Reproductive Health of War-Affected Populations: What Do We Know?

By Therese McGinn

The traditional focus of international and local relief agencies during complex emergencies has always been the provision of adequate food, water, shelter and basic health care, specifically mortality reduction through control of infectious diseases and promotion of child health. In the mid-1990s, however, several events focused attention on reproductive health among war-affected populations. Both the 1994 International Conference on Population and Development in Cairo and the 1995 Fourth World Conference on Women in Beijing highlighted the needs of displaced populations. A landmark study, published in 1994, showed that reproductive health services (beyond antenatal and delivery care) were rarely included in the health services available to refugees or the displaced.[1] Finally, the scope and coverage of atrocities, particularly sexual violence, committed during the conflicts in the former Yugoslavia and in Rwanda drew world attention to reproductive health issues.

Relief and reproductive health agencies' responses to refugees' needs have been hampered by the dearth of research and program experience specific to complex emergencies. A useful framework for a desk-based assessment* of reproductive health response in emergencies examines the interaction of a population's characteristics and conditions pre- and post-conflict to assess how their reproductive health needs and concerns might have been affected by conflict.[2] However, information is still lacking on the degree to which existing reproductive health service delivery models developed in settled communities may be used or adapted for the war-affected.

In this article, available data (from both published and unpublished sources) are reviewed to determine if and how reproductive health status is affected by refugee or displaced status. Most reflect work documented in the 1990s, although some published studies from the 1970s and 1980s are included. Refugees in stable camp settings are the population most often studied; caution should be used in applying these findings to refugees during the emergency phase of a crisis or to the internally displaced and other war-affected groups. Evidence on fertility and family planning, safe motherhood, sexually transmitted diseases (STDs) and HIV, and sexual and gender-based violence are examined.

*An assessment done off-site, using secondary sources of data.

Fertility and Family Planning

Those working with war-affected populations espouse contradictory positions regarding the impact of forced migration on fertility: that fertility rises because of the pressure to replace deceased children and warriors, and that it falls because the stress and uncertainties of refugee life are not conducive to childbearing. In fact, both responses are described in numerous demographic and economic analyses summarized in a 1999 analysis of fertility decline in Ethiopia.[3] High fertility has been observed in times of economic insecurity and where social or public support networks are unavailable or uncertain, and declines in fertility have been observed in response to short- or long-term economic decline, political upheaval, war, famine and marital separation due to forced (or other) migration. Published and unpublished studies on fertility, desired family size and contraceptive use reveal a mixed response to childbearing among those affected by war.

A comparison of fertility levels among two groups of Khmer refugees for six months after their arrival in two camps in Thailand during 1979–1980 showed that actual and projected birthrates and pregnancy rates differed by refugees' socioeconomic and educational status.[4] The birthrate of those who had lived in urban areas, were relatively well-educated and had been economically better-off was similar to the rate in prewar Cambodia, remained fairly constant through the six months of observation and was not projected to change substantially in subsequent months. The birthrate among those who had lived in rural areas, had low educational attainment and were poorer was markedly lower than Cambodia's prewar rate, increased during the study period and was projected to continue to increase—though not, at least in the short term, to the level of the better-off women. The researchers attributed the poorer women's low fertility when they were first observed to subfecundity, which was reversed quickly with improved nutrition.

Data compiled by the Centre for Research on the Epidemiology of Disasters on Sudanese refugees living in two camps in Ethiopia (Bonga and Fugnido) in response to similar emergencies also illustrate differing fertility patterns among migrants from the same country (though from different ethnic groups).[5] Monthly crude birthrates from February 1993 to July–August 1996 show an increase in Bonga (from about one to more than four per 1,000 population) and a decline in Fugnido (from more than three to less than one per 1,000). The researchers attribute the increase in Bonga to a desire to repopulate following a massacre, as well as to better camp organization and better patient compliance with health advice, and the decline in Fugnido to the harsh environment and to poor facilities and health services.

Researchers in Belize used 1989 data to compare fertility among native-born Belizeans with three categories of refugees and immigrants who had fled political violence and economic destabilization in El Salvador and Guatemala: permanent residents, registered refugees and those without legal status.[6] The researchers studied mothers with at least one child younger than six; their median time in Belize was five years. The authors concluded that social and demographic characteristics, such as age, education and how much land they owned in Belize, had a greater effect on fertility and number of children wanted than did their migration status.

Researchers who examined fertility trends in Ethiopia during the 1970s and 1980s—a period marked by social and political upheaval, violence and large pop-

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ulation movements, as well as by famine and economic decline[7]—noted that fertility in the 1970s remained high and relatively stable, though marked by periodic declines and rebounds in response to specific political and economic events. In 1982, however, fertility began a gradual but steady decline, which appears to have been sustained into the 1990s, when stability returned to Ethiopia. After assessing and rejecting alternative explanations, the authors attribute the decrease in fertility to the ongoing civil war and economic decline after 1982.

A study among Palestinian refugees in Lebanon in 1995 showed continued patterns of high, early fertility and short birth intervals.[8] Fertility desires may be changing, however. While 50% of the 15–60-year-old mothers had more than five children, only 22% chose this as their preferred number. Similarly, 58% had had their first child by age 19, but 78% considered 20–25 to be the ideal age to begin childbearing.

The International Office of Migration, based in Geneva, reported a decline in the mean annual number of births in Sarajevo in the mid-1990s (from 10,000 prior to the conflict to 2,000 during the war),[9] and attributed the decrease to marital separation and postponement of births due to insecurity. Population movement alone explained relatively little of the decline. Postponement was achieved through the use of elective abortion (an average of two abortions per full-term pregnancy for most of the war) rather than through contraceptive use, which remained low.[10]

In 1998, the United Nations High Commissioner for Refugees (UNHCR) compiled reproductive health data from routine service statistics and special studies in eight refugee settings around the world: Bonga, Ethiopia; Dadaab and Kakuma, Kenya; eastern Nepal; Hangu, Pakistan; Kibondo, Tanzania; northern Uganda; and Goma, Democratic Republic of the Congo (formerly Zaire).[11] In seven sites, camp birthrates were considerably lower than those of both the home and the host countries; in Hangu, the camp birthrate was about equal to Pakistan's and was lower than that of Afghanistan. The report noted that inaccuracies in population size estimates or in health reporting systems may have affected the precision of the compiled data.

In sum, these studies, as well as other fertility reviews,[12] suggest that no common fertility pattern emerges among refugees. The immediacy and severity of an emergency may affect short-term response, but in the long term refugees' fertility appears to be influenced by social and demographic factors long associated with fertility change (such as age, socioeconomic status, education and urban or rural residence).

Achieving desired fertility is a function of several factors, including use of effective contraceptives, which is in part a function of the availability of services. Here, too, the record is mixed.

A 1983 survey among Lao and Hmong refugee women aged 15–49 who arrived in Thailand in the late 1970s and early 1980s showed high completed fertility of 6–7 children.[13] Both groups arrived with limited knowledge of family planning. Yet by 1983, desired fertility and contraceptive behaviors were markedly different in the two groups. The ideal number of children for Lao women was three, and only 30% expressed a desire for additional children. The corresponding figures for the Hmong were six and 66%. Current use of contraceptives (almost all modern methods) was 42% among the Lao and 3% among the Hmong. The authors attribute the differences to cultural and administrative variations, but also note the influence of the substantially higher education levels of the Lao women.

Khmer refugees in Thailand in the late 1970s responded quickly to available family planning services. In a matter of weeks, prevalence rose from zero to 30%.[14] In 1997, Afghan refugees in Pakistan reported limited use but strong interest in family planning.[15] Similarly, in the mid-1990s, Rwandan refugees expressed strong demand for family planning services,[16] a reflection of the much higher contraceptive prevalence in prewar Rwanda (21%) than in Congo and Tanzania, where the refugee camps were located. The 2% prevalence reported among Rwandan refugees in Goma[17] therefore may reflect supply constraints rather than lack of demand.

Emergency contraception is an important family planning service for refugees, including those whose access to regular contraceptive supplies has been disrupted and where women have been raped. In a 1998 review of 14 projects providing reproductive health services, the International Rescue Committee, a leading refugee assistance agency, found that emergency contraception was available in only four sites.[18] Lack of familiarity among both providers and refugee women and supply shortages were cited as constraints to its greater availability.

Not surprisingly, demand for family planning services is affected by migrants' previous family planning knowledge and experience. However, even among migrant groups with limited prior exposure and low demand, the availability of high-quality education and services can be expected to help them attain their desired family size and improve their health status.

Safe Motherhood

Like women throughout the world, refugee women encounter dangers in pregnancy and childbirth. Infants born to refugees also face risks. However, the general assumption that refugee status worsens the risks and outcomes of pregnancy may not be supported by the available data.

In most studies of pregnancy outcome, only infant health outcomes are measured. Low birth weight is the outcome most commonly measured; others include preterm births and neonatal death rates. Maternal health outcomes (such as obstetric complications, morbidity and death) are less commonly reported.

A 1998 study in Tanzania showed poor pregnancy outcomes to be common among Burundian refugees in Mtendeli Camp.[19] More than one-fifth of all live births were low birth weight (less than 2500 g), and the fetal and neonatal death rates were 46 and 29 deaths per 1,000 live births, respectively. Poor outcome was associated with first or second pregnancy, frequent malarial illness and prior high socioeconomic status. The final factor is surprising, as socioeconomic status and health status generally vary together. The authors suggest that women of high socioeconomic status lacked the necessary skills to function well in the camp environment.

An assessment of health data in Sarajevo before and during the war indicated that perinatal mortality increased from 15 to 39 deaths per 1,000 live births.[20] The researchers considered the increase in low-birth-weight infants (from 5% to 13%) and the difficulties in managing infants' care due to the damaged health infrastructure to be important underlying factors. The Sarajevo health data also show an increase in congenital abnormalities (from less than 1% to 3%), attributed in part by the authors to nutritional deficiencies.

The 1998 UNHCR compilation of service and survey data from eight sites showed a wide range of low birthweight: 3% of infants in Uganda; 6% in Zaire; 9% in Ethiopia; 10% in Nepal; and 22% in Tanzania.[21] Except in Tanzania, refugees experienced low birth weight at lower rates than did populations in their home or host countries. Neonatal death rates at these sites ranged from 10 (in Uganda) to 29 (in Tanzania) deaths per 1,000 live births, and were lower in all sites than among populations in the home and host countries.

Overall, antenatal care coverage was higher than the World Health Organization estimate of 68% worldwide. In some cases, coverage was calculated to be greater than 100%, probably due to underestimates of births and the use of services by nonrefugees. Estimates of maternal death from the eight sites showed maternal mortality ratios to range from 65 to 526 deaths per 100,000 live births (Rwandans in Zaire and Somalis in Dadaab, Kenya, respectively). In all cases, these figures are considerably lower than estimates for both the host and home countries.

The UNHCR report cautions that service-based statistics are vulnerable to both over- and underreporting, and that the camp population estimates used to calculate rates may also be inaccurate. While the overall favorable picture of refugee infant and maternal health, compared with that of home or host country, may be accurate, importance should not be attributed to small differences or specific figures.

A study in Chile examined the relationship between pregnancy complications (including premature rupture of membranes, preterm contractions and hemorrhage) and the sociopolitical violence (such as bomb threats, military presence and demonstrations) that occurred regularly in Santiago from 1985 to 1986.[22] Although the study did not focus on a displaced population, the effects of exposure to ongoing violence is relevant to conflict situations. (These effects have not been studied in conflict situations for logistical and ethical reasons.) After controlling for potential confounding variables, the researchers found that women who lived in neighborhoods with high levels of violence were five times as likely as those who lived in areas with low levels of violence to experience pregnancy complications.

A number of studies have compared the pregnancy outcomes of resettled refugees and host populations. For example, a 1990–1991 study in Athens, Greece, compared the pregnancy outcomes of refugees from eastern Europe, the Middle East and Africa and of refugees of Greek origin from the former Soviet republics of central Asia with those of Greeks of low socioeconomic status.[23] Low birth weight was less common for all groups of refugees (4–10%) than for the local Greek population (11%). Preterm delivery (less than 37 weeks) also was less common among refugees (4–6%) than among Greeks (11%). The authors conclude that refugee status does not negatively affect pregnancy outcomes.

These results were contrary to the authors' expectations, since social factors—assumed to be unfavorable for refugees—have been shown to influence pregnancy outcome. The results, however, are largely consistent with other studies cited by the authors showing birth outcomes of resettled refugees to be as good as or better than those of local populations in Massachusetts, Oregon, California and England; they are also consistent with similar studies elsewhere (Philadelphia and Washington State).[24*]

Other studies have documented more obstetric problems among refugees than among locals. For example, in Hong Kong from 1986–1988, the mean birth weight of infants born to Vietnamese refugees and age-matched Chinese controls did not differ; however, a higher proportion of low-birth-weight infants were born to refugees (8%) than to Chinese women (4%).[25] The refugee women experienced more illness during pregnancy (such as anemia, tuberculosis and syphilis) than did the Chinese women, but no particular perinatal morbidity was identified in either group.

The primary explanation proffered for good pregnancy outcomes among refugees is the availability and use of health services. Such an explanation is supported by a review of emergency obstetric care available to refugees in eight sites in Africa (Guinea, Kenya, Liberia, Lebanon, two sites in Rwanda and two sites in Sudan).[26] Refugees in all sites had access to at least some emergency obstetric services. In four sites, care was available locally or within one hour's travel; other sites required 3–8 hours' travel. Nongovernmental organizations working in these camps or other authorities typically provided transport for emergencies. In virtually all of the camp situations, the emergency and other services available to refugees were better—in quantity and quality—than that which existed in their home country during and, in most cases, prior to the conflict that made them refugees.

Host populations may also benefit from services developed for refugees. In a study in rural Guinea, where some 500,000 Liberian and Sierra Leonean refugees fled beginning in 1990, rates of major obstetric interventions for the host population increased substantially in all areas where refugees had settled.[27] The increase was largest (from 0.03% to 1.06%) in the area with the greatest concentration of refugees. The authors attribute the host population's increased use of obstetric services to improvements in the health system, better transport and greater economic activity (all products of the refugee assistance programs), as well as to some Guinea government initiatives. They also note that social interaction between refugees and nationals may have encouraged use of services by the latter.

The available data on maternal and infant pregnancy outcomes, then, suggest that poor outcomes are common in many war-affected populations. Outcomes may worsen in the active stages of the conflicts, but may be no more common than in host or home countries once stabilization occurs. Refugees, particularly those from the poorest countries and living in camps served by humanitarian agencies, probably have access to more and better health care than they did in their conflict-affected home countries. They also may have better care than the local population. Thus, after the emergency phase, differences in pregnancy-related outcomes among these groups are probably attributable to the availability and use of services rather than to refugee status.

Sexually Transmitted Diseases

Several characteristics of refugee life would logically increase exposure to STDs. Zwi and Cabral identified five ways in which populations become high-risk during low-intensity conflict: displacement, military activity, economic disruption, psychological stresses and increased migration.[28] The available data appear to support these links and suggest that the effects are not limited to refugees themselves.

Several assessments of the point prevalence of HIV and other STDs have been done in refugee settings. A 1989 prospective study of 179 pregnant Vietnamese refugees in Hong Kong found 3% prevalence of syphilis and no gonorrhea.[29] The same syphilis rate was found in 1998 in Kakuma Refugee Camp, Kenya, among 876 Sudanese and Somali clients attending an antenatal clinic.[30]

In a 1992–1993 study of 1,728 displaced pregnant women in Mozambique's Zambezia Province, researchers confirmed syphilis in 12% and HIV in 2%.[31] The authors note the relatively low HIV infection rate (which is surprising in view of the

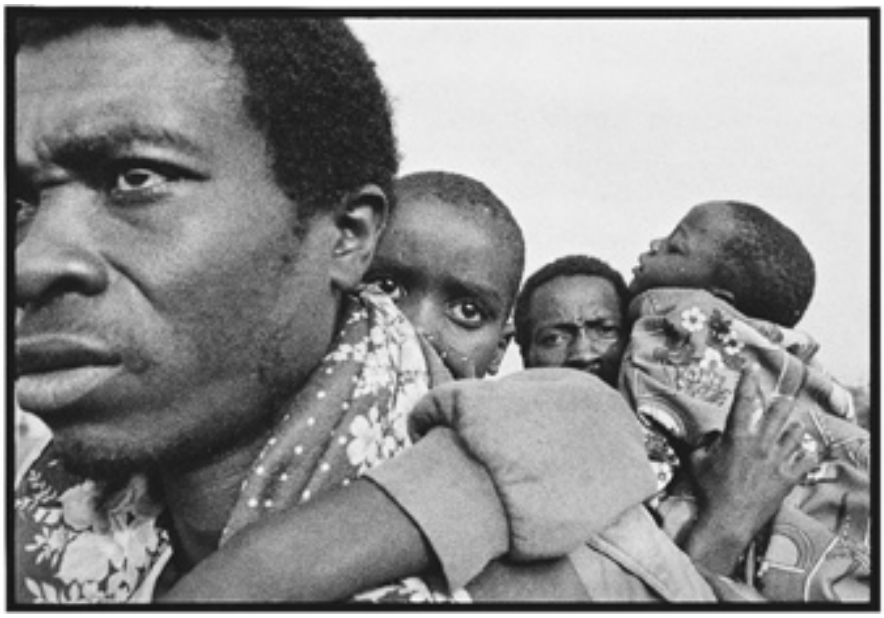
*It should be noted that the small proportion of refugees who are officially resettled in a country other than the home or host country—less than one in 10,000 of the 14 million refugees and asylum seekers worldwide in 1999—or who are otherwise able to migrate to the developed countries where these studies were carried out may have higher socioeconomic status than refugees in general and perhaps than the local populations with which they were compared. (Sources: UNHCR, Refugees and others of concern to UNHCR, 1999 statistical overview, http://www.unhcr.ch/statist/99oview/tab520.pdf, accessed Sept. 2000; and U.S. Committee for Refugees, *World Refugee Survey 2000*, Washington, DC: Immigration and Refugee Services of America, 2000.)

high syphilis rate) and offer as possible explanations the recent introduction of HIV or the absence of cofactors for transmission. Earlier studies among rural displaced persons in other areas of Mozambique found HIV prevalence of 3% in 1987 and 5% in 1990, considerably higher than the 1987 rate of less than 1% in the general adult population. The authors also describe a 1983 study that showed syphilis among pregnant Mozambicans in eight provinces to be 6%, and note that it is not possible to determine if the apparent increase between 1983 and 1992–1993 was due to the effects of displacement, geography or the passage of time. The later study showed no correlation between syphilis or HIV seropositivity and duration of displacement.

Immediately following the massive movement of refugees from Rwanda to Tanzania in mid-1994, researchers carried out a rapid assessment of STD prevalence in refugee camps.[32] They interviewed and clinically examined a total of 528 men from outpatient clinics and the community and 100 pregnant women attending an antenatal clinic over an eight-day period. More than 60% of women had some form of reproductive tract infection when candidiasis, bacterial vaginosis and trichomoniasis are included; 3% had gonorrhea and 2% syphilis. Among men, gonorrhea prevalence was 1–2% and urethritis about 3% in both outpatient and community samples; 6% of male outpatients (the only male group tested) had syphilis. The levels of reproductive tract infections and STDs within the refugee population were generally consistent with those of an earlier study among Tanzanian residents in neighboring Mwanza region.

Researchers have also undertaken studies of resettled or immigrant populations in third countries. In London, a retrospective study of 196 patients from the former Yugoslavia and age-matched British controls showed that 34% of the immigrants and 27% of the controls had an STD.[33] HIV prevalence was 6% among 5,234 African and Haitian refugees in France attending a dispensary for foreign nationals.[34] In 1989–1991, less than 1% of Vietnamese refugees in Japan tested positive for syphilis within one month of resettlement, a rate unchanged from earlier cohorts of Vietnamese refugees.[35]

A number of studies have linked the spread of HIV and other sexually transmitted infections to conflicts and the population shifts they propel. A 1990 examination of the distribution and spread of HIV infection in Uganda during the 1980s linked the pattern of military recruitment in the post-Amin years and the geographic spread of the epidemic.[36] The researchers noted the historic link between servicemen, commercial sex workers and STD transmission in the West as well as in several parts of Africa, and conclude that to a large extent the association between war and disease accounted for the geographic distribution of AIDS cases in Uganda.



Sick children carried by their fathers to a clinic, Zaire, 1994 James Nachtwey

Data from Rwanda provide additional evidence for the effect of forced migration on HIV prevalence.[37] In 1997 (i.e., postwar), HIV prevalence was 11% in both rural and urban areas. This contrasts with low prewar levels in rural areas (estimated at 1%), where approximately 95% of the population resided, and high levels in urban areas (more than 10% of pregnant women). Seroprevalence among those who had lived in refugee camps in Tanzania or Zaire was 9%, representing a 6–8-fold increase over the rates in the rural areas from which they came. The increase was even greater, however, for the displaced who remained in Rwanda during the conflict years. Of the women raped, 17% were HIV-positive.

Refugees have not always been found to have high rates of infection, or to have higher rates than local populations. In an examination of 398 blood samples from Mozambican refugees in two camps in Swaziland in 1993, HIV prevalence was 11% in the camp located near Swaziland's two major cities and was 1% in an isolated camp in a sparsely populated area further south.[38] The authors conclude that greater interaction with the Swazi population, which had an estimated seroprevalence of 18%, was responsible for the higher prevalence in the former camp.

The location of the refugees, rather than refugee status itself, also was found to be important in an examination of the spread of HIV infection in Angola in 1987 and 1988.[39] Serum samples were tested for a total of 1,695 apparently healthy individuals and patients (seeking treatment for STDs, tuberculosis and other illnesses) in six provinces; among them were 250 displaced men in three of the provinces. The researchers concluded that seropositivity was highest among patients and healthy people in the northern areas (near the Zaire Republic), among refugees in the most affected war zones and among army personnel. Proximity to a war zone appeared to be more important than refugee status, as seropositivity among the displaced varied substantially by province: 20% in a central, war-affected area (Huambo); 8% in Kuando-Kubango in the southeast, far from the fighting in the north; and zero among refugees in Luanda arriving from the south. According to the authors, war promotes the spread of HIV through heterosexual contact.

The importance of STDs and their association with war and movement is noted not only by researchers but also by community members. In a qualitative study of reproductive health in communities affected by war in southern Sudan in 1999, STDs were the problem most consistently identified by community members.[40] The importance of STDs was confirmed by health statistics: STDs accounted for 13% of consultations at the main hospital and were the fourth most common reason for attendance. Men and

women in all age-groups attributed STDs to "movement of people and the war."

The available data show a range of HIV and STD rates among refugees. Such a finding is neither surprising nor refugee-specific; similar variation in prevalence can be found in any number of populations not affected by conflict.[41] Displacement, which may promote exposure between high- and low-prevalence populations, appears to be a critical factor. Indeed, the association of STDs with population movement—whether voluntary or not—is long-standing.[42] For example, South Africa's high HIV rate has been attributed in part to its long history of male labor migration.[43] The evidence also shows that military presence further promotes transmission—not unexpected, since the military have long been associated with high STD rates.[44]

It may be said that conflict increases the spread of STDs at least through displacement and military presence, which are the inevitable result of war. The war-affected include not only refugees and the displaced but also local residents in the host community. Furthermore, it is important to note that the direction of spread will depend on the relative prevalence levels in the areas of origin and destination.

Sexual and Gender-Based Violence

The prevalence of sexual and gender-based violence is difficult to measure, and may be more so in a war-affected population. Nevertheless, attempts have been made to assess the extent of the problem by examining records and by undertaking cross-sectional surveys or other population-based estimation techniques. This review of available data is limited to rape and domestic violence among populations forced to migrate, and does not include other forms of sexual and gender-based violence (such as female genital cutting, forced marriage, sexual trafficking or sexual abuse specifically targeting children).

Though attention to the topic of sexual violence in war is a recent phenomenon, the violence itself is not. For example, the Japanese army abducted an estimated 100,000–200,000 Korean women and forced them into sexual slavery during World War II; an estimated 250,000–400,000 women were raped during the Bangladesh war for independence in 1971; and 39% of Vietnamese women aged 11–40 fleeing their country by sea in 1985 were abducted or raped.[45]

In a UNHCR review of reproductive health service statistics from refugee camps, the annual number of women reporting rape was 0.2 per 1,000 among Rwandans in Ngara, Tanzania; 0.3 per 1,000 among Rwandans in Goma, Zaire; 0.5 per 1,000 among Somalis in Dadaab, Kenya; 0.6 per 1,000 primarily among the Sudanese in Uganda; and 3.1 per 1,000 among Burundian refugees in Kibondo, Tanzania.[46] The author cautions that case definitions for rape and other forms of sexual violence were not necessarily standardized throughout the sites, that reporting may have been contingent on the availability of services and other factors, and that, in any case, reports were likely to underestimate the true incidence of rape in the communities.

Population-based assessments may give a more accurate estimate of the prevalence of rape, though underreporting is likely to remain a factor. Most studies have been done following the conflicts in the 1990s in central Africa, Liberia and the former Yugoslavia.

A random sample of 205 Liberian women and girls in several sites in Monrovia, Liberia, were interviewed in 1994 about their experience of sexual violence by soldiers or fighters in the five years of the country's civil conflict.[47] Half of the women reported some form of violence, while 15% reported rape, attempted rape or sexual coercion. Women accused of belonging to certain ethnic groups, those forced to cook for soldiers and those younger than 25 were at increased risk for violence.

Another 1994 study conducted in Monrovia by WHO (and discussed in a 1999 article[48]) found similarly high levels of sexual violence. Rape was reported by 33% of 450 women interviewed; most rapes (84%) took place during periods of active fighting. More than one attacker was present in over half of the incidents, and weapons were used in the great majority (84%). Based on reports from survivors, as well as on reports from demobilized soldiers, the author surmises that rebel armies raped large numbers of Liberian women during a seven-year period.

In a 1996 population-based survey of 339 Burundian refugee women in Kibondo District, Tanzania, more than one in four women reported being raped since the conflict had begun approximately three years earlier; two-thirds of the rapes occurred in or near the camp.[49] Survivors identified the perpetrators as other refugees in 59% of cases, local Burundian residents in 24% of cases and local Tanzanians, soldiers and police in the remaining incidents.

A survey in Rwanda in 1997 found that 3% of women reported having been raped, more than half of them during the conflict.[50] Approximately 40% were adolescents. Rape survivors had an HIV seroprevalence rate of 17%, higher than the 11% found in the population overall. In a 1992–1993 study carried out in Mozambique, 8% of 1,728 displaced pregnant women reported sexual abuse.[51] Of those, about half reported more than one episode of rape.

In a population of 106,000 refugees in Dadaab, Kenya, 106 cases of rape were reported in the first nine months of 1998, more than in all of 1997.[52] Researchers discovered that the refugees attributed increased sexual violence (including rape and sexual coercion) to worsening security and to the lack of economic opportunity for women. Economic security would allow women to buy firewood rather than collect it in unsafe areas outside the camp, where more than 90% of rapes were said to occur, and also would allow them to resist demands for sex from other refugees and authorities within the camp.

Estimates of the number of women raped in the former Yugoslavia range from 14,000 to 50,000, according to the author of an assessment of sexual violence in Croatia and Bosnia-Herzegovina.[53] She also notes that while the reported number of rapes varies, "all reports agree that rape has been used as a genocidal tool against ethnic populations."

A review of 486 gynecologic consultations among refugees and local residents at a women's health center in Bosnia-Herzegovina in 1993–1994 revealed a history of rape in 3% of all cases; the rate for refugee women was the same as for the group overall.[54] Among 123 young Bosnian refugees living in Denmark, 6% reported having been raped or having suffered other forms of sexual abuse.[55]

An assessment of sexual violence among Kosovars in Albania and Macedonia in late April-May 1999, shortly after the NATO bombing campaign began, concluded that there was "no concrete evidence of the 'systematization' of sexual violence."[56] The author documents many accounts of abduction, mass rape and other forms of torture, as well as episodic rape, however. The refugees interpreted sexual violence by Serb armed forces as either plunder—usually rape at checkpoints, after which the women were released—or as a "concrete manifestation" of the hate felt by Serbs toward Kosovars and intended as an attack on all Kosovars.

Studies of domestic violence among refugees are less common than studies of rape. In community-based surveys of men and women in Kakuma Refugee Camp, Kenya, conducted in 1998, researchers found that 57% of women and 76% of men

believed husbands had the right to beat their wives.[57] There were striking differences in these attitudes by nationality, however. A greater proportion of Sudanese approved of wife-beating (70% of women and 87% of men) than did Somalis (40% of women and 39% of men). Yet, exactly the same proportions of Sudanese and Somali women reported having been beaten in the previous month (12%).

Qualitative research supports the notion that domestic violence is considered normal in everyday life. In three Ethiopian camps with different ethnic compositions, researchers found that both men and women reported domestic abuse and attributed it in part to alcohol or *qat*, a hallucinogenic leaf.[58] In one site, women reported that violence had increased since their arrival in camp because the men were inactive and bored. Women also reported that they beat their children.

These data strongly suggest that rape and domestic violence are widespread in conflict situations. Yet sexual violence is also a serious, though often hidden, problem among settled populations. In the United States, several investigations suggest that 14–20% of women will experience a completed rape at least once in their lives; in Toronto, Canada, 40% of women surveyed reported at least once episode of forced sexual intercourse since the age of 16.[59] A study in Seoul, Korea, found that 17% of women surveyed reported an attempted or completed rape.[60] In a review of some 50 population-based studies of domestic violence in 36 countries around the world (all but one conducted in the 1990s), 10–50% of women reported having been physically harmed by an intimate male partner.[61] Other studies indicate that psychological and sexual abuse often accompany physical abuse.

It is impossible to quantify the degree to which refugee women are more affected than their counterparts in settled populations by rape and domestic violence. Furthermore, it is not relevant from a program perspective, since both groups require medical, psychological and social support services. There may be some important differences, however, in women's experience of rape. Most nonconsensual sex in settled populations is perpetrated by men known to the women, such as their spouse, relatives or neighbors.[62] While the evidence suggests that this pattern emerges once refugee situations become stable, rape by unknown militants appears to be more common in the early phases of conflict.

The United Nations Children's Fund (UNICEF) cites a range of interconnected cultural, economic, legal and political factors that perpetuate violence, including sexual violence.[63] Many are particularly pertinent to situations of forced migration: disturbance of cultural norms and family composition, women's economic dependence on men, limited access to basic necessities, limited options for legal redress and strong social pressure to maintain the status quo in the face of enemy attack. Moreover, the use of violence as a means to resolve conflict is, by definition, standard in war.

It is difficult to fully understand whether rape affects refugees and settled populations in the same way, in part because it cannot be isolated from other violent experiences. One researcher observes that because refugees often experience many forms of trauma (such as family deaths, dislocation and rape), discerning the effects of any one form is difficult.[64]

Rape is recognized as a weapon of war, and the evidence suggests that refugee women experience rape and other forms of sexual violence at least as often as, and probably more often than, women in settled populations. However, much of rape's potency as a weapon—in war or peace—derives from societal acquiescence. Indeed, an analyst points out that "war rapes in the former Yugoslavia [or elsewhere] would not be such an effective weapon of torture and terror if it were not for concepts of honor, shame and sexuality that are attached to women's bodies in peacetime."[65]

Discussion

Most research conducted on reproductive health problems among refugees has focused on refugees living in stable camp settings. The situation may differ in the emergency phase, for those not living in camps and for the internally displaced who may be less accessible to the multilateral and international agencies that provide the bulk of health and other services.

The available data suggest that refugees' status with respect to fertility, family planning and safe motherhood is largely determined by factors similar to those in settled populations. Social and demographic factors, such as age, socioeconomic status, education and urban or rural residence, as well as access to services, rather than refugee or displaced status in itself, appear to influence fertility desires and health behavior with respect to these reproductive health concerns. However, while poor social and demographic status is not limited to refugee populations, there is substantial overlap between extremely underdeveloped countries and those experiencing conflict: Six of the 10 countries with the highest under-five mortality rates in the world hold conflict or postconflict status.[66*]

War-affected populations are disproportionately at risk for STDs, including HIV. Displacement promotes transmission between high- and low-prevalence groups, and exposure to the military further promotes transmission. The risks are heightened for all affected by war, not only for refugees and the displaced.

Conditions of refugee life are particularly conducive to sexual violence, both in the early stages of a complex emergency, when rape is used by armies as a weapon of war, and later in the stable phase, when violence perpetrated by intimate partners or acquaintances may become more prevalent.

Understanding the ways in which refugee women's reproductive health problems are both similar to, and different from, those of women in settled populations can help policymakers and programmers address refugees' specific needs. Service delivery models proven among settled populations in the last several decades have been and should continue to be adapted for refugees. As experience accumulates in refugee settings—particularly regarding sexual violence, a topic that has received limited program attention in stable settings—the lessons learned will enrich the reproductive health services available to both refugees and settled populations.

*The six countries currently or recently in conflict are Afghanistan, Angola, Democratic Republic of the Congo, Liberia, Sierra Leone and Somalia. The nonconflict countries are Malawi, Mali, Mozambique, which experienced conflict followed by natural disaster, and Niger.

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