Attitude of Reproductive Age Women towards Factors Affecting Induced Abortion in Hamedan, Iran

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A R T I C L E I N F O	A B S T R A C T
Article type: Original article *Article History:* Received: 15-Nov-2015 Accepted: 11-May-2016 *Key words:* Attitude Induced Abortion Reproductive Age	***Background & aim:*** Abortion is the third leading cause of maternal mortality. The attitude of women towards abortion is one of the most important factors involved in this procedure. This study aimed to evaluate the attitude of women of reproductive age towards induced abortion. ***Methods*** This cross-sectional study was performed on 450 women of reproductive age in Fatemieh Hospital in Hamedan, Iran in 2014. Data was collected using abortion attitude scale consisting of five sections: socioeconomic status, family status, maternal and fetal health status, psychocultural background, and fertility status. Mean score less than three in each domain was considered negative attitude, while scores higher or equal to three indicated positive attitude towards induced abortion. To analyze the data, logistic regression analysis, Chi-square and Fisher's exact tests were performed using SPSS version 21. P value of less than 0.05 was considered statistically significant. ***Results:*** In this study, induced abortion had no significant relationship with family status, maternal and fetal health, and fertility domains (82.1%, 77.3%, and 64.4%, respectively). On the other hand, a relationship was observed between induced abortion and socioeconomic and psychocultural domains of the majority of the participants (61.8% and 56%, respectively). According to the results of logistic regression analysis, the predictors of induced abortion were the attitude towards the effect of abortion on the health of mother and fetus (P= 0.01), as well as the psychocultural status of the mothers regarding this procedure (P= 0.02). ***Conclusion:*** Evaluation of the results indicated a strong belief in the majority of the participants in psychocultural and socioeconomic domains as the most significant predictive factors for induced abortion. Since it is difficult to alter the socioeconomic and psychocultural domains of individuals, changes are recommended in predominant attitudes towards induced abortion.

Introduction

Maternal mortality rate is one of the most important health indices around the world (1). The three major causes of maternal mortality include bleeding, infection, and hypertension. In this regard, induced abortion is one of the most important causes of bleeding and infection, especially in developing countries (2).

Abortion is the third leading cause of maternal mortality, which affects physical, emotional, and social health of women and their

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families (3). This process must be performed before 20 weeks of gestation or fetus weight of less than 500 g (4). Abortion is considered as spontaneous or deliberate termination of pregnancy before the fetus is viable (5,6). Miscarriage or spontaneous abortion follows the natural death of the fetus, without any manipulations. On the other hand, induced abortion, which is one of the most important issues with numerous legal aspects in today's life, is performed by certain techniques (7, 8).

Annually, thousands of pregnant women seek illegal abortion procedures performed under unsafe conditions, to end their unwanted pregnancies (9). Unsafe abortion has led to 13% of all maternal mortalities (10). Every three min one woman loses her life because of abortion. In countries where programmed abortion is illegal, induced abortion has been reported as the most important cause of maternal mortality (11).

Between 1995 and 2003, the abortion rate (abortions per 1,000 women of reproductive age within the age range of 15-44 years) of the world has been reduced from 35 to 29. However, it remained almost unchanged at 28 in 2008 (12). In this regard, there have been no statistics on the annual rate of induced abortions in Iran. According to the available statistics, eighty thousand abortions are performed every year (13).

Clandestine abortion is illegal in most countries (14), with a minimum of 26% of the global population currently inhabiting these countries (15). Socioeconomic costs of clandestine abortions and the relevant post-abortion cares are some of the most important concerns of both women and healthcare systems. Since abortion is illegal in Iran and Iranian women often resort to clandestine and unsafe abortion procedures to terminate their unwanted pregnancies, large amounts of money influx into the clinics that perform this procedure (16, 17).

One of the important factors in induced abortion is women's attitude towards abortion, which has been evaluated in various studies (18, 19). It was determined in a study that women's attitude towards abortion was not affected by age and place of residence. However, a significant relationship was observed between religious beliefs and awareness of women about abortion laws and common attitudes in this regard (18). Meanwhile, in another study, family attitudes and social class were related to the increased positive attitude towards induced abortion (19).

One of the most important causes of formation or modification of women's attitude towards induced abortion has been the effect of different social conditions, which highlights the role of beliefs and attitudes of women. In this study, we used a scale based on a qualitative study of the cultural and social context of Iran. Compared to other studies in this regard, we might be able to determine the areas that require special attention and intervention. The findings of the present study could contribute to the health promotion of Iranian women and designation of effective interventions. Therefore, this study aimed to evaluate the attitudes of women of reproductive age towards induced abortion.

Materials and Methods

This cross-sectional study was performed in Fatima Hospital in Hamedan, Iran in 2014. A total of 450 participants were selected based on a pilot study conducted by the researchers, which was in line with the initial results obtained based on the sample size equation for estimating the mean of a quantitative variable (SD=10.7, $Z_{97.5}$=1.96, df=1). It should be noted that the participants did not complete all the items of the scale; therefore, the total number of the samples was below 450. Data collection was performed using a random number table and interviews with selected mothers.

The abortion attitude scale consisted of five subscales. In this scale, 14 items evaluate the effect of socioeconomic status (e.g., housing status, income, employment status of spouse, and education level) and 10 items are concerned with family status (e.g., marital relationship, addiction of spouse and family members, and time of pregnancy). In addition, nine items focus on maternal and fetal health (e.g., fear of compromised maternal or fetal health due to continuing pregnancy), and 15 questions focus on psychocultural domains (e.g., fetal gender, stress caused by family members, contraceptive method, and concerns regarding pregnancy and childbirth). In addition, 17 items highlight the effect of fertility (e.g., role of spouse in pregnancy decision-making, maternal age at

conception, and number and age interval of children).

A five-point Likert scale, ranging from strongly agree (score: 5) to strongly disagree (score: 1), was used to assess different domains of the abortion attitude scale. Afterwards, the mean score of attitude was calculated in each domain. In this regard, a mean score below three was indicative of negative attitude, while a mean score higher than or equal to three represented positive attitude towards induced abortion.

The reliability and validity of the applied scale, which was based on a mixed method research, have been confirmed in the literature (20). In the present study, to verify the validity, this scale was completed by 10 faculty members (five midwives, three reproductive health professors, and two gynecologists), and the necessary modifications were applied accordingly. In addition, to determine the scale reliability, it was completed within a two-week interval by 15 pregnant women who met the inclusion criteria of the study. In the next stage, the reliability of the scale was confirmed by Spearman-Brown coefficient (r=0.8).

The study population included randomly selected women of reproductive age, referring to Fatemieh Hospital, Hamedan, Iran. After obtaining written consent forms, the participants were voluntarily enrolled in the study. The inclusion criteria were as follows: 1) the age range of 15-45 years, 2) being married, and 3) no prior history of infertility. Mental and psychological diseases were considered as the exclusion criteria.

Data analysis was performed in SPSS version 21, using logistic regression analysis, Chi-square test, and Fisher's exact test. In addition, P-value less than 0.05 was considered statistically significant.

Results

According to the results of this study, the mean age of the participants was 29.13±7.11 years. The majority of the subjects had non-academic education, and about three-quarters of the samples were unemployed. In addition, two-thirds of the participants had a history of one or two pregnancies. In total, 5.3% of the samples had a history of induced abortion and 10% underwent therapeutic abortion (Table 1).

According to Figure 1, induced abortion was not significantly related to family status, maternal and fetal health, or fertility domain in the majority of the subjects. However, a significant relationship was found between induced abortion and socioeconomic and psychocultural domains in the majority of the participants.
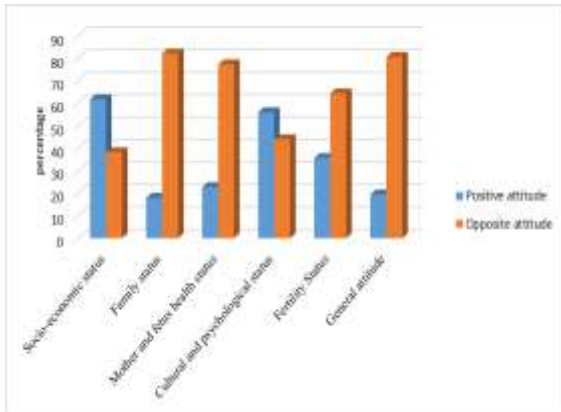
Based on the findings, attitude towards induced abortion was significantly associated with socioeconomic domain and educational level. In fact, rate of positive attitude towards induced abortion was higher among participants with academic education, compared to those

Table 1. Demographics and reproductive characteristics of participants

Variables	N (%)
Demographics	
Age (year)	
<35	334 (74.2)
≥35	69 (15.3)
Education	
Academic	154 (34.2)
Non-academic	293 (65.1)
Occupational status	
Employed	109 (24.2)
Unemployed	337 (74.9)
Reproductive characteristics	
Number of pregnancies	
≤2	299 (66.4)
≥3	80 (17.8)
Duration of marriage (year)	
≤10	303 (67.3)
>10	120 (26.7)
History of induced abortion	
Yes	24 (5.3)
No	426 (94.7)
History of medical abortion	
Yes	45 (10.0)
No	405 (90.0)

† Standard deviation

with non-academic education. In other words, it was determined that socioeconomic status can lead to induced abortion (P=0.02).

Figure 1. Comparison of attitude types of women of reproductive age towards induced abortion in various attitude domains

With regard to the psychocultural domain, our findings revealed that the rate of negative attitude towards abortion was higher among participants with academic education, compared to those with non-academic education, and the difference was statistically significant (P=0.03).

In terms of socioeconomic status, a significant relationship was observed between occupational status and attitude. In addition, a more positive attitude towards abortion was found in employed subjects in comparison with their unemployed counterparts (P=0.02). Assessment of the relationship between age and attitude showed no significant difference in the aforementioned domains (Table 2).

No significant difference was observed between gravidity, duration of marriage, and history of therapeutic abortion on one hand and attitude in different domains on the other hand (P>0.05). Regarding the history of induced abortion, this difference was only found in the domain of fertility status. According to the obtained results, a significant relationship was found between the attitude of individuals with no history of induced abortion and fertility status, compared to those with a prior history of abortion (P=0.04) (Table 3).

In order to predict the participants' attitude towards abortion, domains with P<0.2 were inserted into the logistic regression model. The obtained results indicated a significant relation-ship between induced abortion, attitude of

Table 2. The relationship between demographics of participants and different attitude domains towards induced abortion

		Domains of attitude towards induced abortion										
		Socioeconomic status		Family status		Maternal and fetal health status			Psychocultural status		Fertility status	
		Positive attitude[†]	Opposite attitude[†]	Positive attitude[†]		Negative attitude[†]	Positive attitude[†]	Opposite attitude[†]	Positive attitude[†]	Opposite attitude[†]	Positive attitude[†]	Opposite attitude[†]
Age (year)	< 35	174 (62.6)	104 (37.4)	60 (18.8)		259 (81.2)	70 (21.9)	249 (78.1)	175 (56.8)	133 (43.2)	106 (36.4)	185 (63.6)
	≥ 35	37 (63.8)	21 (36.2)	8 (11.9)		59 (88.1)	12 (17.9)	55 (82.1)	34 (53.1)	30 (46.9)	24 (36.4)	42 (63.6)
	P*	0.86		0.18		0.23			0.58		0.99	
Education	Academic	93 (69.4)	41 (30.6)	21 (14.3)	126 (85.7)	28 (18.9)	120 (81.1)		69 (48.6)	73 (51.4)	45 (32.8)	92 (67.2)
	Non-academic	137 (57.6)	101 (42.4)	54 (19.2)	227 (80.8)	67 (23.8)	214 (76.2)		162 (59.6)	110 (40.4)	94 (36.9)	161 (63.1)
	P*	0.02		0.20		0.24			0.03		0.42	
Occupational status	Employed	68 (71.6)	27 (28.4)	15 (14.9)	86 (85.1)	23 (21.5)	84 (78.5)		60 (60.0)	40 (40.0)	38 (38.8)	60 (61.2)
	Unemployed	161 (58.5)	114 (41.5)	61 (18.8)	264 (81.2)	72 (22.4)	249 (77.6)		171 (54.6)	142 (45.4)	101 (34.6)	191 (65.4)
	P*	0.02		0.36		0.84			0.34		0.45	

[†] N (%), * Chi-square test

Table 3. The relationship between reproductive characteristics of participants and different attitude domains towards induced abortion

		Socioeconomic status		Family status		Maternal and fetal health status		Psychocultural status		Fertility status	
		Positive attitude †	Opposite attitude †	Positive attitude †	Opposite attitude †	Positive attitude †	Opposite attitude †	Positive attitude †	Opposite attitude †	Positive attitude †	Opposite attitude †
Number of pregnancies	≤ 2	157 (60.6)	102 (39.4)	48 (16.7)	240 (83.3)	63 (21.7)	227 (78.3)	152 (54.5)	127 (45.5)	96 (36.5)	167 (63.5)
	≥ 3	37 (59.7)	25 (40.3)	16 (21.1)	60 (78.9)	22 (28.6)	55 (71.4)	40 (53.3)	35 (46.7)	28 (37.8)	46 (62.2)
	P*	0.91		0.37		0.20		0.86		0.83	
Duration of marriage (year)	≤ 10	161 (63.4)	93 (36.6)	55 (19.0)	234 (81.0)	61 (21.0)	229 (79.0)	153 (54.8)	126 (45.2)	87 (33.2)	175 (66.8)
	> 10	58 (58.0)	42 (42.0)	13 (11.1)	104 (88.9)	25 (21.6)	91 (78.4)	64 (56.6)	49 (43.4)	41 (37.6)	68 (62.4)
	P*	0.34		0.053		0.90		0.74		0.41	
History of Induced abortion	yes	8 (50)	8 (50)	1 (4.5)	21 (95.5)	8 (33.3)	16 (66.7)	9 (37.5)	15 (62.5)	3 (15.0)	17 (85.0)
	No	223 (62.3)	135 (37.7)	76 (18.6)	332 (81.4)	90 (22.1)	318 (77.9)	224 (57.1)	168 (42.9)	137 (36.7)	236 (63.3)
	P*	0.32		0.14 **		0.20		0.06		0.04	
History of medical abortion	yes	26 (74.3)	9 (25.7)	7 (17.1)	34 (82.9)	9 (20.5)	35 (79.5)	24 (61.5)	15 (38.5)	18 (46.2)	21 (53.8)
	No	205 (60.5)	134 (39.5)	70 (18.0)	319 (82.0)	89 (22.9)	299 (77.1)	209 (55.4)	168 (44.6)	122 (34.5)	232 (65.5)
	P*	0.10		0.88		0.70		0.46		0.14	

† Number (%), * Chi-square test, ** Fisher's exact test

Table 4. Predictive factors of induced abortion based on different attitude domains among participants with history of induced abortion (logistic regression analysis)

	History of induced abortion (number)		B	†OR (95% CI)	P
	Yes	No			
Family status					
Negative attitude	1	76	1	1	0.25
Positive attitude	21	332	-1.23	0.29 (0.03, 2.43)	
Maternal and fetal health					
Negative attitude	8	90	1	1	0.01
Positive attitude	16	318	1.31	3.72 (1.29, 10.70)	
Psychocultural status					
Negative attitude	9	224	1	1	0.02
Positive attitude	15	168	-1.25	0.28 (0.09, 0.85)	
Fertility status					
Negative attitude	3	137	1	1	0.20
Positive attitude	17	236	-0.84	0.42 (0.11, 1.57)	
Constant			-2.39		

†Odds Ratio

The possibility of induced abortion in the participants with positive attitude towards maternal and fetal health was 3.72 times higher than cases with negative attitudes. In addition, the possibility of abortion in subjects with positive attitude towards psychocultural status was lower

than those with negative attitudes (Table 4).

Discussion

In total, 80.6% of the participants had negative attitudes towards induced abortion, which was in line with the findings of some previous studies in Iran. In a study by Naghizadeh et al., it was concluded that the majority of the samples were opposed to illegal abortion (21). In addition, Jarahi et al. indicated that 71% of women had negative attitudes towards induced abortion (22).

In the present study, evaluation of different domains of attitude demonstrated that 61.8% of the participants had positive attitudes towards the relationship between socioeconomic status and induced abortion. Moreover, the attitude of the majority of the samples was positive towards the relationship between psychocultural domain and induced abortion. Evaluation of other domains revealed that 17.9%, 22.7%, and 35.6% of the research units had a positive attitude towards family status, maternal and fetal health, and fertility status, respectively.

Although illegal abortion in Iran is unethical, there is still a positive attitude in women of reproductive age towards this procedure. However, women should be educated about the possible risks of illegal abortion, since it is one of the five leading causes of maternal mortality at young age. In this regard, the major factors for maternal mortality include septicemia, uterine rupture, and bleeding (23). Moreover, Jarahi et al. demonstrated that the majority of the participants were unaware of national criminal laws for induced abortion, high risk of mortality, dis-abilities, and psychological problems of mothers, caused by unsafe abortions (22).

The relationship between demographics of the participants and different domains of their attitude towards induced abortion were evaluated in the present study. The results indicated that a more positive attitude towards induced abortion in the domain of socioeconomic status was observed among the participants with higher education, compared to those with non-academic education.

In a study by Saraie et al. (2006) in Tehran, Iran a significant relationship was found between social class and attitude towards abortion (19). Since educated and employed subjects are the more active members of the society, it is possible that they would seek welfare of their children and themselves. In addition, having more children is considered as an obstacle to these people to maintain and promote their job position and further their education. Therefore, they believe that socioeconomic factor is one of the factors associated with induced abortion.

The results of the present study were also indicative of a relationship between negative attitudes towards induced abortion and psycho-cultural status, which was higher in the participants with higher education compared to those with non-academic education. In a study conducted in Nigeria in 2010, it was observed that cultural beliefs provide a background for induced abortions in unwanted pregnancies (24). It seemed less likely to observe unwanted pregnancies in the participants with higher education due to their greater awareness of contraception.

Moreover, compared to the subjects with no academic education, these people might not perform abortion because of psychological factors such as the gender of fetus or pressures of the family members. Consequently, no relationship was observed between induced abortion and psychocultural status in the subjects with academic education compared to those with lower literacy level.

In regard to the age of the participants, the findings indicated no significant relationship between age and attitude in different domains, which was in congruence with the study by Jarahi et al. in Mashhad in 2009 (22). In a study by Movahed et al. conducted on samples aged 18-29 years, a significant relationship was observed between age and attitude towards abortion. However, the results of this study were inconsistent with our findings due to the difference in the age range of the studied participants (25).

According to the obtained findings, a relationship was observed between negative attitude towards induced abortion and the fertility status of the participants with a history of induced abortion. In other words, participants with a history of abortion had a more negative attitude towards this procedure in comparison with their counterparts. In addition, among this group, the role of other factors in induced abortion was probably much more evident than this factor.

The results of the current study revealed no significant relationship between the number of pregnancies, duration of marriage, as well as history of therapeutic abortion and attitude of the participants in different domains. However, various studies have suggested factors for induced abortion, including sufficient number of children, concerns about maternal and fetal health, tendency towards having less children, young age of the previous child, and failure to use contraceptive methods (26, 27). This inconsistency in the results might be due to differences in the comparable societies regarding culture and adherence to religious principles. Another possible cause of induced abortion was identified as different abortion-related regulations in countries, enhancing termination of unintended pregnancies.

In the current study, the relationship between different domains of attitude and history of induced abortion in the samples was demonstrated to predict attitudes towards induced abortion. The obtained results affirmed a significant relationship between induced abortion and domains of maternal and fetal health and psychocultural status. In addition, the participants with positive attitudes towards the relationship between maternal and fetal health and induced abortion had higher tendencies towards abortion compared to those with negative attitudes. Conceivably, some of the participants justified induced abortion through stating their concerns regarding fetal and maternal health. However, they might be unaware of the abortion consequences.

On the other hand, induced abortion rate was lower among participants with positive attitudes towards the relationship between induced abortion and psychocultural status. It seems that psychocultural status plays a pivotal and inhibitory role in performing abortion. Accordingly, it could be concluded that encouraging childbirth policies and the availability of contraceptive methods and public awareness of these services are associated with lower rates of induced abortion in our society.

Conclusion

In This study, a significant relationship between induced abortion and socioeconomic and psychocultural domains was observed among the participants. Abortion is a serious issue in our society, which can never be considered as an isolated phenomenon. Induced abortion is remarkably influenced by social and cultural factors.

Given the fact that attitude of people towards abortion can significantly affect the rate of this procedure in our society, it is recommended that certain methods be applied to prevent the increase of illegal abortions and their following consequences in the society. This can be achieved through altering the attitudes of the individuals, supporting the values of the society, and informing women of their legal rights.

Acknowledgements

Conflicts of interest

The authors declare no conflicts of interest.

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