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Homicide of children in Dar es Salaam, Tanzania, 2005

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Abstract

Background—Although data are sparse, it has been estimated that the highest rates of homicide death amongst children are in Africa. Little information is available on ages 0 – < 15 years. No reliable quantitative surveillance analysis of neonaticide (killed at less than one week) has been done.

Methods—A Violent Death Survey following WHO/CDC Guidelines was completed in Dar es Salaam region, Tanzania (DSM) (population 2.845 million) in 2005. Qualitative and quantitative data were gathered and analyzed using mixed methods techniques.

Results—The overall age adjusted rate of discarded and killed children in DSM was 2.05. The rate of neonaticide was 27.7 per 100,000) while the rate of homicide incidence for children > one day was

Discussion—The overall estimated homicide rate for Africa of children under age 15 was 4.53 per 100,000, whereas. The estimated global rate is 1.7 per 100,000 closer to DSM's rate. The results in DSM show that broad age groupings such as " <1 year" or "0–4 years" or "0 – <15 years" may mask a high incidence of neonaticide and an otherwise low incidence of murdered children.

The print media provided good in-depth coverage for a few cases but it is not known if the reported cases are representative.

Conclusion—Eighty percent of homicides of children in DSM are neonaticides. Since it is believed that the forces behind neonaticide are fundamentally different than homicides of older children, it is suggested that data of future surveys be parsed to include neonates, until the phenomenon is more clearly understood and addressed. Further understanding of the mother and father of the deceased is needed. Continued surveillance data collection is important to expand the sample size.

Introduction

Although there is considerable variation in the incidence of homicide within specific age categories from region to region, the demographic distribution of homicide in Africa in terms of age and sex is broadly consistent with other regions of the world (Reza, Mercy & Krug, 2001). Worldwide, children usually have low rates of homicide death compared to other age groups, with the risk not rising until they reach 15–19 years (Reza, Mercy & Krug, 2001). It is estimated that the highest homicide rates in the world for children under age 15 years were in Africa. Of all deaths of children in Africa (4,936,180), the Global Burden of Disease Report for 2002 (WHOSIS, 2007) attributed 0.268% (13,228) to violence and an estimated rate of 4.5 per 100,000 (that is, 4.22 and 4.77 for males and females respectively). This is in comparison to 0.026% of children's deaths worldwide that are attributed to violence, and an estimated global rate of 1.7 per 100,000.

Most statistics available for young children use age groupings of “< 1 year” or “0–4 years”, which could mask important subgroupings. Neonaticide has been recorded in many places around the world (Resnick, 1970; Sharma, 2006), but neither the *World Report on Violence and Health* (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002) nor the *Neonatal and Perinatal Mortality Country, Regional and Global Estimates* (World Health Organization [WHO], 2006) addressed the phenomenon. In Africa Region, neonaticide has been reported from Senegal, Benin, Burkina Faso, and Ghana, but rates have not been quantified yet.

In the United States the homicide rate on the first day of life has been found to be at least ten times greater than during any other time of life (Paulozzi & Sells, 2002). First day neonaticide is believed to be fundamentally different from other child homicide (Taguchi 2007; Krischer, Stone, Sevecke & Steinmeyer, 2007; Rouge-Maillart et al. 2005; Resnick 1970). Minturn and Stashak (1982) examining data on 57 societies found that infanticide occurred most often at birth, was most often performed by the mother, and the infants killed were most often twins, weak, deformed, or illegitimate. However, for lack of research specific to the issue, it is largely a poorly understood event, especially as to the motive of the perpetrator, (Pitt & Bale, 1995).

The data presented here are part of a Violent Death Survey that was conducted in Dar es Salaam region (DSM), Tanzania, a population of 2.845 million, in year 2005 (Mgaya, Kazaura, Outwater, & Kinabo, 2008; Outwater, Campbell, Mgaya, Abraham, Kinabo, Kazaura, & Kub, 2008).

The overall age standardized homicide rate of 12.57 per 100,000 population was the lowest rate recorded in Africa so far, but about 50% higher than the world average. Using five year age groups, numbers of homicide deaths fell into a normal distribution which did not show evidence of skewness (Pearson's skewness coefficient 0.09).

This paper describes the homicide of children (<15 years) and the circumstances surrounding their deaths. Of 362 homicides in DSM in 2005, 24 (6.6%) involved the death of children. They have been divided into two groups: neonaticide and non-neonaticide.

Methods

This descriptive cross-sectional study took place at Muhimbili National Hospital mortuary, which is where all bodies of non-natural deaths (“police cases”) in DSM are brought. The larger study depended on family respondents who were interviewed by the first and fourth authors to answer quantitative and qualitative surveillance questions adapted to the DSM setting from the WHO/CDC Surveillance Guidelines (Holder et al., 2001) (Outwater et al. in press). However child deaths had an uncommonly high rate (relative to overall homicide deaths) of un-identified bodies. Therefore police report and visual autopsy were especially important quantifiers for the sex, age, district and ward of injury, injury site, and cause of death variables. Since data were sparse, mixed methods that is, both quantitative and qualitative research techniques, were used in order to optimize data sources.

Newspaper articles were also important sources of information. Every issue of eight newspapers influential in Tanzania was examined from 1 January – 30 June 2005 for any mention of homicide in DSM. Five Swahili and three English language newspapers were followed of which six were privately owned (two were government owned) and five were dailies (three were weeklies).

Qualitative and quantitative data were linked physically and through cross-referencing and preserved specific to each case (Sandelowski, 2000). Each survey questionnaire was filed with other same case data including observations and memos pertaining to it. Pertinent newspaper articles were filed with the victim’s case number.

Definitions

Homicide death: includes ICD-10 codes X85-Y09: “due to injuries inflicted by another person with intent to injure or kill, by any means” (WHO, 2003).

First-day neonaticide: Killing, abandoning or discarding of a neonate during its first day of life.

Early neonatal death: Death within 7 days of life (WHOSIS, 2007)

Late neonatal death: Death 8–28 days after birth (WHOSIS, 2007)

Infanticide: the killing of a child under 12 months (Sharma, 2006)

Filicide: when the murderer is the parent of the victim (Rouge-Maillart et al., 2005)

Data Analysis

Quantitatively, frequency distributions, means, standard deviations, proportions, rates, probability tests (Chi² and Fisher’s Exact), stratified and univariate analyses, age-specific and cause-specific mortality rates were calculated as appropriate for each variable. Stratified and univariate analyses, age-specific and cause-specific mortality rates were calculated. (Three neonates with unrecorded sex were proportionately distributed for analysis: 2 as males and 1 as female.)

Qualitative data were analyzed by categorizing the child victims (neonaticides and non-neonaticides), coding the responses, and developing themes according to procedures described by Creswell and Plano Clark (2007). Quantitative and qualitative data were linked through the case number.

Results

Child deaths had a high rate of unidentified and unclaimed bodies. Since family respondents could rarely be interviewed, police report and visual autopsy were important sources for determining sex, age, injury site, and cause of death variables

Quantitative

In DSM in 2005, 24 children (17 males and 7 females) died from interpersonal violence with a rate of (24/ 931,301) which is 2.6 per 100,000 population under fifteen years (3.7 and 1.5 per 100,000 for boys and girls respectively).

Adjusted rate needed here. The homicide rate for DSM was 6.72 per 100,000 in the 0–4 year group, and then receded to almost nil in the ages 5–14 (see Figure 1). A boy aged five years and a girl aged six , died as bystanders to other crimes. A two year old boy was believed by relatives and neighbors to have been seized for witchcraft after his body was found in a graveyard.

Twenty one (87.5%) children were infanticides. Fifteen infanticides were male (95%CL 47.8 – 88.7) and six were female (95% CL 11.3 – 52.2); this was not a significant difference. The infanticides were all less than seven months. No child over seven months was killed by a relative or caregiver.

Nineteen of the twenty-one infanticides were first day neonaticides (that is, children who were abandoned or killed on their first day of life) (See Figure 2). Of the estimated 68,554 children born in DSM in 2005, the neonaticide rate was 27.7/100,000 (43.3/100,000 male births and 17.6/100,000 female births). Some of the neonates were disposed into a pit latrine at birth. At least one was placed in a shallow river. More often, neonates were found in public areas such as streets, bus stands, and small farms (*shambas*).

Qualitative

Neonaticides were brought into the Mortuary by the Police wrapped in a traditional cloth (*khang*), placed in a heavy blue plastic shopping bag (*mfuko wa Rambo*) or a traditional palm frond basket (*kikapu*). Often the placenta would be tucked underneath, confirming age. Sometimes great effort had been expended to retrieve bodies, for example those disposed down pit latrines.

Children were of interest to the media. The media reported about half the cases. Newspaper entries were brief on unidentified neonaticides but were insightful and nuanced in describing the circumstances surrounding the two known cases.

The perpetrators were assumed by police and mortuary attendants to be the mothers of the child. Two perpetrators were discovered. Both cases received graphic photo coverage, in more than one newspaper. Both women were domestic servants and believed that her employer was the father. One woman was a single primapara aged 22. The other was 31 years old with 3 children whose husband had traveled a long time ago seeking treatment for an undisclosed illness. Both women believed that her employer was the father of the neonate, as reported on Case 17-2005 in Uwazi newspaper.

Kujifungulia chooni humo kisha kumtumbukiza mtoto huyo kwa madai kuwa aliogopa kufukuzwa kazi na pia ingebainika kuwa ajauzito huo alipewa na bosu wake.

She opened herself in the bathroom, then threw away that child alleging that she was afraid to be chased from work and also it would be evident that that pregnancy was given by her boss.”

Newspaper articles about neonaticides were typically very brief, but these two cases expressed both outrage and sympathy. One headline read “*Huu ni Uhitler*” (“This is Hitlerian”) (Mwaibale & Simba, 2005). The mother of Case 134-2005 in the accompanying photographs is shown wearing the conservative clothes of a poor but respectable middle aged woman, and being escorted by policemen. The 600-word front page story was based on an interview with a neighbor who expressed sadness for the woman and the consequences of her being taken to prison. The 600-word front page story was based on an interview with the neighbor who confirmed they had lived as good and close neighbors. Embedded in the story were sympathy for the woman and the consequences of her being taken to prison.

“Kabla ya tukio hilo kutokea tumekuwa tukiishi naye vizuri na hakuna mtu aliyewaza kwamba angeweza kufanya kitendo kama hicho... mtoto mwenye asili ya Kiarabu wakati mumewe ambaye ni Mswahili akiwa amesafiri kwenda kwao... Kwa kweli inasikitisha sana kwani ameache wanae hapa nyumbani wanateseka sana hasa huyu mdogo ambaye haishi kulia japo shangazi yao ndiyo amekuja kuwalea.”

“Before this event occurred, we have lived with her well and there is not a person who would imagine that she would do a deed like this....The child himself has the origins of an Arab while her husband who is a Swahili was traveling to their home...For truth it makes me very sad because she has left her (three) children here at the house. They are suffering a lot, especially that little one who does not stop crying, although a paternal aunt indeed has come to raise them.

Discussion

In DSM, homicide of children is rare except for first day neonates. The rate of neonaticide (27.7 per 100,000) is much higher than for other age groups. For example the homicide rate for children older than one week to 5 years was 0.91 per 100,000 and for children older one week to 15 years it was 0.54 per 100,000.

Age

The only cities in Africa with comparable data are in South Africa (Prinsloo et al., 2007). It appears that Johannesburg and Tshwane have a similar pattern to that of DSM: initial high rates of homicide decreasing to low rates (see Figure 3). In general, children are relatively well protected. Upon entry into adulthood, homicide rates rise sharply (see Figure 3).

The only age group in which the DSM homicide rate is close to South Africa's is the 0–4 years age group. It is now known that in DSM most of the homicides in the 0–4 year age group are neonaticides. It is not known if the South African cities also have relatively high rates of neonaticide. The results in DSM show that broad age groupings such as "<1 year" or "0–4 years" can mask a high incidence of first-day neonaticide and an otherwise low incidence of murdered children. This has also been demonstrated in the United States, where homicide risk is ten times greater on the first day of life than any other time in a person's life (Paulozzi & Sells, 2002).

Male: female ratio

In Dar es Salaam the gender ratio in the male: female homicide rates of children under age 15, was 2.43, however the rates between the sexes were not significantly different, $t X^2(3, 24) = 3.2557, p = 0.354$. Similarly, Knobel and colleagues (1984) found that over a fifteen year period in South Africa, the gender ratio for children's homicide death was 1.3. For children 0–4 years old, the male: female ratio was estimated to be 1.41 in Africa; in DSM the ratio was 2.66. More males (72.2%) than females were killed but the small sample size resulted in a lack of significance (Fisher's exact p-value 0.727).

In North Carolina USA, over 16 years, 31 newborns were known to have been killed or discarded 58.8% of the deaths were male, which was significantly more than females (test statistic: $z=1.99, p = .045$) (Herman-Giddens, Smith, Mittal, Carlson, & Butts, 2003). Likewise in Dar es Salaam, more males than females were killed (72.2%) but the small sample size (19) resulted in a lack of significance.

Perpetrator

In DSM 2005 no relative or caregiver killed a child older than 7 months. Yet the perpetrators of neonaticide were probably the mothers themselves. Only 2 perpetrators were discovered and both were the mothers. That the mother is the usual perpetrator of neonaticide is reported world wide (e.g. Herman-Giddens, Smith, Mittal, Carlson, & Butts, 2003). In North Carolina, over 16 years, 31 newborns were known to have been killed or discarded. The mother was the perpetrator in all known cases ($n = 29$) (Herman-Giddens, Smith, Mittal, Carlson, & Butts, 2003). It was commonly accepted by police and mortuary workers that the mother was the perpetrator.

In Senegal (Mbassa Menick, 2000) and Germany (Krischer et al., 2007) it has been found that women who committed neonaticide were effectively single and sane. In Senegal, a qualitative study conducted in the capital city during the years 1968–1994 included 33 women accused of infanticide (Mbassa Menick, 2000). All except two were neonaticides. Upon evaluation at the Psychiatric Clinic, it was noted that the women who committed

infanticide had a wide range of ages, and were effectively single: 16 of the women had never married, 9 were divorced or widowed and the 14 wives were married to emigrants. Ninety seven percent were declared mentally sane. The data from Tanzania supports the observations of a range of ages and being effectively single. In Germany, Krischer et al. (2007) found that mothers who committed neonaticide were also single and sane, but younger than mothers who committed filicide.

Motive

The reason stated for 83% of German neonaticides was that the baby was unwanted. Fear of social rejection was stated as the reason for neonaticide by mothers in Senegal (Mbassa Menick, 2000) and Algeria (Bakiri, 1968). In eighteenth century England, pregnancy out of wedlock, poor social background, and working “in service” were the main factors responsible for a mother abandoning her child (Malcolmson, 1977, in Sharma 2006), which corresponds to the little that is known in Tanzania.

A categorically different type of neonaticide are the rituals that have been described in Benin (Miao, 2000; Monra, 2000), Burkina Faso (Bonnet, 1982) and Ghana (Baiden, Hodgson, Adjuk, Adongo, Ayaga & Binka, 2006). In a well-studied area of northern Ghana, 4.9% of 1118 neonatal (4% of all early neonatal deaths were neonaticides, and 8% of late neonatal deaths) deaths between 1995 and 2002, were attributed to “chichuru” a public practice among some communities in which a soothsayer performs rituals within the compound of a suspected spirit child, who is then forced to take a portion of herbs.. The practice originates from the belief in the ‘spirit child’ phenomenon – that some children are born with supernatural powers that could be harmful to the family into which they are born and this could be only be averted by killing such children (Baiden et al., 2006). The neonaticides in DSM do not appear to have been associated with ritual practices.

Site of discovery

Similar to how and where neonaticides were found in DSM, the most likely discovery of a neonaticide in England (Sharma, 2006) and United States (Herman-Giddens et al., 2003) was to find the wrapped body in a public toilet, public bus stop or road, dustbin, field or forest. In the years 1985–2000 in North Carolina newborns were found in the trash (23.5%), toilet or pit latrine (17.6%), landfill or dumpster (11.8%), woods or roadside (11.8%), shed or vehicle (8.8%), in the home (23.5%) and unspecified places (2.9). Adelson (1959) reported that in the 1950’s it was “a common occurrence in the United States to find dead newborn infants in sewers, alleys, and incinerators in any metropolitan community”.

Sharma refers to “dropped babies” in England as newborns being “left in a public place in the hope that it would be found and cared for” (2006, p.153). And certainly, although how many is not known, in DSM some babies are found and subsequently adopted.

Abortion

A decline in first-day neonaticide occurred in the United States after (a) abortions were no longer life-threatening following the advent of antibiotics and (b) effective birth control became available. In addition safe alternatives are available for unwed mothers and some

public support programs ease financial strictures for young mothers. (Resnick, 1970). It was found that in China (Jha et al., 2006), and India (Sekher & Hatti, 2005) after access to abortion became available neonaticide decreased. However abortion is prohibited in Tanzania, except to save a woman's life (Population Research Bureau, 2006). In practice, abortion can be obtained in at least one private hospital but the cost would be prohibitive for poor women. In South Africa which has very high homicide rates compared to DSM in all other age groups other than 0–4 years, the four city rates of homicide in that age group were low compared to DSM. The difference may be because abortions are easier to obtain in South Africa than in DSM and thus fewer unwanted babies are born.

Changes in the availability of abortion have been shown to decrease infanticide, while maintaining historical reasons for it. For example, female infanticide has historical roots in China and India (Sekher & Hatti, 2005) and has been attributed as a possible explanation for the present female deficit (George, Rajaratnam & Miller, 1998). In India in 1998 a Special Fertility and Mortality Survey was undertaken, as part of an ongoing large-scale demographic survey that provides reliable annual estimates of fertility and mortality indicators at the national level and for major states. Sex ratios for second- and third-order births are skewed towards males, and with the advent of ultra sound, the practice of female infanticide has been largely replaced by selective abortion (Jha, Kumar, Vasa, Dhingra, Thiruchelvan & Moineddin, 2006; Sekher & Hatti, 2005). In fact the sex ratio has become more skewed towards boys in recent decades and seems to be a result of prenatal sex determination through the availability of ultrasound and selection of female fetuses for abortion. In China as well, in recent years, skewed sex ratios seem to be driven now more by selective abortion, than by infanticide (Zeng, Yu, Gu, Xu, Li & Li, 1992). As described above, the sex ratio for the DSM neonaticides did not suggest any selective disadvantage for female infants.

Safe surrender

Safe surrender for unwanted newborns in mid-16th century Europe, began as a result of so many “dropped babies”. Places of ‘Safe surrender’ allowed parents to anonymously transfer unwanted newborns to certain persons, or authorities such as religious institutions without penalty (Herman-Giddens, 2003; Sharma, 2006) As a way of decreasing neonaticide, they have been instituted in USA (Drescher-Burke, Krall & Penick, 2004), Germany and South Africa (Herman-Giddens et al. 2007). It is possible that the DSM babies who were left in public places could have been saved if the mother knew of a place for Safe Surrender. Mother Theresa home may already be serving as a place of safe surrender – must find this out.

However the question then quickly arises about how to take care of the infants in a low-income nation, traditionally opposed to adoption by non-nationals as reminiscent of slavery. If the idea of Safe Surrender were to materialize, the futures of the neonates left in such drops must be carefully planned for.

In addition it has been found that even with safe surrender some babies are still discarded.

Employment

Efforts to prevent neonaticide should focus on events preceding the day of the child's birth and death. Although the data from Dar es Salaam is sparse, it supports Tanzania Media Women's Association allegations concerning the vulnerability of "housegirls" (TAMWA, 2000). The findings are similar to those found in Great Britain, during the Victorian era, when "many employers regarded young unmarried women in service as "fair game". But for the woman, an illegitimate baby meant almost certain loss of employment and public censure (Sharma, 2006)." "Pregnancy out of wedlock, poor social background, and working "in service" were the main factors responsible for a mother abandoning her child (Sharma 2006), which corresponds to what is known so far in Tanzania.

Limitations

Sample Selection—It is not known how many first day neonaticides were undiscovered, however it is not believed to be many. The extraordinary effort that went into retrieving bodies, and the strong newspaper coverage indicate the communities concern about these deaths and leads the authors to believe that most would have been brought to the attention of the police who in turn bring the body to the mortuary. Some cases may have been misdiagnosed, e.g. counted as neonaticides but in fact were not born viable. Also not counted are those newborns who were discarded, and found alive.

Small sample size—The one year sample of homicide deaths was too small to discover significant patterns of quantitative variables such as date of death, district of birth or injury, and sex. Qualitative data sources enhanced the paucity of data about other important variables such as perpetrator

Conclusion

This data illustrates that commonly used age groupings can mask the frequency of neonaticide which is important since about eighty percent of homicides of children in DSM are neonaticides. Since it is believed that the forces behind neonaticide are fundamentally different than homicides of other aged children, and therefore potential interventions equally different, it is suggested that data of future surveys be parsed to include neonates. The fathers of the neonates need description with special attention to their relationship with the perpetrator. Further understanding of the perpetrator and the forces acting upon her, is needed. Continued surveillance data collection is important to expand the sample size.

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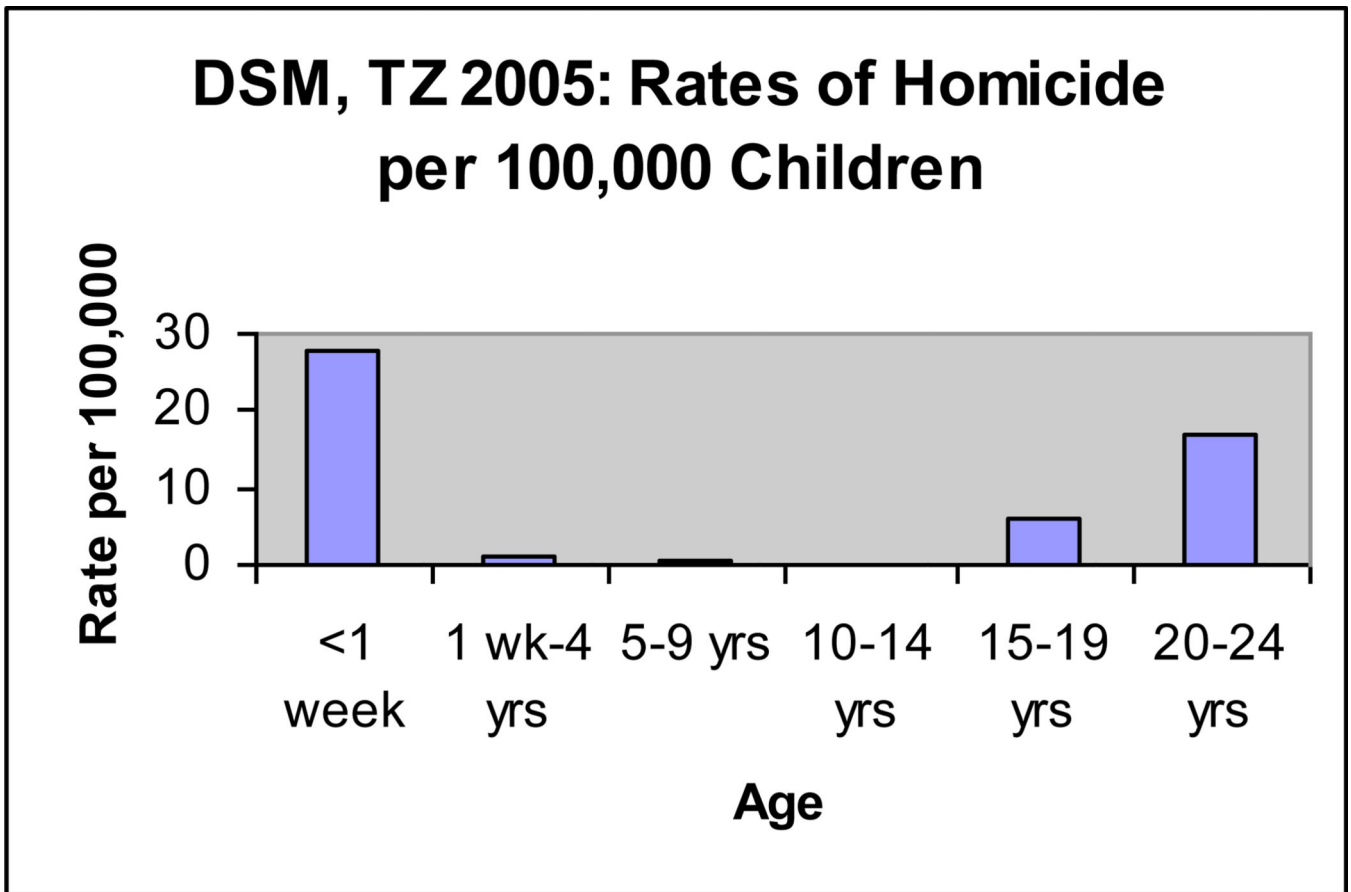


Figure 1.
 DSM, TZ 2005: Rates of Homicide per 100,000 Children and Youth

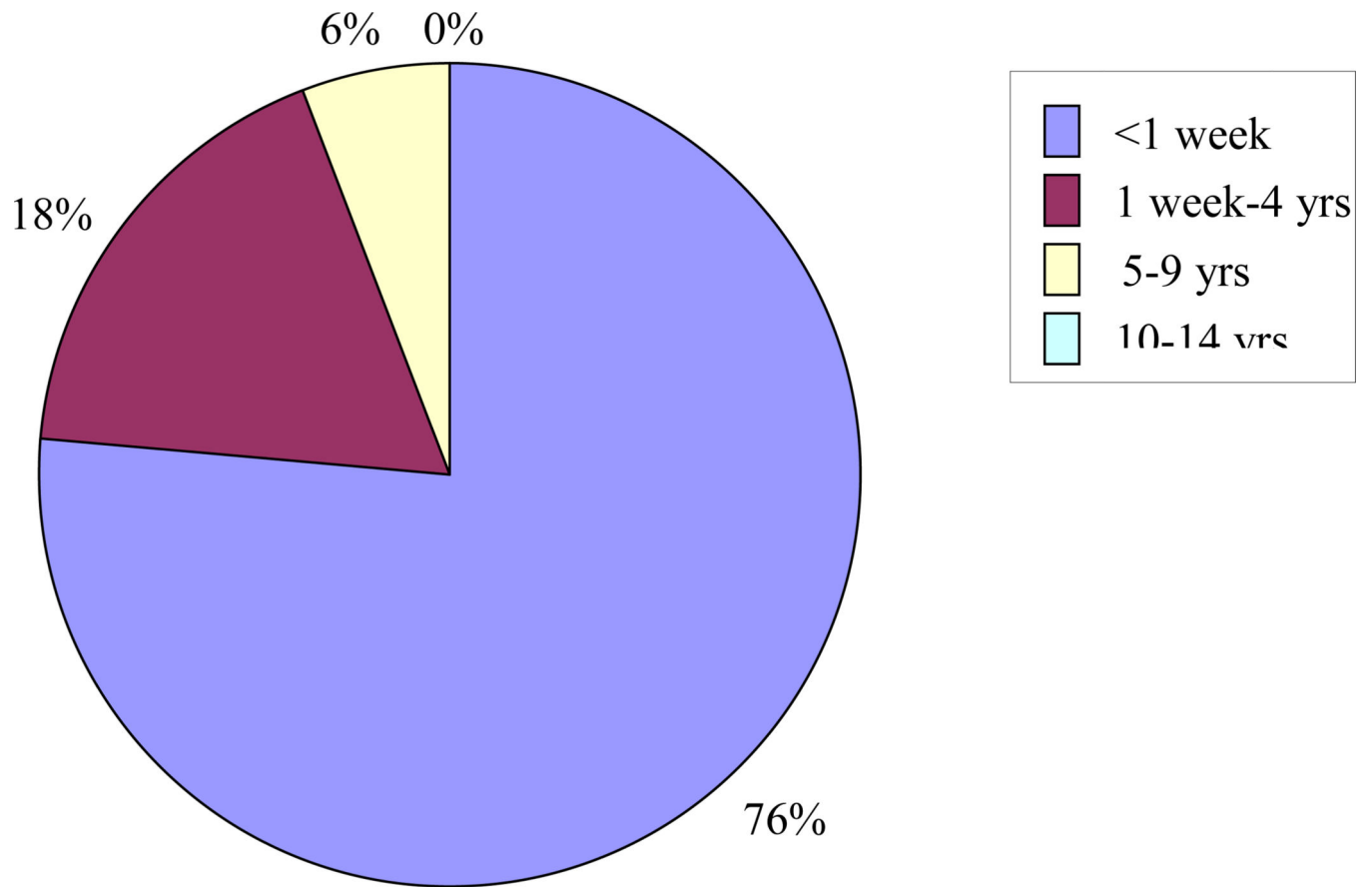


Figure 2.
Homicide of Children, DSM 2005: Age Groupings

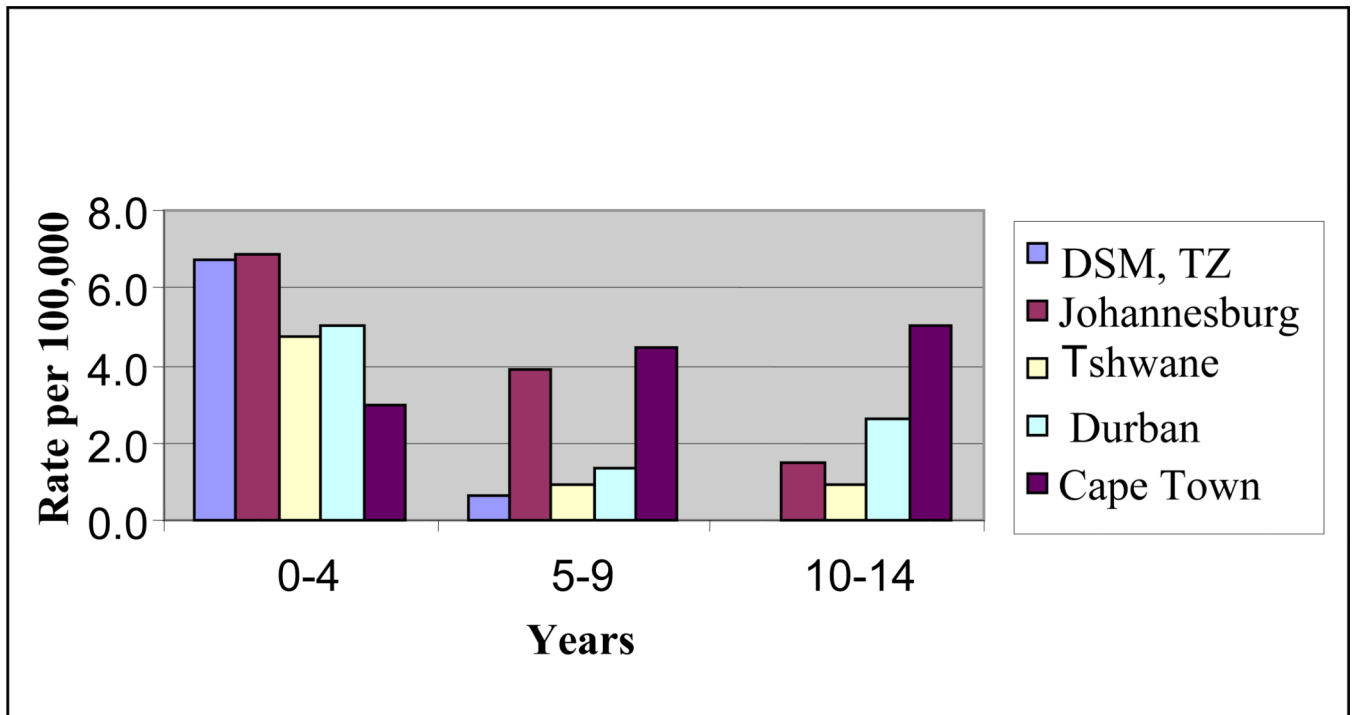


Figure 3.
Homicide of Children in 5 African cities, 2005, by 5 year age group