Korespondensi Jurnal

Judul Artikel	:	Influence of husband support on complication during pregnancy and
		childbirth in Indonesia
Nama Penulis	:	Farid Agushybana
Kode Naskah	:	C-6
Nama Jurnal	:	Journal of Health Research (J Health Res)
Penerbit	:	College of Public Health Sciences, Chulalongkorn University, Bangkok,
		Thailand

No.	Kegiatan	Tanggal	Keterangan
1.	Submited	-	Penulis tidak dapat login kembali
			keakun, sebab web jurnal sudah tidak
			dapat diakses (sudah berganti
			publisher)
2	Revisi pertama	29 Juli 2015	Editor jurnal
3	Revisi Kedua	8 September 2015	Editor jurnal
4	Terbit	Agustus 2016	-

Revisi 1

CC: hybana@gmail.com

Subject: Revision-JHR451-Influence Of Husband Support On Maternal Morbidity In Indonesia Date: Wed, 29 Jul 2015 02:06:12 +0000

Dear author,

The reviewers recommend publication following revision of your manuscript. The reviewers' comments are attached. As you can see, they have made comments and suggestions. Please pay attention to these as you revise your manuscript.

You should revise your manuscript on your own computer and resubmit the revised version with the reviewer's comments to editor. Use red font instead of black to indicate the revised portions of your manuscript. Please note that in some cases revised manuscripts will be re-reviewed.

Unless we hear from you about this paper within 2 weeks (will be on Aug 12), we will presume you have withdrawn the manuscript from consideration for Journal of Health Research.

Best regards, Sunanta Wongchalee, MPH Academic officer, Assistant editor for J Health Res, College of Public Health Sciences, Chulalongkorn University, Institute Bldg3, 11th Floor, Chula Soi 62, Phyathai Rd., Patumwan, Bangkok 10330,THAILAND Tel. 0 2218 8047

2 lampiran

Both-2014-N05_R 1_Review Sheet for Journal of Health Research_UP.pdf 182K

NO-Au-Husbans-support-igscpp_2015_Indonesia_UP.doc 163K

Review Sheet for Journal of Health I	Research (R.1)							
	DATE:	July	2015	Ref JHR	No.: 4	51		
	Review	er:		, , , , , , , , , , , , , , , , , , ,				
Influence Of Husband Support On M	aternal Morbidity	In In	donesia					
Type of Paper : Original article	Type of Paper : Original article Short report Review article Letter to editor							
Special article or In	vited article \bigcirc Boo	k rev	iew () etc				
Overall rating by review								
Accepted Accept	ed with condition						1	
Afte	r major revision (After	minor rev	rision				
Comments on technical content								
Is the subject appropriate for publication in J	HR?	□Ye	es	□ Doubtf	ul	🗆 No		
Originality and scientific value:		□ E	xcellent	□ Very G	ood	x Good	D Poor	
Methods: if experiment: techniques & data analysis: $\Box A dequate$								
Presentation and clarity of results:	<i>wijete</i> .		dequate			x Inadequate		
Discussion and conclusions: $\Box \Delta dequate$:				
Is a clear distinction made between results an	d conclusions?	□Yes						
Logic & coherence: do the results justify the	conclusion?		20			n No		
Logic & concrence: do the results justify the	conclusion							
Statistics: is the statistical analysis proper?		xYe	xYes 🗆 Doubtf		ul 🗆 Consult statisti		itistician / an	
						expert		
Comments on presentation and style		110	· · ·			· · · ·		
Clarity and quality of writing:	x Good	MI	nor revisio	1	\Box Ext	ensive revision	l	
Is the abstract a good summary of the	xYes		No (please s	specify)				
paper?				•••••				
Can the new on he shortened with out loss?	- Vag (Whans9 Diaga		·····	•••••	NI		••	
Can the paper be shortened without loss?	\Box Yes (where? Pleas Comments frame)	e ans	wer in the		X NO			
Tablas								
well presented	Adequate		x Inadequ	ate (please	specify)		
wen presented			Lack impo	ortant data s	such as	age of women.	number of	
			children, a	nge of the la	st child	<u>l etc.</u>		
Figures:								
well presented			□ Inadequ	ate (please	specify	r)		
				•••••				
Litaratura rafarancas.	\Box Too few		Adequat	e number		 many		
Luciuure rejerences.			unucquat			, many		
Is it necessary to cite related articles	□ Ves							
from our Journal in this manuscrint?								
nom our sournar in uns manuscript?					L			

General Comments:

1st reviewer

It was not clear whether the author wants to say about morbidity or child delivery as in the result is only presented about child delivery.

- The fundamental of morbidity is not only pregnancy and delivery. If the author wants to present like this, the title should be changed.
- Moreover, the study used "the recent birth within 5 years" which is too long. Recommend to study among women who have a baby within 2 years.

- This study used secondary data. First of all, the author should clearly state that it is a secondary data and should give the definition to all variables. Also, the author should mention about the limitation of the study.

This paper examines an important topic and should be published, but only after the author revises to address some important issues. I will list several kinds of changes to be made. These all require further elaboration of the text, but none of these necessarily involves any re-analysis of the data. All my comments can be shown to the author.

2nd reviewer

Points that are treated too briefly:

- The nature and overall reputation and reliability of the 2012 IDHS. Not everyone knows about this survey series and the hundreds of good studies derive from it. Please say something to convey this. (conducted every five years; supported by? fieldwork by? any methodological report available? citation for main report on the 2012 round?)
- The level of maternal morbidity seems rather high. Is this level typical for Indonesia? For other countries at the same level of health development? (Note below the related point about possible measurement issues with maternal mortality.)
- The sampling design. At a minimum mention the multistage clustered design, and give the number of smallest geographic sampling areas and the number of sample households
- It is not the case, probably, that every married woman lives with a husband. You should provide the proportion of wives who do not co-reside with their husbands. Are these women in the sample for analysis? Why?
- It is not clear how occupation is coded: as a set of dummy variables, on a continuous scale of some kind, or what?

Points which are important shortcomings of the quantitative analysis and presentation. These shortcomings must be addressed adequately

- The role of Region in the models, and the need for a multilevel modeling strategy (line 87ff). Regarding "Region," surely geographic region is not a causal factor, but rather a proxy measure for various regional factors that are important. Any idea what these are?
- there is an interesting and problematic pattern in the results, in that maternal morbidity is highest at the highest educational levels. Does the measure of maternal morbidity reflect at least in part, greater understanding of and/or sensitivity to maternal morbidity? Does this not then affect the policy interpretation of the results? This needs some careful discussion, beyond the very brief discussion on line 170 and following..

Points which are technically acceptable, probably, but for which insufficient justification has been given

• Why was a multilevel model required? Why is Region the "the parameter identity of the model," (line 15) and what does this mean? Ideally, the reader would like to know how different the results would be if the multilevel aspect had not been considered at all?

Again, while a re-analysis would in fact be a good idea, or perhaps a further analysis for another paper, for this paper a re-analysis is not being required. But, this then makes necessary a more subtle discussion of various points, as outlined above. The author is encouraged to reflect carefully on these points and add useful commentary about them. These additions will be the difference between a "publishable" paper and a "good" paper.

Additional papers are welcome

INFLUENCE OF HUSBAND SUPPORT ON MATERNAL MORBIDITY IN INDONESIA

3

4 ABSTRACT

Background: High maternal morbidity and mortality is still a main problem in Indonesia.
The maternal health is also one of husband's responsibilities as a partner support in the
family which could determine women's access to maternal health services and influencing
their health outcomes. At present, it is unclear whether involving men in maternal health can
improve maternal outcomes. The objective of this study was to investigate the associations
between socio-demographic factors, husband support and last pregnancy problems among
married women (aged 15-49 years) in Indonesia.

Method: The data obtained from the 2012 Indonesia Demographic and Health Survey (IDHS). The descriptive analysis and Multilevel logistic regression was implemented to assess differences in women who had partner support during their pregnancy and those who did not, and their pregnancy outcomes, controlling by region as the parameter identity of model.

Results: There were 14,091 respondents. The result showed that the majority of age at 17 childbirth was 20-34 years old accounted for 70 percent. The educational level of both 18 husband and wife were mostly at the secondary education (54.1% and 54.1%, respectively). 19 20 The 53.0 percent of women were employed while almost all men had an occupation. It was 21 found that husband accompanied women during antenatal care visit (72.5%) and during delivery (43.5%). This study yielded the 64.8 percent of the sample presented the maternal 22 morbidity during pregnancy and at delivery. A multilevel model showed that there were 23 24 significant effects among maternal age at delivery, maternal education, maternal occupation, husband support during pregnancy and at delivery toward maternal morbidity, after 25 controlling the region. 26

27 Conclusion: Our results found that maternal morbidity was statistically significant 28 associated with husband support and maternal characteristic. This fact demonstrated that 29 government policy on the women well-being should be pointed out to the important of 30 women education and also indicating a potential role of spouse relationship in maternal 31 health interventions.

32

33 Keywords: maternal health, maternal morbidity, women education, husband support

34

35 INTRODUCTION

The participation of the husband which related to reproductive health and reproductive behavior, is recognized that the key interventions for improving maternal health[1]. In many developing countries, men are key decision makers and leaders which often find their access to economic resources for women. Men' involvement affects the maternal health while it was designated nutritional status during pregnancy[2] and the chances of women who receive emergency obstetric care [3], which is significant unavoidable to maternal morbidity[2, 3].

In Indonesia, the percentage of complications of pregnancy in urban areas increased steadily from 43.3 to 57.1 in 2007 and 2012 respectively. While considering the trend in rural areas of maternal morbidity also increased from 35.4 to 48.7 in 2007 and 2012 [4-6]. The most common severe maternal illness included postpartum hemorrhage, blood transfusion, hysterectomy, cardiac arrest / failure of urinary or bowel.

Several studies have been suggested positive benefits of the participation of men in 48 maternal health care in the developed and developing nations, which include increased access 49 50 to services during pregnancy and after delivery mothers [7, 8]. Furthermore, partner supporting could encourage maternal to stop unhealthy practices such as alcohol 51 consumption, smoking and eating diet that is not useful [9, 10] improved maternal mental 52 health [11, 12], increasing opportunities of the use of contraception [13] and reducing anxiety 53 54 and morbidity during delivery [13, 14]. However, the arguments of the disadvantages of 55 being involved men have also been highlighted, such as the present of husband's anxiety at delivery will potentially increase a difficulty of labour [15, 16]. 56

Evidence proofed that male involvement may be beneficial to maternal health; but the significance of the relationship is unclear. It also has been conjecture about the possible negative consequences, if men are engaged in maternal health care. Thus, this paper investigated to firstly the maternal morbidity differential across maternal characteristic in Indonesia. Secondly, to identify the existing maternal morbidity among Indonesia population and lastly, to study the impact of the being involved of men in maternal health outcomes of women.

64

65 MATERIALS AND METHODS

The Indonesian Demographic Health Survey (IDHS) 2012 was provided by the DHS
Program - ICF International. The IDHS survey is a five-year survey to collect characteristic
of women age 15-49 years old about demographic and health. The sampling was

representative for 33 provinces of Indonesia. The IDHS survey provided three kinds of questionnaire, namely house hold questionnaire, women's questionnaire and man's questionnaire. This recent study retrieved the data from the women's questionnaire. The women's questionnaire included questions about demographic characteristics, their reproductive history, pregnancy, antenatal and postnatal care, as well as immunization and nutrition. The IDHS 2012 was coverage 47,533 women, 96 percent were successfully interviewed. In the present study the information of 14,091 most recent birth of married

76 women within five years preceding survey was used.

Comment [A1]: 5 years is too long to remind their morbidity. At least, it should be 2 years or less than 2 years.

The institutional research board of Institute for Population and Social Research (IRBIPSR) - Mahidol University has been approved this study with the certificate of approval
number COA. No. 2014/1-1-42, dated December 24, 2014.

The primary outcome of this study was maternal morbidity which referred to present or not present maternal complication either during pregnancy or at delivery. Maternal complication included premature labor, excessive hemorrhage, fever, convulsions and fainting. We recoded as 1 if the maternal complication is present and 0 if otherwise. The predictor variables were mother's age at delivery, women education, husband education, women occupation, husband occupation, husband accompany at antenatal care (ANC) visit, husband accompany at delivery and region.

Regarding Statistical analysis, Frequency distribution was conducted to describe the 87 mothers characteristics involved in this study. The percentage was calculated after the data 88 89 was weighted by sample weight, urban-rural and provincial proportional sampling unit. The effect of predictor variables toward maternal morbidity were examined by implementing 90 multilevel logistic regression. The multilevel logistic model used region as the parameter 91 92 identity, it means the effect of independent variables toward maternal morbidity were fitted for between-regions variability. The model shows that the region variability effect 93 significantly to the maternal morbidity. Bivariate and multivariable analysis was performed to 94 fit the Crude or adjusted ORs with 95% CI were extracted from the included studies. 95 Adjusted measures of effects were used in preference where both were reported. P-Values 96 less than 0.05 were deemed statistically significant. 97

98

- 99 **RESULTS**
- 100 Sample Characteristic

As shown in table 1, this study involved 14,091 married women in the reproductive 101 102 age (15-49) and most of respondents were aged 20-34 year olds (69.84%). We found that most of the mother has education on the secondary school (54.11%) follows by primary 103 104 school (30.97%). Secondary school in the Indonesian education system means the junior and 105 senior high school [17]. Regarding husband education, this study articulated that husband education attainment has similar to the mother's education attainment. It was found that 106 107 54.6% of husbands have secondary education attainment. Moreover, Mother who has non 108 domestics job was accounted for 52.99% while most of the husband had a job (98.56%). The participation of the husband during the visit antenatal offered 72.54 percent of husbands and 109 110 56.02 percent of husband accompany at delivery. Considering region, it was found that most of the respondents reside at Java and Bali region follow by Sumatra. 111

Table 1 Frequency of the selected variable for analysis (n=14,091)

	Maternal morbidity							
	Yes	No	Total	Ν				
Mother's age at delivery								
<20	6.80	6.91	13.71	1,932				
20-34	44.32	25.35	69.67	9,817				
>35	10.21	6.41	16.62	2,342				
Mother education								
No education	0.68	2.03	2.71	382				
primary	14.39	16.58	30.97	4,364				
secondary	35.65	17.83	53.49	7,537				
higher	10.60	2.23	12.83	1,808				
Husband education								
No education	0.71	1.48	2.19	309				
Primary	15.20	15.58	30.79	4,338				
Secondary	35.58	19.20	54.77	7,718				
Higher	9.84	2.41	12.25	1,726				
Mother occupation								
Do not work	27.23	18.66	45.89	6,466				
Work	34.10	20.01	54.11	7,625				
Husband occupation								
Do not work	0.89	0.89	1.79	252				
Work	60.44	37.78	98.21	13,839				
ANC visit								
Husband accompany at ANC								
No	16.31	16.90	33.21	4,680				
Yes	45.02	21.77	66.79	9,411				
Husband support at delivery								
No	26.60	24.60	51.20	7,215				
Yes	34.73	14.07	48.80	6,876				

Comment [A2]: First delivery?

	Maternal morbidity						
	Yes	No	Total	Ν			
Region							
Java and Bali	19.37	8.05	27.42	3,864			
Kalimantan	6.03	4.78	10.80	1,522			
Sumatra	17.38	11.93	29.31	4,130			
Maluku	3.03	2.31	5.34	753			
Sulawesi	9.32	7.29	16.61	2,340			
Irian	2.14	2.63	4.76	671			
Nusa Tenggara	4.07	1.69	5.76	811			
N	61.33	38.67	100.00	14,091			

With regard to maternal morbidity were classified by maternal characteristic shown in table 1. This study found the major characteristics which prone to maternal morbidity were mother age 20-34 years at delivery (44.32%), has secondary education(35.65%), husband's secondary education (35.58%), women and husband who have occupation (34.10% and 27.23), accompany by husband at antenatal care visit (45.02%) and at delivery (34.73) and live in Java or Bali region (19.37%).

120 Determinant factors of maternal morbidity

The multilevel logistic analysis revealed that mother's age at delivery, mother and husband education, husband accompany at ANC and at delivery are significantly effect to maternal morbidity at 0.01 significant level, While mother and husband occupation significantly effects to maternal morbidity at 0.05 significant level. The unadjusted and adjusted odds ratio of the model presented in Table 2;

126 *Mother's age at delivery*

127 The multilevel model yielded that adjusted odds ratio is hire for women aged more 128 than 35 years old, on the other word, the older women are more like 1.69 times experience to

129 maternal morbidity than mother's age less than 20 years old.

130 Mother education

The mother education significantly effect to the maternal morbidity. The higher education the more likely mother is identified experience maternal complication. This finding should interpret carefully. The adjusted odds ratio for mother who has higher education is 5.89, it does not mean that she was more prone to maternal morbidity, but she is more likely **Comment [A3]:** Sure as the older women might have more children than the young one.

¹¹³

to make antenatal care visit and accordingly she was diagnostic whether has complication ornot compare to whom does not has education.

137 Husband education

The model shows that the higher spouse education the more likely women identified experienced maternal morbidity. The adjusted odds ratio of husband with higher is 2.12 than husband without education. This finding implies, that a higher education husband education a more likely promote his wife to antenatal visit than those who has lower education.

142 *Women occupation*

Either unadjusted model or adjusted model, this study found that women occupation significantly determine to maternal morbidity at 0.05 significant level. A woman with occupation is more likely 1.09 times than women who do not. Women with occupation are more likely to being independently to make antenatal care compare to those who do not have occupation.

148

Table 2 the adjusted odds ratio of factors effect to maternal morbidity (n=14,091)

Characteristics	Unadjusto (95	ed odds ratios 5% CI)	Adjusted odds ratios (95% CI)		
Mother's age at delivery (ref: < 2	0 years old)			
20-34	1.74**	(1.58-1.92)	1.5**	(1.43-1.76)	
>35	1.59**	(1.41-1.80)	1.6**	(1.49-1.93)	
Mother education (ref. no educat	ion)				
Primary	2.21**	(1.73-2.83)	1.8**	(1.45-2.43)	
Secondary	5.17**	(4.06-6.60)	3.5**	(2.71-4.57)	
Higher	12.52**	(9.58-16.36)	5.8**	(4.39-7.92)	
Husband education (ref. no educ	ation)				
Primary	1.75	(1.57-1.96)	1.27**	(0.97-1.66)	
Secondary	3.54**	(3.15-3.99)	1.6**	(1.22-2.1)	
Higher	5.95**	(5.10-6.95)	2.12**	(1.57-2.88)	
Mother occupation	1.16**	(1.08-1.24)	1.09*	(1.01-1.17)	
Husband occupation	1.42**	(1.10-1.83)	1.34*	(1.02-1.76)	
ANC visit	1.74**	(1.53-1.99)	1.18**	(1.02-1.37)	
Husband accompany on ANC	2.07**	(1.92-2.24)	1.4**	(1.29-1.52)	
Husband accompany on delivery	2.09**	(1.94-2.25)	1.41**	(1.3-1.53)	

Characteristics	Unadjusto (95	ed odds ratios 5% CI)	Adjusted odds ratios (95% CI)		
Mother's age at delivery (ref: < 2					
Region (ref. Java and Bali)					
Kalimantan	0.52**	(0.46-0.59)	0.67**	(0.59-0.76)	
Sumatra	0.61**	(0.55-0.66)	0.64**	(0.58-0.71)	
Maluku	0.54**	(0.46-0.64)	0.72**	(0.61-0.86)	
Sulawesi	0.53**	(0.48-0.59)	0.72**	(0.64-0.81)	
Irian Jaya	0.34**	(0.29-0.40)	0.51**	(0.42-0.61)	
Nusa Tenggara	1	(0.85-1.18)	1.41**	(1.18-1.68)	
Constanta			0.15**	(0.10-0.24)	
Wald chi2(df)			1449.58 (18)		
Probability > Chi2			0	.000	

150 * Significant at 0.05; ** Significant at 0.01

151 *Husband occupation*

Similar to the finding on the husband education section, women whose husbands have occupation are more likely to experience to maternal morbidity 1.34 times than those who do not have occupation. Husband with occupation might be give possibility to their wives to access to health service, accordingly women will more likely to be identified their maternal problem.

157 Antenatal care visit

The antenatal care visit is make possible a women to be diagnostic their maternal problem. Mothers participating ANC found the illness experience of mother was 1.18 times greater than those who did not visit ANC. This may be because mothers who underwent health providers are likely to be identified if they have any problems of the mother. In this segment will describe a mother who visited prenatal cares tend to be diagnosed if they have maternal problem.

164

Husband accompany on antenatal care

This finding articulated that husband accompany on ANC visit significantly effect to maternal morbidity. Women who accompanied by their husband is 1.40 times experiencing maternal morbidity. This finding does not mean husband support will escalate maternal morbidity. We proposed two possibilities. The first possibility is if a husband accompany on antenatal care visit will motived a women to check up their health, therefore they are more

Comment [A4]: Not true

170 likely to be diagnosed. The second possibility is a women have already experienced on 171 maternal morbidity, the maternal complication are already there, in turn husband give more 172 attention on their spouse health thus they will be motivated to make maternal checkup at 173 health services.

174 *Husband accompany at delivery*

This study found obviously that husband support at delivery significantly effect to maternal morbidity. Women whose husband accompany at delivery are more likely 1.41 times to have maternal morbidity.

178 DISCUSSION

Our studies suggests that factors is highly associated with maternal morbidity were 179 mother's age at delivery, mother and husband education, mother and husband occupation, 180 husband accompany at ANC and at delivery. Higher education in both women and spouse 181 was associated with increased odds of maternal morbidity. The higher education of couples 182 will tend to better understanding on maternal health thus they are more likely to attend the 183 antenatal care, in consequences they are easier to be diagnosed whether they have maternal 184 morbidity or not compare to the lower education couples. The finding was similar to study 185 revealed that the higher educated women were more likely to have good knowledge about 186 187 ante-natal care than lower educated women[18].

Regarding occupation, woman and spouse who had job were more likely to have 188 morbidity than no job. Similar with the study in Nepal presented employment women tent to 189 less using maternal health service than non-working women. The reason may because 190 working women in Nepal related with poverty. Due to stress loads can be quite high amongst 191 working mothers. Housework is still considered the woman's domain. Working women 192 shoulder additional responsibility of the work place as well as at their domestic front. Similar 193 to study of Miyake [19] found women who work fulltime have relationship with the 194 depressive symptoms during pregnancy more than part-time. 195

Discussing the antenatal care visit, mother who had ANC visit was more likely to experience maternal morbidity than those did not attend ANC due to their maternal problem are not diagnosed. Furthermore, women who were accompanied by their husband during antenatal care and at delivery had higher experiencing maternal morbidity than other. The spousal support will motivate woman to attend the antenatal care, consequently their maternal problem will be more likely to be identified compare to those who did not attend antenatal care. As stated in the study of Ghana suggested men could improve contraceptive prevalence
rates and other dimensions of reproductive health [20].

204

205 CONCLUSION

The biological factor, such as age at delivery, is positively related to the maternal morbidity. While the social determinant, such as mother and husband education, mother and husband occupation, husband support at ANC visit and at delivery do not directly influence to the maternal morbidity, but they promote mother to attend the ANC. The mother attendant at ANC is the important pathway in increasing maternal health in Indonesia. Thus government policy on maternal health should point out the women empowerment and men participation on maternal health.

213 214

215 ACKNOWLEDGEMENTS

I am grateful to Ministry of Education of Indonesia for funding to the doctoral of demography of Institute for Population and Social Research Mahidol University. I would also like to extend *my deepest gratitude* to my major advisor Yothin Sawangdee and my coadvisors; Kerry Ritcher and Rossarin Grey for their assistant during my study.

220 REFERENCES

United Nations Population Fund. Male involvement in reproductive health, including family
 planning and sexual health. 1995.

Dudgeon M, Nhorn M. Men's influences on women's reproductive health: medical
 anthropological perspectives. Soc Sci Med. 2004;59(1):1379-95.

Gharoro E, Igbafe A. Antenatal care: some characteristics of THE BOOKING visit in a major
 teaching hospital in the developing world. Med Sci Monit 2000;6:519–22.

BPS, BKKBN, Kemenkes-MOH, ICF International. Indonesia Demographic and Health Survey
 2002-2003. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International, 2003.

BPS, BKKBN, MOH, ICF International. Indonesia Demographic and Health Survey 2007.
 Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International, 2008.

BPS, BKKBN, MOH, ICF International. Indonesia Demographic and Health Survey 2012.
 Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International, 2013.

Redshaw M, Henderson J. Fathers' engagement in pregnancy and childbirth: evidence from a
 national survey. BMC Pregnancy Childbirth. 2013;13(1):1–15.

Schaffer M, Lia-Hoagberg B. Effects of social support on prenatal care and health behaviors
 of low-income women. J Obstet Gynecol Neonatal Nurs. 1997;26(1):433–40.

Martin L, McNamara M, Milot A. The effects of father involvement during pregnancy on
 receipt of prenatal care and maternal smoking. Matern Child Health J. 2007;11(1):595–602.

10. Kiernan K, Pickett K. Marital status disparities in maternal smoking during pregnancy,
 breastfeeding and maternal depression. Soc Sci Med. 2006;2(1):335–46.

Al Dallal F, Grant I. Postnatal depression among Bahraini women: prevalence of symptoms
 and psychosocial risk factors. East Mediterr Health J. 2012;18(1):432–8.

Stapleton L, Schetter C, Westling E. Perceived partner support in pregnancy predicts lower
 maternal and infant distress. J Fam Psychol 2012;26(1):453–63.

245 13. Mekonnen W, Worku A. Determinants of low family planning use and high unmet need in
246 Butajira District, South Central Ethiopia. Reprod Health. 2011;8(1):1-8.

247 14. D'Aliesio L, Vellone E, Amato E. The positive effects of father's attendance to labour and
248 delivery: a quasi experimental study. Int Nurs Perspect 2009;9(1):5–10.

249 15. Char A. Male involvement in family planning and reproductive health in rural central India.
250 Finland: University of Tampere, 2011.

16. Helzner J. Men's involvement in family planning. Reprod Health Matters. 1996;7(1):146–54.

17. Kuipers JC. Education In Indonesia: A Country Study. Frederick WH, Worden RL, editors:
 Library of Congress Federal Research Division; 2011.

18. el-Sherbini A, el-Torky M, Ashmawy A, Abdel-Hamid H. Assessment of knowledge, attitudes
and practices of expectant mothers in relation to antenatal care in Assiut governorate. J Egypt Public
Health Assoc. 1993;68(5):539-65.

257 19. Miyake Y, Tanaka K, Arakawa M. Employment, income, and education and prevalence of

depressive symptoms during pregnancy: the kyushu okinawa maternal and child health study. BMC
 Psychiatry. 2012;12:117–22.

260 20. David D, SamuelOfosu-Amaah, Lourie IM. An Evaluation of Male Contraceptive Acceptance

261 in Rural Ghana. Studies in Family Planning. 1978;9(8):222-6.

262

263

Revisi 2

From: Sunanta.W@chula.ac.th To: hybana@hotmail.com CC: hybana@gmail.com Subject: RE: 2nd-comments-Influence Of Husband Support On Maternal Morbidity In Indonesia Date: Tue, 8 Sep 2015 05:44:07 +0000 Sorry for my previous email that I forgot to attach word file.

From: Sunanta Wongchalee
Sent: Tuesday, September 8, 2015 11:28 AM
To: 'hybana@hotmail.com' <hybana@hotmail.com>
Cc: 'farid agus' <hybana@gmail.com>
Subject: 2nd-comments-Influence Of Husband Support On Maternal Morbidity In Indonesia

Dear author,

Kindly find the comments in track change. After revision, send me back within 3 weeks (will be on Sept 29).

Best regards, Sunanta Wongchalee, MPH Academic officer, Assistant editor for J Health Res, College of Public Health Sciences, Chulalongkorn University, Institute Bldg3, 11th Floor, Chula Soi 62, Phyathai Rd., Patumwan, Bangkok 10330,THAILAND

Tel. 0 2218 8047

3 lampiran

2014-N10F.4_Invoice_Bill.pdf

30(4)_Farid (003).docx
 84K

2015-N13Copyright_transfer form.docx
 34K



JOURNAL OF HEALTH RESEARCH, EDITORIAL OFFICE

Office: 10th floor, College of Public Health Sciences, Chulalongkorn University, Institute Building 3, Soi Chulalongkorn 62, Phayathai Road, Wangmai, Pathumwan, Bangkok,10330, Thailand Phone: +66 (0) 2218-8230 Fax: + 66 (0) 2218-8199 E-mail: JHR@chula.ac.th Website: http://www.jhealthres.org

Invoice Bill (L.4)

Manuscript JHR No. 451

Influence Of Husband Support On Maternal Morbidity In Indonesia / Farid Agushybna

Fee of 500 THB per printed page to charged of the manuscript for publication. A charge of 700 Baht per page will be added to every page that exceeds the page limits given in the instruction to author. Each color page will be charged 5,000 Baht.

Volume 30 Number 4 Aug Year 2016	.//	
500 THB / page for 7 pages	3,500	THB
E Lolo	Total <u>3,500</u>	THB
1	Sunanta Wongo	chalee
ent Te of Public	(Miss Sunanta Wongc Assistant editor	halee)

Payment

This cost excludes the fee charged by bank. It is author's responsibility to cover the fees. Author (s) should be aware that depending your bank or the country in which you are located.

Bank: The Siam Commercial Bank (SCB) Public Company Limited, Siam Square Branch Account name: College of Public Health Sciences Account number: 038-433811-7 Swift Code SCB: SICOTHBK

Please kindly fax or scan your slip of payment to Mr Thanapong Wongngammongkol above address or e-mail JHR@chula.ac.th

INFLUENCE OF HUSBAND SUPPORT ON **COMPLICATION DURING PREGNANCY AND** CHILDBIRTH IN INDONESIA

Farid Agushybna^{*}

Institute for Population and Social Research, Mahidol University, Nakhon Pathum 73170, Thailand

ABSTRACT:

Background:High complication during pregnancy and childbirth and mortality is still a main problem in Indonesia. The maternal health is also one of husband's responsibilities as a partner support in the family which could determine women's access to maternal health services and influencing their health outcomes. At present, it is unclear whether involving men in maternal health can improve maternal outcomes. The objective of this study was to investigate the associations between socio-demographic factors, husband support and last pregnancy problems among married women (aged 15-49 years) in Indonesia.

Method: The data obtained from the 2012 Indonesia Demographic and Health Survey (IDHS). The descriptive analysis and Multilevel logistic regression was implemented to assess differences in women who had partner support during their pregnancy and those who did not, and their pregnancy outcomes, controlling by region as the parameter identity of model.

Results: There were 5,052 respondents. The result showed that the majority of age at childbirth was 20-34 years old accounted for 70%. The educational level of both husband and wife were mostly at the secondary education (55.3% and 55.6%, respectively). The 53.0% of women were employed while almost all men had an occupation. It was found that husband accompanied women during antenatal care visit (74.4%) and during delivery (59.8%). This study yielded the 64.8% of the sample presented the maternal morbidity during pregnancy and at delivery. A multilevel model showed that there were significant effects among maternal age at delivery, maternal education, maternal occupation, husband support during pregnancy and at delivery toward maternal morbidity, after controlling the region. Conclusion: Our results found that complication during pregnancy and childbirth was statistically

significant associated with husband support and maternal characteristic. This fact demonstrated thatgovernment policy on the women well-being should be pointed out to the important of women education and also indicating a potential role of spouse relationship in maternal health interventions.

Keywords: Maternal health, Women education, Husband support, Indonesia

DOI:

Received:June 2015; Accepted:October 2015

INTRODUCTION

The participation of the husband which related to reproductive health and reproductive behavior, is recognized that the key interventions for improving maternal health [1].In many developing countries, men are key decision makers and leaders which often find their access to economic resources for women. Men' involvement affects the maternal health while it was designated nutritional status during pregnancy [2] and the chances of women

Correspondence to: Farid Agushybna E-mail: hybana@hotmail.com

who receive emergency obstetric care [3], which is significant unavoidable to maternal morbidity[2, 3].

In Indonesia, the percentage of complications of pregnancy in urban areas increased steadily from 43.3 to 57.1 in 2007 and 2012 respectively. While considering the trend in rural areas of complication during pregnancy and childbirth also increased from 35.4 to 48.7 in 2007 and 2012 [4-6]. The most common severe maternal illness included postpartum hemorrhage, blood transfusion, hysterectomy, cardiac arrest / failure of urinary or bowel.When comparing maternal death rates by countries in 2013. Indonesia has found that the

Agushybna F. Influence of husband support on complication during pregnancy and childbirth in Indonesia. J Cite this article as: Health Res. 2016; 30(4): x-xx. DOI:

http://www.jhealthres.org

maternal mortality rate was ranked 124th out of 181 countries. Furthermore, among the South-East Asia countries, Indonesia has the highest maternal mortality rate is the second after Laos [7].

Several studies have been suggested positive benefits of the participation of men in maternal health care in the developed and developing nations, which include increased access to services during pregnancy and after delivery mothers [8, 9]. Furthermore, partner supporting could encourage maternal to stop unhealthy practices such as alcohol consumption, smoking and eating diet that is not useful [10, 11] improved maternal mental health [12, 13], increasing opportunities of the use of contraception [14] and reducing anxiety and morbidity during delivery [14, 15]. However, the arguments of the disadvantages of being involved men have also been highlighted, such as the present of husband's anxiety at delivery will potentially increase a difficulty of labour [16, 17].

Evidence proofed that male involvement may be beneficial to maternal health; but the significance of the relationship is unclear. It also has been conjecture about the possible negative consequences, if men are engaged in maternal health care. Thus, this paper investigated to firstly the complication during pregnancy and childbirth differential across maternal characteristic in Indonesia. Secondly, to identify the existing complication during pregnancy and childbirth among Indonesia population and lastly, to study the impact of the being involved of men in maternal health outcomes of women.

MATERIALS AND METHODS

Indonesian This paper applied the Demographic Health Survey (IDHS) 2012 was provided by the DHS Program - ICF International. IDHS surveys are important survey which provide information on important health, nutrition, and demographic indicators in a specific country and are nationally representative. In Indonesia the IDHS elaborated by collaboration of National Statistic Board of Indonesia, Ministry of Health, National Population and Family Planning Board, MEASURE DHS - ICF International. The IDHS survey is a five-year survey to collect characteristic of women age 15-49 years old about demographic and health which implemented multistage cluster random sampling. The first stage was performed to select the total of 1,840 census blocks (CBs) based on the 2010 Indonesian population census, then result a minimum of 43 CBs per provinces. At the second stage, on average 25 households were selected in each CB [6]. The IDHS 2012 was

coverage 47,533 women age 15-49 eligible, and 96 percent were successfully interviewed. Due to this study focus on the effect of husband support thus the author selected only married women. Furthermore, we selected only last births from married women who gave birth within 2 years (2011 and 2012) preceding survey which approximately 5,052 women. The reason of selecting the subject for the last two years preceding survey is to eliminate recall bias. The IDHS survey provided three kinds of questionnaire, namely house hold questionnaire, women's questionnaire and man's questionnaire. This recent study retrieved the data from the women's questionnaire. The women's questionnaire included questions about demographiccharacteristics, their reproductive history, pregnancy, antenatal and postnatal care, as well as immunization and nutrition [6].

The institutional research board of Institute for Population and Social Research (IRB-IPSR) -Mahidol University has been approved this study with the certificate of approval number COA. No. 2014/1-1-42, dated December 24, 2014.

The primary outcome of this study was complication during pregnancy and childbirth which referred to present or not present maternal complication either during pregnancy or at delivery. Maternal complication included premature labor, excessive hemorrhage, fever, convulsions and fainting [5, 6]. We recoded as 1 if the maternal complication is present and 0 if otherwise. The predictor variables were mother's age at delivery, women education, husband education, women occupation, husband occupation, husband accompany at antenatal care (ANC) visit, husband accompany at delivery and region. The mother's age at delivery was calculated from differentiate years of the mother date birth and the last child date birth. The first age group is less than 20 coded as 0; the 20-35 coded as 1 and the 35 and over coded as 2. The women and husband education were retrieved from the question the highest education level that they achieved [6]. The education attainment was coded 0 for "no education"; 1 for "primary level"; 2 for "secondary level" 3 for "higher level". The women and husband occupation were derived from the question on the currently job of women and their spouse [6]. The occupation was coded as 0 for "do not work" while 1 for "work" (such as professional, technical, managers and administration, clerical, sales, service, agricultural worker, industrial worker, other). Husband accompany at ANC visit was derived from the item "Did your husband/partner

accompanyyou in any antenatal care visits during this pregnancy? [6]; the answer of this question While the husband accompany at delivery was obtained from the question of "Was your husband/partner with you when you delivered (yes / no)?" [6]; the answer from respondent was coded as 1 if husband accompany at delivery and 0 if otherwise. The region in Indonesia comprises of 7 areas, namely Java and Bali, Kalimantan, Sumatra, Maluku, Sulawesi, Papua and Nusa Tenggara, which they were coded as 1 to 7, respectively.

Regarding the statistical analysis, frequency distribution was conducted to describe the mothers characteristics involved in this study. The percentage was calculated after the data was weighted by sample weight, urban-rural and provincial proportional sampling unit. The effect of predictor variables toward complication during pregnancy and childbirth were examined by implementing multilevel logistic regression with the random intercept by region. The multilevel logistic model was implemented the routine "xtmelogit" in Stata 12 to obtain estimates of the region effect [18]. The region could depict the development in term of socio-economic, public infrastructure, etc. [19]. Most of the infrastructure, such as road, health care service, and also some family planning program provided more and appropriate operated in some region that highly populated area, for example in Java and Sumatra. By contrast in some area always received less develop infrastructure. For this reason, focusing on regional development could be best predictor for inequality in regional factor, such as antenatal care utilization. Importantly the regionalanalysis contribute to planning programs by specifying the associated environmental and social characteristics that might have influenced the individual decisions to seek health care [20].

Bivariate and multilevel logistic analysis was performed to fit the un-adjusted and adjusted odds ratios (AOR) with 95% Confidence Interval (CI) were extracted from the included studies. Adjusted measures of effects were used in preference where both were reported. *P-Values* less than 0.05 were deemed statistically significant.

RESULTS

Sample Characteristic

As shown in Table 1, this study involved 5,052 married women in the reproductive age (15-49) and most of respondents were aged 20-34 year olds (68.6%). We found that most of the mother has education on the secondary school (55.3%) follows by primary school (29.1%). Secondary school in

was coded as 1 if husband accompany at ANC visit 0 if otherwise. and the Indonesian education system means the junior and senior high school [21]. Regarding husband education, this study articulated that husband education attainment has similar to the mother's education attainment. It was found that 55.6% of husbands have secondary education attainment. Moreover, Mother who has occupation (nondomestics job) was accounted for 45.2 % while most of the husband had a job (98.6%). The participation of the husband during the visit antenatal offered 74.4 percent of husbands and 59.8 percent of husband accompany at delivery. Considering region, it was found that most of the respondents reside at Java and Bali (57.0%) region follow by Sumatra (22.1%).

With regard to complication during pregnancy and childbirth were classified by maternal characteristic shown in Table 1. This study found the major characteristics which prone to complication during pregnancy and childbirth were mother age 20-34 years at delivery (72.0%), has secondary education (58.3%), husband's secondary education (58.8%), women who did not work outside home (51.8%) and husband who have occupation (98.9%), accompany by husband at antenatal care visit (79.7%) and at delivery (65.7%) and live in Java or Bali region (60.9%).

Determinant factors of complication during pregnancy and childbirth

The multilevel logistic analysis revealed that mother's age at delivery, mother and husband education, husband accompany at ANC and at delivery are significantly effect to complication during pregnancy and childbirth at 0.01 significant level, While mother and husband occupation significantly effects to complication during pregnancy and childbirth at 0.05 significant level. The unadjusted and adjusted odds ratio of the model presented in Table 2;

Mother's age at delivery

The multilevel model yielded that adjusted odds ratio is higher for women aged more than 35 years old, on the other word, the older women are more like 2.24 times experience to complication during pregnancy and childbirth than mother's age less than 20 years old.

Mother education

The mother education significantly effect to the maternal morbidity. The higher education the more likely mother is identified experience maternal complication. This finding should interpret carefully. In the table 2, the adjusted odds ratio for mother who has higher education is 7.06, it does not mean that she was more prone to maternal complication, but she is more likely to make antenatal care visit and accordingly she was more likely been identified whether has complication or not compare to whom does not has education.

Comment [S1]: (years)? Add it

Table 1 Frequency of the selected variable for analysis (n=5,052)

	Complication during pregnancy and childbirth				
-	Yes	No	Total	Ν	
Mother's age at most recent delivery					
<20	12.5	21.9	15.7	752	
20-34	72.0	62.1	68.6	3,495	
>=35	15.5	16.0	15.7	805	
Mother education					
No education	1.0	4.0	2.1	151	
primary	23.0	40.7	29.1	1,410	
secondary	58.3	49.6	55.3	2,743	
higher	17.7	5.7	13.6	748	
Husband education					
No education	0.6	2.9	1.4	102	
Primary	23.9	42.3	30.1	1,465	
Secondary	58.8	49.4	55.6	2,810	
Higher	16.7	5.5	12.9	675	
Mother occupation					
Do not work	51.8	60.6	54.8	2,739	
Work	48.2	39.4	45.2	2,313	
Husband occupation					
Do not work	1.1	2.1	1.4	94	
Work	98.9	98.0	98.6	4,958	
ANC visit					
No	5.1	8.9	6.4	371	
Yes	94.9	91.1	93.6	4,681	
Husband accompany at ANC					
No	20.3	36.0	25.6	1,573	
Yes	79.7	64.1	74.4	3,479	
Husband support at delivery					
No	34.3	51.7	40.2	2,441	
Yes	65.7	48.3	59.8	2,611	
Region					
Java and Bali	60.9	49.4	57.0	1,348	
Kalimantan	5.0	8.6	6.2	549	
Sumatra	20.9	24.3	22.1	1,490	
Maluku	1.0	1.4	1.1	276	
Sulawesi	6.5	9.4	7.5	854	
Papua	1.2	3.3	1.9	259	
Nusa Tenggara	4.6	3.6	4.2	276	
N	3,128	1,924		5,052	

 Table 2 The adjusted odds ratio of factors effect to complication during pregnancy and childbirth (n=5,052)

Characteristics	Unadjusted odds ratios (95% CI)			Adjusted odds ratios (95% CI)	
Mother's age at delivery (ref: < 20 years old)					
20-34	1.90**	(1.62-2.24)	1.69**	(1.42-2.00)	
>35	1.83**	(1.49-2.24)	2.24**	(1.53-2.38)	
Mother education (ref. no education)					
Primary	2.79**	(1.84 - 4.24)	2.27**	(1.47-3.53)	
Secondary	6.37**	(4.22-9.61)	4.20**	(2.70-6.55)	
Higher	16.10**	(10.31-25.1)	7.06**	(4.32-11.54)	
Husband education (ref. no education)					
Primary	1.52	(0.98-2.35)	1.01	(0.62-1.63)	
Secondary	3.09**	(2.00-4.77)	1.35	(0.83-2.19)	

J Health Res • vol.30 no.4 August 2016

Higher	7.39**	(4.6111.83)	1.99*	(1.17-3.38)		
Mother occupation (ref. not work)	1.36**	(1.21-1.52)	1.14*	(1.00-1.29)		
Husband occupation (ref. not work)	1.46	(0.96 - 2.21)	1.29**	(0.82 - 2.04)		
ANC visit (ref. not visit)	2.33**	(1.87-2.92)	1.69**	(1.31-2.17)		
Table 2. The adjusted odds ratio of factors effect to complication during programmy and childbirth $(n=5.052)$ (Cont.)						

Comment [S2]: Kindly recheck this figure. Is it right?

 Table 2
 The adjusted odds ratio of factors effect to complication during pregnancy and childbirth (n=5,052) (Cont.)

Characteristics	Unadjuste	d odds ratios	Adjusted odds ratios (95% CI)	
Characteristics	(95)	% CI)		
Husband accompany on ANC (ref. not accompany)	1.98**	(1.74-2.26)	1.25**	(1.08-1.45)
Husband accompany on delivery (ref. not accompany)	1.96**	(1.73-2.21)	1.30**	(1.14 - 1.49)
Region (ref. Java and Bali)				
Kalimantan	0.44**	(0.36 - 0.54)	0.54**	(0.43-0.67)
Sumatra	0.60**	(0.51 - 0.70)	0.64**	(0.54 - 0.75)
Maluku	0.49**	(0.38-0.64)	0.61**	(0.46 - 0.82)
Sulawesi	0.50**	(0.42-0.60)	0.65**	(0.54 - 0.80)
Irian Jaya	0.30**	(0.23-0.39)	0.51**	(0.37 - 0.70)
Nusa Tenggara	1.03**	(0.77 - 1.38)	1.33**	(0.98 - 1.81)
Constanta			0.11**	(0.05-0.22
Wald chi2(df)				565.72 (19)
Probability > Chi2				0.000

*Significant at 0.05; ** Significant at 0.01; ref. =reference

Husband education

The model shows that the higher spouse education the more likely women identified experienced maternal morbidity. The adjusted odds ratio of husband with higher education is 1.99. This finding implies, that a higher education husband education a more likely promote his wife to antenatal visit than those who has lower education.

Women occupation

Either unadjusted model or adjusted model, this study found that women occupation significantly determine to complication during pregnancy and childbirth at 0.05 significant level. A woman with occupation is more likely 1.14 times than women who do not. Women with occupation are more likely to being independently to make antenatal care compare to those who do not have occupation.

Husband occupation

Similar to the finding on the husband education section, women whose husbands have occupation are more likely to experience to complication during pregnancy and childbirth 1.29 times than those who do not have occupation. Husband with occupation might be give possibility to their wives to access to health service, accordingly women will more likely to be identified their maternal problem.

Antenatal care visit

The antenatal care visit is make possible a women to be diagnostic their maternal problem [22]. Mothers participating ANC found the illness experience of mother was 1.69 times greater than those who did not visit ANC. This may be because mothers who underwent health providers are likely to be identified if they have any problems of the mother. In this segment will describe a mother who visited prenatal cares tend to be diagnosed if they have maternal problem.

5

Husband accompany on antenatal care

This finding articulated that husband accompany on ANC visit significantly effect to maternal complication. Women who accompanied by their husband is 1.25 times experiencing maternal complication. It suppose a women have already experienced on complication during pregnancy and childbirth, the maternal complication are already there, in turn husband give more attention on their spouse health thus they will be motivated to make maternal checkup at health services.

Husband accompany at delivery

This study found obviously that husband support at delivery significantly effect to complication during pregnancy and childbirth. Women whose husband accompany at delivery are more likely 1.30 times to have complication during pregnancy and childbirth.

DISCUSSION

Our studies suggests that factors is highly associated with complication during pregnancy and at delivery were mother's age at delivery, mother and husband education, mother and husband occupation, husband accompany at ANC and at delivery. Higher education in both women and spouse was associated with increased odds of maternal morbidity. Even if a husband had a high education level but his unwillingness to care about maternal health remains a major problem. If a man is aware of problems that may occur during pregnancy, pregnancy complications may be reduced for maternal health [23]. According to the study in Nepal [24] found husband had high education but negatively effect to maternal mortality. Due to husband did not understand the maternal risks even they had high education. The government can assist by providing more and better community health facilities and by encouraging husbands to be more supportive through educational programs.

Regarding occupation, woman and spouse who had job were more likely to have morbidity than no job. Full time working was associated with higher levels of psychological morbidity. The work environment may put the mother's health directly at risk for respiratory and lung diseases, such as asthma, chronic bronchitis, and lung [25]. Work in occupations that involve repetitive, boring tasks, low rewards with low prestige, and minimal control over one's work life is associated maternal complication [26]. According to the study in Nepal presented employment women tent to less using maternal health service than non-working women. The reason may because working women in Nepal related with poverty. Due to stress loads can be quite high amongst working mothers. Housework is still considered the woman's domain. Working women shoulder additional responsibility of the work place as well as at their domestic front. Similar to study of Banda in 2012 [19] found women who work fulltime have relationship with the depressive symptoms during pregnancy more than part-time.

Discussing the antenatal care visit, mother who had ANC visit was more likely to experience complication during pregnancy and childbirth than those did not attend ANC due to their maternal problem are not diagnosed. Furthermore, women who were accompanied by their husband during antenatal care and at delivery had higher experiencing complication during pregnancy and childbirth than other. It is probably husband involvement during antenatal care and at delivery, it could be increased male dominance in decision making [16, 17], and it is also plausible that some complications increase when husband become anxious in delivery room [27].

LIMITATION OF THE STUDY

Concerning to the maternal complication at pregnancy and at delivery which has a lot of type with difference severity, the result of current study might not a direct effect to the maternal complication but it is a proxy social determinant. Thus it should be prudent in applying this result for clinical study.

CONCLUSION

The biological factor, such as age at delivery, positively related to the maternal morbidity. is While the social determinant, such as mother and husband education, mother and husband occupation, husband support at ANC visit and at delivery do not directly influence to the maternal morbidity, but they promote mother to attend the ANC. The mother attendant at ANC is the important pathway in increasing maternal health in Indonesia. Thus government policy on maternal health should point out the women empowerment and men participation on maternal health.

ACKNOWLEDGEMENTS

I am grateful to Ministry of Education of Indonesia for funding to the doctoral of demography of Institute for Population and Social Research Mahidol University. I would also like to extend my deepest gratitudeto my major advisor Yothin Sawangdee and my co-advisors; Kerry Ritcher and Rossarin Grey for their assistant during my study.

REFERENCES

- United Nations Population Fund [UNFPA]. Male involvement in reproductive health, including family planning and sexual health. [N.p]: UNFPA; 1995.
- Dudgeon MR, Inhorn MC. Men's influences on women's reproductive health: medical anthropological perspectives. Soc Sci Med. 2004 Oct; 59(7): 1379-95. doi: 10.1016/ j.socscimed.2003.11.035
- Gharoro EP, Igbafe AA. Antenatal care: some characteristics of the booking visit in a major teaching hospital in the developing world. Med Sci Monit. 2000 Mav-Jun; 6(3): 519-22.
- Bureau of Statistik Indonesia [BPS], BKKBN, Kemenkes-MOH, Indonesia. ICF International. Indonesia demographic and health survey 2002-2003. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International; 2003.
- Bureau of Statistik Indonesia [BPS], BKKBN, MOH, ICF International, Indonesia. Indonesia demographic and health survey 2007. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International; 2008.
- Bureau of Statistik Indonesia [BPS], BKKBN, MOH, ICF International. Indonesia. Indonesia demographic and health survey 2012. Jakarta, Indonesia: BPS, BKKBN, Kemenkes, and ICF International; 2013.
- Wolrd Health Organization [WHO], UNICEF, UNFPA, The World Bank, The United Nations Population Division. Trends in maternal mortality: 1990 to 2013. Geneva: WHO; 2014.
- Redshaw M, Henderson J. Fathers' engagement in pregnancy and childbirth: evidence from a national survey. BMC Pregnancy Childbirth. 2013; 13: 70. doi: 10.1186/1471-2393-13-70
- Schaffer MA, Lia-Hoagberg B. Effects of social support on prenatal care and health behaviors of lowincome women. J Obstet Gynecol Neonatal Nurs. 1997 Jul-Aug; 26(4): 433-40.
- Martin LT, McNamara MJ, Milot AS, Halle T, Hair EC. The effects of father involvement during pregnancy on receipt of prenatal care and maternal smoking. Matern Child Health J. 2007 Nov; 11(6): 595-602. doi: 10.1007/s10995-007-0209-0
- Kiernan K, Pickett KE. Marital status disparities in maternal smoking during pregnancy, breastfeeding and maternal depression. Soc Sci Med. 2006 Jul; 63(2): 335-46. doi: 10.1016/j.socscimed.2006.01.006
- Al Dallal FH, Grant IN. Postnatal depression among Bahraini women: prevalence of symptoms and psychosocial risk factors. East Mediterr Health J. 2012 May; 18(5): 439-45.
- Stapleton LR, Schetter CD, Westling E, Rini C, Glynn LM, Hobel CJ, et al. Perceived partner support in pregnancy predicts lower maternal and infant distress. J Fam Psychol. 2012 Jun; 26(3): 453-63. doi: 10.1037/ a0028332
- 14. Mekonnen W, Worku A. Determinants of low family planning use and high unmet need in Butajira District,

South Central Ethiopia. Reprod Health. 2011; 8: 37. doi: 10.1186/1742-4755-8-37

- D'Aliesio L, Vellone E, Amato E. The positive effects of father's attendance to labour and delivery: a quasi experimental study. Int Nurs Perspect. 2009;9(1):5-10.
- Char A. Male involvement in family planning and reproductive health in rural central India. Finland: University of Tampere; 2011.
- Helmer JF. Men's involvement in family planning. Reproductive Health Matters. 1996; 4(7): 146-54. doi: 10.1016/S0968-8080(96)90018-X
- Rodríguez G. Multilevel models: contraceptive use in Bangladesh. Princeton University; 2015. [Cited 2015]; Available from: http://data.princeton.edu/pop510/ bangladesh.html
- Bureau of Statistik Indonesia [BPS], Indonesia. Human development index year 2006-2007 (Indeks pembangunan manusia, Indonesia). Jakarta: Central Bureau of Statistik Indonesia (BPS); 2008.

- Gabrysch S, Cousens S, Cox J, Campbell OM. The influence of distance and level of care on delivery place in rural Zambia: a study of linked national data in a geographic information system. PLoS Med. 2011; 8(1): e1000394. doi: 10.1371/journal.pmed.1000394
- Kuipers JC. Education in Indonesia: a country study. In: Frederick WH, Worden RL, editors: Library of Congress Federal Research Division. [N.p: Division]; 2011.
- 22. Banda I. Factors associated with late antenatal care attendance in selected rural and urban communities of the Copperbelt Province, Zambia. Luzaka, Zambia: The University of Zambia; 2012.
- 23. Manandhar M. Obstetric health perspectives of Magar and Tharu communities: a social research report to inform the Nepal Safer Motherhood Project's IEC strategy. Kathmandu: Family Health Division, World Health Organization;2000.
- Center for Research on Environment Health and Population Activities [CREHPA]. The influence of male partners in pregnancy decision-making and outcomes in Nepal. Seattle: CREHPA; 2007.
- Gausia K, Fisher C, Ali M, Oosthuizen J. Antenatal depression and suicidal ideation among rural Bangladeshi women: a community-based study. Arch Womens Ment Health. 2009 Oct; 12(5): 351-8. doi: 10.1007/s00737-009-0080-7
- Reid H, Power M, Cheshire K. Factors influencing antenatal depression, anxiety and stress. Br J Midwifery. 2009; 17(8): 501-8.
- Redshaw M, Henderson J. Fathers' engagement in pregnancy and childbirth: evidence from a national survey. BMC Pregnancy Childbirth. 2013; 13(1): 70. doi: 10.1186/1471-2393-13-70



JOURNAL OF HEALTH RESEARCH, EDITORIALOFFICE

Office: 10th floor, College of Public Health Sciences, Chulalongkorn University, Institute Building 3, SoiChulalongkorn 62, Phayathai Road, Wangmai, Pathumwan, Bangkok,10330, Thailand Phone:+66 (0) 2218-8230 Fax:+ 66 (0) 2218-8199 E-mail: JHR@chula.ac.thWebsite:http://www.jhealthres.com

Copyright Transfer Agreement (L.6)

	(JHR-451)
Title of article	INFLUENCE OF HUSBAND SUPPORT ON MATERNAL
	MORBIDITY IN INDONESIA
Author's name	Farid Agushybna
Organization	
Home-Address	
Preferred address for	ganization
receiving journal	Home-Address
Country	
Tel	
Fax	-
Email	
	hybana@hotmail.com, hybana@gmail.com

The subject article is submitted for publication in Journal of Health Research (JHealth Res). It has not been published before, and it is not under consideration for publication in any other journals. When the article is accepted for publication, I, as the author, hereby agree to transfer to JHealth Res, College of Public Health Sciences, Chulalongkorn University, Bangkok, Thailand, all rights, including those pertaining to electronic forms, reproducing it in any languages and transmissions.

Author's signature and date:

/ /

Send signed form to above address or emailed a scanned version of the signed form to IHR@chula.ac.th



Home / Archives / Vol. 30 No. 4: July - August 2016 / ORIGINAL RESEARCH ARTICLE

Influence of husband support on complication during pregnancy and childbirth in Indonesia

Farid Agushybana

Institute for Population and Social Research, Mahidol University, Nakhon Pathum

Keywords: Maternal health, Women education, Husband support, Indonesia

Abstract

Background: High complication during pregnancy and childbirth and mortality is still an important problem in Indonesia. The maternal health is also one of the husband's responsibilities as a partner support in the family which could influence women's access to maternal health services and etheir health outcomes. At present, it is unclear whether involving men in maternal health can improve maternal outcomes. The objective of this study was to investigate the associations between socio-demographic factors, husband support and last pregnancy problems among married women (aged 15-49 years) in Indonesia.

Method: The data were obtained from the 2012 Indonesia Demographic and Health Survey (IDHS). Descriptive analysis and Multilevel logistic regression were implemented to assess differences in women who had partner support during their pregnancy and those who did not, and their pregnancy outcomes, controlling by region as the random effect parameter.

Results: There were 5,052 respondents. The majority of age at childbirth was 20-34 years old accounted for 70%. The educational level of both husband and wife were mostly in the secondary education (55.3% and 55.6%, respectively). A 53.0% of women were employed while almost all men had an occupation. It was found that husband accompanied women during antenatal care visit (74.4%) and during delivery (59.8%). This study yielded the 64.8% of the sample presented the maternal morbidity during pregnancy and at delivery. A multilevel model showed that there were significant positive effects of maternal age at delivery, maternal education, maternal occupation, husband support during pregnancy and at delivery toward maternal morbidity, after controlling the region.