

Prevalence and determinants of unwanted pregnancy in south of Iran, Bandar Abbas

Mehrdad pakdaman¹, Sedighe Abedini², Amin Ghanbarnejad^{3*}, Sahar Karimi⁴

¹. MD, Hormozgan Fertility & Infertility Research Center, Hormozgan Center, Hormozgan University of Medical Sciences, Bandarabbas, Iran

² PhD student of maternal and child health, Dept of public health, School of Health Department of Research and Technology, Hormozgan University of Medical Sciences, Bandarabbas, Iran.

³. MSc. Biostatistics, Research Center for social determinants in health promotion, school of health, Department of Research and Technology, Hormozgan University of Medical Sciences, Bandarabbas, Iran.

⁴. Student Research Committee, Department of Research and Technology, Hormozgan University of Medical Sciences, Bandarabbas, Iran.

Abstract: Unplanned pregnancy is one the most severe public health risk which affects many women all around the world. Surveys indicated among 210 million pregnancies that occur throughout the world each year 38% are unintended. In this cross-sectional study, a sample of 305 female were selected using cluster sampling design from women referred to health centers of Bandar Abbas city where is located in south of Iran. The data was analyzed using chi-square, fisher exact test, odds ratio and multiple logistic regression in SPSS 16. The prevalence of unwanted pregnancy was reported 42.3% in this study. Based on logistic regression, spouse's age, gravidity, experiencing unwanted pregnancy and marriage duration was significant factors on unwanted pregnancy. The results of this study show the importance of improving contraceptive usage among women aged between 20 and 29, which are more vulnerable. Also, using long acting contraceptive methods can prevent unwanted pregnancies among people who use them inconsistently and incorrectly.

[Mehrdad pakdaman, Sedighe Abedini, Amin Ghanbarnejad, Sahar Karimi. **Prevalence and determinants of unwanted pregnancy in south of Iran, Bandar Abbas.** *Life Sci J* 2014;11(1s):117-121]. (ISSN:1097-8135). <http://www.lifesciencesite.com>. 19

Key Word: Unwanted Pregnancy, Prevalence, Bandar Abbas, Logistic Regression

1. Introduction

Unplanned pregnancy is one the most severe public health risk which affects many women all around the world (Sedgh et al, 2006). Surveys indicated among 210 million pregnancies that occur throughout the world each year 38% are unintended (Shokravi & Chapman, 2004). Despite the emotional effect of unplanned pregnancy it can lead to abortion (Shokravi & Chapman, 2004). The Alan Guttmacher Institute reports 22% of unintended pregnancy would not continue and end in abortion. Worldwide, 27 million women have legal abortions every year, and 19 million do not have legal abortions (Shokravi & Chapman, 2004). Because abortion is not usually legal in Iran except to save a woman's life, many procedures are conducted under unsafe conditions and carry a substantial risk of maternal morbidity and mortality. Then As a result of abortion complications, due to excessive bleeding, rupture of the uterus or infection, lots of women die while others are unnecessarily exposed to life-long physical and psychological sufferings and many women put their lives and health at risk (Shokravi & Chapman, 2004; Åhman & Shah, 2002). Among the estimated 600'000 pregnancy related deaths every year, almost 13% are related to complications of unsafe abortions (Shokravi & Chapman, 2004). The persistence of

unsafe abortion shows the failure of family planning programs in meeting the fertility regulating needs of couples and women (Shokravi & Chapman, 2004). By Preventing unplanned pregnancies through expanded and improved family planning services which include the appropriate method mix should always given the highest priorities (United Nations, 1997).

2. Research Method

In this cross-sectional study, a sample of 305 female were selected using cluster sampling design from women referred to health centers of Bandar Abbas city where is located in south of Iran. The health centers coverage for household in this city was 97%, so the sample is highly representative of whole community. In the next stage, we collected data from women by means of a researcher-made questionnaire through interview with them. The questionnaire contains socio-demographic and reproductive characteristics which are related to condition and type of pregnancy. All women were married; this is because of the culture of this region. Data was analyzed using chi-square and Fisher exact test to evaluate the relationship between unwanted pregnancy rate and associated factors. Then crude odds ratio for each independent variables based on type of pregnancy (unwanted/wanted) reported. At

the later phase of study, we examine the determinants factor on unwanted pregnancy by a binary logistic model and obtain the adjusted odds ratio. 95% confidence interval was reported for the odds ratios.

3. Result:

129 of 305 women (42.3%) participated in the study reported that their last pregnancy was

unwanted. Most of the women were in age group 25-35 years. 55 out of 129 female with unwanted pregnancy were intended to abortion (42.6%). 68.2 % of unintended pregnant women used a contraceptive. Descriptive statistics for the socio-demographic factors for all subjects studied in the research are depicted in Table 1.

Table 1. Descriptive statistics for socio-demographic factors

Factors	Unwanted pregnancy (n=129)		Wanted Pregnancy (n=176)		Total subjects (n=305)	
	count	Percent	Count	Percent	count	Percent
Age						
18-24 years	34	26.4	45	25.6	79	25.9
25-35 years	58	45	102	58	160	52.5
More than 35	37	28.6	29	16.4	66	21.6
Spouse's Age						
19-27 years	27	20.9	30	17	57	18.7
28-38 years	48	37.2	110	62.5	158	51.8
More than 38	54	41.9	36	20.5	90	29.5
Job status						
Housewives	115	89.1	158	89.8	273	89.5
working	14	10.9	18	10.2	32	10.5
Education						
illiterate	13	10.1	2	1.1	15	4.9
Under diploma	74	57.4	92	52.3	166	54.4
Diploma/college degree	42	32.6	82	46.6	124	40.7
Spouse's education						
illiterate	13	10.1	3	1.7	16	5.2
Under diploma	70	54.3	95	54	165	54.1
Diploma/college degree	46	35.6	47	26.7	89	26.2
Gravidity						
1	36	27.9	103	58.5	139	45.6
2	33	25.6	47	26.7	89	26.2
≥ 3	57	44.1	25	14.2	82	26.9
No. of alive children						
1	38	29.5	106	60.2	144	47.2
2	34	26.4	45	25.6	79	25.9
≥ 3	57	44.1	25	14.2	82	26.9
Years past marriage						
Less than 3 years	16	12.4	14	8	30	9.8
3 – 8 years	33	25.6	83	47.2	116	38
More than 8 years	80	62	79	44.8	159	52.2
No. of previous unwanted pregnancies						
0	64	49.6	156	88.6	220	72.1
1	58	45	15	8.5	73	23.9
≥ 2	7	5.4	5	2.8	12	3.9
Time interval to last pregnancy						
Less than 2 years	42	32.5	33	18.8	75	24.6
2 – 4 years	46	35.7	90	51.1	136	44.6
More than 4 years	41	31.8	53	30.1	94	30.8

The chi-square and fisher exact test for evaluate the relationship between factors in study and type of pregnancy was conducted and the results are shown in table 3. As seen in table 3, the effect of women and their spouses' age, women and spouses' education,

number of last pregnancy, the number of alive children, number of previous unwanted pregnancies, years past marriage and time interval between current and last pregnancy were significant on unwanted pregnancy.

Table 2. Relationship between Socio-demographic characteristics and unwanted pregnancy

Characteristics	Total	No. of unwanted pregnancies (%)	P-value
Age			
18-25 years	79	34 (43%)	0.023
25-35 years	160	58 (36.2%)	
More than 35	66	37 (56.1%)	
Spouse's Age			
19-28 years	57	27 (47.4)	<0.001
28-38 years	158	48 (30.4)	
More than 38	90	54 (60)	
Job status			
Housewives	273	115 (42.1)	.86
Working	32	14 (43.8)	
Education			
Illiterate	15	13 (86.7)	<0.001
Under diploma	166	74 (44.6)	
Diploma/college degree	124	42 (33.9)	
Spouse's education			
Illiterate	16	13 (81.2)	0.003
Under diploma	165	70 (42.4)	
Diploma/college degree	124	46 (37.1)	
Gravidity			
1	139	36 (25.9)	<0.001
2	80	33 (41.2)	
≥ 3	86	60 (69.8)	
No. of alive children			
1	144	38 (26.4)	<0.001
2	79	34 (43)	
≥ 3	82	57 (69.5)	
Years past marriage			
Less than 3 years	30	16 (53.3)	.001
3 – 8 years	116	33 (28.4)	
More than 8 years	159	80 (50.3)	
No. of previous unwanted pregnancies			
0	220	64 (29.1)	<0.001
1	73	58 (79.5)	
≥ 2	12	7 (58.3)	
Time interval to last pregnancy			
Less than 2 years	73	41 (56.2)	.007
2 – 4 years	136	46 (33.8)	
More than 4 years	94	41 (43.6)	

In the next step, we reported the odds ratio for the variables had significant effect on unwanted pregnancy based on chi-square test. The result was shown in table 3.

We investigate the relationship between socio-demographic and reproductive determinants with unwanted pregnancy through a logistic regression model. We applied the logistic regression using conditional method. The result of the model has shown in table 4. Based on the model, spouse's age and marriage duration had a negative effect on unwanted pregnancy and the gravidity and having a history of unwanted pregnancy had a positive effect on unwanted pregnancy.

Table 3. Odds Ratios of unwanted pregnancy by socio-demographic factors

Characteristics	OR (95% CI)	P-value
Age		
18-25 years	1	
25-35 years	.753 (.434-1.311)	.315
More than 35	1.68 (.869-3.281)	.123
Spouse's Age		
19-28 years	1	
28-38 years	.487 (.26-.91)	0.02
More than 38	1.66 (.848-3.271)	0.139
Job status		
Housewives	1	
Working	1.071 (.501-2.247)	0.857
Education		
Illiterate	1	
Under diploma	.132 (.018-.597)	.002
Diploma/college degree	.085 (.012-.743)	<0.001
Spouse's education		
Illiterate	1	
Under diploma	.178 (.038-.586)	.003
Diploma/college degree	.143 (.03-.48)	.001
Gravidity		
1	1	
2	.2 (1.11-3.61)	.002
≥ 3	6.52 (3.62-12.03)	<0.001
No. of alive children		
1	1	
2	1.66 (.95-2.93)	.07
≥ 3	4.98 (2.81-9.04)	<.0001
Years past marriage		
Less than 3 years	1	
3 – 8 years	.35 (.15-.80)	0.01
More than 8 years	0.89 (.40-1.95)	.937
No. of previous unwanted pregnancies		
0	1	
1	9.28 (5.01-18.17)	<0.001
≥ 2	3.36 (1.01-12.08)	0.04
Time interval to last pregnancy		
Less than 2 years	1	
2 – 4 years	.40 (.22-.72)	0.002
More than 4 years	.61 (.33-1.12)	.113

Table 4. Results of Logistic Regression model

Factors	OR	95% CI for OR	P-Value
Spouse's Age			
19-28 years	1		
28-38 years	0.45*	(0.21 – 0.97)	.043
More than 38	0.7	(0.27 – 1.84)	.472
Gravidity			
1 (ref)	1		
2	3.22*	(1.39 – 7.47)	.007
≥ 3	4.98*	(1.88 – 13.19)	.001
History of unwanted Pregnancy			
No	1		
Yes	4.68*	(2.13 – 9.50)	<.001
Years past marriage			
Less than 3 years (ref)	1		
3 – 8 years	0.29*	(0.11 – 0.72)	.008
More than 8 years	0.20*	(0.06 – 0.68)	.01
constant	1.304		.527

*: The reported OR was significant at level 0.05

4. Discussion

This study was conducted to determine the prevalence of unintended pregnancy and factors related to it. The prevalence of unintended pregnancy was 42.2 percent. Finer et al reported that 49% of the pregnancies inside the United States are either unintended or mistimed (Finer & Henshaw, 2006). Also, 35% of the pregnancies in Masvingo (Mbizvo et al. 1997) and 40% of them in Harare (Mbizvo et al. 1997) were unintended. Our study showed that women aged 25 to 35 years old have the highest rate of unintended pregnancies, while those aged from 18 to 24 years have the lowest pregnancy. Finer et al showed in their study that the rate of unintended pregnancy was higher in women aged 18 to 24, while girls aged below 18 had the lowest rate (Finer & Henshaw, 2006). Lindberg also reported that most of the women (65%) with unwanted pregnancies were in the 18 to 24 age group (Lindberg, 2011). Mbizvo showed that women aged between 20 and 24 experience unintended pregnancies more than the other age groups (Mbizvo et al, 1997). This difference may be due to the culture, and their religious beliefs, where it is hard to become sexually active at younger ages and before marriage. Studies have showed that even in less religious cultures, where teenagers are more exposed to sexual conditions, less than 50% of the women below 19 years of age are sexually active (Chandra et al, 2005). Also, another issue is that due to the stigma of pregnancy among unmarried women, a large portion of them perform illegal abortions with unsanitary methods. Mentouchet and Trussell showed in their study that induced abortion occurs more than twice in the 19 to 24 years age group who are involved with unintended pregnancy (Montouchet & Trussell, 2011). Also, 89.1% of the women with unintended pregnancy were housewives. In Mbizvo's study this number was reported to be 80.4% which was consistent with our results (Mbizvo et al, 1997). Smith et al reported that about half of employed women who become pregnant take paid maternity leave and a quarter of them quit their job. This shows that women who are in reproductive age are more costly employers and makes them less competitive job applicants and may result in higher unemployment in them (Smith, Downs and O'connell, 1995). This can cause massive cultural effects on the society and women's quality of life. In our study, most of the women with unwanted pregnancy never finished high school (67.5%). Lindberg showed in her study that women with an educational level below high school have more unintended pregnancies (59%) (Lindberg, 2011). Mbizvo reported that 98.6% of the participants had an educational level below high school (Mbizvo et al. 1997). This may be the result of sex educational classes that are carried out in schools and shows their

importance. The results of this study showed that women with unwanted pregnancy experienced more pregnancies than the others (44.1% experienced three or more pregnancies), however, this was the first unintended pregnancy of most of the participants (49.6%). This was inconsistent with Mbizvo's results which showed that 46.4% of the women with unintended pregnancies were never pregnant (Mbizvo et al, 1997). One of the limitations of this study was that the high prevalence of unintended and mistimed pregnancy and the costs it imposes on the society shows the importance of its prevention. Studies have stated that unintended pregnancies occur among people who know the importance of contraceptives, but still, do not use it correctly or consistently (Montouchet & Trussell, 2011; Trussell, 2007, 2004). The results of this study show the importance of improving contraceptive usage among women aged between 20 and 29, which are more vulnerable. Also, using long acting contraceptive methods can prevent unwanted pregnancies among people who use them inconsistently and incorrectly.

Corresponding author:

Amin Ghanbarnejad, MSc. Biostatistics, Research Center for social determinants in health promotion, school of health, Department of Research and Technology, Hormozgan University of Medical Sciences, Bandarabbas, Iran.

Tel: 0989177684553,

Email: amin.ghanbarnejad@gmail.com

Reference

1. Åhman, E. and I. Shah, Unsafe abortion: worldwide estimates for 2000. *Reproductive Health Matters*, 2002. 10(19): p. 13-17.
2. Chandra, A., et al., Fertility, family planning, and reproductive health of U.S. women: data from the 2002 National Survey of Family Growth. *Vital Health Stat 23*, 2005(25): p. 1-160.
3. Finer, L.B. and S.K. Henshaw, Disparities in rates of unintended pregnancy in the United States, 1994 and 2001. *Perspect Sex Reprod Health*, 2006. 38(2): p. 90-6.
4. Lindberg, L.D., Unintended pregnancy among women in the US military. *Contraception*, 2011. 84(3): p. 249-51.
5. Okonofua, F.E., et al., Assessing the prevalence and determinants of unwanted pregnancy and induced abortion in Nigeria. *Studies in Family Planning*, 1999. 30(1): p. 67-77.
6. Mbizvo, M.T., et al., Unplanned pregnancies in Harare: what are the social and sexual determinants? *Soc Sci Med*, 1997. 45(6): p. 937-42.
7. Mbizvo, M.T., et al., Unplanned pregnancies in Harare, Zimbabwe: what is the contraceptive history and awareness of the mothers? *Cent Afr J Med*, 1997. 43(7): p. 200-5.
8. Montouchet, C. and J. Trussell, Unintended pregnancies in England in 2010: costs to the National Health Service (NHS). *Contraception*, 2012.
9. Sedgh, G., et al., Unwanted pregnancy and associated factors among Nigerian women. *International Family Planning Perspectives*, 2006: p. 175-184.
10. Shokravi Amin, F. and P. Howden Chapman, A study on the effective factors of unwanted pregnancies in pregnant women of Tehran city. *Journal of Reproduction and Infertility*, 2004: p. 249-258.
11. Smith, K.E., B. Downs, and M. O'connell, *Maternity Leave and Employment Patterns, 1961-1995*. 2001: US Department of Commerce, Economics and Statistics Administration, US Census Bureau.
12. Trussell, J., The cost of unintended pregnancy in the United States. *Contraception*, 2007. 75(3): p. 168-70.
13. Trussell, J., Contraceptive efficacy. *Arch Dermatol*, 1995. 131(9): p. 1064-8.
14. Trussell, J., Contraceptive failure in the United States. *Contraception*, 2004. 70(2): p. 89-96.
15. United Nations, N.Y., *World population prospects The 2000 revision*. Vol. 1: comprehensive tables. 1989.

1/9/2014