic Medical Center (AMC) at the University of Amsterdam from the start of his career. In the 1990s and early 2000s he was one of the figureheads of its Department of Early Psychosis (the Adolescentenkliniek), where he helped develop treatment methods and research projects. Over these years he also took part in the Board of Directors at Médecins Sans Frontières Holland (Artsen Zonder Grenzen), where he played an initiating and advisory role in mental health programming. In 2003 he started the Equator treatment program at the AMC, providing mental health care to survivors of mass violence and torture and to victims of human trafficking. The program promotes a combined approach to mental health and social bonding. It later became the Equator Foundation, and in 2009 moved out of the AMC to become a partner in the Arq Psychotrauma Expert Group.

Pim Scholte was one of the founding board members of the Transcultural Psychiatry section of the Netherlands Psychiatric Association. He acted as a methodology advisor to War Child Netherlands. He was the Chair of Antares Foundation, an agency promoting the management and staff support and care in humanitarian and developmental organizations. Presently, he is a senior technical advisor to Antares. Pim has worked in a wide range of (post)conflict regions, such as Kashmir, Afghanistan, Sri Lanka, Gaza strip, DR Congo, Rwanda, Darfur and Sierra Leone. He was involved in the design, implementation, and scientific evaluation of psychosocial intervention programs and humanitarian staff well-being programs. Presently he acts as the director of Equator Foundation, and as a senior researcher at Arq.
Publications by the author

Research articles


Publications by the author


Publications by the author


**Chapters**


Publications by the author


*Other publications*


Publications by the author


*Internal documents*

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