FACTORS AFFECTING DECISION MAKING OF LOW-INCOME YOUNG WOMEN WITH UNPLANNED PREGNANCIES IN BANGKOK, THAILAND

Wanapa Naravage[1], Nuntavarn Vichit-Vadakan[1], Rungpetch C Sakulbumrungsil[2] and Marc Van der Putten[1]

[1]College of Public Health, Chulalongkorn University, [2]Pharmacy Administration Unit, Faculty of Pharmaceutical Sciences, Chulalongkorn University, Bangkok, Thailand

Abstract. Unplanned pregnancy is one of the most difficult life experiences for young women. Women are often confused and seek help and support. When the problem occurs, a woman has three choices: parenting the baby, planning for adoption, or terminating the pregnancy. Choosing one of these three options is often difficult. This study aimed to identify the factors (variables) influencing women's decision making when choosing the options available to them. The study was conducted in five shelters and low-income communities in the Bangkok area. Data were collected for five months, November 2003 to March 2004. Young women, age 13-24, who experienced an unplanned pregnancy at least once, or currently experiencing an unplanned pregnancy, were recruited into the study. One hundred and twenty volunteer cases were recruited. Discriminant analysis was used to determine the factors that affecting the choices of young women with unplanned pregnancies. There were 6 potential influencing variables, in three broad categories of factors that influenced their choices. In this study, the influencing factors from the personal history variables were, age of the most recent unplanned pregnancy. The individual psychosocial variables were: attitude towards unplanned pregnancy, attitude towards contraception, and making a decision without consultation. The relationship variables were: relationship with partner, and consulting partner when having a problem. The results from discriminant analysis yielded 68.3% predictive accuracy. This result was satisfactory compared with a 33% chance of accuracy (classified as chance alone would yield a 33% accuracy). Knowing the influencing factors for the choices of young women with unplanned pregnancies allows us to understand the women's decisions and their utilization of services with some degree of confidence. The program managers or implementers should do as much as possible to support the decision making process in these young women in order to provide better information and services to reduce the impact, both physical and mental, of the selected choice.

INTRODUCTION

The latest study of unplanned pregnancy by the Population Council (Unpublished paper, 2002) surveying the history of pregnancy and reproductive health status among women age 15-59 years in communities in a province in northeastern Thailand, found that 45% of all pregnancies were unplanned. In 1993, a research study among women of reproductive age revealed that 200,000-300,000 women terminated their pregnancies each year (Koetsawang, 1993). Moreover, the findings from a study of the sexual experiences of school adolescents in Bangkok showed that 35% of sexually active male adolescents stated that their girlfriends became pregnant, while 30% of sexually active girls stated that they had had an abortion (Deemar, 1980, cited in Soonthornthada, 1996; Porapakkham *et al*, 1986). Several studies in Thailand revealed that adolescents were more likely than adults to hide a pregnancy, seeking late-term abortions, and having the procedure performed by untrained providers under unsafe conditions, often leading to permanent disability or death (Koetsawang, 1993; Sertthapongkul and Phonprasert, 1993). In addition, among female adolescents, the study revealed that unplanned pregnancy was a major problem

Correspondence: Wanapa Naravage, College of Public Health, Chulalongkorn University, 10th Floor, Institute Building 3, Soi Chulalongkorn 62, Phyathai Road, Bangkok 10330, Thailand.
E-mail: wanapa_naravage@yahoo.com

(Deemar, 1980 cited in Soonthornthada, 1996; Porapakkham *et al*, 1986; Boonmongkon *et al*, 2000).

In Thailand, youth abortion rates are increasing, and the numbers of young women treated for the complications of illegal abortions has increased. More than half of these complication cases were aged 24 years and younger. Of all illegal abortion cases among unmarried women, 48.6% were performed on women age 20-24 years, and 40.5% on those age 15-19 (Warakamin and Boonthai, 2001). Warakamin and Boonthai (2001) also found that 28.8% of cases admitted to hospitals had severe complications, including sepsis (21.6%) and perforated uterus (0.4%). These severe complications may be fatal if left untreated. The study also found 14 cases (0.11%), of all the cases admitted, resulted in death. Major and Gramzow (1999) found that apart from the physical consequences, women who feel stigmatized about their pregnancy are more likely to feel the need to keep it hidden from their families and friends. Secrecy was related positively to suppressing thoughts of abortion and negatively to disclosing related emotions to others. More importantly, suppression was associated with experiencing intrusive thoughts and distress. Both suppression and intrusive thoughts were positively related to psychological distress over time. Moreover, the complications resulting from unsafe abortions were a major cause of death among these young women. Because these young women had a limited knowledge of their options, they lacked the confidence and could not afford access to the health care system, which often resulted in complications. Apart from the physical consequences, psychological trauma can occur in many women.

This study aimed to identify the factors (variables) influencing women's decision making when choosing from the options available to them (abortion, parenting, and adoption) to allow us to understand women's use of services with some degree of confidence.

MATERIALS AND METHODS

Subjects

Data were collected for five months, November 2003 to March 2004 from five shelters located in Bangkok and on the outskirts of Bangkok. The subjects were selected from the population of women staying temporarily in these shelters or who lived in low-income communities in Bangkok, Thailand. Because the study issue is sensitive, only voluntary subjects were chosen. Participants were selected based on the following criteria: 1) women age 13-24 who had experienced an unplanned pregnancy at least once, or 2) women currently experiencing unplanned pregnancies, including young women in and out of school, married or unmarried. One hundred twenty women were enrolled in the study.

Instruments

Structured interviews were used to assess the socio-demographic characteristics and other factors that influenced the women's decisions to opt for abortion, parenting, or adoption.

Data analysis

The data were analyzed using SPSS PC version 10.0 program (Coakes and Steed, 2001). To fulfill the objectives of the study, data analysis was divided into 2 parts: 1) descriptive statistics of frequencies and percentages of distribution were calculated to depict the socio-demographic characteristics of the sample, and 2) discriminant analysis was used to identify which variables could influence the women's decisions when faced with the problem. There were three groups of dependent variables, or choices, for the women with unplanned pregnancy: abortion (terminating the pregnancy), adoption, or parenting. Thus, in this discriminant analysis, the Y variable was a qualitative or nonmetric measure and the Xs, both metric and nonmetric, were selected to maximize the differences between the groups of choices (abortion, parenting, and adoption). Moreover, in the discriminant analysis, several variables were considered, and the combination of these variables maximized the F ratio (or mean difference between the groups), which was called the dis-criminant function, as shown below:

$$YD = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_p X_p \quad \ldots\ldots\ldots\ldots\ldots (1)$$

Where

YD (Y) = It was a function of X's.

$X_1, X_2, \ldots, X_p$ = Independent variables or discriminating factors.

$\beta_0, \beta_1, \beta_2, \ldots \beta_p$ = The Betas are selected to maximize the F ratio or differences between the groups (abortion, parenting, or adoption).

Discriminating variables

As shown in Fig 1, there were three groups of discriminating variables: 1) personal history, 2) individual psychosocial factors, and 3) relationship with partner, parents, and friends.

The personal history, included: age, age at first sexual intercourse, age of the most recent unplanned pregnancy, number of sexual partners, and number of unplanned pregnancies. The individual psychosocial factors were attitude towards sexuality, contraception, pregnancy, service facilities and personnel, and consultation during the crisis. Consultation while in crisis was classified as consulting friends, partner, parents, and making decision without consultation, which were entered into the analysis as dummy variables. The attitude towards sexuality, contraception, pregnancy, and service facilities and personnel comprised 16 items (4 items for each topic). It was adapted from the Likert Scale, with ratings ranging from 1 to 3; agree, neutral, and disagree, respectively, whereas the Likert Scale assigns a 5-rating scale. The high attitudinal scores showed a positive attitude towards the topic, whereas a negative attitude showed in lower scores. The third group of variables was relationship scores, represented by relationships with partner, parents, and friends. High scores showed a good relationship, whereas a low score showed the opposite.

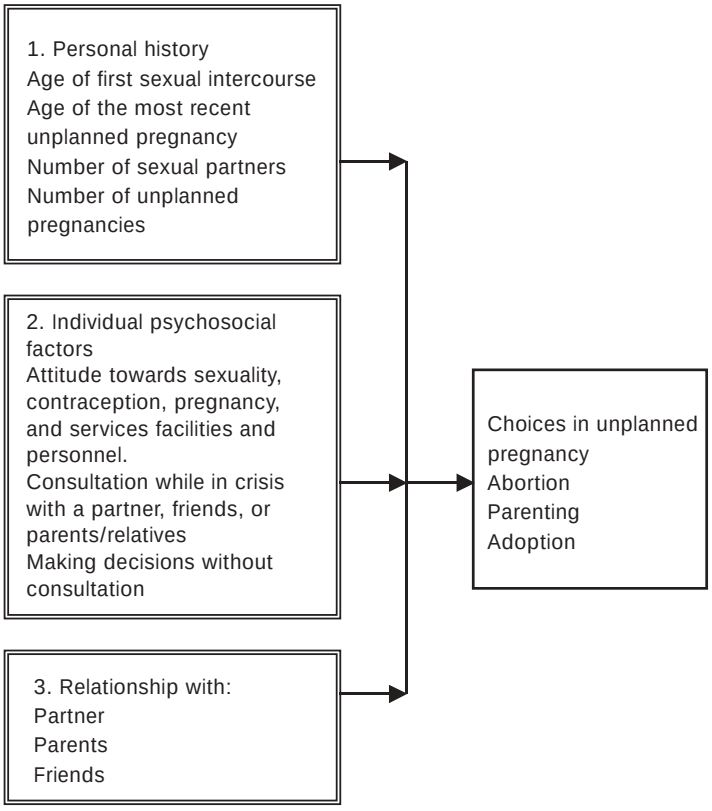

Fig 1–Influencing variables (factors) for the choices of young women with unplanned pregnancies.

RESULTS

Socio-demographic characteristics of the sample population

To classify the subjects, the sociodemographic characteristics are presented in Table 1. The total number of subjects was 120. There were 32 cases of electively terminating the pregnancy, 58 cases of raising the babies themselves, and 30 cases of putting the baby up for adoption. More than half (56.7%) of the subjects were in early adulthood (20-24 years old). Referring to the development stage, 3 out of 5 early adolescents chose to terminate their pregnancies, and the other 2 subjects put their baby up for adoption. No subject at this age kept and raised the baby themselves. The majority of women (57.4%) in the early adult stage (20-24 years old) decided to raise the babies themselves. Half of the women who carried their babies to term, who chose to either parent or give up for adoption, had education levels higher than grade 10, whereas nearly half of the women

who terminated their pregnancies had completed grades 5-10. The overall employment picture shows that onefourth of the subjects were students and onefifth were unemployed, the remainder, more than half, were working. The majority of the women who raised the babies themselves (63.8%) were working, while a higher proportion of unemployed women terminated pregnancies than those who chose to raise or give up for adoption (37.5, 15.5, and 10.0%, respectively). The group that chose to raise their children showed the highest percentage of living with others, or living alone, and the lowest percentage of living with their parents. More than half (51.7%) of the women's parents were separated or remarried. The women who gave their babies up for adoption had the highest percentage of parental separation or remarriage. Most of the women who gave their babies up for adoption stated their parents had completed grades 0-4. Some did not know their parents' educational background because their parents were separated, had passed away, or had abandoned them when they were children.

Table 1
Distribution of frequencies and percentages of socio-demographic characteristics by choice in unplanned pregnancies.

Socio-demographic characteristics	Choices			
	Abortion (%)	Parenting (%)	Adoption (%)	Total (%)
Age group (years)				
13-14 (Early adolescent)	3 (9.4)	0 (0.0)	2 (6.7)	5 (4.2)
15-19 (Late-adolescent)	11 (34.4)	19 (32.8)	17 (56.7)	47 (39.2)
20-24 (Early adulthood)	18 (56.3)	39 (67.2)	11 (36.7)	68 (56.7)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)
Education (grade)				
0-4	4 (12.5)	11 (19.0)	6 (20.0)	21 (17.5)
5-10	15 (46.9)	18 (31.0)	9 (30.0)	42 (35.0)
> 10	13 (40.6)	29 (50.0)	15 (50.0)	57 (47.5)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)
Occupation				
Working	11 (34.4)	37 (63.8)	17 (56.7)	65 (54.2)
Studying	9 (28.1)	12 (20.7)	10 (33.3)	31 (25.8)
Unemployed/housewife	12 (37.5)	9 (15.5)	3 (10.0)	24 (20.0)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)
Living status before/during pregnancy				
Living with father/mother/parents	14 (43.8)	12 (20.7)	15 (50.0)	41 (34.2)
Living with others/alone	18 (56.3)	46 (79.3)	15 (50.0)	79 (65.8)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)
Parental marital status				
Having relationship	15 (46.9)	32 (55.2)	11 (36.7)	58 (48.3)
No relationship	17 (53.1)	26 (44.8)	19 (63.3)	62 (51.7)
Total	32 (100.0)	586 (100.0)	30 (100.0)	120 (100.0)
Mother's education level (grade)				
0-4/do not know	22 (68.8)	46 (79.3)	30 (100.0)	98 (81.7)
> grade 4	10 (31.3)	12 (20.7)	0 (0.0)	22 (18.3)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)
Father's education level (grade)				
0-4/do not know	22 (68.8)	43 (74.1)	27 (90.0)	92 (76.7)
> grade 4	10 (31.3)	15 (25.9)	3 (10.0)	28 (23.3)
Total	32 (100.0)	58 (100.0)	30 (100.0)	120 (100.0)

Table 2
Means and standard deviations (SD) of independent variables (factors) for abortion, parenting, and adoption.

Variables (Factors)	Choices of the young women							
	Abortion		Parenting		Adoption		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Personal history (years)								
Age at first sexual intercourse	16.5	2.7	17.5	2.3	16.5	2.0	17.0	2.4
Age of the most recent UP[a]	17.6	3.0	19.8	2.6	17.6	2.5	18.7	2.9
Number of sexual partners	1.4	0.9	1.6	0.7	1.1	0.8	1.4	0.8
Number of UP[a]	1.2	0.5	1.3	0.4	1.2	0.4	1.2	0.4
Individual psychosocial factors (scores)								
Attitude towards contraception	3.9	1.8	5.1	1.5	4.7	1.4	4.7	1.6
Attitude towards sexuality	5.8	1.4	6.3	1.1	6.4	1.1	6.1	1.2
Attitude towards UP[a]	4.0	1.6	5.4	1.8	4.5	2.0	4.8	1.9
Attitude towards facility and personnel	4.2	1.7	4.7	1.8	4.4	2.0	4.5	1.8
Making decision without consultation	0.1	0.2	0.3	0.4	0.1	0.3	0.2	0.4
Consult partner	0.4	0.5	0.4	0.5	0.1	0.3	0.3	0.5
Consult friends	0.2	0.4	0.2	0.4	0.3	0.5	0.2	0.4
Consult parents/relatives	0.3	0.5	0.2	0.4	0.4	0.5	0.3	0.4
Relationship with (scores):								
Partner	5.6	2.3	4.8	2.4	3.3	2.3	4.7	2.5
Parents	4.5	1.9	4.7	2.5	4.9	2.6	4.7	2.4
Friends	6.2	1.5	5.8	2.5	5.3	2.8	5.8	2.3

UP[a] = Unplanned pregnancy

Discriminant analysis

Table 2 shows the group means, which provides an outline of how each variable distinguishes between the choices of the young women with unplanned pregnancies.

Wilk's Lambda and F test

Table 3 shows the Wilk's Lambda or univariate test, which is the ratio of within-group sum of squares (SSW) to the total-sum of squares (SS). When most of the total variability was attributable to group means, or when group means differed, the value of Lambda was close to 0. From the study variables shown in Fig 1, 6 out of 15 variables - , age of the most recent unplanned pregnancy, attitude towards contraception, attitude towards unplanned pregnancy, consult partner while in crisis, and make decision without consultation, and relationship with partner - showed a lower Wilk's Lambda with statistical significance. Considering the F-statistic values and the corresponding significant level with 2 and 117 de-grees of freedom, it can be concluded that these variables played significant roles in influencing choices for women with unplanned pregnancies.

Discriminant function coefficient

In order to determine whether a function is significant, it must be understood that the number of functions equals the number of groups minus one. In this study, there were three groups (abortion, parenting, and adoption), and thus there were 3-1 = 2 functions. Thus, there were two functions in the analysis. As shown in Table 4, both functions were significant, at 0.000 and 0.021 respectively. Thus, when looking at the standard canonical discriminant function coefficient below, both functions were used, because both of them yielded significant results. Table 4 shows the values of the standardized discriminant function coefficients for all variables. The variables with large coefficients contributed more to the overall discriminant function. Since an

Table 3
Tests of equality of group means.

Variables (Factors)	Wilk's Lambda	F	df1	df2	p-value
Personal history					
Age at first sexual intercourse	0.959	2.51	2	117	0.085
Age of the most recent UP[a]	0.853	10.11	2	117	0.000
Number of sexual partners	0.954	2.83	2	117	0.063
Number of UP[a]	0.994	0.332	2	117	0.718
Individual psychosocial					
Attitude towards contraception	0.915	5.43	2	117	0.006
Attitude towards sexuality	0.961	2.39	2	117	0.095
Attitude towards UP[a]	0.894	6.96	2	117	0.001
Attitude towards facility and personnel	0.986	0.85	2	117	0.428
Making decision without consultation	0.950	3.06	2	117	0.050
Consult partner	0.917	5.29	2	117	0.006
Consult friends	0.972	1.67	2	117	0.191
Consult parents/relatives	0.927	4.57	2	117	0.012
Relationship with:					
Partner	0.884	7.67	2	117	0.001
Parents	0.996	0.22	2	117	0.799
Friends	0.980	1.22	2	117	0.298

UP[a] = Unplanned pregnancy; df = degrees of freedom

Table 4
Standardized canonical discriminant function coefficients.

Variables (Factors)	Standardized	
	Function 1	Function 2
Personal history		
Age at first sexual intercourse	-0.434	0.210
Age of the most recent unplanned pregnancy	0.836	0.038
Number of sexual partners	-0.021	0.418
Number of unplanned pregnancies	-0.022	-0.230
Individual psychosocial		
Attitude towards contraception	0.406	-0.233
Attitude towards sexuality	0.347	-0.246
Attitude towards unplanned pregnancy	0.538	0.023
Attitude towards facility and personnel	0.052	-0.109
Making a decision without consultation	0.525	-0.011
Consult partner	0.431	0.279
Consult friends	0.211	-0.207
Relationship with:		
Partner	0.002	0.523
Parents	0.270	-0.112
Friends	-0.131	0.298

Remark: Consult parents/relatives was not used in the analysis because it did not pass the tolerance test.

Table 5
Summary of important values for canonical discriminant functions.

Function	Eigenvalue % variance	of %	Cumulative correlation	Canonical Lambda	Wilk's	χ^2	df	p-value
1	0.524[a]	67.1	67.1	0.586	0.522	71.815	28	0.000
2	0.275[a]	32.9	100.0	0.452	0.795	25.287	13	0.021

[a] = First 2 canonical discriminant functions were used in the analysis.

Table 6
Prediction results.

Choices in UP[a]		Predicted group membership			Total
		Abortion	Parenting	Adoption	
Number	Abortion	23	4	5	32
	Parenting	5	43	10	58
	Adoption	7	6	17	30
%	Abortion	71.9	12.5	15.6	100.0
	Parenting	8.6	74.1	17.2	100.0
	Adoption	23.3	20.0	56.7	100.0

UP[a] = Unplanned pregnancy

unstandardized coefficient was not a good index of the relative importance of variables, standardized coefficient values were used for this purpose. The results of the standardized discriminant function in Table 4 shows correspondence with the Wilk's Lambda or univariate results for the test of mean. The variables that showed large values were age, age of the most recent unplanned pregnancy, attitude towards contraception, attitude towards unplanned pregnancy, making decision without consultation, and consult partner, which were in function 1. For function 2, there was relationship with partner. These variables in both functions were considered important in influencing the choices.

Eigenvalue

The Eigenvalue is the value that indicates the amount of variance accounted for by the function, while the percent of variance is the relative Eigenvalue of the discriminating function. Function 1 in Table 5 shows that the Eigenvalue was 0.524 with 67.1% of variance, whereas function 2 accounted for the rest of the variance at 32.9%. The results are consistent with Wilk's Lamda, *ie*, function 1 showed a smaller Lambda (0.522) than function 2 (0.795). The result from Wilk's Lambda which is a ratio of within-group sum of squares by total-group sum of squares together with the Eigenvalue lead to the conclusion that the function 1, which had the variables of age of the most recent unplanned pregnancy, attitude towards contraception, attitude towards unplanned pregnancy, making decision without consultation, consult partner, as a major contributions, could explain 67.1% of variance and the rest are explained by function 2, whose major contributions came from relationship with partner.

Table 6 reveals how many cases were correctly categorized into a particular group. The results showed that 71.9% of abortion cases were correctly classified, while the other two groups, parenting and adoption, were correctly categorized at 74.1% (43/58), and 56.7% (17/30), respectively. The total percent of cases correctly classified in the study was 69.2%. It can be concluded that the variables in the study represented 69.2% predictive accuracy. This result was satisfied compared with 33% chance accuracy (classified by chance alone would yield

33% accuracy).

Discussion, this study sought to determine the factors (variables) that influenced the choices of the young women with unplanned pregnancies, who opted for abortion, parenting, or adoption. Discriminant analytical methods were used to examine the factors that influenced women's decision-making, and their choices.

The results indicate several factors at two levels (individual and family) that showed statistical significance. Of the 15 study variables, 6, (age of the most recent unplanned pregnancies, attitude towards contraception, attitude towards unplanned pregnancy, making a decision without consultation, relationship with partner, and consulting partner when having a problem) influenced the choices of the young women. However, many external factors were not studied, including society, the community, and most importantly abortion law, which impact upon the choices of young women with unplanned pregnancies. Knowing the influencing factors for the choices of young women with unplanned pregnancies allows explaining the women's decisions and their utilization of services with some degree of confidence.

DISCUSSION

The results suggested that in order to lower the rates of unplanned pregnancies and their consequences, attitudinal training about sexuality and preventing unplanned pregnancy should be taught in schools, in collaboration with the home, before completion of grade 6. Sex education should be comprehensive and consistent. It is expected that effective sex education in schools will help young women make their decisions based on rationality. It will also make them well-informed about the risks involved in having sex and aware of the immediate options available to them if an unplanned pregnancy occurs.

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