Armed conflict and children's health - exploring new directions: The case of Kashmir

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Abstract

The exposure to violence in utero and early in life has adverse impacts on children's age-adjusted height (z-scores). Using the experience of the Kashmir insurgency, I find that stress during pregnancy and the limited access to health services in more conflict-affected regions of Jammu and Kashmir have different regional and cohort effects. Furthermore, the link between children's health at birth, mother's health during pregnancy, and children's height in the context of negative exogenous shocks has not been fully researched yet. Children small at birth and children with anemic mothers are shorter for their age. Overall, children more affected by the insurgency are 0.9 to 1.4 standard deviations smaller compared with children less affected by the insurgency. The effect is stronger for children who were born during peaks in violence. Gender differences are small. Finally, a robust finding in the health literature is that shorter children perform worse in schools, in jobs, and are sicker throughout their life. Here, children already negatively affected by the insurgency in their height, are also more likely to be sick in the two weeks prior to the survey.

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1 Introduction

Children exposed to negative external shocks in utero, or early in life, have higher mortality rates, lower birth weights and are shorter for their age. These shocks can include recessions (Cutler et al. 2002), famines (Stein et Al. 1975, Almond et Al. 2008), droughts (Akresh and Verwimp 2006), pandemics (Almond 2006), wildfires (Jayachandran 2008), or radioactive fallout (Almond, Edlund and Palme 2009, Danzer and Danzer 2011)

A new dimension to these external shocks are armed conflicts. Armed conflicts and their effects on human capital have been in focus of empirical research since the mid 2000's. This includes education (Shemyakina 2011, Yuksel-Akbulut 2009, Swee 2009), displacement (Deininger et Al. 2004), labor force participation (Menon and van der Meulen 2010) and the two main predictors of health later in life: low birth weight (Camacho 2009) and height early in life (Akresh and Verwimp 2006, Bundervoet, Verwimp and Akresh 2009, Guerrero-Serdan 2009, Akresh, Lucchetti and Thirumurthy 2010).

Previous research mostly explored the negative effects of civil wars and wars on health. Here, I focus on a less violent form of an armed conflict: an insurgency. The Kashmir insurgency in the state of Jammu and Kashmir (J&K) is an ongoing conflict which started in 1990. The insurgency has three distinct phases, making it possible to identify groups by their geographical as well cohort exposure. Furthermore the Kashmir insurgency is embedded in the conflict between India and Pakistan over the territory of J&K. Different geopolitical interests are the reason, that research based on households living in this region is very limited. The overall picture drawn in official Census reports, as well as health survey reports, is a positive one about trends in the state of Jammu and Kashmir. This may be true for the entire state of J&K, but once focusing on different groups within the state, negative effects, not just on health, as well as on education (Parlow 2012), can be identified.

Although the relationship between height of children and in utero programing (Barker 1998) and their early life conditions is not clear cut (Gluckman and Hanson 2004), it is a well-known fact that children short for their age will perform worse in schools and in their jobs as adults. This has been repeatedly found for developing and developed countries (Currie and Madrian 1999, Strauss and Thomas 2008, Victora et Al 2008).

I utilize the National Family Health Survey for India (NFHS) to identify the effects of the insurgency on children's height for age z-scores (HAZ). To estimate the (local) average treatment effect on children age 0 to 36 months, I combine event data on violence with the location of a household during the insurgency. These children were in utero, as well experienced violence in their first years of life. In the districts and regions more affected by the insurgency, I find negative effects on height for age z-scores. They are 0.9 to 1.4 standard deviations shorter than children less affected by the insurgency. In addition to standard mother and household controls, I also use information on birth size, and on mother's health during pregnancy. The link between mother's health during pregnancy, children's health at birth and height later in life has not been fully researched yet in the context of negative external shocks early in life. Due to the lack of data for developing countries previous work only included information on the mother, living conditions of the household, and the negative shock. In this paper, I can utilize a more detailed household survey including information on health.

Even after controlling for mother's health in using health during pregnancy and her height, a potential source of endogeneity bias remains: omitted and unobserved health endowments through the mother. I apply a sibling (or maternal) fixed effects model, and find smaller, but still negative, effects on height scores.

Finally, I explore briefly other channels of health. I want to know, if more conflict-exposed children are also more likely to have diarrhea in the two weeks prior to the survey interview.[1] Children already shorter for their age, are indeed more likely to be sick.

The paper is organized as follows. Section 2 introduces to the literature. Section 3 briefly describes the phases of the Kashmir insurgency and the identification strategy. Section 4 is the main part of the paper. I discuss the data, my empirical strategy, and the impact of exposure to violence early in life on height for age z-scores. In section 5, I present robustness checks. I discuss sibling fixed effects models in section 6. Other dimensions of health are explored in section 7 and the paper concludes in section 8.

[1] In the appendix, I also test if they were more likely to have a cough or are anemic.

2 Related Literature

2.1 Health and external shocks

Research on the effects of external shocks on health of children originates in the public health, as well development economics literature. These shocks can include famines, droughts, recessions, pandemics, smog and more. Through reduced childhood health, schooling and work productivity later in life is affected. Detailed literature reviews on this can be found in Currie and Madrian (1999), Strauss and Thomas (2008), Victora et Al (2008) and Almond and Currie (2010).

Although the links between childhood health and external shocks are manifold[2], the consensus is that fetus health and the environment in the first 36 (to 59) months of life program future health outcomes. The idea of in utero programming goes back to Barker (1998) with a focus on birth weight. Gluckman and Mark (2004) suggest a life-course model where the combination of in utero health and early life conditions play together; for instance birth weight and height can be linked (Luo et Al 1998, Finken et Al 2006).

Health (H) is modeled as a function of mother characteristics (X), household characteristics e.g. social economic status (SES), access to health services and external shocks. Rosenzweig and Schultz (1983) introduce the idea of estimating a health production function with $H = f(\text{X, SES, health services})$. In the context of life-course models, health will be a function of previous health, as well as of shocks.

Health production functions are widely estimated in the public health literature with a focus on birth weight, but not named such as in the development literature. The health outcome used for developing countries is children's height. The reason is that babies are barely weighted at birth in developing countries, especially in least developed countries. My goal is to estimate a health production function for children's height.

2.2 Armed conflicts and health

Another variation of external shocks are armed conflicts. During pregnancy the access to health services including vaccinations, prenatal and antenatal care, and micro-nutrients needed for the fetus development, is limited because of

[2] These links can include lack of micro nutrients, stress during pregnancy, infections early in life, mother's characteristics, household wealth and more.

armed conflict. Camacho (2007) adds stress during pregnancy as another channel. Stress changes the production and distribution of hormones, including intrauterine growth hormones. Stress can reduce the gestation time of the fetus. Furthermore, the access to health care, food, micro nutrients and vaccination is as important as during the pregnancy, after birth and early in life for the development of the child. Given that access to health services in developing countries is a problem to begin with, armed conflicts worsen the situation.

Armed conflict has different forms according to the level of violence and actors involved. They can range from wars, over civil wars to insurgencies. One example for a war can be found in Yuksel-Akbulut (2009). She estimates the long-term effects of WW II on the German population. Individuals more affected by allied bombings and in school-age during WW II, earn less as adults, but are also shorter and less satisfied with their health. A recent war can be found in Guerrero-Serdan (2009). She estimates the regional-variation in height for age z-scores for children in Iraq after the US-Invasion. Children in more war-affected regions are shorter. Akresh, Lucchetti and Thirumurthy (2010) examine the effect of the Eritrean-Ethopian border war on height of children. Children close to border regions are shorter in both countries.

Akresh and Verwimp (2006) focus on the civil war in the North of Rwanda, as well the crop failure in the South. Children born between 1987 and 1991 are shorter because of these two external shocks. Bundervoet, Verwimp and Akresh (2009) find for the civil war in Burundi, that children in rural areas are shorter. Camacho (2007) assumes that stress during pregnancy affects birth weight and gestation time through land mine explosions in Colombia. She finds that babies born between 1998 and 2003 are more likely to have low birth weight and are prematurely born.

An example for an insurgency can be found in Galdo (2010). He estimates the long-run effects on adult earnings of the "Shining Path"-insurgency in Peru (1980 to 1995). He identifies groups who were in utero, infants or in pre-school age during the insurgency. As adults these individuals earn less in their jobs.

Literature on the effects of the Kashmir insurgency on children's health is limited. Official Census reports (Census of India 2001, 2011) and reports based on the National Family Health Survey (NFHS) draw a positive picture for the entire state of Jammu and Kashmir in terms of mortality rates, fertility and vaccination programs but ignore district or regional variations.

3 The Kashmir insurgency and identification

3.1 The Kashmir insurgency

The Kashmir insurgency started as a movement for independence in the late 80's.[3] In December 1989, the daughter of the Indian home minister of Kashmir affairs, Rubaiya Sayeed, was kidnapped by the Jammu and Kashmir Liberation Front. India responded, sending in a few ten thousand security forces into the valley of Kashmir in January 1990. This marks the official beginning of the insurgency. Within a short period of time, India stationed a few hundred thousand security forces throughout the valley, with a focus on major cities. Violence committed against civilians by militants, as well security forces unfamiliar with the territory and fighting militancy, were the norm early in the 90's (Joshi 1999, Schofield 2001).[4] Furthermore, 75.000 to 100.000 Hindus migrated from the valley of Kashmir in 1990, because of the violence, to camps around Jammu and New Dehli and left behind an almost Muslim only population (Asia Watch 1993). By the mid 1990's the movement for independence became a pro-Pakistan movement with new militant groups organizing the uprising.[5] Violence died out slowly throughout cities in the valley. By 2001/02, violence peaked again because groups behind the militancy changed in fighting a "Jihad" against India (Meyerle 2008).

3.2 Identification strategy based on phases of violence

Based on various reports and books written about the insurgency, an event-dataset I created, and crime data, I can identify three distinct phases, as well districts more affected by violence through 1990 to 2011. The state of Jammu and Kashmir has three regions: Jammu, Kashmir and Laddakh (see figure 1). Laddakh is barely populated, such as the insurgency is concentrated in Kashmir and Jammu. The Jammu region itself includes six districts (Jammu, Doda, Udhampur, Kathua, Rajouri and Poonch). The Kashmir region, also known as the valley of Kashmir, includes also six districts (Anantnag, Pulwama, Srinagar,

[3] A more detailed discussion of the Kashmir insurgency and its background can be found in Parlow (2012).

[4] This includes murder, kidnapping, bomb explosions, sexual abuse, and torture.

[5] I will not discuss the role of Pakistan's involvement in the Kashmir insurgency here. The reader should note that the insurgency is also embedded in the Indian-Pakistani conflict over the territory of Jammu and Kashmir resulting in three short wars (1947,1965,1999).

Badgam, Baramula and Kupwara).[6] Given the harsh winters in J&K, the state has two capitals. Srinagar city is the summer capital, while Jammu city is the winter capital.

The first phase of the insurgency is from 1990 to 1996. Militancy focused on urban areas of Kashmir, especially the Srinagar district and the summer capital Srinagar city. To a lesser extent, the winter capital Jammu city in the Jammu region was also affected by violence. The reason is that in both capitals the local government and its agencies are present, which are targets for militants (or terrorists) in general (Kalyvas 2006, Justino 2009).

The second phase is from 1996 to 2001/02 with a peak in violence around 2001. Militancy moved to more rural areas of Kashmir, as well districts of Jammu (Doda, Rajouri and Poonch) located closer to the Line of Control (LoC) because of the massive presence of security forces in urban areas of Kashmir. The LoC also separates India from Pakistan and most infiltration through militants originates there. During the 2001 peak in violence, Hindus were specifically targeted, for example multiple massacres against Hindus were committed (SATP 2012). Before these massacres, most civilian victims were Muslims.

The third phase starts after the peak in violence and can be described as a low-intensity conflict with no major incidence against civilians in Jammu and Kashmir. In some sense the population got used to the presence of a massive amount of security forces (up to 350.000) and the fear of violence. Most victims of the insurgency are actually militants (see figure 2).

Figure 2 and 3 illustrate number of victims, as well murder rates, for the entire state of Jammu and Kashmir and selected districts. Peaks in violence can be clearly identified around 1995/96 and 2001. After 2001, violence died out slowly.

[Figure 1,2 and 3 about here]

[6] My analysis is based on the old administrative structure including 14 districts. In 2011, Jammu and Kashmir was reorganized into 22 districts.

4 Empirical Part

4.1 Data and descriptive statistics

I utilizes the National Family Health Survey (NFHS) for India, a national and representative household survey, to analyze the effects of the Kashmir insurgency on children's height. The NFHS has three individual rounds: NFHS-1 (1993), NFHS-2 (1998/99) and NFHS-3 (2005/06). Ever-married women, age 15 to 49, were interviewed, and information on their demographic, household and health background, mainly utilization of health services and use of contraception, were collected. Their children, age 0 to 59 months (NFHS-1, NFSH-3) and 0 to 36 months (NFHS-2), were measured in height and weight. The three survey rounds for Jammu and Kashmir cover different phases of the insurgency, as well different districts because of security reasons. The NFHS-1 was only conducted in the Jammu region. The NFHS-2 covers the entire Kashmir valley and three out of six districts in Jammu. Finally the NFHS-3 covers the entire Jammu and Kashmir region. This variation can be used to identify children exposed differently by the insurgency in utero and early in life.

Table 1 summarizes basic descriptive statistics for each NFHS survey round. Height for age z-scores for children are computed according to the WHO 2006 growth standards. The reference population are children in the same age in a well-nourished population: the U.S. Children are shorter on the average and close to being stunted.[7] The sample of children is n=666 (NFHS-1), n=962 (NFHS-2) and n=1226 (NFHS-3).

The urban rural differential in children's height is typical for developing countries, where health services are more available in urban areas. Mothers in rural areas have less access to health services during pregnancy and after the child is born. These health services can include checkups, access to doctors and micro-nutrients needed for the development of the child. Furthermore mothers are less educated in rural areas and more households belong to a scheduled tribe. Members of a scheduled tribe or caste (former "non-touchables") are the poorest in India. The situation in rural Kashmir during the 90's degraded. Basic health services could not be delivered to rural areas because of the violence (Asia Watch 1993), which can explain the decrease in HAZ scores for the NFHS-2 round (table 1).

[7] Stunted is defined as two standard deviations less than the reference population.

Differences in health in general, can also be attributed to the structure of the health system in India. Health services are mainly organized by a large private sector e.g. trained doctors but also traditional healers, competing with a smaller public health sector (Streefkerk and Moulik 1991). Most health services have to be paid out of pocket. Given that the rural population is poorer, it creates an extra burden on households. Streefkerk and Moulik (1991) note that health services are also underutilized in rural areas e.g. because of less education. Furthermore, health insurance schemes are available increasingly but only in urban areas of India and not affordable for most (Academy for International Health Studies 2008).

The public health system itself is organized as a three tiered system in rural areas, while private and public hospitals are available in urban areas (Ministry of Health 2012). The first contact point in communities is the "sub-centre" manned with one female and male nurse. Their task is to provide basic health services, as well issues regarding maternal and child health. The second contact point is the "primary health centre" (PHC) manned with one doctor and a few beds. The last contact point are "community health centres" (CHC) including specialized doctors, lab equipment and being able to perform surgeries.

All three forms of rural health care have been increasing in absolute numbers in India (Ministry of Health 2012), but the picture is different in Jammu and Kashmir. Figure 4 shows trends in the number of doctors and PHCs per 1000 for the entire state of J&K. PHCs increased over time but fall in numbers after 1995. Given that only two nurse provide services, if their security is not given anymore, they just stay home. Furthermore there is a sharp decline in the number of doctors in 2001 (Figure 4) when Hindus were targets of violent acts. According to Habibullah (2008) most public sector jobs went to Hindus, including the position of doctors in hospitals.

[Figure 4 about here]

4.2 Trends in HAZ scores

Trends in height scores for children can be visualized using kernel weighted local polynomial graphs. The overall trend for developing countries should be, that younger children have lower HAZ-scores than older children because of improvements in health services over time.[8] To conserve space, I only show urban-rural differentials for the NFHS-1 and Kashmir-Jammu differentials for NFHS-2 and 3 (Figure 5).[9]

The NFHS-1 only includes the Jammu region. Children in urban areas have slightly less HAZ-scores than children in rural areas, which could be attributed to the insurgency. Children in Kashmir are shorter than children in Jammu using the NFHS-2 sample. Furthermore the older cohort has slightly better scores which fall sharply. The trend for the NFHS-3 is mixed. Younger children in Jammu (up to 24 months) are more affected by the insurgency than children in Kashmir. One reason could be, that Hindus were targets of militants during 2001/02. Hindus live in the Jammu region of the state only, especially after almost the entire Hindu community left the valley because of the insurgency.

[Figure 5 about here]

4.3 Simple DID tables

Here, I compare average height for age z-scores of children more affected by the insurgency with z-scores of children less affected by the insurgency. This already allows me to test if assumed treatment and control groups have significant differences in HAZ scores on the average or not. In Table 2, 3 and 4, I summarize HAZ scores for each NFHS survey round.

Table 2 summarizes HAZ scores for the NFHS-1. Children born between 1990 and 1993 should be affected the most by violence in the Jammu district itself, mainly Jammu city. Comparing mean values does not reveal any negative and significant differences between Jammu and other districts. The younger cohort has also lower HAZ scores than children born before 1990, which shows improvements in height.

The NFHS-2 includes only children age 0 to 36 months born in Kashmir, as well safe districts in Jammu.[10] These children were born and in utero between 1995 and 1998 which marks the end of the first phase of the insurgency. Militancy peaked in Kashmir around 1995/96 in Srinagar and moved afterwards to

[8] Note that this means lower in absolute values because they average HAZ score is negative.

[9] Although it is possible to identify possible treatment groups by breaking down the graphs to the district level, I will do without it to conserve space. Instead, I present difference in difference tables based on mean HAZ-scores later.

[10] The Doda, Rajouri and Poonch districts were excluded from the survey.

more rural areas of Kashmir. During this period, rural health providers stopped delivering their services. Children in rural Kashmir have significantly lower HAZ scores than children in rural Jammu, but the younger cohort could improve compared to the older cohort (table 3). Children in the Srinagar district are not negatively affected by the militancy compared to children in other Kashmir districts. Although militancy peaked in this district, given the amount of security force stationed, violence did not affect children HAZ scores. "Normalcy" (Joshi 1999) in daily routines returned to Srinagar by the mid 90's because of the presence of security forces.

The NFHS-3 does not include district identifiers, but I can use language spoken to identify Kashmir and Jammu (see Parlow 2012). Kashmiri is almost exclusively spoken in the valley. The older cohort (36 to 59 months) was in utero and born during the 2001/02 peak in violence. Furthermore, militancy moved to Jammu districts were Hindus were targeted my militants acts. I test if children in the Jammu region are more affected by the insurgency than children in Kashmir, and if massacres committed against Hindus have negative impacts on the height of Hindu children, compared to Non-Hindus. I can find negative but not significant differences in HAZ scores for some age groups in Jammu, as well for Hindus (table 4).

[table 2,3 and 4 about here]

4.4 Empirical Strategy and DID regressions

Compared to a simple DID table, a DID regression can control for factors omitted from the above analysis. My goal is to estimate the local average treatment effect for groups more affected by the insurgency than others. The Kashmir insurgency, as any other external shock, allows me to divide children into treatment and control groups in a natural experiment setting. The actual treatment is the insurgency itself e.g. the experience of violence in utero through stress caused to the mother, as well less access to health services, and violence experienced early in life.

My empirical health production function is the following:

$$H_{ijt} = \alpha + \gamma \text{war}_{ijt} + \beta_1 X_{1ijt}^{child} + \beta_2 X_{2ijt}^{mother} + \beta_3 X_{3ijt}^{SES} + \rho_j + \theta_t + \delta_t + \epsilon_{ijt} (1)$$

H_{ijt} is the HAZ score of children i living in district or region j and born in year t. The average treatment effect is γ where *war* is a binary variable, indicating children born and living in a more conflict-affected region. I can only account for the annual variation in violence due to a lack in district variation in my event data set if I break down variation in violence into birth quarters.[11] X_1 is a vector describing children's characteristics like age in months, sex, birth order and if the child was small at birth or not. X_2 includes mother's characteristics including age, education and height in cm. Furthermore I use information on health service utilization and if the mother ever experienced a still-birth or had on abortion. Previous research mostly ignored the link between mother's health and children's health at birth because of the lack of data. Akresh and Verwimp (2006) use current BMI of the mother to proxy for her health status during pregnancy and at birth. Although it is possible to assume, that current BMI could also have been the BMI before pregnancy and shortly after because of little changes in household wealth and behavioral choices, I will use information on iron-deficiency anemia. Anemia is a chronic diseases and known to start in early childhood because of the lack of iron in food in developing countries (WHO 2012).

X_3 is a vector describing the socioeconomic status (SES) of the household. This includes land- and livestock ownership, as well belonging to a scheduled caste or not. I do not use information on father's occupation or education, because HAZ scores are usually only affected by mother's characteristics. Another reason is that almost all fathers work in low-skilled jobs.[12] ρ_j includes district fixed effects, as well city size effects, common to every children. θ_t includes quarter and year of birth fixed effects. Finally δ_t includes state fixed effects for children born at time t e.g. the number of hospitals and CHCs.

4.4.1 Results for the NFHS-1

The NFHS-1 differs from the NFHS-2 and 3 in two major points. First, it only includes the Jammu region, and second, it does not include anthropometric measurements for the mother nor tests for hemoglobin levels. Height of the mother is one of the main predictors for children's height and could create an

[11] For instance, some districts only have very few observations per quarter once accounting for birth quarters which could reduce the validity of results.

[12] Note that Jammu and Kashmir is one of the least developed states in India. Almost everyone works in professions requiring little educational skills.

omitted variables bias, but this should not affect the treatment variable *war* itself.

Table 5 summarizes the results for different treatment and control groups. First, I show results for children more affected by the militancy and living in the Jammu district. The control group lives in less affected districts of the Jammu region. Similarly, I use urban Jammu and rural Jammu as the more affected region (column 5 and 7). Children in the age 0 to 36 months are negatively affected by the insurgency for the Jammu district overall and the rural area of Jammu. Although the average treatment effect is negative for urban Jammu, it is not significant. HAZ scores for children in the Jammu district, are up to 2.1 standard deviations less because of the insurgency.

There are almost no significant gender differences in HAZ scores between boys and girls. Furthermore, older children are shorter than younger children. Mother's age has a positive effect on children's height, which can be attributed to more experience in raising children.

To test the impact of health at birth on height later in life, I use information on birth size. Birth size is measured as being small at birth or not. This sheds light on the link between in utero experience and early life environment. Size at birth e.g. birth weight or stature, is affected by in utero experience. Children who were small at birth, are shorter in some specifications. Although children could catch up in growth during their first years in life, if the environment is optimal e.g. nutrition and health care, here they remain shorter. A possible limitation is endogeneity of the small at birth measurement. Small at birth could be affected by the same experience of violence in utero. Here, small at birth is not endogenous in HAZ models. I used test for exogeneity based on an instrumental variable model (Wu-Hausman test). To instrument for small at birth in the first stage, I used iron and vitamin A supplements during pregnancy. Furthermore, I excluded small at birth from the HAZ model without having a significant effect on the remaining variables in the model, especially the treatment variable *war*.[13]

There are two unexpected findings, which I find repeatedly in later NFHS survey rounds. First, breastfeeding has a negative effect on children's height.[14] It is surprising, because the standard assumption is that breastfeeding improves

[13]Results can be requested from the author.

[14]I present models including the duration of breastfeeding, and without, because the information is only available for a small subsample.

children's health, especially weight but also height (WHO 2012), but in some cases, mother's relying on breastfeeding only, lack in complementary nutrition (Fawzi et Al 1997). In a situation, where nutrient-rich food for the mother is scarce and supplemental nutrition for infants is sparsely available, breastfeeding is not enough to improve health outcomes. The second unexpected finding is that vaccinations and checkups during pregnancy and afterwards have no significant effect on HAZ scores. This finding contradicts the goal of health programs promoting checkups and vaccinations in developing countries in general.

In table 5, I also compare children of age 0 to 36 with an older cohort of age 37 to 59 months ("cohort models"). The older cohort was born before 1990 and is not affected by the insurgency. These two cohorts live in the same region: the Jammu district. In developing countries, the younger cohort usually has better height scores than the older cohort because of improvements in health over time. Here, because of the insurgency younger children, mainly living in rural Jammu, are shorter compared to the older cohort.

[table 5 about here]

4.4.2 Results for the NFHS-2

The NFHS-2 was conducted from 1998 to 1999 and includes only children of age 0 to 36 months. Compared to the NFHS-1, it covers the entire Kashmir region but only safer areas in the Jammu region. This allows me to test if the militancy in districts of Kashmir during the 90's has a long-lasting effect on children's height. Additionally, I have information available on mother's height and her health during pregnancy, measured as iron-deficiency anemia. I define women having anemia with hemoglobin levels of less than 10 grams per deciliter blood as a lower bound at the time of the interview. Anemia is chronic and starts early in life in developing countries (WHO 2012). Therefore, I can safely assume that these women were also anemic during pregnancy. I will use the same definition for the NFHS-3.

I test if children in urban and in rural Kashmir are shorter than children in urban and rural Jammu because of the insurgency. Furthermore, I want to know if "normalcy" (Joshi 1999) returned to the Srinagar district or not. During the 90's normal life in Srinagar came to a still stand, for example through daily riots, security controls, curfews and militant acts. It was not safe enough to hold state assembly elections. Joshi (1999) marks the end of the first phase with the first election held in 1996 since 1990 .

I also compare the HAZ scores of younger children (0 to 23 months) with an older cohort (24 to 36 months). Although health services stopped working in rural Kashmir and militancy moved away from urban areas of Kashmir to rural areas, I cannot find a significant negative impact on HAZ scores of children in rural Kashmir. Instead, I find that children in urban Kashmir are significantly shorter than in urban Jammu (table 6). This can be driven by two factors. First, the sample contains only safe regions in Jammu which developed as expected and improved over time. The urban Kashmir region does not show the same improvements. Second, although children in the Srinagar district are not negatively affected by violence, militancy moved away from Srinagar to other districts in Kashmir, namely: Anantnag, Badgam and Kupwara. This is because of the massive presence of security forces in Srinagar which makes it harder to commit militant acts.

As expected, mother's height is the main predictor of children's height. Taller women, also have taller children. Education has a positive effect on HAZ scores. Anemic women have shorter children in some specifications. Breastfeeding has a negative impact on HAZ scores, as well antenatal care. Antenatal care is measured as the number of visits. Mother's having complications during pregnancy are more likely to visit health facilities. This can also explain why doctor's assistance at birth has a negative impact on children's height, though not significant in most specifications. In India birth is assisted by "mid-wifes" or other experienced persons (Streefkerk and Moulik 1991). Calling for a doctor, can be a sign of expected complications at birth. Furthermore, children small at birth have significantly lower HAZ scores in some models.

Children's height is therefore mainly predicted by mother's height and the experience of violence in utero and early in life. I find similar results for the NFHS-3.

[table 6 about here]

4.4.3 Results for the NFHS-3

The NFHS-3 was conducted in 2005/06 and covers the beginning of the last phase of the insurgency. Children are of age 0 to 59 months. The older cohort was in utero or infants during the 2001/02 peak in violence. Here, my focus is on the youngest cohort (age 0 to 35 months) in urban and rural Kashmir. Furthermore, I test if Hindus are affected by the militancy compared to Non-Hindus. Finally, I compare HAZ scores for a younger cohort (0 to 35 months) with an older cohort (36 to 59 months).[15] The NFHS-3 has no district identifiers, instead I will use language spoken to identify the Kashmir and Jammu region. Children in Kashmir are still shorter compared to children in Jammu. The negative impact of the insurgency is strong and significant for urban regions in Kashmir, which lost in development during the first 15 years of the insurgency compared to urban Jammu (table 8). There are no significant differences between rural areas. The younger cohort did not improve in height, compared to the older cohort ("cohort models"). I cannot find significant difference in HAZ scores between Hindus and Non-Hindus (column 7). Although massacres were committed against Hindus, most of these massacres actually took place during pilgrims or close to temples, which could be avoided by staying home (SATP 2012).

Mother's height, but also health measured as being anemic, have significant impacts on HAZ scores. Height is the predictor for children's height. Mother's education has a positive impact on HAZ scores. Poorer families, belonging to a scheduled class, have children shorter for their age. Furthermore, children small at birth are significantly shorter. As before, I find that breastfeeding has negative impacts on HAZ scores. Similarly, health service utilization during pregnancy has no effect on children's height later in life.

[table 7 about here]

5 Robustness checks

There are possible concern limiting the validity of my results, including the issue of household migration, differences between birth cohorts, gender differences and the measurement of violence exposure.

Migration itself is unlikely to affect the results, because most of the household have been living at their current residence for more than 10 years. Households in Jammu and Kashmir are poor on the average, and only move, in the case of women, if they marry. Even then, most marriages remain local and out of

[15] As a robustness check, I will show average treatment effects in 12 month intervals later.

district, or even village (or town), migration is limited. Nonetheless, I excluded women living at their residence for less than three years, and five, from my analysis without having significant effects on the estimated treatment effects for the NFHS-2 and 3 (table 8). The treatment effects change for the NFHS-1. At the beginning of the insurgency, households migrated from the valley because of the violence to the less-affected Jammu region.

Another concern is that birth cohorts are differently affected by the insurgency. I split the sample into 12 months interval for children up to the age of 36 months and into an older cohort 37 to 59 months where available. I assume the same districts or regions as above. To conserve space, I only report the coefficients for the average treatment effects in table 9. Treatment effects vary by age cohorts as expected. For the NFHS-1, I find that children (age cohort 24 to 35 months) who were in utero during, or born, in 1990 are affected the most. These children are up to four standard deviations shorter. Similarly, I find for the NFHS-2 that children in utero or born around the 1996 peak in violence are affected the most for the urban Kashmir region. For the NFHS-3, there are no negative and significant treatment effects across birth cohorts. They effect of the insurgency on children's height is also smaller in magnitude compared to before.

In India, boys and girls are differently treated by their parents because of sex preferences, usually boys are preferred. Rose (1999) shows that in times of need, health outcomes for girls are worse in rural India, because Hindu parents focus their resources on boys.[16] It is possible, that during an armed conflict, parents focus on boys as well because of sex preferences. Preferred treatment of boys by parents could be less pronounced in Jammu and Kashmir because Muslims are majority. Especially the Muslims in the valley of Kashmir follow the Sufi school of the Islam, which does prefer girls over boys (Kadian 1993, Wolpert 2010).

I break down the baseline models by sex, and I use the same treatment groups as before (table 10). In most models, I find no differences in treatment effects between boys and girls with three exceptions. For the NFHS-1, I find that boys in Jammu are significantly shorter than boys in other districts, while girls are not negatively affected. Girls are only negatively affected by the insurgency in

[16] Rose (1999) uses rainfall shocks, and shows how these affect households consumption decisions.

rural Kashmir, compared to girls living in rural Jammu for the NFHS-2. Child labor is common in rural areas of India, where boys do make the better labor working outside in the field. Both sexes are similar affected by the insurgency in urban Kashmir. There are no differences in the magnitude of the treatment effect for districts in Kashmir. The results are similar for the NFHS-3.

Girls are indeed more affected by the insurgency, compared to boys, in more conflict-affected regions of Jammu and Kashmir. This can be interpreted as different sex preferences of the parents. Furthermore, the NFHS-2 and 3 asks the mother about the ideal number of boys and girls, and most parents want to have more boys on the average.[17]

Finally, instead of using a binary variable to identify children more affected than others by the insurgency, I use continuous measurements. These measurements include people killed or murder rates per district in a given year. I use following empirical model:

$$H_{ijt} = \alpha + \gamma(\text{killed}_{jt}) + \beta_1 X_{1ijt}^{child} + \beta_2 X_{2ijt}^{mother} + \beta_3 X_{3ijt}^{SES} + \rho_j + \theta_t + \delta_t + \epsilon_{ijt} \quad (2)$$

Table 11 summarizes the results for the treatment effects. I do not break down the models to districts level, because the samples are getting very small, which introduces high levels of multicollinearity. Overall, the treatment effects loose significance. Only for the NFHS-1, I can find negative impacts on HAZ scores in using individuals killed by the insurgency. Murder rates have no significant effects in my models. Compared to previous results, my findings likely understate the true effect of the insurgency on HAZ scores of children in using the entire Jammu or Jammu and Kashmir region, instead of using district variations.

[table 8 to 11 about here]

6 Sibling Fixed Effects Models

A major concern in estimating health production functions are omitted mother characteristics influencing the health of the children in utero and later in life. Omitting these factors biases the results. One characteristics is the genetic

[17] For the NFHS-3 the "desired" number of boys is 1.29 and for girls .93. Similarly, for the NFHS-2, it is for boys 1.34 and for girls .95.

component of the mother. In my previous models, I dealt with mother's health in using observable information: height and iron-deficiency anemia.

Here, I focus on siblings which share a similar genetic background in health markers through the mother.[18] Sibling models allow to control for unobserved mother characteristics, as well family characteristics, because they are time invariant.

I will estimate difference in HAZ scores between siblings (ΔHAZ) as a function of experienced violence, children's age, sex, birth order, small at birth and the utilization of health service through the mother during pregnancy (ΔX). My empirical model is the following:

$$\Delta \text{HAZ}_{ijt} = \alpha + \gamma \Delta \text{violence}_{ijt} + \beta \Delta X_{ijt} + \Delta \epsilon_{ijt} \quad (3)$$

To allow for more variation in the violence experience between siblings, I use additionally to a binary measurement, continuous exposure variables. Birth cohorts are not affected the same by the insurgency, and a binary variable limits the choices I have. Instead, I also use individuals killed by the militancy per birth year and district (or region) and murder rates. The number of victims of the insurgency are based on the event dataset I created. I took murder rates from the crime in India database available through the INSCR project (2012). Murder rates are likely to be affected by the insurgency and could overstate the true effect of the insurgency on HAZ scores of siblings.

Note, that the available sample does not allow me to use as many controls as before, especially the utilization of health services which do not vary between siblings, besides antenatal care.[19]

Table 12 has three parts, based on these measurements for violence I use, and presents results by survey round. I choose the same treatment groups as before, based on district or region, but because of the small sample of siblings, I cannot break down the NFHS-2 into districts. Instead, I use the entire Kashmir region.

[18]Note that they do not share exactly the same genetic background - only twins do. Furthermore, most health traits are genetically given through the mother, and not the father. Though, a siblings fixed effects model also deals with unobserved father's background variables.

[19]Recall that antenatal care is defined as number of visits to a health facility or by a health worker.

I find in most specifications, that the insurgency has no significant effect on HAZ scores. The only significant and negative effect I find, is for the Jammu district during the first phase. One explanation could be, that families got used to the constant experience of violence and have learned how to cope with reduced access to health services, and other obstacles, in raising their children.

Differences in HAZ scores are mainly explained by children's age, the birth order and antenatal care. Additionally, but less pronounced, through the sex of the child. Older children have higher HAZ scores than younger. The fixed effects coefficients are similar to the OLS estimates above in magnitude. The effect of birth order on HAZ scores is stronger. Antenatal care has a strong and positive effect on height of children, compared to a negative or no effect in previous models. This can be explained, by the bias introduced in omitting mother's fixed effects in previous models.

[table 12 about here]

7 Channels to health

A known result in the health literature is that children shorter for their age, have worse health outcomes throughout their life, and perform less in schools and in their jobs as adults. Here, I test if the same children who are already shorter for their age, are more likely to be sick in the two weeks prior to the survey. I assume the same treatment and control groups as before. The health outcome I focus on is: diarrhea.[20] Diarrhea itself is caused by living conditions e.g. access to clean water, food and hygiene in general (WHO 2012).

I estimate a reduced form model for equation (1) in excluding health care utilization during pregnancy, as well mother height. The focus is on living conditions, as well health service utilization early in life.

To control for hygiene, I use information on the availability of any type of toilet facilities in the household or if they are shared with others. Furthermore, food can be contaminated through many channels e.g. the water, the storage of food or the food itself. I use access to water through a pipe leading to a house or not, and if the child gets plain water or not. I also control if the household owns a refrigerator, and types of food given to the child regularly. Certain types

[20] In the appendix, I also test if they are more likely to be anemic or have a cough.

of food can spoil easily if not stored properly. Most of these controls are only available for the NFHS-2 and NFHS-3.

I find that children living in more conflict-affected areas, are also more likely to have diarrhea in the two weeks prior to the survey (table 13). Children in the Jammu district (NFHS-1) and in rural Kashmir (NFHS-2) are indeed sicker on the average. For the NFHS-3, I cannot find significant differences. Surprisingly, Muslims are less likely to have diarrhea which could be attributed to religious cleansings throughout the day and the preparation of food. Controls for hygiene and contamination of food are in most specifications not significant, for instance only a minority of households owns a refrigerator.[21]

[table 13 about here]

8 Conclusion

Health of children, proxied by height for age z-scores (HAZ), is negatively affected by the insurgency in the state of Jammu and Kashmir (India). Children who experienced violence in utero and early in their life, are 0.9 to 1.4 standard deviation shorter than children who experienced less or no violence in their life. Children shorter for their age are more likely to be sick throughout their life in developing, as well as developed countries. Here, these children are more likely to have diarrhea in the two weeks prior to the survey interview.

The Kashmir insurgency has three phases with different geographical exposures to violence. I identified these phases based on the literature about the Kashmir insurgency, an event dataset on militant acts I created, as well crime rates. For each phase, I have one round of the National Family Health Survey available, allowing me to identify cohorts of children differently exposed to the insurgency.

In my models, I use typical mother and household background information, but also shed light on the link between health at birth and later height. This link has not been fully explored in the (armed conflict-) development or health literature. In the development literature, children's height is the determinant for health but due to the lack of data, past health or mothers health during

[21] I get stronger results for the NFHS-2 with 32.38 % of the children having diarrhea, compared to 22.02 % for the NFHS-1 and 9.91 % for the NFHS-3 which also follows the phases of the insurgency.

pregnancy, is not controlled for. Height is mostly explained by current mother or household information. Similarly, in the public health literature, birth weight is used to predict future human capital outcomes, for example health as an adult or performance in schools as a child, but health early in life is not accounted for. Here, I create a link between children's height, children's health at birth and mother's health during pregnancy. Children's health is measured as being small at birth or not. Children who were smaller than the average at birth, are also shorter for their age. Mother's health is measured as being anemic or not, a chronic disease starting early in life in developing countries. These women are iron-deficient, which affects the development of the child in utero, resulting in children shorter for their age.

One can still argue that mother's health background, e.g. genetic traits or unobserved health factors, is not completely dealt with in including her height or her health status during pregnancy. I apply sibling (also known as maternal) fixed effects model to overcome this source of bias and find, though in smaller samples as above, that children's height is negatively affected in the first phase of the insurgency.

In a series of robustness checks, I find that cohorts born closer to peaks in violence are more affected by the insurgency. Furthermore, gender difference are small, but when present, show a preference towards boys. Parents invest into boys because these make better labor in rural areas of Kashmir. I also change my measurements of violence from a binary variable to continuous measurements. These measurements show smaller and less significant effects of the insurgency on HAZ scores of children.

Overall, mother's height and the exposure to violence in utero and early in life explain most of the variation in HAZ scores of children.

A Other health outcomes

I test, if children (age 0 to 36 months) are more likely to have a cough in the two weeks prior to the survey or are anemic in general. A cough can be caused by living conditions, for example the type of cooking fuel and if the house has a chimney (or windows) or not. Proper ventilation is one of the concerns in developing countries, where cooking fuel is usually wood or kerosene (Rinne et Al 2007, Duflo et Al 2008). These create harmful fumes in indoor cooking. I control for these living conditions in a reduced form health production function. I use "Pucca"-housing as a control variable. Puccas are higher quality houses. Furthermore, I include controls for "Bacillus Calmette-Guérin" (BCG) and diphtheria, pertussis and tetanus (DPT) vaccinations of the child. Pertussis is also know as whooping cough (WHO 2012). Anemia is based on hemoglobin tests which measure the iron-content in the blood of a child or a mother. Anemia can affect productivity later in life, because it affects the concentration of children or adults (WHO 2012) and can induce higher energy requirements by the metabolism. Here, I use controls for receiving iron-supplements during pregnancy and if the mother is anemic or not.

Table 14 and 15 summarize my results. I use similar treatment and control groups as before. I can only test cough incidences for the NFHS-3, because I cannot control for the same living conditions in earlier survey rounds. Anemia was only tested in the NFHS-2 and 3.

The impact of the insurgency on anemia of children is mixed (table 14). Children in the Srinagar district (NFHS-2) are more likely to have anemia. For the NHFS-3, I find that anemia levels are less in more affected regions, with only being significant for rural Kashmir. Prenatal care, as well antenatal care reduce anemia for the NFHS-2 round, but have small positive impacts for the NFHS-3 round. Iron supplements are not significant in most specifications.

In table 15, I present results for having a cough or not prior to the survey. Children in Kashmir are more likely to be sick compared to children in Jammu, especially in urban areas of Kashmir. Given that housing is better in urban areas, the insurgency reduces children's health. Although not significant, living in a Pucca or using natural gas for cooking reduces coughs. Having received a DPT vaccination reduces coughs significantly, as expected.

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C Figures

Figure 1: Jammu and Kashmir district map

The districts most affected by violence are: Srinagar (40%), Baramula (17%), Kupwara (11%), Anantnag (10%), Pulwama (7%) and Badgam (3%). The ranking is based on own calculations in using the event data set I created. For the period 1990 to 2011 I have 1368 different events in total. 662 occurred in the period 1990 to 1996 only.

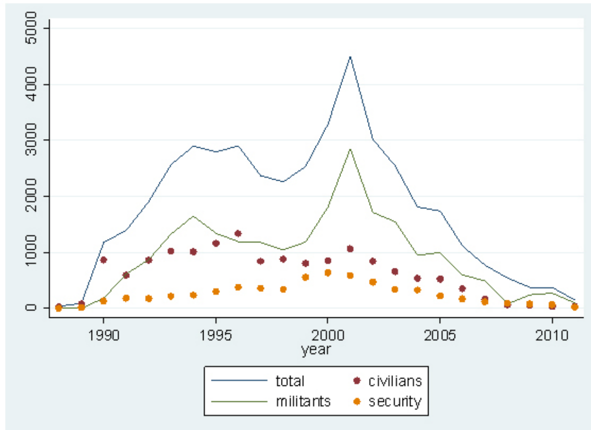


Figure 2: Number of victims for J&K - 1988 to 2011 - Source of raw data: SATP (2012)

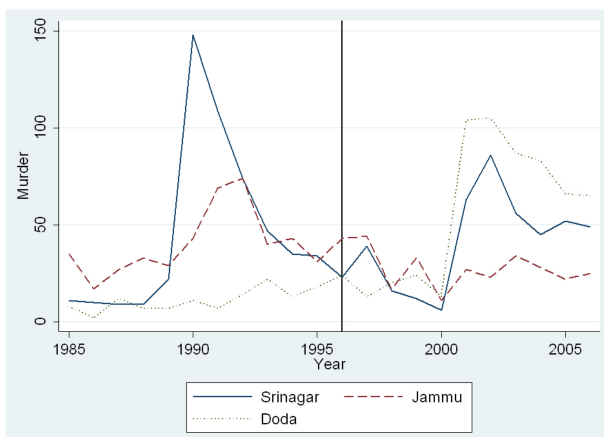


Figure 3: Number of murder victims for Srinagar, Jammu and Doda district 1990 to 2006 - Source of raw data: INSCR (2012)

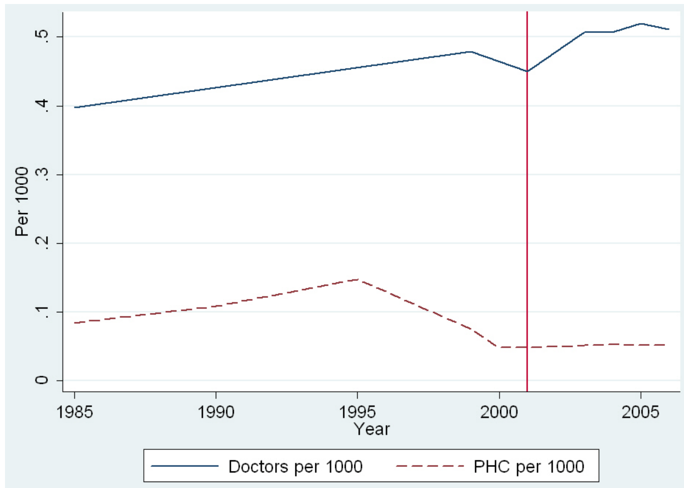
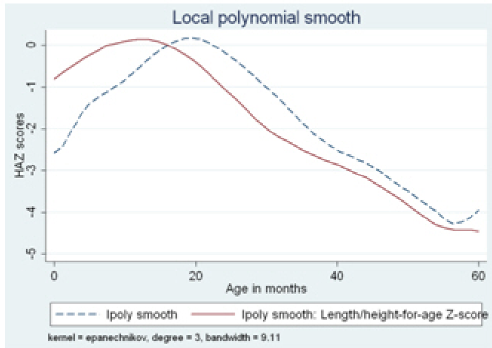
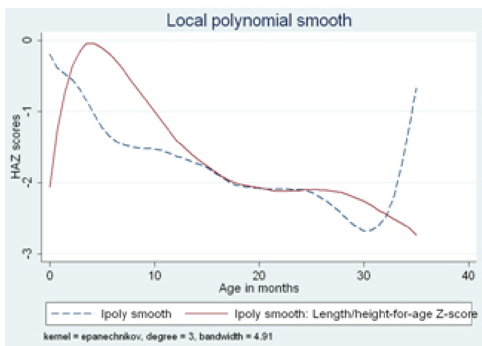


Figure 4: Doctors and Primary Health Centers per 1000 - Source of raw data: Government of Jammu and Kashmir - Development Report (2011)

NHS-1: Urban Jammu (dashed line) vs. Rural Jammu (solid line)



NHS-2: Kashmir (dashed line) vs. Jammu (solid line)



NHS-3: Kashmir (dashed line) vs. Jammu (solid line)

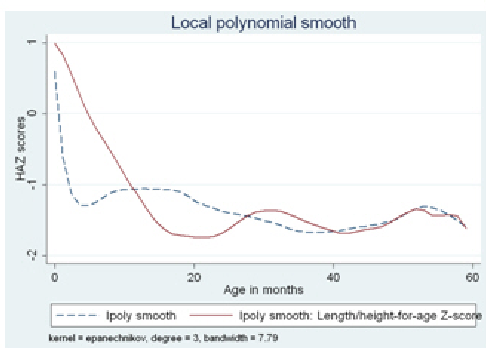


Figure 5: Local HAZ polynomials - own calculations

D Tables

	NFHS-1 (0 to 59 months) urban (n=233)	rural (n=463)	NFSH-2 (0 to 36 months) urban (n=213)	rural (n=749)	NFSH-3 (0 to 59 months) urban (n=277)	rural (n=949)
Children's characteristics						
HAZ	-1.536	-1.418	-1.338	-1.707	-1.144	-1.362
Age in months	25.89	26.03	18.42	16.72	30.18	29.56
Boys	57.94%	53.35%	54.01%	55.18%	52.71%	52.37%
Small at birth	25.00%	23.54%	28.27%	31.11%	25.36%	33.05%
Iron Supplement	91.85%	78.62%	83.05%	69.36%	79.17%	64.63%
Vitamin A	34.36%	21.74%	41.21%	25.27%	n.a.	n.a.
Complications at birth	32.19%	22.89%	34.21%	16.55%	31.05%	9.17%
Antenatal Checkup	98.28%	86.18%	97.05%	81.88%	94.44%	82.67%
Tetanus Vaccination	98.28%	85.10%	94.49%	86.11%	95.33%	84.10%
Diarrhea last two weeks	23.38%	19.35%	31.51%	32.62%	4.55%	11.50%
Mother's characteristics						
Age in years	25.48	23.76	26.95	26.84	28.98	27.81
Years of Schooling	8.59	3.77	6.22	2.56	7.41	3.39
Hindu	85.41%	76.24%	30.80%	40.41%	40.79%	29.08%
Muslim	4.29%	15.33%	58.23%	58.88%	54.15%	70.81%
Height (cm)	n.a.	n.a.	153.20	153.59	153.72	154.35
Children ever born	2.33	3.09	2.52	3.13	2.44	3.08
Household's characteristics						
Owns Land	18.45%	74.24%	2.53%	18.00%	30.69%	77.24%
Owns Livestock	18.45%	78.14%	n.a.	n.a.	24.19%	77.03%
Scheduled Tribe	0	1.74%	19.41	30.87%	21.30%	38.25%

Table 1: Descriptive Statistics based on NHS-1, 2 and 3 for all Jammu and Kashmir

Note that for NFHS-1 years of schooling, I assumed missing values to be zero. Give that the sample barely includes any members of a scheduled tribe, years of schooling likely overstates the true years of schooling.

	Jammu district	Rest	Difference	Jammu urban	urban rest	Difference
HAZ (age<12)	-.3841	-.907	.5228	-1.118	-1.975	.8561
HAZ (age<24)	-.1467	-.6781	.5314	-.5603	-1.237	.6767
HAZ (age<36)	-.52975	-.9762	.4464	-.5945	-1.3678	.7733*
HAZ (age>36,<59)	-3.3931	-3.0636		-2.948	-3.3263	
Difference	2.8634***	2.0873***		2.3539***	1.9584***	

Table 2: HAZ mean values - NFHS-1

Difference significant at 1% ***, 5% **, 10% *,

	Rural Kashmir	Rural Jammu	Difference	Srinagar	other Kashmir districts	Difference
HAZ (age<12)	-1.281	-.5932	-.6878***	-.965	-2.573	1.608***
HAZ (age<24)	-1.665	-1.207	-.4578**	-1.098	-2.573	1.474***
HAZ (age<36)	-1.840	-1.582	-.2575*	-1.162	-2.613	1.450***
HAZ (age<12)	-1.281	-.5932		-.965	-2.614	
HAZ (age>12,<36)	-2.209	-2.149		-1.247	-2.843	
Difference	.928***	1.556***		.282	.228	

Table 3: HAZ mean values - NFHS-2

Difference significant at 1% ***, 5% **, 10% *,

	Jammu	Kashmir	Diff.	Jammu Rural	Kashmir Rural	Diff.	Jammu Urban	Kashmir Urban	Diff.
HAZ (age<36)	-1.113	-1.242	.1284	-1.127	-1.226	.098	-1.058	-1.290	.232
HAZ (age<24)	-.945	-1.096	.1508	-.9238	-1.051	.128	-1.043	-1.212	.168
HAZ (age<12)	-.1938	-.9044	.7106**	-.177	-.774	.596	-.282	-1.2447	.962
HAZ (age>48)	-1.443	-1.421	-.0227	-1.492	-1.664	.172	-1.234	-.626	-.607
HAZ (age<36)	-1.113	-1.242		-1.127	-1.226		-1.058	-1.290	
HAZ (age>36)	-1.532	-1.521	-.0101	-1.598	-1.680	.081	-1.269	-.877	-.392
Difference	.420***	.299*		.471***	.453**		.211	-.413	
	Hindu	Non-Hindu	Diff.	Hindu urban	Non-Hindu urban	Diff.	Hindu rural	Non-Hindu rural	Diff.
HAZ (age<36)	-1.293	-1.114	-.178	-1.211	-1.161	-.0506	-1.321	-1.103	-1.172
HAZ (age<24)	-1.212	-1.015	-.292	-1.230	-1.091	-.138	-1.206	-.871	-.335
HAZ (age<12)	-.4284	-.5391	.110	-.586	-.972	.385	-.387	-.427	.040
HAZ (age>36)	-1.562	-1.511	-.0502	-1.346	-.897	-.449	-1.643	-1.635	-.008

Table 4: HAZ mean values - NFHS-3

Difference significant at 1% ***, 5% **, 10% *,

Treatment group	Jammu district		cohort	urban Jammu district	cohort	rural Jammu district		cohort
Control Group	rest of Jammu		model	rest of Jammu	model	rest of Jammu		model
War	-1.032**	-2.170***	-1.440**	-.384	-.402	-.528**	-.535	-1.342**
	(.317)	(.467)	(.591)	(.934)	(.550)	(.140)	(.409)	(.632)
Age child	-.212***	-.238**	-.243**	-.089	-.107**	-.254**	-.317**	-.194***
	(.043)	(.062)	(.052)	(.077)	(.049)	(.065)	(.084)	(.074)
Male	-.240	-.427	.002	-.183	-.084	-.264	-.665*	-.000
	(.144)	(.213)	(.273)	(.111)	(.287)	(.211)	(.312)	(.292)
Age mother	.097***	.103*	.131**	.053	.148***	.085*	.072	.065
	(.013)	(.041)	(.055)	(.078)	(.056)	(.033)	(.085)	(.061)
Education	.015	.017	.032	.008	-.020	.021	.011	.038
	(.021)	(.021)	(.037)	(.048)	(.039)	(.026)	(.034)	(.035)
Muslim	.384*	-.465	.556	1.455***	1.103*	.263	-1.214	-.734
	(.168)	(.373)	(.583)	(.227)	(.631)	(.233)	(.927)	(1.019)
Abortion ever	.055	.709*	.183	.183	-.420	-.126	.796	.349
	(.151)	(.327)	(.387)	(.469)	(.380)	(.405)	(.639)	(.441)
Number of Children born	-.374	.005	-.781	-1.236***	-.541	-.540	.509*	-1.443**
	(.457)	(.522)	(.806)	(.281)	(.880)	(.540)	(.185)	(.702)
Owns land	.397	.162	-.082	.496	.037	.428	.307	.230
	(.253)	(.453)	(.399)	(.379)	(.735)	(.314)	(.804)	(.367)
Owns livestock	.033	-.287	-.179	-.716*	-.501	-.041	-.250	-.124
	(.376)	(.383)	(.385)	(.284)	(.538)	(.516)	(.640)	(.373)
Scheduled tribe	-.328	.937	-.334			-.578	.987	.724
	(.367)	(.789)	(.836)			(.432)	(.470)	(1.219)
Birth order	1.045	.244	1.630	2.785***	1.234	1.617	-.407	3.579**
	(1.135)	(1.264)	(1.589)	(.160)	(1.723)	(1.519)	(.829)	(1.435)
Small at Birth	-.807***	-.282	-.138	-1.236***	-.848**	-.697	.102	-.103
	(.172)	(.309)	(.342)	(.151)	(.351)	(.356)	(.457)	(.304)
Complications at Birth	.221	.116	.483	-.048	-.240	.154	.223	-.141
	(.315)	(.267)	(.365)	(.219)	(.367)	(.364)	(.451)	(.308)
Antenatal Care	1.292	.550	.259			1.070	.884	.503
	(.807)	(.591)	(1.672)			(.800)	(.842)	(1.059)
Tetanus vaccination	-.933	-.076	.544			-.767	-.046	-.207
	(.967)	(.481)	(1.589)			(.944)	(.450)	(1.087)
Home delivery	.086	-.132	.418	-.016	.103	.215	.124	.144
	(.073)	(.427)	(.356)	(.223)	(.331)	(.174)	(.623)	(.321)
Breastfeeding		-.046**	-.024				-.066**	
		(.016)	(.016)				(.019)	
R^2	0.61	0.76	0.80	0.67	0.76	0.63	0.79	0.76
N	337	155	159	112	115	225	107	159
Time trend	yes	yes	yes	yes	yes	yes	yes	yes
Birth F.E.	yes	yes	yes	yes	yes	yes	yes	yes
City F.E.	yes	yes	yes	yes	yes	no	no	no
District F.E.	yes	yes	no	yes	no	yes	yes	yes
State F.E.	yes	yes	yes	yes	yes	yes	yes	yes

Table 5: DID regressions based on NFHS-1 children 0 to 36 months

. Note, that the model including breast feeding for urban Jammu would result in a too small sample plagued with multicollinearity. Significant at 1% ***, 5% **, 10% *, clustered standard errors in brackets

Treatment group	Rural Kashmir	cohort	Urban Kashmir	cohort	Srinagar district		other districts	
Control group	rural Jammu	model	urban Jammu	model	other Kashmir	all districts	Kashmir	all districts
War	-.391	-.581	-2.553***	.713	.345	.612*	-.193*	-.365
	(.678)	(.581)	(.371)	(1.113)	(.279)	(.326)	(.085)	(.476)
Age child	-.300	-.506**	-.166	-.130	-.416	-.303*	-.416	-.303*
	(.241)	(.229)	(.153)	(.536)	(.249)	(.160)	(.249)	(.160)
Male	-.047	.110	-.136	-.135	.005	-.072	.005	-.072
	(.142)	(.219)	(.216)	(.383	(.199)	(.121)	(.199)	(.121)
Age mother	.006	.021	-.012	-.066	.007	.006	.007	.006
	(.012)	(.029)	(.034)	(.052)	(.019)	(.010)	(.019)	(.010)
Education	.068	.062*	.055*	.064	.064*	.067***	.064*	.067***
	(.022)	(.032)	(.028)	(.051)	(.025)	(.013)	(.0258)	(.013)
Height mother	.038	.067***	.088**	.118**	.080***	.049***	.080***	.049***
	(.010)	(.020)	(.028)	(.046)	(.008)	(.013)	(.008)	(.013)
Anemia mother	.151	-.434	-.756**	-.669	-.381	.036	-.381	.036
	(.257)	(.343)	(.225)	(.973)	(.456)	(.229)	(.456)	(.229)
Muslim	.434		1.784***			.357		.357
	(.496)		(.466)			(.439)		(.439)
Abortion ever	.248*	.280	-.143	.390	.289	.177	.289	.177
	(.133)	(.279)	(.295)	(.568)	(.256)	(.125)	(.256)	(.125)
Number of children	.020	-.146	-.041	-.405	-.080	.021	-.080	.021
born	(.212)	(.447)	(.489)	(.751)	(.211)	(.142)	(.211)	(.142)
Wanted child	.091	.116	.163	-.009	.122	.123	.122	.123
	(.181)	(.366)	(.287)	(.790)	(.336)	(.166)	(.336)	(.166)
Owns land	.162	.199	-1.254**	-.487	.129	.112	.129	.112
	(.300)	(.298)	(.465)	(1.459)	(.532)	(.295)	(.532)	(.295)
Scheduled Tribe	-.181	.143	.322	-.267	.095	-.109	.095	-.109
	(.269)	(.287)	(.220)	(1.083)	(.355)	(.259)	(.355)	(.259)
Altitude	.243					.323		.323
	(.411)					(.444)		(.444)
Birth order	-.021	.080	.021	.486	.047	-.031	.047	-.031
	(.175)	(.443)	(.420)	(.737)	(.144)	(.100)	(.144)	(.100)
Small at birth	-.082	.008	-.488*	-.447	-.043	-.140	-.043	-.140
	(.139)	(.230)	(.234)	(.513)	(.180)	(.140)	(.180)	(.140)
Tetanus vaccination	.203	.099	-.087	-.650	.309	.318	.309	.318
	(.237)	(.433)	(.300)	(1.788)	(.447)	(.189)	(.447)	(.189)
Prenatal Care	.215	.790	-.560	-.668	.654	.180	.654	.180
	(.244)	(.486)	(.476)	(1.281)	(.437)	(.201)	(.437)	(.201)
Doctor assistance	-.519*	-.854	-.366	1.080	-.602	-.465	-.602	-.465
at birth	(.277)	(.661)	(.756)	(1.231)	(.508)	(.342)	(.508)	(.342)
Antenatal Care	.052	.006	-.097*	-.172***	-.061	-.001	-.061	-.001
	(.031)	(.052)	(.043)	(.061)	(.038)	(.038)	(.038)	(.038)
Home delivery	-.087	.054	-.495	.689	.019	-.230	.019	-.230
	(.129)	(.672)	(.658)	(1.258)	(.506)	(.255)	(.506)	(.255)
Currently	-.367	-1.026**	-.823**	-1.492	-1.268***	-.442	-1.268***	-.442
Breastfeeding	(.269)	(.429)	(.305)	(.911)	(.235)	(.268)	(.235)	(.268)
R^2	0.22	0.24	0.42	0.51	0.26	0.22	0.26	0.22
N	646	314	178	95	409	824	409	824
Time trend	yes	yes	yes	yes	yes	yes	yes	yes
Birth F.E.	yes	yes	yes	yes	yes	yes	yes	yes
City F.E.	no	no	yes	yes	yes	yes	yes	yes
District F.E.	yes	yes	yes	yes	yes	no	yes	yes
State F.E.	yes	yes	yes	yes	yes	yes	yes	yes

Table 6: DID regressions based on NFHS-2 children 0 to 36 months

Significant at 1% ***, 5% **, 10% *, clustered standard errors in brackets

Treatment group Control group	Kashmir Jammu	cohort model	Urban Kashmir urban Jammu	rural Kashmir rural Jammu	cohort model	Kashmir (Hindus only) Jammu
War	-.401	-.622	-1.703**	-.145	-.663	-.369
	(.275)	(.450)	(.768)	(.291)	(.540)	(1.206)
Age child	-.252**	-.409***	-.347	-.253**	-.433**	-.157
	(.097)	(.156)	(.231)	(.109)	(.188)	(.123)
Male	.163	.293	.111	.097	.310	-.000
	(.163)	(.202)	(.274)	(.194)	(.246)	(.240)
Age mother	.015	.033	.005	.035	.049*	.005
	(.020)	(.023)	(.046)	(.024)	(.028)	(.033)
Education	.033*	.018	-.030	.053**	.037	.052*
	(.020)	(.026)	(.036)	(.024)	(.034)	(.030)
Height mother	.074***	.057***	.056*	.078***	.058**	.069***
	(.015)	(.020)	(.029)	(.018)	(.025)	(.020)
Anemia mother	-.354*	-.520*	-.020	-.283	-.600*	-.689**
	(.207)	(.286)	(.378)	(.240)	(.327)	(.277)
Muslim	.388	.608	.253	.466*	.456	
	(.245)	(1.035)	(.716)	(.270)	(1.110)	
Abortion ever	-.019	.144	.353	-.237	.087	-.507*
	(.213)	(.268)	(.419)	(.247)	(.295)	(.267)
Number of children	-.072	-.104	.012	-.137	-.087	-.049
born	(.083)	(.088)	(.184)	(.090)	(.098)	(.134)
Wanted child	-.135	-.047	-.299	-.178	-.005	-.903**
	(.209)	(.222)	(.424)	(.241)	(.268)	(.382)
Owns land	.008	.091	.063	-.064	-.150	-.427
	(.196)	(.269)	(.330)	(.240)	(.340)	(.292)
Scheduled Tribe	-.430**	-.799**	-.717	-.331	-.788**	-.610**
	(.207)	(.357)	(.448)	(.228)	(.380)	(.236)
Altitude	.201	.470		.328	.588	-.264
	(.257)	(.483)		(.257)	(.533)	(.358)
Birth order						
Small at birth	-.413**	-.169	-.983***	-.296	-.018	-.596**
	(.182)	(.231)	(.288)	(.210)	(.282)	(.247)
Tetanus vaccination	-.252	-.097		-.054	.088	.235
	(.391)	(.538)		(.402)	(.539)	(.506)
Prenatal Care	.103	-.169	.922	-.116	.283	-.009
	(.282)	(.584)	(.607)	(.334)	(.603)	(.364)
Doctor assistance	-.301	.322	-.272	-.177	.406	-.366
at birth	(.370)	(.729)	(.709)	(.448)	(1.001)	(.357)
Antenatal Care	-.045	-.037	-.617	-.101	-.753	-.518
	(.437)	(.744)	(.947)	(.498)	(.739)	(.532)
Home delivery	-.107	.538	-1.016	.193	.731	-.279
	(.386)	(.729)	(.703)	(.460)	(.997)	(.369)
Currently	-.144	-.541**	-.540*	-.064	-.525*	.099
Breastfeeding	(.187)	(.228)	(.322)	(.242)	(.293)	(.238)
R^2	0.21	0.18	0.53	0.22	0.18	0.53
N	517	345	114	403	260	173
Time trend	yes	yes	yes	yes	yes	yes
Birth F.E.	yes	yes	yes	yes	yes	yes
City F.E.	yes	yes	yes	no	no	yes
District F.E.	no	no	no	no	no	no
State F.E.	yes	yes	yes	yes	yes	yes

Table 7: DID regressions based on NFHS-3 children 0 to 36 months

. Significant at 1% ***, 5% **, 10% *, robust standard errors in brackets

	NFHS-1			NFHS-2				NFHS-3		
	Jammu	Jammu urban	Jammu rural	Kashmir urban	Kashmir rural	Srinagar	Other	J&K	J&K urban	J&K rural
Years>3										
War	-1.562*	-1.301	-.791	-3.919***	-.218	.447*	-.268**	-.366	-1.897*	-.198
	(.650)	(2.138)	(.194)	(.729)	(.660)	(.218)	(.081)	(.306)	(.982)	(.309)
R^2	0.69	0.84	0.71	0.46	0.21	0.26	0.26	0.19	0.52	0.21
N	229	66	163	134	580	387	387	471	101	370
Years>5										
War	1.248	n.a.	-1.758	-1.431	-.246	.389*	-.269**	-.254	-1.866	-.070
	(.945)		(.313)	(.777)	(.665)	(.183)	(.081)	(.333)	(1.215)	(.331)
R^2	0.75		0.80	0.53	0.22	0.25	0.25	0.19	0.53	0.22
N	129		93	115	479	353	353	415	93	322

Table 8: Migration - Years living at current residence - NFHS-1, 2 and 3

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors, as well clustered standard errors if districts are used. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

	NFHS-1		NFHS-2				NFHS-3	
	Jammu	Jammu rural	Kashmir urban	Kashmir rural	Srinagar	others districts	Kashmir	Kashmir rural
36 to 59 months								
War	1.077	.233	n.a.	n.a.	n.a.	n.a.	.405	.502
	(.760)	(.454)					(.413)	(.433)
R^2	0.71	0.76					0.27	0.25
N	128	76					198	152
24 to 35 months								
War	-4.376*	-4.167***	-3.436***	-.958	.632	-.754**	.309	.820
	(1.918)	(.711)	(.239)	(.872)	(.684)	(.204)	(.630)	(.613)
R^2	0.76	0.80	0.59	0.29	0.46	0.46	0.24	0.24
N	99	62	65	201	124	124	138	108
12 to 23 months								
War	-.728	-1.097	2.683**	.610	.570	.021	-.503	-.510
	(.395)	(.962)	(.845)	(.948)	(.984)	(.215)	(.409)	(.472)
R^2	0.73	0.80	0.75	0.23	0.42	0.42	0.30	0.26
N	123	87	59	199	128	128	207	157
<12 months								
War	.729	1.714	n.a.	-1.074	.002	-.569**	-.746	-.648
	(1.442)	(0.78)		(.984)	(.514)	(.180)	(.548)	.626
R^2	0.66	0.78		0.23	0.32	0.32	0.28	0.29
N	115	147		246	157	157	172	138

Table 9: Exposure to violence by birth cohorts - NFHS-1, 2 and 3

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors, as well clustered standard errors if districts are used. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

	NFHS-1			NFHS-2				NFHS-3		
	Jammu	Jammu urban	Jammu rural	Kashmir urban	Kashmir rural	Srinagar	Other	J&K	J&K urban	J&K rural
Boys										
War	-2.130***	n.a.	-.539	-1.023	.174	.480	-.213	.056	.412	.125
	(.295)		(.313)	(.885)	(1.197)	(.530)	(.230)	(.291)	(.959)	(.325)
R^2	0.69		0.77	0.51	0.22	0.32	0.32	0.30	0.62	0.28
N	182		117	96	351	214	214	397	95	302
Girls										
War	.227	n.a.	.150	-1.051	-1.356*	.460	-.273	-.603*	-1.714	-.303
	(.861)		(.498)	(.937)	(.630)	(.311)	(.192)	(.330)	(1.059)	(.342)
R^2	0.61		0.64	0.59	0.31	0.34	0.34	0.24	0.66	0.27
N	155		108	82	295	195	195	318	65	253

Table 10: Gender difference in height scores - NFHS-1, 2 and 3

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors, as well clustered standard errors if districts are used. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

	NFHS-1			NFHS-2			NFHS-3		
	Jammu	Jammu urban	Jammu rural	J&K	J&K urban	J&K rural	J&K	J&K urban	J&K rural
Killed	-.284*	-.306	-.119	.032	-.010	.041	-.004	-.042	.005
	(.127)	(.256)	(.207)	(.030)	(.022)	(.041)	(.009)	(.018)	(.010)
R^2	0.61	0.68	0.64	0.23	0.42	0.22	0.20	0.45	0.19
N	337	112	225	824	178	646	715	160	555
Murder	.016	.018	.011	.004	-.002	.006	.006	-.016	.021
	(.010)	(.013)	(.015)	(.003)	(.006)	(.004)	(.013)	(.031)	(.015)
R^2	0.61	0.68	0.64	0.23	0.42	0.23	0.20	0.43	0.19
N	337	112	225	824	178	646	715	160	555

Table 11: Different measurements of violence - NFHS-1, 2 and 3

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors, as well clustered standard errors if districts are used. Models with high levels of multicollinearity, because of a too small sample size are, not reported here.

	NFHS-1		NFHS-2		NFHS-3		
	Jammu	rural Jammu	all J&K	Kashmir only	all J&K	Kashmir only	Hindus only
	(n=166)	(n=114)	(n=164)	(n=64)	(n=534)	(n=247)	(n=157)
Killed	-1.791	-.417	-.036	.005	.011	-.024	-.013
	(1.942)	(.920)	(.071)	(.059)	(.011)	(.031)	(.023)
Age	-.669***	-.159	-.039	-.126***	-.080***	-.064**	-.090***
	(.237)	(.126)	(.027)	(.018)	(.018)	(.029)	(.028)
Sex	.663**	.459	.163	.859**	-.076	-.294	-.055
	(.287)	(.381)	(.375)	(.403)	(.172)	(.289)	(.372)
Birth order	1.627*	1.532	.479	-.014	-1.921***	-2.496	-1.793***
	(.854)	(.951)	(.406)	(.205)	(.350)	(.669)	(.576)
Small at Birth	.055	.108	.651*	.175	-.031	.311	-.026
	(.304)	(.374)	(.368)	(.229)	(.240)	(.320)	(.412)
Antenatal Care	1.707**	1.204	.369**	.005	n.a.	n.a.	n.a.
	(.800)	(.831)	(.159)	(.051)			
R^2	0.28	0.49	0.09	0.05	0.003	0.002	0.06
Murder	-.113***	-.017	.002	.008	.018	.141*	.052
	(.037)	(.038)	(.007)	(.006)	(.020)	(.074)	(.042)
Age	-.698***	-.168	-.043	-.166***	-.088***	-.214***	-.127***
	(.145)	(.129)	(.027)	(.029)	(.018)	(.075)	(.040)
Sex	.602**	.459	.209	.613	-.064	-.294	-.052
	(.278)	(.381)	(.368)	(.453)	(.170)	(.289)	(.371)
Birth order	1.467*	1.532	.477	.108	-1.908***	-2.496***	-1.763***
	(.813)	(.951)	(.397)	(.301)	(.343)	(.669)	(.566)
Small at Birth	-.107	.108	.613	-.130	-.029	.311	-.042
	(.302)	(.374)	(.370)	(.415)	(.237)	(.320)	(.414)
Antenatal Care	1.829**	1.204	.370**	-.023	n.a.	n.a.	n.a.
	(.798)	(.831)	(.154)	(.070)			
R^2	0.26	0.51	0.08	0.05	0.003	0.002	0.06
Cohort	-1.824*	-1.083	-.781	-.432	-.180	.021	.544
	(.933)	(.666)	(.682)	(1.546)	(.307)	(.590)	(.770)
Age	-.446***	-.163	-.019	-.110	-.073***	-.074**	-.106***
	(.105)	(.140)	(.031)	(.073)	(.015)	(.035)	(.032)
Sex	.703**	.425	.046	.819*	-.077	-.292	-.071
	(.304)	(.371)	(.417)	(.432)	(.172)	(.306)	(.374)
Birth order	2.101**	1.468*	.503	.005	-1.910***	-2.497***	-1.760***
	(.914)	(.783)	(.411)	(.232)	(.347)	(.675)	(.584)
Small at Birth	.005	.023	.566	.106	-.023	.312	-.009
	(.325)	(.299)	(.359)	(.286)	(.239)	(.326)	(.411)
Antenatal Care	2.086**	1.311*	.345**	-.008	n.a.	n.a.	n.a.
	(.889)	(.779)	(.158)	(.058)			
R^2	0.54	0.18	0.08	0.05	0.003	0.53	0.06

Table 12: Sibling Fixed Effects Models for HAZ-scores - NFHS-1, 2 and 3

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors, as well clustered standard errors if districts are used. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

	NFHS-1	NFHS-2		NFHS-3	
Treatment group	Jammu district	urban Kashmir	rural Kashmir	all Kashmir	rural Kashmir
Control group	other districts	urban Jammu	rural Jammu	all Jammu	rural Jammu
War	.449***	-.029	.556**	.083	.043
	(.146)	(.178)	(.193)	(.057)	(.061)
Age child	.006	-.085	-.053	-.080***	-.082***
	(.011)	(.048)	(.049)	(.019)	(.020)
Male	-.012	.034	.016	-.004	.006
	(.062)	(.066)	(.048)	(.030)	(.036)
Age mother	-.026*	-.019	-.006	-.005	-.002
	(.010)	(.012)	(.006)	(.004)	(.005)
Education	.010*	.010	.000	.007*	.007
	(.004)	(.008)	(.003)	(.004)	(.005)
Muslim	.055	-.196*	-.297***	-.040	-.036
	(.138)	(.082)	(.050)	(.046)	(.050)
Currently	-.006	.185**	.092	-.023	.007
Breastfeeding	(.004)	(.065)	(.056)	(.040)	(.045)
No toilet in house	.179	.026	-.056	.052	.022
	(.004)	(.131)	(.059)	(.047)	(.051)
Owns land	-.130*	-.165	-.044	.008	.031
	(.054)	(.204)	(.032)	(.037)	(.048)
Owns Livestock	.057	n.a.	n.a.	n.a.	n.a.
	(.054)				
Scheduled Tribe	-.175	.022	.029	-.014	-.029
	(.054)	(.092)	(.047)	(.038)	(.042)
Birth order	-.053	.045	.003	.004	.001
	(.137)	(.030)	(.017)	(.013)	(.016)
Small at birth	.191**	-.061	-.001	.040	.061
	(.048)	(.071)	(.045)	(.036)	(.041)
Water pipe	n.a.	.154	-.026	-.041	-.040
		(.225)	(.043)	(.040)	(.046)
Owns Refrigerator	n.a.	-.076	.140**	.039	.015
		(.116)	(.048)	(.051)	(.064)
Gave plain water	n.a.	.440***	.016	.013	-.003
		(.075)	(.096)	(.051)	(.061)
Gave Fresh Milk	n.a.	.011	.080	-.009	-.028
		(.095)	(.044)	(.035)	(.042)
Gave Fruits	n.a.	.100*	-.061	.007	.008
		(.040)	(.047)	(.039)	(.047)
R^2	0.31	0.22	0.09	0.10	0.10
N	154	165	589	510	407
Time trend	yes	yes	yes	yes	yes
Birth F.E.	yes	yes	yes	yes	yes
City F.E.	yes	yes	yes	yes	yes
District F.E.	yes	yes	yes	no	no
State F.E.	yes	yes	yes	yes	yes

Table 13: Other dimensions of health - Diarrhea in the last two weeks

Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

	NFHS-2			NFHS-3		
Treatment group	urban Kashmir	rural Kashmir	Srinagar	all Kashmir	urban Kashmir	rural Kashmir
Control group	urban Jammu	rural Jammu	other districts	all Jammu	urban Jammu	rural Jammu
War	.023	.202	.144***	-.060	-.062	-.078*
	(.215)	(.164)	(.022)	(.039)	(.126)	(.042)
Age child	-.020	-.073	-.068	.045***	.071	.040**
	(.067)	(.047)	(.051)	(.015)	(.049)	(.016)
Male	-.078	.019	.028	-.005	-.004	-.010
	(.039)	(.049)	(.038)	(.024)	(.067)	(.023)
Age mother	-.007	.008	.004	-.002	-.001	.000
	(.010)	(.004)	(.007)	(.003)	(.009)	(.003)
Education	.005	.004	-.004	-.009***	-.017**	-.005
	(.007)	(.005)	(.004)	(.003)	(.007)	(.003)
Anemia Mother	.116	.094**	.079*	.031	.100	.013
	(.126)	(.032)	(.032)	(.025)	(.064)	(.027)
Muslim	.049	-.159**	n.a.	.022	.194	.053
	(.077)	(.059)		(.031)	(.147)	(.033)
Owns land	-.174*	-.034	-.018	.035	.125**	.000
	(.260)	(.043)	(.049)	(.025)	(.060)	(.028)
Scheduled Tribe	.095	.039	.124*	.021	.215**	-.004
	(.119)	(.035)	(.057)	(.030)	(.105)	(.032)
Birth order	.056***	-.010	-.008	-.013	-.049	-.013
	(.013)	(.013)	(.013)	(.011)	(.042)	(.011)
Small at birth	.023	.023	.024	.011	.106	-.003
	(.068)	(.025)	(.033)	(.026)	(.088)	(.028)
Prenatal Care	-.138	-.007	-.161**	-.014	.014	-.004
	(.190)	(.059)	(.050)	(.039)	(.109)	(.043)
Antenatal Care	-.016***	-.007	-.006	.089*	.274	.045
	(.004)	(.008)	(.005)	(.046)	(.192)	(.048)
Iron supplement	.097	.041	.136**	-.039	-.119	-.019
	(.099)	(.023)	(.049)	(.026)	(.091)	(.026)
Currently	.134	.064	-.146	-.030	-.096	-.024
Breastfeeding	(.184)	(.064)	(.064)	(.028)	(.089)	(.030)
R^2	0.25	0.10	0.11	0.60	0.59	0.64
N	180	646	411	520	114	406
Time trend	yes	yes	yes	yes	yes	yes
Birth F.E.	yes	yes	yes	yes	yes	yes
City F.E.	yes	yes	yes	yes	yes	yes
District F.E.	yes	yes	yes	no	no	no
State F.E.	yes	yes	yes	yes	yes	yes

Table 14: Other dimensions of health - Anemia Child

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors. Models with high levels of multicollinearity, because of a too small sample size, are not reported here.

Treatment group Control group	NFHS-3 all Kashmir all Jammu	urban Kashmir urban Jammu	rural Kashmir rural Jammu
War	.032	.247**	.006
	(.038)	(.098)	(.043)
Age child	-.044	-.146***	-.036**
	(.015)	(.044)	(.016)
Male	.013	-.011	.027
	(.025)	(.052)	(.029)
Age mother	.001	.006	.001
	(.003)	(.007)	(.003)
Education	.009***	.007	.007**
	(.003)	(.006)	(.003)
Muslim	.060*	-.293**	.072**
	(.034)	(.130)	(.036)
Owns land	.031	.031	.012
	(.031)	(.067)	(.036)
Scheduled Tribe	-.022	.053	-.041
	(.028)	(.077)	(.033)
Birth order	.008	-.015	.011
	(.010)	(.023)	(.012)
Small at birth	.049*	.010	.060*
	(.028)	(.067)	(.032)
Currently	.039	.147***	.011
Breastfeeding	(.028)	(.055)	(.034)
Pucca	-.005	.136	-.032
	(.030)	(.088)	(.034)
Cooking Gas	-.011	.057	-.004
	(.036)	(.079)	(.042)
BCG received	.071	-.019	.069
	(.050)	(.130)	(.055)
DPT received	-.106*	-.055	-.108*
	(.053)	(.107)	(.060)
R^2	0.07	0.25	0.06
N	951	219	732
Time trend	yes	yes	yes
Birth F.E.	yes	yes	yes
City F.E.	yes	yes	yes
District F.E.	yes	yes	yes
State F.E.	yes	yes	yes

Table 15: Other dimensions of health - Cough in the last two weeks - NFHS-3 only

. Significant at 1% ***, 5% **, 10% *, all models include birth and state fixed effects and use robust standard errors. Models with high level of multicollinearity, because of a too small sample size, are not reported here.