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UNINTENDED PREGNANCY AND WOMEN'S PSYCHOLOGICAL WELL-BEING IN INDONESIA

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Summary. Few studies have examined the impact of unintended pregnancy on women in developing countries. This paper examines the impact of unintended pregnancy on Indonesian women's psychological well-being. It is hypothesized that experiencing unintended pregnancy is associated with lower psychological well-being and that use of family planning and small family size are associated with higher levels of psychological well-being. Data are drawn from a 1996 survey of 796 women aged 15–49 from two Indonesian provinces, Lampung and South Sumatra. This article focuses on the 71% of women ($n=562$) who answered all 41 survey items related to psychological well-being. In cluster analysis, women grouped into three clusters, differentiated by their scores on four scales of well-being established through factor analysis (general negative feelings, satisfaction with relationships, satisfaction with economic/family/personal conditions, and negative feelings regarding domestic issues). Women in cluster 3 were characterized mainly by their high level of psychological well-being. Women in cluster 1 had the lowest level of well-being, and women in cluster 2 were in the middle. Multinomial logistic regression was used to assess jointly the effect of unintended pregnancy, contraceptive use, number of children and other factors on a woman's level of psychological well-being. Unintended pregnancy was associated with lower levels of psychological well-being and contraceptive use was associated with higher levels of psychological well-being, while number of children was not associated with level of well-being. Women who had experienced an unintended pregnancy were less likely to be in the high psychosocial well-being cluster versus both the medium and low clusters. In addition, women using contraception were more likely to be classified in the high than in the low or medium well-being clusters.

Introduction

Reproductive control, through the use of family planning, is viewed as a means of empowering women, both by strengthening their psychological well-being and, through smaller family size, by enabling them to pursue activities beyond those proscribed by their traditional roles. The ability to control the number and timing of her pregnancies through the use of family planning may contribute to a woman's self-image and self-esteem, key elements of empowerment in women (Petchesky, 1990; Hong & Seltzer, 1994; Hardee *et al*., 1996). Only a few studies, however, have assessed the relationship between family planning experience and women's well-being (Simmons, 1996; Barnett & Stein, 1998; Severy *et al*., 2001). Those studies have generally found that family planning has had a positive effect on women, although clandestine use of family planning puts stress on women (Castle *et al*., 1999).

A number of studies have examined the effect of unintended, or unplanned, pregnancy on aspects of infant and child outcomes (David, 1992; Miller, 1992; Eggleston *et al*., 2001), but fewer have assessed the effects of unintended pregnancy on women's well-being. Some recent research suggests that unintended pregnancy may have negative effects on the health and well-being of women as well. A study of the mental health of women in Australia (where induced abortion is legally available) with unintended pregnancies resulting in live births found that women whose pregnancies were unintended were more likely to be depressed and anxious at 3–5 days and 6 months postpartum than women with planned pregnancies. However, these differences were less notable at 6 months than at 3–5 days postpartum (Najman *et al*., 1991). In the United States, unintended pregnancy has been found to be related to increased physical abuse of the pregnant woman by her partner during pregnancy (Goodwin *et al*., 2000).

Very few studies have examined the impact of unintended pregnancy on women in developing countries. In a qualitative study in Egypt, women said that an unintended pregnancy negatively affected their ability to look after their own health and resulted in financial burdens, more household work, less personal time and less time with other children, and less time for social interaction with others (Kader & Maklouf, 1998). In Indonesia, about 17% of births are reported as unintended – either unwanted (woman did not want more children) or mistimed (occurred earlier, whether months or years, than the woman desired) (CBS *et al.*, 1998).

Indonesia has a strong family planning programme that has contributed to a reduction of the country's total fertility level from 5·6 births per woman in the 1960s to 2·8 in 1995–96; 57% of married women in Indonesia use a method of contraception, with modern contraception accounting for nearly all contraceptive use (World Bank, 1990; CBS *et al*., 1998). The stated objective of Indonesia's family planning programme has traditionally been to reduce population growth, and tension between this goal and meeting women's individual reproductive rights is evident. The family planning programme has been strongly criticized for its use of coercive methods of recruiting women to use family planning (Smyth, 1990; Hafidz *et al*., 1991; Hull & Hull, 1997). In recent years, the government has stressed that a major goal of the programme is now to improve the well-being of women and families (Wilopo, 1994; Sciortino, 1998; CBS *et al*., 1998), and has a new mission statement that stresses

voluntarism and quality of care (Hull, 2002). Nevertheless, some argue that the quality of care in the family planning programme is low, reflecting both the continuing demographic objectives of the programme and general attitudes towards women in Indonesian society (Mboi, 1994; Subroto *et al*., 1995).

The purpose of this paper is to examine the impact of unintended pregnancy on Indonesian women's psychological well-being. It is hypothesized that experiencing unintended pregnancy is associated with lower psychological well-being. It is also expected that use of family planning and small family size are associated with higher levels of psychological well-being.

Data and methods

Survey data

Data for this study are drawn from a 1996 survey of 796 women from two Indonesian provinces, Lampung and South Sumatra (Irwanto *et al.*, 1997). All participants were of reproductive age (15–49 years), currently or previously married, and had given birth to at least one child. Employees of the National Family Planning Coordinating Board (BKKBN) were excluded from study participation. In each province, a rural and an urban study site were selected purposively to reflect the demographic and family planning characteristics of the respective provinces. Then, two neighbourhoods were selected from each site, for a total of eight neighbourhoods. In Lampung, 400 women (200 from the urban site and 200 from the rural site) were selected randomly from the neighbourhoods, using population data provided by local government officials.

In South Sumatra, researchers also attempted to select women randomly. However, due to extensive migration, the large majority of selected women no longer lived at the addresses listed in the population data. Therefore, quota sampling was used to select respondents – 200 urban and 200 rural – from the randomly selected neighbourhoods in that province. In both Lampung and South Sumatra, only one woman per household was selected. This study's response rate was 99·5%, similar to the 98·8% household response rate of the 1997 Indonesia Demographic and Health Survey (CBS *et al*., 1998).

Female interviewers administered the survey questionnaire in face-to-face interviews between June and December 1996. Interviews took place at women's homes, and women were not paid for their participation. The survey questionnaire contained 41 items pertaining to psychological well-being. The questionnaire also collected background sociodemographic information and asked women about their reproductive history, work experience, family relationships and use of health services.

This article focuses on the 71% of women ($n=562$) who answered all 41 survey items related to psychological well-being. Twenty-nine per cent of women ($n=234$) were excluded from the study sample because they did not answer one or more items. Bivariate analyses indicated that women excluded from the study tended to be previously married (widowed or divorced), rather than currently married (and thus could not answer the relationship items). They also tended to be older (aged 30 and over) and live in urban areas. Other sociodemographic variables examined were not significantly associated with exclusion from the study population in bivariate analyses.

These included: province, husband's age, age at marriage, education, husband's education, socioeconomic status, work status, husband's income and duration of residence in study site (Eggleston *et al.*, 2001).

Analytic approach

Multinomial logistic regression was used to assess jointly the effect of unintended pregnancy, contraceptive use, number of children and other factors on a woman's level of psychological well-being. Background characteristics associated in bivariate analysis with psychological well-being were controlled for. The sample for the multivariate analysis included 518 women; 44 of the 562 women did not answer one or more of the survey items regarding family planning experience or other background factors included as independent variables in the analysis. The software package SAS was used for all statistical analyses.

Dependent variable

The outcome of interest in this analysis is a measure of women's psychological well-being. A literature review revealed no published reports studying women's psychological well-being in Indonesia; nor had any of the more standard scales ever been validated in Indonesia. One study (Bahar *et al.*, 1992) assessed mental heath and socioeconomic conditions in Indonesia using the General Health Questionnaire but included just one question on well-being: 'how do you feel about your life as a whole?' Therefore, eight focus groups were conducted with groups of women in Lampung and South Sumatra to develop an understanding of women's perceptions of their own well-being. Based on the focus group results and previous research in the field, 41 questionnaire items were developed to measure Indonesian women's psychological well-being.

Factor analysis reduced the items into five factors (general negative feelings; satisfaction with relationships and ability to control fertility; satisfaction with economic, family and personal conditions; negative feelings regarding marital and domestic issues; and ability to pursue activities outside the home), and five scales were constructed based on these factors. In cluster analysis, women grouped into three clusters, differentiated by their scores on four of the five scales of well-being. (See Eggleston *et al.*, 2001 for a complete description of the factor analysis, scale development and cluster analysis.) Women in cluster 3 were characterized mainly by their high level of psychological well-being. Women in cluster 1 had the lowest level of well-being, and women in cluster 2 were in the middle. The findings of this analysis are reported elsewhere in greater detail (Eggleston *et al.*, 2001).

Explanatory variables

The primary relationship of interest was the association between a woman's experience with an unintended pregnancy and her psychological well-being. Women were asked if they had ever experienced an unintended pregnancy; however, they were not asked about an index pregnancy, nor did they specify if the unintended pregnancy was unwanted or mistimed. The study also investigated the effects of contraceptive

use and number of children on psychological well-being. In addition, the analysis controlled for the effects of: area of residence; province; home ownership; educational attainment; socioeconomic status; whether the woman worked for income; and age.

Results

Sample characteristics

Table 1 shows the sociodemographic characteristics of the study sample and women's sociodemographic characteristics, by the three clusters of psychological well-being. Women in cluster 1 (low levels psychological well-being) were most likely to have the following characteristics: South Sumatra residence, rural residence, live in a house not owned by themselves or their families, young age (15–30), young age at marriage (<20 years), low socioeconomic status (SES), low educational level and experienced an unintended pregnancy. Women in cluster 2 (medium levels of psychological well-being) were likely, as were women in cluster 1, to live in rural areas and have low levels of education. They were also likely, along with women in cluster 3, to be over age 30. Women in cluster 3 (high levels of psychological well-being) were most likely to be: urban, from Lampung, live in a house owned by themselves or their families, aged 30 and older, married at an older age (20 or older), high SES, and well educated. Women in cluster 3 were also the most likely to be using family planning and the least likely to have experienced an unintended pregnancy.

Multivariate analysis

The results of the multinomial logistic regression reveal that, controlling for other explanatory variables, both experience of an unintended pregnancy and current use of modern contraception were significantly associated with level of psychological well-being (Table 2). Women who had experienced an unintended pregnancy were almost three times more likely to be in the low well-being cluster (cluster 1) than in the high well-being cluster. They were also more than twice as likely to be categorized as having a medium level of well-being than as having a high level of well-being. Women using contraception were 62% less likely to be classified in the low than in the high well-being cluster. Similarly, women who used contraception were less likely to be in the medium well-being than in the high cluster. Number of children was not significantly associated with psychological well-being.

Living in South Sumatra increased the odds of being in the low or medium well-being clusters compared with the high well-being cluster. Women living in South Sumatra were three times more likely than Lampung women to be classified as having a low compared with a high level of psychological well-being. Similarly, women living in South Sumatra were nearly three times more likely than women in Lampung to be in the medium cluster than in the high cluster.

Home ownership was associated with being in the medium and high well-being clusters, compared with the low well-being cluster. Women who lived in a house that they or their family owned were less likely to be in the low well-being cluster than in the high or medium well-being cluster.

Women with either medium or high SES were less likely to be in the low well-being cluster, versus high, than were low SES women. In addition, women in the

Table 1. Selected sociodemographic characteristics of women, total population and by cluster, Lampung and South Sumatra, Indonesia, 1996

Sociodemographic characteristic	Total ($n=562$)	Cluster 1 (low psych. well-being) ($n=171$)	Cluster 2 (middle psych. well-being) ($n=233$)	Cluster 3 (high psych. well-being) ($n=158$)	p
Ever experienced an unintended pregnancy					
Yes	24·1	30·2	25·0	16·1	
No	75·9	69·8	75·0	83·9	0·01
Currently using a modern contraceptive method					
Yes	73·2	70·8	68·8	82·3	0·01
No	26·7	29·2	31·2	17·7	
Number of live births					
1–2	43·1	41·8	43·5	44·0	0·91
3+	56·9	58·2	56·5	56·1	
Province					
Lampung	50·5	35·1	45·1	75·3	0·00
South Sumatra	49·5	64·9	54·9	24·7	
Residence					
Rural	52·7	54·4	57·1	44·3	0·04
Urban	47·3	45·6	42·9	55·7	
Owns home					
Yes	52·1	42·1	54·9	58·9	0·01
No	47·9	57·9	45·6	41·1	
Age group					
15–29	41·4	50·0	36·8	39·0	0·02
30+	58·6	50·0	63·2	61·0	
Age at marriage					
<20 years	66·2	73·7	69·1	53·8	0·00
≥20 years	33·8	26·3	30·9	46·2	
SES*					
Low	22·6	33·1	25·2	6·7	0·00
Medium	29·4	31·3	29·2	27·5	
High	48·1	35·5	45·6	65·8	
Level of education					
None/some elementary	19·2	22·2	20·8	13·5	0·00
Completed elementary	41·5	46·8	43·3	32·9	
Some high school	19·0	17·0	17·7	23·2	
High school graduate+	20·3	14·0	18·2	30·3	
Work status					
Wage/income earner	46·1	44·4	48·9	43·7	0·52
Homemaker	53·9	55·6	51·1	56·3	

Note: n values apply to total number of respondents in each group and may vary due to item non-response.

*Socioeconomic status (SES) categorized as high, middle or low using an index based on the number of household amenities.

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Table 2. Multinomial logit analysis of women's psychological well-being (PWB), Indonesia, 1996

	Low PWP vs high PWB			Medium PWP vs high PWB			Low PWP vs medium PWB		
Characteristic	OR	95% CI		OR	95% CI		OR	95% CI	
Experienced unintended pregnancy?									
Yes	2·8	1·5	5·1	2·1	1·2	3·8	1·3	0·8	2·1
No	1·0			1·0			1·0		
Currently using modern contraceptive method?									
Yes	0·4	0·2	0·8	0·4	0·2	0·7	1·0	0·6	1·7
No	1·0			1·0			1·0		
Number of live births									
0–2	0·6	0·3	1·1	1·0	0·6	1·8	0·6	0·3	1·0
3+	1·0			1·0			1·0		
Area of residence									
Urban	0·9	0·5	1·8	0·6	0·3	1·0	1·7	0·9	3·0
Rural	1·0			1·0			1·0		
Province									
Sumatra	3·1	1·8	5·4	2·9	1·7	4·8	1·1	0·7	1·7
Lampung	1·0			1·0			1·0		
Owns home?									
Yes	0·4	0·2	0·7	0·7	0·4	1·2	0·6	0·4	0·9
No	1·0			1·0			1·0		
Graduated secondary school?									
Yes	0·6	0·3	1·1	0·6	0·3	1·0	1·0	0·6	1·9
No	1·0			1·0			1·0		
SES									
Low	1·0			1·0			1·0		
Middle	0·3	0·1	0·6	0·4	0·2	1·0	0·6	0·3	1·1
High	0·1	0·1	0·4	0·4	0·2	1·0	0·3	0·2	0·7
Age group									
15–29	2·0	1·0	3·8	0·9	0·5	1·6	2·3	1·3	3·9
30–49	1·0			1·0			1·0		

OR = odds ratio, CI = confidence interval.

high SES group were less likely than women in the low SES group to be classified as having low versus medium levels of well-being.

Age was associated with level of well-being, with women younger than 30 twice as likely to be classified as being in the low well-being cluster compared with both the high and medium well-being clusters.

Discussion

This study found that both unintended pregnancy and contraceptive use were associated with women's psychological well-being in Indonesia, while number of

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children was not. As expected, having an unintended pregnancy negatively affects women's psychological well-being. Women who had experienced an unintended pregnancy were less likely to be in the high psychosocial well-being cluster versus both the medium and low clusters. Women currently using a modern method of contraception were more likely than non-users to be in the high psychological well-being cluster than in the medium or low clusters.

The pressures, both governmental and social, to use family planning in many areas of Indonesia probably play a role in the impact of contraceptive use and unintended pregnancy on psychological well-being. In settings where women are pressured to use family planning, its effect in terms of empowerment may be polarized between women who exhibit other characteristics related to low and high levels of well-being. For older, more well-off urban women, family planning could contribute to a high level of well-being because its use connotes personal reproductive control and because a woman receives approval from community leaders for using contraception. For younger, poorer rural women, family planning could contribute to a lower sense of well-being because the reproductive control afforded by family planning may be perceived as the result of political and social pressures to use contraception rather than the result of a woman's or couple's choice. The lower sense of well-being among the young, the poor and the rural is probably associated with their low general social standing and the implications their status has for the quality of family planning care they are given.

Some measurement constraints should be kept in mind when considering the findings of this study. First, numerous researchers have commented on the difficulty of quantifying women's feelings about their pregnancies (for example: Miller, 1994; Trussell *et al.*, 1999; Sable, 1999; Bachrach & Newcomer, 1999). Further work is needed to refine currently used measures of pregnancy intention and attitudes towards pregnancy. Further, because this study was cross-sectional, it was not possible to measure the dynamic nature of well-being among individual women and how it might change over time as a woman's life changes.

It should also be noted that the reporting of unintended pregnancies in this analysis is probably incomplete. Because legal access to induced abortion is highly restricted in Indonesia, many women who chose to terminate unintended pregnancies probably did not report them in this study's survey. (Approximately 16% of women who reported an unintended pregnancy said they terminated the pregnancy.) In addition, women may have been reluctant to report a pregnancy as unintended when it resulted in a child who became a loved member of the family. Given the potential for these measurement biases, it is notable that the analyses still found a strong association between unintended pregnancy and lower psychological well-being among Indonesian women.

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References

Bachrach, C. A. & Newcomer, S. (1999) Intended pregnancies and unintended pregnancies: distinct categories or opposite ends of a continuum? *Family Planning Perspectives* **31**(5), 251–252.

Bahar, E., Henderson, A. S. & Mackinnon, A. J. (1992) An epidemiological study of mental health and socioeconomic conditions in Sumatra, Indonesia. *Acta Psychiatrica Scandinavica* **85**, 257–263.

Barnett, B. & Stein, J. (1998) *Women's Voices, Women's Lives: The Impact of Family Planning*. Family Health International, Research Triangle Park, NC.

Castle, S., Konate, M. K., Ulin, P. R. & Martin, S. (1999) A qualitative study of clandestine contraceptive use in urban Mali. *Studies in Family Planning* **30**(3), 231–248.

Central Bureau of Statistics (CBS) [Indonesia], State Ministry of Population/National Family Planning Coordinating Board (NFPCB), Ministry of Health (MOH) and Macro International Inc. (MI) (1998) *Indonesia Demographic and Health Survey 1997*. CBS and MI, Calverton, MD.

David, H. P. (1992) Born unwanted: long-term developmental effects of denied abortion. *Journal of Social Issues* **48**(3), 163–181.

Eggleston, E., Tsui, A. O. & Kotelchuck, M. (2001) Unintended pregnancy and low birthweight in Ecuador. *American Journal of Public Health* **91**(5).

Eggleston, E., Wong, E., Hardee, K., Irwanto, Poerwandari, E. K. & Severy, L. J. (2001) Measuring women's psychological well-being in Indonesia. *Women and Health* **32**(4), 17–32.

Goodwin, M. M., Gazmararian, J. A., Johnson, C. H., Gilbert, B. C. & Saltzman, L. E. (2000) Pregnancy intendedness and physical abuse around the time of pregnancy: findings from the pregnancy risk assessment monitoring system, 1996–1997. *Maternal and Child Health Journal* **4**(20), 85–92.

Hafidz, W., Taslim, A. & Aripurnami, S. (1991) Family planning program in Indonesia: a plight for policy reorientation. Paper presented at the *INGI Conference*, Washington DC, April 29–May 2.

Hardee, K., Ulin, P., Pfannenschmidt, S. & Visness, C. (1996) *The Impact of Family Planning on Women's Lives: A Conceptual Framework*. Family Health International Women's Studies Project Working Paper WP96–02. Family Health International, Research Triangle Park, NC.

Hong, S. & Seltzer, J. (1994) *The Impact of Family Planning on Women's Lives: Towards a Conceptual Framework and Research Agenda*. Family Health International Women's Studies Project Working Paper WP94–02. Family Health International, Research Triangle Park, NC.

Hull, T. H. (2002) *Caught in Transit: Questions about the Future of Indonesian Fertility*. Expert group meeting on completing the fertility transition, Population Division, Department of Economic and Social Affairs, United Nations Secretariat, New York, 11–14 March.

Hull, T. H. & Hull, V. J. (1997) Culture, politics and family planning in Indonesia. In Jones, G., Douglas, R., Caldwell, J. & D'Souza, R. (eds) *The Continuing Demographic Transition*. Oxford University Press, Oxford, pp. 383–421.

Irwanto, Poerwandari, E. K., Prasadja, H., Sunarno, N., Hardee, K., Eggleston, E. & Hull, T. (1997) *In the Shadow of Men: Family Planning and Women's Well-Being in Indonesia*. Final study report. Center for Societal Development Studies and Women's Studies Graduate Program, University of Indonesia, Jakarta and Family Health International, Research Triangle Park, NC.

Kader, A. & Maklouf, H. (1998) *Social and Behavioral Outcomes of Unintended Pregnancy.* Draft report prepared for the Women's Studies Project. Family Health International, Research Triangle Park, NC.

Mboi, N. (1994) Gender and women's health in urban Indonesia: new priorities for the 21st century. Paper presented for the *Takemi Program in International Health*, Harvard School of Public Health, September 26.

Miller, C. A. (1992) Wanting Children. *American Journal of Public Health* **82**(3), 341–343.

Miller, W. (1994) Reproductive decisions: how we make them and how they make us. In Severy, L. (ed.) *Advances in Population,* Vol. 2. Jessica Kingsley Publishers Ltd, London, pp. 1–27.

Najman, J. M., Morrison, J., Williams, G., Andersen, M. & Keeping, J. D. (1991) The mental health of women 6 months after they give birth to an unwanted baby. *Social Science and Medicine* **32**(3), 241–247.

Petchesky, R. P. (1990) *Abortion and Woman's Choice: The State, Sexuality and Reproductive Freedom*. Revised edition. Northeastern University Press, Boston, MA.

Sable, M. R. (1999) Pregnancy intentions may not be a useful measure for research on maternal and child health outcomes. *Family Planning Perspectives* **31**(5), 249–250.

Sciortino, R. (1998) The challenge of addressing gender in reproductive health programmes: examples from Indonesia. *Reproductive Health Matters* **6**(11), 33–43.

Severy, L. J., Waszak, C., Badawi, I. & Kafafi, L. (2003) The psychological well-being of women in Menoufiya, Egypt: Relationships with family planning. *American Psychologist* **58**(3), 218–223.

Simmons, R. (1996). Women's lives in transition: a qualitative analysis of the fertility decline in Bangladesh. *Studies in Family Planning* **27**(5), 251–268.

Smyth, I. (1990) The Indonesian family planning programme: a success story for women? *Development and Change* **22**, 781–805.

Subroto, P., Ma'shum, Y., Syamsudin, M. & Wanary (1995) *A Study on the Quality of Family Planning Service and the Rate of Family Planning Discontinuation in Five Provinces in Indonesia*. IPPA-OSDA, Jakarta.

Trussell, J., Vaughan, B. & Stanford, J. (1999) Are all contraceptive failures unintended pregnancies? Evidence from the 1995 National Survey of Family Growth. *Family Planning Perspectives* **31**(5), 246–247, 260.

Wilopo, S. A. (1994) Hasil Konperensi di Kairo: Implikasinya Pada Program Kesehatan Reproduksi di Indonesia. *Populasi* **50**(2), 1–29.

World Bank (1990) *Indonesia: Family Planning Perspectives in 1990s*. The World Bank, Washington, DC.