Sources of funding for caesarean section in two hospitals in Jakarta

Anggita Bunga Anggraini, Lelly Andayasari

National Institute of Health Research and Development, Indonesian Ministry of Health

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Abstrak

Latar belakang: *Prevalensi seksio sesarea meningkat setiap tahunnya. Penelitian ini bertujuan untuk mengetahui sumber pembiayaan seksio sesarea di beberapa rumah sakit di Jakarta.*

Metode: *Penelitian dilakukan dengan desain potong lintang yang dilakukan di satu rumah sakit pemerintah daerah DKI Jakarta dan satu rumah sakit bersalin di Jakarta. Pengumpulan data dilakukan dengan mengekstrak data rekam medis pasien yang melahirkan dan dirawat pada periode 1 Januari sampai 31 Desember 2011. Analisis dilakukan dengan menggunakan regresi Cox dengan waktu konstant.*

Hasil: *Proporsi seksio sesaria di rumah sakit (RS) pemerintah Jakarta (922/1351 = 68,2%) relatif lebih tinggi dari rumah sakit swasta (1036/1645 = 63,0%). Insiden tertinggi seksio sesaria pada kelompok umur 21-35 tahun (76,9%). Subjek paling banyak berpendidikan menengah (74,5%). Kebanyakan sumber pendanaan merupakan biaya pribadi (51,2%), sedangkan sumber pendanaan terendah dari perusahaan (0,3%). Dibandingkan dengan yang harus membayar sendiri, subjek yang memiliki Jamkesda, Jamsostek, dan Jampersal lebih memilih seksio scesaria. Subjek yang memiliki Jampersal 35% lebih banyak melakukan seksio sesarea [risiko relatif suaian (RRa) = 1,35; P = 0,000].*

Kesimpulan: *Seksio sesarea paling banyak atas biaya pribadi, dan di samping itu banyak yang memanfaatkan Jamsostek dan Jampersal sebagai sumber pembiayaannya.* ***(Health Science Indones 2013;2:93-7)***

Kata kunci: *seksio sesarea, sumber pembiayaan*

Abstract

Background: The prevalence of Caesarean section (c-section) has increased each year. This study aimed to identify the major source of funding related to c-section in government and private hospitals in Jakarta.

Methods: The cross sectional study was conducted in a provincial general hospital in Jakarta and a private maternity hospital in Jakarta. The data were collected from all medical records of patients giving birth in those hospitals in the period of January 1st through December 31st, 2011. Analysis was performed using Cox regression with a time constant.

Results: The proportion of c-section deliveries in the government hospital (922/1351 = 68.2%) was relatively higher than the private hospital (1036/1645 = 63.0%). The highest incidence of c-section was in the age group 21-35 years (76.9%). Most subjects had middle level education (74.5%). Most c-section funding source was derived from out of pocket or personal expenses (51.2%), while the lowest funding source came from the company (0.3%). Compared with those who paid out of pocket, those who had Jamkesda, Jamsostek, and Jampersal schemes had more c-section deliveries. Subjects with Jampersal had the highest incidence of c-section (35%) [adjusted relative risk (RRa) = 1.35; P = 0.000].

Conclusion: In addition to out of pocket, most of subjects who had c-section used Jamsostek and Jampersal as funding sources. ***(Health Science Indones 2013;2:93-7)***

Key words: caesarean section, funding sources

Corresponding author: Anggita Bunga Anggraini, Lelly Andayasari

E-mail: anggita _ba@yahoo.com or anggita_ba@litbang.depkes.go.id

Globally, the prevalence of Caesarean section (c-section) increases every year.[1] In Indonesia, national rate of mothers giving birth by c-section method is 15.3%, South Sulawesi was a region with the lowest rate (5.5%), while the highest rate was in Jakarta (27.2%).[2]

C-section needs medical indication and costs 3-5 times normal deliveries.[3] Therefore, the availability of funding or financial guarantees is needed. The funding may be out of pocket, company, insurance company, and government such as Jampersal (Deliveries Guarantee Program) and private sector. In 2008, the government held a Health Insurance program (Jamkesmas) which is social assistance of health care for the poor.

In 2011, the government introduced Jampersal which includes vaginal deliveries financing as well as c-section. Jampersal program ante natal care and delivery for those who do not have a guarantee of health care scheme.[4]

A previous report showed that economic factor (36.4%) becomes one of the factors that influence the selection of c-section without medical indication.[3] Based on these problems, the study aimed to identify the funding sources for c-section in hospitals.

METHODS

The study used a cross-sectional design and was conducted in purposive selected two hospitals in Jakarta namely a provincial general hospital and a private hospital.

The data was extracted by special trained staff for this study from medical records of those who gave birth in the hospitals from the first of January through 31 December 2011. Exclusion criteria from the study were patients with cesarean deliveries who were referred to another hospital for treatment. Samples included in the analysis were the ones that have complete patient characteristic data.

Data collected include subject characteristics and history of pregnancy and childbirth. For the purposes of this analysis, childbirth is divided into 2 categories (vaginal deliveries and c-section). Related risk factors were demographic characteristics, ward type, deliveries funding source.

The hospitals were categorized into 2 categories (provincial general hospitals and private maternity hospital). Age was categorized into 3 age groups (16-20 years, 21-35 years, and 36-46 years). Patient education were divided into 3 categories (low education = up to elementary school, middle education = junior high school, and higher education = senior high school or more). Patient's occupations and husband's occupations were divided into 5 categories (military/police/civil servants/state, unemployment/housewife, private sector employees, entrepreneur/trader, laborer/driver).

Ward type was categorized into 3 categories (3rd class, 2nd-1st class, VIP class). Funding sources were divided into 7 categories (personal expenses, company, private insurance, Askes (Health Insurance for government employee) and Jamkesmas, Jamsostek, Jampersal, and Jamkesda).

As many as 4191 samples were derived from the two hospitals. For this analysis 2996 samples had complete data. The rest were excluded for reasons of having no data on age, no data on education, no occupation data of patients, no husband's occupation data, no funding source data source, and the lack of data wards type.

To identify the risk factors related to c-section deliveries Cox regression with constant time was used. Analysis was performed using STATA 9.0 software.

Ethical approval was obtained from the Ethics Committee of National Institute of Health Research and Development Ministry of Health of the Republic of Indonesia.

RESULTS

Table 1 showed proportion of c-section deliveries in both hospitals was 65.4% (1958/2996). The proportion of c-section deliveries in the provincial general hospital (922/1351 = 68.2%) was relatively higher than private hospital (1036/1645 = 63.0%). The highest incidence of c-section was in women in the age group 21-35 years (76.9%). Most subject education level was middle (74.5%), while most subjects' occupation were housewife (68.3%). Most of the husbands' occupation was private employees (50.1%). The highest ward type chosen was 3rd class (70.0%).

Furthermore, Table 1 showed subjects who underwent vaginal deliveries and c-section were similarly distributed in terms of subjects' and their husbands' occupation. Subjects who were in the older age, higher education, and better ward type groups were more likely to undergo c-section deliveries.

Table 2 showed that most c-section funding source was derived from out of pocket or personal expenses (51.2%), while the lowest incidence of funding source came from the company (0.3%). It also showed that compared with those who paid out of pocket, subjects with normal deliveries and c-section were similarly distributed in terms of budgeting from their company, and Askes and Jamkesmas scheme.

Furthermore, compared with those who had to pay out of pocket or personal expenses, those who had Jakesda, Jamsostek, or Jampersal schemes had more c-section deliveries. The highest (35%) were those who had Jampersal scheme [adjusted relative risk (RRa) = 1.35; P = 0.000].

Table 1. Several demographic factors and the risk of c-section

	Delivery				Crude relative risk	95% confidence interval	P
	Vaginal (n= 1038)		C-section (n=1958)				
	n	%	n	%			
Hospital							
Provincial general hospital	429	31.8	922	69.2	1.00	Reference	
Private hospital	609	37.0	1036	63.0	0.92	0.84-1.01	0.076
Age group							
16-20 years	87	58.4	62	41.6	1.00	Reference	
21-35 years	800	34.7	1506	65.3	1.56	1.22-2.03	0.001
36-46 years	151	27.9	390	72.1	1.73	1.33-2.26	0.000
Subject education							
Lower education	314	30.8	707	69.2	1.00	Reference	
Middle education	475	24.6	1459	75.4	1.21	1.08-1.36	0.001
Higher education	249	23.1	830	76.9	1.26	1.11-1.43	0.000
Subject's occupation							
Military/police/civil servants/ state employee	59	35.8	106	64.2	1.00	Reference	
Unemployment/ housewife	733	35.4	1337	64.6	1.01	0.82-1.22	0.957
Private sector employee	193	30.9	432	69.1	1.08	0.87-1.33	0.500
Entrepreneur/trader	32	34.0	62	66.0	1.03	0.75-1.40	0.869
Laborer/ driver	21	50.0	21	50.0	0.78	0.49-1.24	0.294
Husband's occupation							
Military/police/civil servants/ state employee	97	35.3	178	64.7	1.00	Reference	
Unemployed/housewife	23	48.9	24	51.1	0.79	0.52-1.21	0.276
Private sector employee	470	32.4	981	67.6	1.04	0.89-1.22	0.593
Entrepreneur/trader	204	33.0	414	67.0	1.03	0.87-1.23	0.701
Laborer/driver	244	40.3	361	59.7	0.92	0.77-1.10	0.374
Ward type							
3rd class	746	35.3	1370	64.7	1.00	Reference	
2nd-1st class	268	35.4	489	64.6	0.10	0.90-1.10	0.965
VIP class	24	19.5	99	80.5	1.24	1.01-1.52	0.036

Table 2. Funding sources affecting c-section

	Delivery				Adjusted relative risk*	95% Confidence interval	p
	Vaginal (n= 1038)		C-section (n=1958)				
	n	%	n	%			
Funding source							
Out of pocket	613	37.9	1003	62.1	1.00	Reference	
Company	4	28.6	10	71.4	1.08	0.79-1.49	0.612
Askes and Jamkesmas	97	32.4	202	67.6	1.05	0.96-1.15	0.319
Private insurance	19	28.4	48	71.6	1.10	0.95-1.29	0.211
Jamkesda	248	37.7	409	62.3	1.07	0.99-1.15	0.081
Jamsostek	25	16.3	128	83.7	1.32	1.22-1.44	0.000
Jampersal	32	16.8	158	83.2	1.35	1.25-1.46	0.000

*Adjusted for hospital, age group, patient's education, and ward type

DISCUSSION

Several limitations must be considered in interpreting the results. The research was only conducted in two hospitals in Jakarta, so it did not represent the whole region of Jakarta, and data was extracted from medical records.

We found that the proportion of c-section deliveries in both the hospital was 65.4%. This figure was greater than the proportion of c-section deliveries in Southeast Asia in 2005, or 27%.[1] In 2006, the proportion of c-section deliveries in dr. Moewardi Hospital in Surakarta was 35.8%.[5] In the period 2001-2005, the proportion of c-section deliveries in one private hospital in Surabaya was 49%.[6] In a North Sumatra hospital, the proportion of c-section in 2007 amounted to 57.6%.[7]

Furthermore, it was noted that the rate of c-section deliveries among mothers aged 21-35 years was 15-fold than in mothers aged 16-20 years. While c-section deliveries rate for women aged 36-46 years was 5-fold than mothers aged 16- 20 years. In the USA, in 1996 and 2000, the rate of c-section deliveries to mothers aged 40-54 years in 2007 (48%) was more than doubled compared to mothers under the age of 20 years (23%). In USA 2007, c-section rate in mothers aged 20-39 years were in range 27-42%.[8]

In this analysis, the highest proportion of education obtained by patients undergoing c-section was senior high school (74.5%). The proportion of c-section deliveries performed in dr. Moewardi (Central Java) was 70.9% by women with low education levels (less than equal to junior high school).[5] This condition may be due the population of Jakarta had higher education than in Surakarta (Central Java). In addition, based on data analysis Riskesdas 2010, most c-section patient's level of education in Indonesia was higher education - senior high school or more - (63.6%).[9]

This study noted that the most c-section funding source was out of pocket (33.5%). While private insurance was only 1.6%. In California, the highest funding source for c-section derived from private insurance (29.1% of total births c-section), while out of pocket was 19.3% of total c-section deliveries.[10]

Subject who used Jampersal was 35% higher in c-section compared to out of pocket in both hospitals. This occurred because Jampersal was available in 2011. In 2012, 40% of mothers (75 respondents from pregnant women and postpartum) in a sub-district in Surabaya (East Java) was not aware of the existence of the Jampersal scheme.

In conclusion, in addition to out of pocket, most of subjects who had c-section used Jamsostek and Jampersal as funding sources.

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