



ORIGINAL ARTICLE



Program Keluarga Harapan: a conditional cash transfer to increase prenatal visits and birth weight

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Abstract

Conditional Cash Transfer, known as Program Keluarga Harapan (PKH) in Indonesia, is a program that aims to increase maternal and child health. Women benefit directly from the improved obstetrical and reproductive health care and health information that form an integral part of the program. Many studies show the positive impact of conditional cash transfer on improving prenatal visits and birth weight. The objective of the research was to document the impact of Indonesia's conditional cash transfers (PKH) on prenatal visits and birth weight. We carried out a retrospective cohort study to assess the number of prenatal visits and birth weights among PKH beneficiaries. The data were collected through the KIA books belonging to 184 participants who gave birth between 2012–2017. The results indicate that the mean birth weight among PKH beneficiaries was slightly lower (23.7 g) compared to non-beneficiaries. The PKH program improved prenatal visits for women, but both beneficiaries and non-beneficiaries mostly had already made 8-9 times prenatal visits during their pregnancy. In other words, women in this community were already aware of the importance of prenatal visits even before the program. Incomplete data was the main obstacle to comparing the 6, 12, and 24-month-old babies' weights. This finding is irrelevant to other conditional cash transfer programs implemented which showed a significant effect of CCT on birth weight.

Keywords: Program Keluarga Harapan, Conditional Cash Transfer, effect, birth weight, Indonesia.

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INTRODUCTION

CCT is a program that provides conditional cash assistance to very poor households. Conditional cash transfer means that after the recipient receives the cash assistance from the government, the recipient shall implement the provisions outlined by the government. If not, then the cash assistance will be reduced or discontinued. CCT in Indonesia is widely known as the Program Keluarga Harapan (PKH). This program has two components, including health and education intervention. In the health component, cash is given to pregnant women / for childbirth / post-partum; and women having children under five and aged 5-7 years.^{1,2}

PKH is a program intended to overcome LBW among low-income families.^{3,4} This program obliges its beneficiaries to access antenatal care at least four times during the pregnancy. Through antenatal care, the mother can receive a lot of information about pregnancy so that low birth weight can be prevented.⁵

In Indonesia, the percentage of low birth weight in 2013 amounted to 10.2%.⁶ That is, one in ten babies are born with low birth weight in Indonesia. This amount still does not describe the actual LBW, given that the figures obtained from the documents/records that are owned by members of the household are sometimes incomplete.

Based on Riskesdas 2013, LBW in East Java itself is not much different from the national percentage in the range of 10%. Nganjuk, one of the districts in East Java, deserves special attention because this is the district with the lowest percentage of ANC (K4) in East Java (81.26%) in 2015 after the regency.^{6,7,8}

Although the CCT program in Nganjuk officially started in September 2013, until now information about the program's success in addressing maternal and child health in the area of implementation is still not known. Seeing the great potential that can be generated by this program to improve the health of infants, the researchers see it as necessary to analyze the impact of PKH on birth weight and prenatal visits.

MATERIALS AND METHODS

Study Design

A retrospective cohort design was used in this study. We compared the birth weight of babies before and after the program was implemented. In 2011, the National Team for the Acceleration of Poverty Reduction/Tim Nasional Percepatan Penganggulangan Kemiskinan (TNP2K) collected data on mothers from very low-income families who would receive PKH assistance in 2013. After passing the validation process by PKH facilitators, the names then officially become PKH beneficiaries for the first time in December 2013. PKH beneficiaries who gave birth from 2011–2017 were included in the study. Babies born to PKH beneficiaries before December 2013 were considered as a group who did not have the benefit of PKH; we named these as babies of non-beneficiaries. Babies born after September 2013 were considered as a group that did benefit from the PKH program; we named them babies of PKH-beneficiaries. We compared the mean birth weight between the two groups and also compared the number of prenatal visits during the pregnancy.

Data Collection Procedure

To compare the birth weight and number of prenatal visits among these PKH beneficiaries, we collected the data we needed from two different sources. Data about birth weights, numbers of prenatal visits, and health facilities for the prenatal visits were gathered from the KIA book, while data about education levels were gathered from the PKH operator in Kabupaten Nganjuk. We also used a semi-structured questionnaire to gather data about the distance to the health care location; the place they attended for prenatal visits, how much money they spent to get these visits and whether this mattered to them.

Supplementary information The online version of this article ([Tables/Figures](#)) contains supplementary material, which is available to authorized users.

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Sample

The population in this study was PKH beneficiaries who gave birth in 2012–2017 in Tangunanom Kabupaten Nganjuk. Tangunanom sub-district is located in Nganjuk District, East Java. Nganjuk is one of the districts in East Java that has serious maternal and child health problems. This area has the fourth highest maternal mortality rate in East Java, and the number of infants and under-five deaths ranked second highest in East Java in 2012.⁸ In addition, the Nganjuk District government first received PKH as one of the poverty alleviation programs in 2013, making this district an appropriate area to examine the impact of PKH.

We included respondents who met the following criteria: 1) single pregnancy; 2) complete data of prenatal visits available; 3) complete data of birth weight available. The exclusion criteria were mothers who, in the process of data collection, could not be found because they were working out of town or away from the island. The number of babies born to mothers in receipt of CCT from 2012 to 2016 in the village was 184. We included all the subjects with the data required in this study.

Data Analysis

Univariate and bivariate analysis was conducted to determine the distribution and characteristics of respondents. We used t-test analysis to determine the mean difference between babies born to PKH beneficiaries and non-beneficiaries. We use STATAMP 13 to analyze the data.

RESULTS

Sample Characteristics

The number of PKH beneficiaries in Tangunanom District in 2015 was 1574 families, all of whom were represented by women. The success of the PKH program in the intervening maternal and child variables cannot be separated from the availability of health services in the local area. The ratio of midwives in Tangunanom sub-district is 2.4 per 10,000 population. This number shows that the Tangunanom sub-district already has sufficient health service personnel according to WHO standards (2-3

midwives per 10,000 residents).⁹

The distance to the nearest health services, including midwives and Puskesmas, varies from 10-18,000 meters. However, the average distance traveled by respondents to the nearest health service is 2.5 km with an average travel time of 10 minutes. Most respondents consider the distance and travel time to the place of health care not a problem (94%). Almost all respondents checked their pregnancy with the nearest midwife (93%) and only a small percentage of them checked their pregnancy with the Obsgyn doctor (4%). For the cost of antenatal care, generally, the respondent spends Rp. 20,000. But antenatal care performed by local midwives in Posyandu (Integrated Healthcare Center) or Public health center was free of charge.

Table 1 below summarizes the characteristics of the 184 respondents. These include the baby's birth weight, number of prenatal visits and health professionals providing antenatal care.

Among all respondents, 21 babies were born with low birth weight (11%). Most respondents had antenatal visits more than 4 times (88%) during their pregnancy with the local midwife (94%). Unfortunately, as concerns education, most respondents are graduates only of elementary and junior high school. Low levels of education are associated with a lack of access to a variety of information including health information.

Infant birth weight among PKH beneficiaries

Table 2 shows the mean difference between babies born to PKH beneficiaries and non-beneficiaries.

The analysis indicates that the mean birth weight among PKH beneficiaries was slightly lower (23.7 g) compared to non-beneficiaries.

The incidence of low birth weight among PKH beneficiaries and non-beneficiaries does not differ much. Table 3 below presents information about the low birth weight incidence among respondents.

The study found a total of 21 babies born with low birth weight. Ten (10.3%) of them were born to the non-beneficiaries group. Eleven others (10.1%) were born to the beneficiaries group.

We conducted a t-test analysis to check the mean difference in birth weight among the two groups.

The mean birth weight among PKH beneficiaries was slightly lower (23.7 g) compared to non-beneficiaries with a 95% CI (-143.8; 96.3). However, this difference was not statistically significant $p > 0.05$ (0.6963) (Table 4).

Prenatal visits during pregnancy

Some studies suggest that the number and quality of prenatal visits are related to birth weight. More contacts made with health professionals will reduce or eliminate the risk factors of pregnancy. Thus the outcome of pregnancy can be improved.

As shown in Table 5, we see an increased number of prenatal visits among beneficiaries. Respondents who made 5-9 prenatal visits were over 20% more than non-beneficiaries mothers.

DISCUSSION

The study showed that the mean birth weight of babies born to PKH beneficiaries was slightly lower (23.7 g) than that of non-beneficiaries. The result of the t-test showed an insignificant difference in the mean birth weight between the two groups, with 95% CI (-143.8; 96.3). This difference was not statistically significant $p > 0.05$ (0.6963).

There are many factors associated with birth weight. Some of the direct factors are nutritional intake, physical activity, illness during pregnancy, etc. The causes of LBW include seven factors: 1) genetic factors; 2) demographic and psychosocial factors; 3) obstetric factors; 4) nutritional factors; 5) pain during pregnancy; 6) exposure to toxic factors and 7) factors in antenatal care. Birth weight is also influenced by first or second pregnancy, teenage pregnancy, and illness during pregnancy (hypertension and urinary tract infections).^{10,11,12}

The study showed that the mean birth weight among these poor was classified as normal (3076.5 g). But we found 21 babies born with low birth weight among the respondents. Ten (10.3%) of them were born to the non-beneficiaries group and eleven others (10.1%) were born to beneficiaries. Further investigation needs to be conducted to find out what exactly caused the low birth weight in this group.

PKH is a program that aims to overcome LBW among low-income families. This program obliges its beneficiaries to access antenatal care /prenatal visits at least four times during the pregnancy. With antenatal care, mothers can receive a lot of information about their pregnancy so that LBW can be prevented.

Many studies have found a significant effect of PKH on prenatal visit enrolment.^{13,14} This study has found the same thing. We see an increase in prenatal visits occurring 10-15 times (8%). The highest increase is found in those making 5-9 prenatal visits (27%) in the beneficiaries group compared to the non-beneficiaries group. But generally, both beneficiaries and non-beneficiaries made 8 to 9 prenatal visits during their pregnancy. This number is encouraging yet worrying; encouraging because the number exceeded Depkes RI recommendations and PKH’s provision for making prenatal visits at least 4 times during pregnancy, but worrying because there is a possibility that this program was run in an inappropriate area and community.¹⁵

Conditional cash transfers such as PKH in many countries aim to increase human resources, especially children as the nation’s next generation. The long-term goal is to advance human resources by breaking the chain of poverty between generations.²PKH is a program that provides conditional cash assistance to very poor households / very low-income families. The PKH program holder will transfer the money to beneficiaries only if they fulfill their obligations. One of the obligation they have to fulfill is making prenatal visits at least 4 times during pregnancy. In this case, PKH was applied to the community, most of whom already knew the importance of antenatal visits, and were aware and volunteered to make these visits, although there were still some respondents who had less than 4 prenatal visits. We suggest that the government should also pay more attention to the quality of the prenatal visits themselves. In this context, the frequency of prenatal visits was high, but still, babies born with a low birth weight represented approximately 11% of the respondents. A study on the effect of PKH on antenatal quality found that women from poor households may have had limited access to ANC before PKH and that with increased access

through PKH, women were able to obtain ANC, but midwives may still provide suboptimal care.^{16,17} The lack of improvements in the quality of antenatal care rendered by healthcare providers may explain the missing link between the ANC clinical coverage received by women and pregnancy outcomes (low birth weight).¹⁶

The interpretation of the results here is limited by the incomplete determinant variable. Further investigation is needed to find the effect of PKH on prenatal visits coverage and the quality of health care. The number of respondents and other variables associated with birth weight still need to be included in the analysis.

LIMITATIONS

We are curious to see further whether there is a difference in the weight of babies aged 6, 12, and 24 months among PKH beneficiaries and non-beneficiaries, but are hindered by incomplete data. Among the 184 books that we collected during the research, 76% were incomplete. This incompleteness was found in many sections of the KIA books, the main source of data that we needed the most. Some books have complete data on the baby's birth weight but many others do not have data on the baby's weight at the ages of 6, 12, or 24 months. This incompleteness can be caused by inconsistency in the weighing that should be done monthly. Another reason is that the mothers have forgotten to bring the KIA book.

Weighing toddlers is very important to detect early cases of poor nutrition and malnutrition. Weighing toddlers routinely can benefit their growth through intensive monitoring. If the weight does not go up, a disease may be diagnosed and immediate recovery efforts and prevention can be conducted. Quick and precise handling with appropriate governance of cases of child malnutrition will reduce the risk of death so that the mortality rate due to poor nutrition can be suppressed.^{18,19}

CONCLUSIONS

The results indicate that the mean birth weight among PKH beneficiaries was slightly lower (23.7 g) compared to non-beneficiaries. The PKH program improved the prenatal visits for women, although both beneficiaries and non-beneficiaries had mostly already made 8-9 prenatal visits during their pregnancy. Further investigation into the quality of health care and the determinants of birth weight in this area needs to be conducted for a better understanding of the impact of PKH on maternal outcomes.

INFORMATION

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Contributions. The authors contributed equally.

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Ethical Considerations. Ethical approval to conduct the study was obtained from the Center for Research and Community Service, at the Institut Ilmu Kesehatan Bhakti Wiyata Kediri (314/PP2M-KE/V/2019). An informed consent form was available to all participants at the beginning of the questionnaire. The Informed Consent also includes information about the purpose and objectives of the study. The participant's privacy was assured. We use code numbers for each participant to protect their confidentiality during data analysis and collection. The participants weren't asked to fill in their names and address during the data collection.

REFERENCES

1. Direktorat Jaminan Sosial, Direktorat Jenderal Perlindungan dan Jaminan Sosial & Kementerian Sosial RI. Buku Kerja Pendamping PKH, Jakarta:Kementrian Sosial RI. 2013.
2. Rawlings, L. B. & Rubio, G. M. Evaluating the impact of conditional cash transfer pro-

- grams. *The World Bank Research Observer*. 2005;20(1): 29-55.
3. Owusu-Addo, E. & Cross, R. The impact of conditional cash transfers on child health in low-and middle-income countries: a systematic review. *Int J Public Health*. 2014;59(4): 609-618.
 4. Glassman, A., Duran, D., Fleisher, L., Singer, D., Sturke, R., Angeles, G., Koblinsky, M. Impact of Conditional Cash Transfers on Maternal and Newborn Health. *Journal of Health, Population, and Nutrition*, 31(4 Suppl 2), S48–S66. 2013.
 5. Barber, S. L. & Gertler, P. J. Empowering women: how Mexico’s conditional cash transfer program raised prenatal care quality and birth weight. *Journal of development effectiveness*. 2010;2(1): 51-73.
 6. Balitbangkes & Kemenkes RI Riset Kesehatan Dasar RISKESDAS 2013, Jakarta. 2013.
 7. Dinas Kesehatan Kabupaten Nganjuk, Profil Dinas Kesehatan Kabupaten Nganjuk Tahun 2013, Nganjuk: Profil Dinas Kesehatan Kabupaten Nganjuk Tahun 2013. 2013.
 8. Dinas Kesehatan Provinsi Jawa Timur, Profil Kesehatan Provinsi Jawa Timur Tahun 2012, Surabaya:Dinas Kesehatan Provinsi Jawa Timur. 2013.
 9. World Health Organization. Technical consultation towards the development of a strategy for promoting optimal fetal development. Geneva: WHO. 2003;25-27.
 10. Kramer, M. S. Determinants of low birth weight: methodological assessment and meta-analysis. *Bulletin of the World Health Organization*. 1987;65(5): 663.
 11. Fiszbein, A., Schady, N. R. & Ferreira, F. H. Conditional cash transfers: reducing present and future poverty:World Bank Publications. 2009.
 12. Golestan, M., Akhavan Karbasi, S. & Fallah, R. Prevalence and risk factors for low birth weight in Yazd, Iran. *Singapore medical journal*. 2011;52(10): 730-733.
 13. Lim, Stephen S., Dandona, Lalit., A Hoisington, Joseph., James, L Spencer., Hogan, C Margaret.,Gakidou, Emanuela. India’s Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. *Lancet*. 2010; 375: 2009–2
 14. Lagarde, M., Haines, A. & Palmer, N. The impact of conditional cash transfers on health outcomes and use of health services in low and middle income countries. *Cochrane Database Syst Rev*, 4(4). 2009.
 15. Depkes RI. Pedoman pemantauan wilayah setempat kesehatan ibu dan anak (PWS-KIA). Departemen Kesehatan RI. 2009.
 16. Triyana, Margaret, and Anuraj H Shankar. “The Effects of a Household Conditional Cash Transfer Programme on Coverage and Quality of Antenatal Care: a Secondary Analysis of Indonesia’s Pilot Programme.” *BMJ Open* 7 (10) (October): e014348. doi:10.1136/ bmjopen-2016-014348. 2017.
 17. de Brauw, A. & Peterman, A. Can conditional cash transfers improve maternal health and birth outcomes?: Evidence from El Salvador’s Comunidades Solidarias Rurales. *International Food Policy Research Institute (IFPRI)*. 2011.
 18. Kemenkes RI. Profil Kesehatan Indonesia Tahun 2016. 2017. Tersedia dari : (serial online) www.depkes.go.id. diakses tanggal 26 Agustus 2018
 19. Jayanti, D., Krisnita., Nurkhalim, R. Ratna., Susilowati, Indah. Kelengkapan Pencatatan Berat Badan Anak Pada Buku KIA Di Kecamatan Tanjunganom Kabupaten Nganjuk. *Jurnal Wawasan Kesehatan: Stikes Kapuas Raya Vol 5, No 2* . 2019. Tersedia dari : <http://journal.stikes-kapuasraya.ac.id/index.php/JIIK-WK/article/view/105>

TABLE 1: Respondent's characteristics.

Variables	N	(%)
<i>Baby's birth weight</i>		
<2500 g	21	11
≥2500 g	163	89
<i>Prenatal visits</i>		
≤ 4 times	22	12
5-9 times	81	44
10-15 times	81	44
<i>Health care</i>		
General practitioners	1	0
Obstyn & Midwife	9	5
Nurse	1	1
Local midwife	173	94
<i>Mother's education level</i>		
No school	4	2
Elementary School (SD)	73	39
SMP / MTS	80	43
SMA / MA	29	16

TABLE 2: Mean difference between babies born to PKH beneficiaries and non-beneficiaries.

PKH beneficiaries	Mean (gr)	Std. deviation	n
No	3038.4	380.71	109
Yes	3014.6	421.20	75
Total (N(%))	21(11.4)	163 (88.6)	184

TABLE 3: Low birth weight among PKH beneficiaries and non-beneficiaries.

Participants PKH	Birth weight		Total
	<2500 g	≥2500 g	
No [N (%)]	10 (13.3)	65 (86.7)	75 (100)
Yes [N (%)]	11 (10.1)	98 (89.9)	109 (100)
Total [N (%)]	21 (11.4)	163 (88.6)	184 (100)

TABLE 4: T-test for low birth weight among PKH beneficiaries and non-beneficiaries.

PKH beneficiaries	N	Mean ± SD	Birth weight		t	p
			Mean difference	95% CI		
Yes	75	3014.6 ± 421.2	23.7	-143.8 96.3	0.39	0.69
No	109	3138.4 ± 380.7				
<i>t = the value of the statistic</i>		<i>CI = confidence interval</i>				
<i>*Significant value p = 0.05</i>		<i>Mean = average value</i>				

TABLE 5: Number of prenatal visits among beneficiaries and non-beneficiaries during pregnancy.

PKH beneficiaries	Number of prenatal visits			Total
	≤ 4 times	5-9 times	10-15 times	
No (%)	8 (10.8) (38.1)	30 (39.1) (36.7)	38 (50) (46.2)	76 100 41.1
Yes (%)	13 (12.2) (61.9)	51 (47.1) (63.9)	44 (40.5) (53.7)	108 100 58.8
Total (%)	21 (11.6) (100)	81 (43.89) (100)	82 (44.44) (100)	184 (100) (100)

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