Risk factor for mortality of children among victims in Southern Thailand

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Abstract. Conflict can be defined as any type of controversy interactions between two or more parties which occur because of the differences in status, aim, value or perception. The consequence of the conflict in a region was the incidence of fatalities, both the injured and died. Children are the society at greater risk to be the victims because of the conflict. In Southern Thailand, conflicts occur in 4 provinces which the Muslim majority, those are Pattani, Yala, Narathiwat, and Songkhla. The aims of this research have identified the factors that influence the risk of child deaths during the conflict in Southern Thailand and determined the models by influence factors. The used method was the binary logistic regression method. This method was chosen because the response variable that used is dichotomous. The dichotomous response variable was the risk of children died or not during the conflict in Southern Thailand. The data used were the number of children under 18 years old who were victims of the conflict from 2004 until 2014 in Southern Thailand. The results showed that the influence risks of child death during conflict in Southern Thailand are gender (odds ratio = 1.99; CI 95% = 1.38-2.88), type of guns that used was bomb (odds ratio = 0.16; CI 95% = 0.1-0.26) and the others (odds ratio = 2.46; CI 95% = 1.55-3.9), and the place of the hardness occurred was open field (odds ratio = 2.9; CI 95% = 1.54-5.48). Generally, children there were in the open field and female have the greater risk of death to be victimized by bombs, rifles or any other types of guns during conflict in Southern Thailand.

1. Introduction
Conflict can be defined as one part of social interaction in the dissociative form that occurs in the seizure of purpose by involving a conflicting person or group (Littlejohn and Domenici, 2007). Basically the initial causes of conflict in a region are individuals or small groups in society.

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According to a report from the National Counterterrorism Center (2011), there have been war conflicts in 72 different countries resulting in 70% of injuries and 30% of deaths. Most of the victims of war conflict are the Muslim group, and the most vulnerable job target of becoming victims are the police or other military groups.

The Asian continent is one of the continents with the most conflict events, spreading from the Middle East to South Asia. Vulnerable conflicts in the Asian region are created by the historical relics of colonialism from their former colonies that combine two or more ethnic opposites in one territory (Bastari, 2013).

Conflict in Southeast Asia is also common. Religious issues are central to the emergence of conflicts in the region. Most of the conflicts in Southeast Asia involved minority Muslim groups who were victims. Countries that often conflict in Southeast Asia are Southern Thailand and Myanmar. Southern Thailand is a region in Thailand bordering the Malaysian peninsula. This place consists of 14 regions namely Narathiwat, Pattani, Yala, Songkhla, Krabi, Phuket, Nakhon Si Thammarat, Phang Nga, Phatthalung, Ranong, Surat Thani, Trang and Satun. The majority of the population is Buddhist, except in 5 provinces of Pattani, Yala, Narathiwat, Songkhla and Satun which are predominantly Muslim. Of the five provinces in the southern part of the Islamic Republic, there are four areas that suffered considerable losses due to the conflict, namely Pattani, Yala, Narathiwat and Songkhla.

One of the earliest causes of the conflict in southern Thailand was when a group of people attacked an army base in Narathiwat province, seized a large number of weapons and killed four soldiers. Over the next few days the conflict continues with several schools being burned, houses and government buildings attacked unending bombings and killings.

Most of the victims were civilians, women and children. They suffered injuries and some were killed by gunfire, bombs or other types of weapons. Children are people who are at greater risk to become victims of conflicts that occur in a region. This is because they feel or see directly the violence that occurred.

The purpose of this study was to understand how much the risk of death of children during the war conflict that occurred in Southern Thailand. The method of analysis used is binary logistic regression. This method is chosen because the response variable used is a dichotomy. The dichotomous response variable in this study was the risk of children being killed or not during the conflict in Southern Thailand. While the predictor variables in this study were gender, religion, age group, type of weapon used, province, and place of violence. Binary logistic regression method can illustrate the relationship of several predictor variables with the dichotomous response variable.

2. Literature review

2.1. Conflict

Conflict is one part of social interaction in the form of dissociative that takes place by involving people or groups that challenge each other with the threat of violence (Budiyono, 2009). The potential for conflict in an area is very vulnerable, this is because the conflict is inherent. Inherent is a potential conflict that will always exist and happen in every space and time, anywhere and anytime.

According to Dahrendrof's theory, conflict will lead to change and development. In conflict situations, the groups involved take actions to make changes in the social structure. And if the conflict happens so great there will be a radical change. These changes are included in cultural change (Dahrendorf, 1959).

Most victims of conflict in an area according to Peleg et al. (2004) are women and children. In armed conflict, usually innocent and uninvolved children are often targeted by victims of violence, murder, or torture. The conflicts that occur can have a direct impact on the growth and development of mental health of children. This is because they feel or see directly the violence that occurred.

Based on the above explanation, in this study the variables chosen as predictor variables to see the factors that cause children to be victims of the conflict are gender, religion, age group, type of weapon used, province, and place of violence. The definitions of each predictor variable are as follows:
Gender

Sex factors are particularly vulnerable to the victims of conflict. Genders are more likely to be victims when the conflict is women. While children of both men and women have the same risk in conflict areas, because their ability to survive is still very weak.

Religion

Religion is a belief shared by a person or group of people who live in a certain area. According to Busaban et al. (2014), most of the victims of the war conflict that occurred in Southern Thailand were a group of Muslims.

Age group child

According to MOH (2009), the age-sharing of children according to school age consisted of children under five (0 to <5 years), pre-school children (5 to <6 years) and school-aged children (6 to ≤18 years).

Weapon type

Several types of weapons used by military and non-military personnel involved in the conflict in Southern Thailand are rifles and explosives such as bombs and cannons.

Province

The most vulnerable areas of conflict in Southern Thailand include four provinces: Pattani, Yala, Narathiwat and Songkhla (Busaban, 2014).

Place of violence

Many places were targeted during the conflict. Among the places often targeted during the conflict were schools, residents' residences, offices, highways, military posts and other public places where there were many gathered communities.

2.2. Binary logistic regression

Logistic regression is a regression analysis used to see the relationship between response / bound variable with some predictor / free variable, either numerical or categorical. Logistic regression allows one to predict the discrete results of dichotomous-shaped response variables with predictor variables having different types such as discrete, continuous, and dichotomous (Hosmer dan Lemeshow 2000).

Binary logistic regression is a regression method that can describe the relationship between a dichotomous/binary response variable with several predictor variables. It says dichotomous because it consists of two categories namely "1" if successful and "0" if it fails. Therefore, the response variable following the Bernoulli distribution with the probability function is:

\[
f(y) = \pi y(1 - \pi)^{1-y}; \quad y = 0, 1
\]  

(1)

Where if \( y = 0 \) then \( f(y) = 1 - \pi \) and if \( y = 1 \) then \( f(y) = \pi \).

The logistic regression function can be written as:

\[
f(z) = \frac{1}{1+e^{-z}} \text{equivalent } f(z) = \frac{e^z}{1+e^z}
\]  

(2)

Where :

\[ z = \beta_0 + \beta_1 x_1 + \cdots + \beta_k x_k; \quad k = \text{the number of independent variables.} \]

2.3. Parameter estimation

The most commonly used method of parameter estimation in logistic regression is the Maximum Likelihood Estimation (MLE) method for obtaining maximum completion of the likelihood function. Each observation for the logistic regression model is a random variable from the Bernoulli distribution. The principle of Maximum Likelihood method is to estimate \( \beta \) to maximize likelihood function. Suppose that a sampled vector of random variables is taken \( Y_1, Y_2, ..., Y_n \) with \( Y_i = [y_{1i}, y_{2i}, ..., y_{ni}]^T \) and probability of h-category, \( p_h(x_i) \) then likelihood function is:
L(β₀, β₁, · · · , βᵢ) = \prod_{i=1}^{n}[n_1^{y_i}(1 - n_0)^{1-y_i}] \tag{3}

Where : yᵢ = observations on i th variables
πᵢ = Probability for i th predictor variable

2.4. Parameter significance testing
After the parameter is predicted, the next step is to test the significance of the parameters. The test used to test the significant β coefficients of the model can be tested partially or simultaneously.

2.4.1. Simultaneous testing. Performed as an attempt to examine the role of predictor variables in the model simultaneously.

H₀: β₁ = β₂ = · · · = βₖ = 0, (simultaneously the predictor variable has no significant effect on the response variable)
H₁: There is at least one βᵢ ≠ 0 (i = 1, 2, 3..., k), (at least one predictor variable has a significant effect on the response variable)

Test Statistics used is G likelihood ratio test:

\[ G = -2 \ln \left[ \frac{L_0}{L_1} \right] ; G = -2 \ln \left[ \frac{\left(\frac{n_1}{n}\right)^{n_1} \left(\frac{n_0}{n}\right)^{n_0}}{\prod_{j=1}^{n} p_j^{y_j}(1 - p_j)^{1-y_j}} \right] \]
\[ G = 2[A - B] \tag{4} \]

where,
\[ A = \sum_{j=1}^{n} (y_j \ln(1 - p_j) + (1 - y_j) \ln(1 - p_j)) \]
\[ B = [n_1 \ln(n_1) + n_0 \ln(n_0) - n \ln(n)] \]
n₁ = number of categorical observations 1
n₀ = number of categorical observations 0
n = number of observation
yᵢ = response variable on observation j th, with j=1, 2, 3...n.
pᵢ = probability of observation j th

The test statistic G follows the chi-square distribution with the rejection criterion \( G > \chi_{(db, \alpha)}^2 \) (Hosmer and Lemeshow, 2000).

2.4.2. Partial Test. Partial test is done to know the significance of parameters to the dependent variable. Partial / individual test results will show whether an independent variable is feasible to enter the model or not (Agresti, 1990), with the following hypothesis:
H₀: Predictor variable i th is not significant to the dependent variable
βᵢ = 0, for i = 1,2, ..., k
H₁: Predictor variable i th is significant to the dependent variable
βᵢ ≠ 0 , for i = 1,2, ..., k
where:
\( i = \) number of predictor variables

Test Statistics:
\[
Wald (W) = \frac{\beta_i}{SE(\beta_i)}
\]  

(6)

The ratio generated from the test statistic, under the hypothesis will follow the normal distribution (Hosmer dan Lemeshow, 2000). So the decision is obtained by comparing test statistic with standard normal distribution \((Z)\). Rejected criteria for \(H_0\), if \(W > Z_{\alpha/2}\).

2.5. Goodness of Fit Test

Goodness of fit is a test used to see the suitability of a model. If the Hosmer and Lemeshow Test is satisfied then the model is able to predict the observed value or the model is appropriate.

Hypotesis:
\(H_0\): Model is appropriate
\(H_1\) : Model is not appropriate

Statistical test Hosmer and Lemeshow (\(\hat{C}\)) which is calculated based on the value \(y = 1\) is formulated as:
\[
\hat{C} = \sum_{r=1}^{g} \frac{(o_r - n_r\bar{p}_{1r})}{n_r\bar{p}_{1r}(1 - \bar{p}_{1r})}
\]  

(7)

Where:
\(\bar{p}_{1r}\) = average estimated probability of group success \(r^{th}\)
\(o_r\) = number of samples of successful events \(r^{th}\) group.
\(n_r\) = total sample \(r^{th}\) group, with \(r = 1, 2, \ldots, g\).

Test statistics \(\hat{C}\) is approximately Chi-Square distribution, with degree of freedom \(g - 2\), (Hosmer dan Lemeshow, 2000). Rejects \(H_0\) if \(\hat{C} > \chi^2_{\alpha/2; g-2}\).

2.6. Interpretation of Logistics Regression Parameter

In logistic regression modeling, parameter interpretation aims to find out the meaning of parameter estimation value on predictor variable. There are two types of predictor variables, which are categorical variables and continuous variables. The way used to interpret logistic regression parameters from categorical variables is by odds ratio.

Odds is the proportion of probability of a successful event with an unsuccessful event in a category. The odds ratio is the ratio of the odds value for category \(x = 1\) to the odds for the category \(x = 0\), in the same predictor variable assuming the other predictor variable is constant. The odds ratio is expressed by \(\psi\) and is written as:
\[
\psi = \left( \frac{\pi(1)}{\pi(0)} \right)
\]  

(8)

where:
\(\pi (1)\) = Probability of success event
\(\pi (0)\) = Probability of failure event

To interpret logistic regression parameters of continuous variables it is assumed linear logit function to independent variable. Suppose that the independent variable is continuous, and functions \(g(x) = \beta_0 + \beta_1 x_1\) has the same properties as the parameters in linear regression. Every increase of one unit \(x\), the value of \(g(x)\) will increase \(\beta_1\), or \(\beta_1 = g(x + 1) - g(x)\) for every value (Hosmer dan Lemeshow, 2000).
3. Methods
The data for this study was obtained from Deep South Co-ordination Center (DSCC), Prince of Songkla University (PSU), which was compiled by police, military and local government reports. It comprises of the number of children under 18 who were victims of the conflict from 2004 to 2014 in Southern Thailand. The total sample used is 1,475 data in 4 provinces in Southern Thailand, namely Pattani, Yala, Narathiwat and Songkhla.

| Province | Sample Size |
|----------|-------------|
| Narathiwat | 530         |
| Pattani   | 406         |
| Yala      | 413         |
| Songkhla  | 126         |
| Total     | 1,475       |

Table 1. Data of child victims of South Thailand conflict

Software used for data processing in this research is R, library Epicalc. The method used to analyze the data is binary logistic regression method. This method can identify any variables that affect the risk factors of child mortality during conflict in Southern Thailand.

| Respon Variable              | Category                        |
|------------------------------|---------------------------------|
| Child mortality risk (Y)     | 1 = not die                     |
|                              | 2 = die                          |

| Predictor Variable            | Category                              |
|------------------------------|---------------------------------------|
| Sex (X₁)                     | 1 = Female                            |
|                              | 2 = Male                              |
| Religion (X₂)                | 1 = Non-Moeslem                       |
|                              | 2 = Moeyslem                          |
| Child Age Group (X₃)         | 1 = 0 to <5 tahun                     |
|                              | 2 = 5 to <6 tahun                     |
|                              | 3 = 6 to ≤ 18 tahun                   |
| Type of weapon used(X₄)      | 1 = Bomb                              |
|                              | 2 = Gun                               |
|                              | 3 = Other                             |
| Province (X₅)                | 1 = Narathiwat                        |
|                              | 2 = Yala                              |
|                              | 3 = Pattani                           |
|                              | 4 = Songkhla                          |
| Place of violence (X₆)       | 1 = Main road                         |
|                              | 2 = Private House                     |
|                              | 3 = Worship place                     |
|                              | 4 = School                            |
|                              | 5 = Offices                           |
|                              | 6 = Market                            |
|                              | 7 = Official residence                |
|                              | 8 = Military Base                     |
|                              | 9 = Field                             |

Table 2. Definition of research variables

The data analysis procedure used in this research are: Inferencing analysis using binary logistic regression method. The steps of data analysis using binary logistic regression are as follows:

• Perform parameter estimation by using Maximum Likelihood Estimation (MLE).
Perform testing of parameter significance
There are two tests used to test the significance of parameters, namely partial test and simultaneous test. Partial test using Wald (W) test while simultaneous test using Test G or Likelihood Ratio as test statistic. Both of these tests were performed to answer the previously formulated hypothesis.

Goodness of Fit Test
Is used to determine whether the model is able to predict the value of its observations or whether the model is appropriate. The test statistic used is Hosmer Test and Lemeshow. Rejection criteria H0 if $\hat{C} > \chi^2_{\alpha/2}$

Model Interpretation
The way to interpret logistic regression parameters from categorical variables is by using odds ratios. Increasing one unit $x$ then odds will rise by $e^\beta$ times. In addition, model interpretation can also be done by analyzing the probability of influential variables in the model.

4. Result

4.1. Descriptive Analysis
Descriptive analysis of child victims of conflict data in Southern Thailand aims to describe the characteristics of the research variables.

| Variable | Category | n(%)  |
|----------|----------|-------|
| Child mortality risk ($Y$) | 1 = not die | 1.247(84.5%) |
| | 2 = die | 228(15.5%) |
| Sex ($X_1$) | 0 = Female | 953(64.6%) |
| | 1 = Male | 522(35.4%) |
| Religion ($X_2$) | 0 = Non-Mouslem | 523(35.5%) |
| | 1 = Mouslem | 952(65.5%) |
| | 1 = 0 to <5 tahun | 200(13.6%) |
| Child Age Group ($X_3$) | 2 = 5 to <6 tahun | 45(3.1%) |
| | 3 = 6 to ≤18 tahun | 1.230(83.4%) |
| | 1 = Bomb | 593(40.2%) |
| Type of weapon used ($X_4$) | 2 = Gun | 749(50.8%) |
| | 3 = Other | 133(9.0%) |
| | 1 = Narathiwat | 530(35.9%) |
| | 2 = Yala | 413(28.0%) |
| | 3 = Pattani | 406(27.5%) |
| | 4 = Songkhla | 126(8.5%) |
| | 1 = Main road | 772(52.3%) |
| | 2 = Private House | 185(12.5%) |
| | 3 = Worship place | 15(1.0%) |
| | 4 = School | 23(1.6%) |
| Province ($X_5$) | 5 = Offices | 45(3.1%) |
| | 6 = Market | 258(17.5%) |
| | 7 = Official residence | 80(5.4%) |
| | 8 = Military Base | 20(1.4%) |
| | 9 = Field | 77(5.2%) |

Table 3 Shows that the respondents who died during the South Thai conflict amounted to 228 children, and the rest were injured. A total of 953 girls became victims during the conflict in Southern Thailand. Most of them are mouslem. Children aged 6 to ≤18 years were found to be more victims during the conflict. This means that most of the victims are children of school age. There are 749 children
who have been affected by gun and the rest are hit by bombs or other types of weapons. In total it can be said that 503 victims were from Narathiwat province, 413 victims were from Yala province, 406 were from Pattani province and the rest were from Songkhla province. The scene of the most violence during the South Thai conflict was on the highway with 772 occurrences.

4.2. Cross Tabulation
Cross tabulation is used to calculate cases that have a combination of values of two or more variables.

| Table 4. Frequency Distribution of Child mortality risk |
|-----------------|-----------------|-----------------|
| Variable        | Not Die n | n %  | Die n | n %  | Total n | n %  |
| Sex(X1)         |             |    |       |     |         |     |
| Female          | 770         | 61.7| 183   | 80.3| 953      | 64.6|
| Male            | 477         | 38.3| 45    | 19.7| 522      | 35.4|
| Total           | 1247        | 100 | 228   | 100 | 1475     | 100 |
| Religion (X2)   |             |    |       |     |         |     |
| Non-Muslim      | 452         | 36.2| 71    | 31.1| 523      | 35.4|
| Muslim          | 795         | 63.8| 157   | 68.9| 952      | 64.6|
| Total           | 1247        | 100 | 228   | 100 | 1475     | 100 |
| Child Age Group (X3) |          |    |       |     |         |     |
| 0 to < 5 tahun  | 169         | 13.6| 31    | 13.6| 200      | 100 |
| 5 to < 6 tahun  | 37          | 3   | 8     | 3.5 | 45       | 22  |
| 6 to ≤ 18 tahun | 1041        | 83.4| 189   | 82.9| 1230     | 83.4|
| Total           | 1247        | 100 | 228   | 100 | 1475     | 100 |
| Type of weapon use (X4) |        |    |       |     |         |     |
| Bomb            | 570         | 45.7| 23    | 10.1| 593      | 40.2|
| Gun             | 591         | 47.4| 158   | 69.3| 749      | 50.8|
| Other           | 86          | 6.9 | 47    | 20.6| 133      | 9  |
| Total           | 1247        | 100 | 228   | 100 | 1475     | 100 |
| Province (X5)   |             |    |       |     |         |     |
| Narathiwat      | 456         | 36.6| 74    | 32.4| 530      | 35.9|
| Yala            | 333         | 26.7| 80    | 35.1| 413      | 28  |
| Pattani         | 339         | 27.2| 67    | 29.4| 406      | 27.5|
| Songkhla        | 119         | 9.5 | 7     | 3   | 126      | 8.6 |
| Total           | 1247        | 100 | 228   | 100 | 1475     | 100 |
| Place of violence (X6) |      |    |       |     |         |     |
| Main road       | 654         | 52.4| 118   | 51.8| 772      | 52.3|
| Private House   | 140         | 11.2| 45    | 19.7| 185      | 12.5|
| Worship place   | 13          | 1   | 2     | 0.9 | 15       | 1   |
| School          | 18          | 1.4 | 5     | 2.2 | 23       | 1.6 |
| Offices         | 38          | 3   | 7     | 3.1 | 45       | 3.1 |
| Market          | 232         | 18.6| 26    | 11.4| 258      | 17.5|
| Official residence | 79        | 6.3 | 1     | 0.4 | 80       | 5.4 |
| Military Base   | 16          | 1.3 | 4     | 1.8 | 20       | 1.4 |
| Field           | 57          | 4.6 | 20    | 8.8 | 77       | 5.2 |

Girls have a higher rate as victims (died/injured) compared to boys, during the South Thai conflict (64.6%). The majority of the victims were Muslim (64.6%), with ages 6 to <18 years (83.4%). The percentage of victims affected by gunfire was also very high (50.8%). Roads are the most vulnerable place for children to be affected by the conflict (52.3%). (See Table 4).
4.3 Parameter Significance Testing

Parameter significance test of the predictor variable is done to determine whether the parameters obtained have a significant effect on the model or not.

| Variable                        | OR [95% CI]         | Wald’s Test (p-value) | L-R Test (p-value) |
|---------------------------------|---------------------|-----------------------|--------------------|
| Sex Female (ref = Male)         | 1.99 [1.38; 2.88]   | < 0.001               | < 0.001            |
| Religion Mouslem (ref = Non-mouslem) | 0.88 [0.63; 1.23]   | 0.456                 | 0.458              |
| Child Age Group (ref= 6 to ≤ 18 thn) |                      | 0.548                 |                    |
| 0 to < 5 thn                    | 1.09 [0.7; 1.71]    | 0.69                  |                    |
| 5 to < 6 thn                    | 1.6 [0.69; 3.7]     | 0.275                 |                    |
| Type of weapon use (ref= gun)   |                      |                       | < 0.001            |
| Bomb                            | 0.16 [0.1; 0.26]    | < 0.001               |                    |
| Other                           | 2.46 [1.55; 3.91]   | < 0.001               |                    |
| Province (ref= Narathiwat)      |                      | 0.067                 |                    |
| Yala                            | 1.43 [0.98; 2.08]   | 0.065                 |                    |
| Pattani                         | 0.94 [0.64; 1.39]   | 0.762                 |                    |
| Songkhla                        | 0.6 [0.24; 1.52]    | 0.279                 |                    |
| Place of violence (ref= Main road) |                      | 0.009                 |                    |
| Private House                   | 1.28 [0.85; 1.92]   | 0.242                 |                    |
| Worship place                   | 1.06 [0.22; 5.21]   | 0.941                 |                    |
| School                          | 2.3 [0.75; 7.01]    | 0.143                 |                    |
| Official residence              | 0.39 [0.15; 1.02]   | 0.054                 |                    |
| Military Base                   | 1.23 [0.75; 2.03]   | 0.418                 |                    |
| Field                           | 0.44 [0.05; 3.57]   | 0.441                 |                    |
| Official residence              | 0.76 [0.24; 2.41]   | 0.643                 |                    |
| Military Base                   | 2.9 [1.54; 5.48]    | 0.001                 |                    |

The determination of the reference category used is based on the interest on the category to be seen or based on the highest number of victims. Based on likelihood ratio test value of P (LR-test) presented in table 5, it appears that there is at least one predictor variable has a significant effect on risk factor of child mortality. \((P \text{ value} < \alpha \text{ or } 0.001 < 0.05)\). On the other hand, based on the value of the partial test \(P(Wald’s-test)\) which is presented in table 5, it can be seen that there are 3 variables that significantly influence the risk of death, they were sex (X1), type of weapon used (X4) and place of violence (X6).

4.4 Goodness of Fit Test

Goodness of Fit Test was done by Hosmer dan Lemeshow test.

Based on Hosmer and Lemeshow test results, we found Chi-Square value = 4.796, df = 8. We conclude that it fails to reject H0, and the model fits the data.

4.5 Interpretation of Binary Logistic Regression Model

After testing the significance of the parameters and fit model test, then the next step is to interpret the model. One way to interpret binary logistic regression models is the odds ratio. Here is an interpretation of these variables: Sex (X1) Girls are more likely to be at risk of being killed in conflict in Southern
Thailand by 1.99 times than boys with 95% of confidence intervals (1.38, 2.88); Types of weapons used (X4) Victims affected by the bomb were at risk of dying by 0.16 times compared with the ones who was exposed to a gun with a 95% confidence interval (0.1, 0.26); As for those affected by weapons other than bombs and rifles have a risk of dying 2.46 times compared to those who were victims of a rifle with 95% confidence interval (1.55; 3.91); Place of violence (X6) Children in the field had a 2.9 times higher risk of death than those ones on the highway with a 95% confidence interval (1.54; 5.48).

5. Discussion
Study aimed to examine the risks of child death during conflict in Southern Thailand. The sample encompassed more girls than boys due to the situation in the field. To get better insight on child risk, the sample size and comparison between male and female samples should be balanced. That way comparison between different types of child age group could be done, giving insight in how specific factors affecting risk of child death during the conflict in Southern Thailand.

Finally, even though the study gives observational data, it confirmed early findings of gender, type of weapon (bomb and other) and place of violence (field) are risk factors that should be taken into account in seeing the relationship between the conflict area and the risk of children becoming victims.

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