

Research Article

Knowledge of Midwives as a Healthcare Provider about Hypertensive Disorders during Pregnancy

Tingkat Pengetahuan Bidan sebagai Petugas Layanan Kesehatan terhadap Tekanan Darah Tinggi dalam Kehamilan

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Abstract

Objective : To investigate the knowledge of midwives about hypertensive disorders during pregnancy.

Methods : We used a cross-sectional study design by evaluating the knowledge of midwives regarding hypertensive disorders during pregnancy by using a questionnaire. This study was conducted in Jakarta during the period between September and October 2017. The subject is a midwife member of Indonesian Midwives Association (IBI) practicing in DKI Jakarta, Indonesia.

Results : Total respondents were 639 practicing midwives in Central, South, West and North Jakarta. A total of 323 (50.5%) of the respondents had a sufficient level of knowledge about the basic science of high blood pressure in pregnancy, 372 (58.2%) of respondents had a good level of knowledge related to clinical examination and early diagnosis of high blood pressure in pregnancy, and 385 (60.3%) of respondents had a good level of knowledge about the management of high blood pressure in pregnancy. The location of the clinic, physician attendance, the number of patients treated by the midwives, and the number of midwives attending the clinic had a significant association with the knowledge level of the subjects (all P values < 0,05)

Conclusions : The lowest knowledge level was about the basic science of hypertensive disorders during pregnancy. Factors affecting the knowledge levels of the midwives were the location of the clinic, physician attendance, the number of patients treated by the midwives, and the number of midwives attending the clinic

Keywords : hypertensive disorders, knowledge, midwife, preeclampsia, pregnancy.

Abstrak

Tujuan : Mengetahui tingkat pengetahuan bidan terhadap tekanan darah tinggi dalam kehamilan.

Metode : Penelitian ini menggunakan desain studi potong lintang. Pengetahuan bidan di evaluasi menggunakan kuesioner. Penelitian ini dilakukan di Jakarta pada bulan September-Oktober 2017. Subjek adalah bidan anggota Ikatan Bidan Indonesia (IBI) yang berpraktik di DKI Jakarta, Indonesia.

Hasil : Hasil: Total responden yang terkumpul sebanyak 639 bidan yang berpraktik di wilayah Jakarta Pusat, Selatan, Barat dan Utara. Sebanyak 323 (50,5%) responden memiliki tingkat pengetahuan yang cukup mengenai ilmu dasar tentang tekanan darah tinggi dalam kehamilan, 372 (58,2%) responden memiliki tingkat pengetahuan yang baik terkait pemeriksaan klinis dan diagnosis awal tekanan darah tinggi dalam kehamilan, dan 385 (60,3%) responden memiliki tingkat pengetahuan yang baik mengenai tata laksana tekanan darah tinggi dalam kehamilan. Lokasi praktik, adanya kunjungan dokter, jumlah pasien per hari yang ditangani dan banyaknya jumlah bidan yang berpraktik memiliki hubungan yang signifikan dengan tingkat pengetahuan subjek (semua nilai P < 0,05).

Kesimpulan : Tingkat pengetahuan bidan dengan hasil paling rendah adalah pengetahuan tentang keilmuan dasar. Faktor yang berperan dalam tingkat pengetahuan bidan adalah lokasi praktik, adanya kunjungan dokter ketempat praktiknya, jumlah pasien per hari yang ditangani dan banyaknya jumlah bidan yang berpraktik di tempat bidan bekerja.

Kata kunci : bidan, pengetahuan, preeklamsia, tekanan darah tinggi dalam kehamilan,

INTRODUCTION

The target of reducing maternal mortality will still require much effort and expedited institutional regulation support. Providing good antenatal care will ensure a reduction in the Maternal Mortality Rate (MMR) – Millennium Development Goal. In 2015, the World Health Organization (WHO) reported that the maternal mortality rate (MMR) was 216 maternal deaths per 100,000 birth. This number is far from the WHO's target, which is 70 deaths per 100,000 births in 2030. The MMR in Southeast Asia is 110 maternal deaths per 100,000 births.¹ The MMR in Indonesia is also high, amounted to 305 maternal deaths per 100,000 births.²

Three main causes of maternal deaths in Indonesia are hemorrhage, hypertensive disorders during pregnancy, and infection.² However, the proportion has changed; the incidence of hemorrhage and infection has been decreased, whereas the rate of hypertensive disorders during pregnancy increases. More than 25% maternal deaths in Indonesia in 2013 was caused by hypertensive disorders during pregnancy.² In 2012, preeclampsia was the most common cause of deaths In Jakarta, followed by hemorrhage, infection, abortion, and prolonged labor, amounted to 39%, 31%, 6%, 2%, and 1%, respectively.³ Worldwide, approximately 50,000 to 70,000 maternal deaths annually are caused by severe preeclampsia.⁴

A midwife is one of the healthcare workers that has an important role in treating obstetric cases, including hypertensive disorders during pregnancy, in primary care.⁵⁻⁷ In Indonesia, the role of midwives in primary care service centers is to prevent, identify and manage early hypertensive disorders. Indarti J. and Yama F found that severe preeclampsia referred from midwives practicing in primary care centers with various non-optimal referral conditions was the leading cause of death (50.98%) at Dr. Cipto Mangunkusumo Hospital, Jakarta. In this study also found that maternal mortality was higher in the group of patients who performed ANC in midwives (80.4%) with more than 4 times (64.7%).⁸ Therefore, early diagnosis is important, it may improve the outcome of pregnancy because better maternal and fetal monitoring results in earlier detection of clinical signs of preeclampsia, and management may

be promptly provided.^{9, 10} To this date, studies regarding the knowledge level of midwives about hypertensive disorders during pregnancy in Indonesia has never been conducted. This study is aimed to investigate the knowledge levels of midwives in Jakarta, Indonesia.

METHOD

This was a cross-sectional study. The study was conducted in Jakarta in September-October 2017. Subjects were all midwives registered by Indonesia Midwife Association (IBI) and practicing in Jakarta. Questionnaires were given to the subjects to assess their knowledge regarding hypertensive disorders during pregnancy. 47 questions were given, divided into four segments (demographic characteristics, knowledge of basic scholarship, knowledge of clinical examination and diagnosis, and knowledge of its management of hypertensive disorder in pregnancy). Those who did not answer >95% of the questions in the questionnaire were excluded. Distribution of the questionnaires in cooperation with Indonesian Midwife Association (IBI) of DKI Jakarta through regional administrators and branches are incorporated.

Statistic analysis was performed using SPSS software. To know the correlation between subject demographic characteristic with knowledge of basic scholarship, knowledge of clinical examination and diagnosis, and knowledge of its management of hypertensive disorder in pregnancy, statistical test using chi-square test was performed. Variables are converted into dichotomy categorical, so the requirements of the chi-square test can be fulfilled.

RESULTS

A total of 639 subjects were involved in this study. Characteristics of the subjects are presented in Table 1.

Table 1. Subject Demographic Characteristic

Characteristic	n	%
Location		
Central Jakarta	214	33.5
West Jakarta	151	23.6
South Jakarta	70	11
North Jakarta	204	31.9

Age			Attended preeclampsia training		
≥ 21 y.o – ≤ 30 y.o	337	52.7	Yes	355	56.7
>30 y.o – ≤ 40 y.o	145	22.7	Never	271	43.3
> 40 y.o – ≤ 50 y.o	80	12.5	If ever, training is followed on		
> 50 y.o – ≤ 60 y.o	46	7.2	Within one year	105	28.4
> 60 y.o	31	4.9	More than one year ago	265	71.6
Educational qualification			Number of midwives working in practice		
Diploma 3 (D3)	521	81.8	1	101	18.0
4-Year Diploma (D4)	87	13.7	2	49	8.7
4-Year degree (S1)	7	1.1	3	36	6.4
Others	22	3.5	4	30	5.3
Duration of experience as a midwife			≥5	345	61.5
≤ 6 years	30	4.7	Of the three aspects of knowledge related to hypertensive disorder in pregnancy studied namely knowledge of basic scholarship, knowledge of clinical examination and diagnosis, and knowledge of its management, which has the lowest result is the knowledge of basic scholarship (only 41% subject categorized as good criteria by the amount of correct answer).		
> 6 years – ≤ 3 years	118	18.6			
> 3 years – ≤ 5 years	120	18.9			
> 5 years – ≤ 7 years	84	13.2			
> 7 years	284	44.7			
Doctors regularly visit the practice site	434	72.7			
The frequency of doctor visits when there are doctors who regularly visit					
Everyday	290	61.7			
Once a week	61	13			
Once a month	40	8.5			
Others	79	16.8			
Number of patients per day					
< 15	251	44.0			
≥ 15 – < 20	132	23.2			
≥ 20 – < 50	101	17.7			
≥ 50 – < 60	32	5.6			
≥ 60	54	9.5			

Table 2. Correlation between Subject Demographic Characteristic with Knowledge of Basic Scholarship of Hypertensive Disorder in Pregnancy

Characteristic	Knowledge of basic scholarship n(%)			P-value
	Poor	Sufficient	Good	
Location				0.007*
Central Jakarta	14 (29.2)	97 (30.0)	103 (38.4)	
West Jakarta	12 (25.0)	66 (20.4)	73 (27.2)	
South Jakarta	9 (18.8)	37 (11.5)	24 (9.0)	
North Jakarta	13 (27.1)	123 (38.1)	68 (25.4)	
Age				0.480
≤40 y.o	22 (45.8)	168 (52.0)	147 (54.9)	
>40 y.o	26 (54.2)	155 (48.0)	121 (45.1)	
Educational qualification				0.290
D3	39 (81.3)	257 (79.6)	225 (84.6)	
D4 and S1	9 (18.8)	66 (20.4)	41 (15.4)	
Duration of experience as a midwife				0.635
≤3 year(s)	1 (2.2)	15 (4.7)	14 (5.2)	
>3 years	47 (97.9)	306 (95.3)	253 (94.8)	
Doctors regularly visit the practice site				<0.001*
Yes	24 (52.2)	200 (66.7)	210 (83.7)	
No	22 (47.8)	100 (33.3)	41 (16.3)	
The frequency of doctor visits when there are doctors who regularly visit				0.024*
Everyday	15 (48.4)	129 (57.6)	146 (67.9)	
Not everyday	16 (51.6)	95 (42.4)	69 (32.1)	
Number of patients per day				0.040*
<15	23 (51.1)	134 (48.2)	94 (38.1)	
≥15	22 (48.9)	144 (51.8)	153 (61.9)	

Attended preeclampsia training				0.386
Yes	22 (48.9)	175 (55.7)	158 (59.2)	
No	23 (51.1)	139 (44.3)	109 (40.8)	
If ever, training is followed on				0.028*
<1 year ago	12 (52.2)	46 (25.6)	47 (28.1)	
≥ 1 year ago	11 (47.8)	134 (74.4)	120 (71.9)	
Number of midwives working in practice				<0.001*
<5	24 (63.2)	130 (47.8)	62 (24.7)	
≥5	14 (36.8)	142 (52.2)	189 (75.3)	

Table 3. Correlation between Subject Characteristic with Knowledge of Clinical Examination and Diagnosis of Hypertensive Disorder in Pregnancy

Characteristic	Knowledge of clinical examination and diagnosis			P-value
	Poor	Sufficient	Good	
Location				<0.001*
Central Jakarta	5 (27.8)	54 (21.7)	155 (41.7)	
West Jakarta	1 (5.6)	71 (28.5)	79 (21.2)	
South Jakarta	4 (22.2)	29 (11.6)	37 (9.9)	
North Jakarta	8 (44.4)	95 (38.2)	101 (27.2)	
Age				0.019*
≤40 y.o	10 (55.6)	114 (45.8)	213 (57.3)	
>40 y.o	8 (44.4)	135 (54.2)	159 (42.7)	
Educational qualification				0.011*
D3	14 (77.8)	190 (76.3)	317 (85.7)	
D4 and S1	4 (22.2)	59 (23.7)	53 (14.3)	
Duration of experience as a midwife				0,955
≤3 year(s)	0 (0.0)	13 (5.3)	17 (4.6)	
>3 years	17 (100.0)	234 (94.7)	355 (95.4)	
Doctors regularly visit the practice site				<0.001*
Yes	12 (70.6)	135 (59.5)	287 (81.3)	
No	5 (29.4)	92 (40.5)	66 (18.7)	
The frequency of doctor visits when there are doctors who regularly visit				<0.001*
Everyday	9 (75.0)	72 (45.6)	209 (69.7)	
Not everyday	3 (25.0)	86 (54.4)	91 (30.3)	
Number of patients per day				<0.001*
<15	4 (30.8)	119 (55.9)	128 (37.2)	
≥15	9 (69.2)	94 (44.1)	216 (62.8)	
Attended preeclampsia training				0.635
Yes	8 (61.5)	144 (58.8)	203 (55.2)	
No	5 (38.5)	101 (41.2)	165 (44.8)	
If ever, training is followed on				0.838
<1 year ago	3 (37.5)	42 (28.6)	60 (27.9)	
≥ 1 year ago	5 (62.5)	105 (71.4)	155 (72.1)	
Number of midwives working in practice				<0.001*
<5	4 (33.3)	120 (60.0)	92 (26,4)	
≥5	8 (66.7)	80 (40.0)	257 (73.6)	

Table 4. Correlation between Subject Characteristic with Hypertensive Disorder Management

Characteristic	Knowledge of hypertensive disorder management			P-value
	Poor	Sufficient	Good	
Location				0.001*
Central Jakarta	4 (25.0)	63 (26.5)	147 (38.2)	
West Jakarta	1 (6.3)	77 (32.4)	73 (19.0)	
South Jakarta	4 (25.0)	27 (11.3)	39 (10.1)	
North Jakarta	7 (43.8)	71 (29.8)	126 (32.7)	
Age				0.286
≤40 y.o	11 (68.8)	130 (54.6)	196 (50.9)	
>40 y.o	5 (31.3)	108 (45.4)	189 (49.1)	
Educational qualification				0.363
D3	11 (68.8)	192 (81.4)	318 (82.6)	
D4 and S1	5 (31.3)	44 (18.4)	67 (17.4)	
Duration of experience as a midwife				0.460
≤3 year(s)	0 (0.0)	9 (3.8)	21 (5.5)	
>3 years	16 (100.0)	227 (96.2)	363 (94.5)	
Doctors regularly visit the practice site				0.194
Yes	12 (80.0)	155 (68.6)	267 (75.0)	
No	3 (20.0)	71 (31.4)	89 (25.0)	
The frequency of doctor visits when there are doctors who regularly visit				0.384
Everyday	8 (80.0)	102 (59.3)	180 (62.5)	
Not everyday	2 (20.0)	70 (40.7)	108 (37.5)	
Number of patients per day				0.169
<15	3 (27.3)	104 (48.4)	144 (41.9)	
≥15	8 (72.7)	111 (51.6)	200 (58.1)	
Attended preeclampsia training				0.539
Yes	7 (63.6)	139 (59.1)	209 (55.0)	
No	4 (36.4)	96 (40.9)	171 (45.0)	
If ever, training is followed on				0.999
<1 year ago	2 (28.6)	41 (28.5)	62 (28.3)	
≥ 1 year ago	5 (71.4)	103 (71.5)	157 (71.7)	
Number of midwives working in practice				0.189
<5	4 (33.3)	91 (43.3)	121 (35.7)	
≥5	8 (66.7)	119 (56.7)	218 (64.3)	

DISCUSSION

In the location variable, 38.4% of respondents with the basic knowledge level are the most located in Central Jakarta; There was a significant correlation between location variable with basic knowledge about hypertension in pregnancy ($p = 0,007$). In terms of location, Central Jakarta is an area with a number of educational and reference hospitals of type A and B. Central Jakarta district respondents are mostly midwives working in the hospital, including Dr. CiptoMangunkusumo Hospital, GatotSubroto Hospital and Carolus Hospital. This can be a factor affecting the level of midwife knowledge in the central Jakarta area as it is widely exposed to cases and science renewals associated with high blood pressure in

pregnancy.

A significant association ($p < 0.001$) was also found in routine physician variables visited the practice, 81.3% of respondents with a good level of knowledge about clinical examination and diagnosis of high blood pressure in pregnancy received routine visits by physicians, aligned with 69.7% of respondents who have a good level of knowledge about clinical examination and diagnosis of high blood pressure in pregnancy in the group of subjects who get doctor visits every day. It found a significant association between routine physician variables visited the practice with knowledge of the diagnosis of hypertension in pregnancy ($p < 0.001$). Regular physician visits are associated with better levels of knowledge,

this is most likely due to the transfer of knowledge between the visiting physician and the midwife on duty at the time of clinical examination and diagnosis of high blood pressure cases in pregnancy.

There was also a statistically significant association ($p < 0.001$) in the variable number of patients per day, found 62.8% of respondents with the knowledge level of clinical examination and diagnosis of high blood pressure in good pregnancy received 15 patients per day or more. The large number of patients served per day is associated with better levels of knowledge about clinical examination and diagnosis of hypertension in pregnancy, this is related to the subject's exposure to the variety of cases, especially cases related to high blood pressure in pregnancy. So often do clinical examination and routine diagnosis and according to standard operating procedure.

In the variable number of midwives working in practice, 73.6% of respondents with a level of knowledge about clinical examination and diagnosis of high blood pressure in good pregnancy have 5 midwives or more in practice. There was a significant association between the number of midwives working in practice with knowledge of clinical examination and diagnosis of high blood pressure in pregnancy ($p < 0.001$). More midwives in one place of practice dealing with a better level of knowledge. This may be the result of knowledge transfer among midwives when faced with difficult cases such as preeclampsia, or may be related to where the midwife works, generally the number of midwives practicing in proportion to the number of patients routinely handled by the workplace, is also proportional to the amount of exposure to the difficult case.

CONCLUSION

Based on the analysis of the relationship between the characteristics of respondents with 3 aspects of midwife knowledge on high blood pressure in pregnancy studied obtained results: of the total respondents by region, Central Jakarta has a statistically significant relationship with the best level of knowledge in all three aspects of knowledge studied. The number of doctor visits in place of midwives in practice also has

a significant relationship to midwife knowledge about basic scientific aspects as well as clinical examination and diagnosis of high blood pressure in pregnancy, the more frequent visits the midwife practiced, the better the midwife's knowledge. The large number of patients per day handled statistically also significantly correlates with midwife's level of knowledge of basic knowledge as well as clinical examination and diagnosis of high blood pressure in pregnancy. The large number of midwives practicing in the same place is also statistically related to the midwife's level of knowledge of basic knowledge as well as the clinical examination and diagnosis of high blood pressure in pregnancy.

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