Orginal Article

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Evaluation of the Effect of Religious Beliefs on the Attitude toward Abortion among the Students and Healthcare Personnel of Babol University of Medical Sciences

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ABSTRACT

BACKGROUND AND OBJECTIVE: Abortion is a controversial issue in different religions, medical communities, and ideologies. From the Islamic perspective, with the exception of certain medical circumstances, abortion is considered a criminal guilt. This study aimed to investigate the religious beliefs and attitudes toward abortion among the students and healthcare personnel of the gynecology departments of the hospitals affiliated to Babol University of Medical Sciences, Iran.

METHODS: This cross-sectional study was conducted on 186 medical students, interns, midwives, maternity assistants, and healthcare personnel to evaluate the attitudes toward abortion at Babol University of Medical Sciences, Iran during 2014-2015. Collected data included the religious beliefs and attitudes toward abortion and demographic characteristics (age, gender, ethnicity, marital status, and education level), which were obtained via two separate standard questionnaires. Scores of the participants were categorized as follows: negative attitude (mean score: <5.2), moderate attitude (mean score: 5.2-5.3), and positive attitude (mean score: >5.3). Moreover, mean scores of <5.2 were interpreted as inappropriate religious beliefs, while scores of >5.2 were considered as appropriate religious beliefs.

FINDINGS: In this study, mean age of the participants was 28.24±7.57 years. In total, 30 participants (16.6%) were male, and 151 (83.4%) were female. Total mean score of attitude and religious beliefs toward abortion in medical students was 2.89±0.43, which was significantly lower compared to the students of other education fields (3.24±0.52) ($p<0.001$). In addition, a moderate, direct correlation was observed between the attitude toward abortion and religious orientation of the subjects ($r=0.537$, $p<0.001$). Among the studied variables, religious beliefs were the only influential factor for the modification of attitudes toward abortion ($p<0.001$).

CONCLUSION: According to the results of this study, religious beliefs could be an influential factor to change the attitude of students and healthcare personnel toward abortion. Therefore, higher religious beliefs could be associated with a more favorable attitude toward abortion.

KEY WORDS: *Abortion, Religious beliefs, Students, Attitude*

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Introduction

Throughout history, abortion has been a controversial issue in different religions, medical communities, and ideologies. Abortion is one of the most notable concerns in medical ethics, which has extensively influenced public opinions (1). Survival is the most important human right originating other natural rights, and the negligence or obliteration of this concept is strongly disapproved (2). Abortion is mainly classified into three categories of spontaneous (habitual), criminal, and therapeutic abortion. Therapeutic abortion is normally allowed with the permission of judicial authorities and forensic certificates in case the continuing of pregnancy is likely to pose risk to the life of the mother and increase the severity and complications of possible diseases or in case of fetal deformities at the gestational age of less than four months (3). From the Islamic perspective, criminal abortion is a sin, which is punishable by paying blood money if performed before four months, and death if performed after four months of gestation (first-degree murder) (1). With the exception of certain medical circumstances, abortion is strictly prohibited in Islam (4). It is morally unacceptable to terminate the human rights of a living being that is incapable of defending these natural rights. Protection of the life of expecting mothers and prevention of family hardships were the foremost factors involved in the legislation of the law against abortion in Iran.

According to the Iranian parliament (2000), abortion is legal in 51 cases encompassing certain medical circumstances. After reaching the gestational age of 16 weeks, human rights apply to the fetus; as such, abortion is only permitted before week 16 of gestation (3). Laws regarding abortion differ in every society, while this procedure has been deemed legal under certain circumstances to protect the lives of the mother and fetus (3). In the Islamic Republic of Iran, specific frameworks are implemented for medical interventions, and violation of these frameworks is penalized through civil lawsuits. Furthermore, religious laws of our country consider such contravention as abortion to be a divine sin. Nevertheless, knowledge of midwives, general practitioners, and even gynecologists is inadequate regarding abortion laws (1, 5-7). Through the recognition of abortion laws and their cultural aspect, physicians and gynecologists could help different clients in proper decision-making (3). Among different healthcare professions, midwives are most frequently faced with abortion cases, and without the necessary knowledge in this regard, they might encounter legal and religious consequences (6). Medical students must be aware of their own personal beliefs and attitudes since they are the future assets of the healthcare system. As such, these students need to acquire a professional attitude toward the issue of abortion (8). Few studies have evaluated the relationship between religious beliefs and attitude toward abortion and the laws regarding this medical issue. This study aimed to investigate the effect of religious beliefs on the attitude toward abortion among the midwifery students, interns, residents, specialists, and healthcare personnel of the obstetrics and gynecology departments of the hospitals affiliated to Babol University of Medical Sciences, Iran.

Methods

This cross-sectional study was conducted at Babol University of Medical Sciences during 2014-2015. Initially, two questionnaires with confirmed reliability and validity were prepared by reviewing the available documents in accordance with the objectives of study. The first questionnaire was used by Dietrich at Ohio University (USA) to assess the attitudes of different individuals toward abortion (9). This questionnaire was translated into Persian by Ghana et al. at Golestan University of Medical Sciences in 2010 with the Cronbach's alpha value of 0.92 (8). This scale consists of two sections; the first part encompasses seven items regarding the demographic variables of age, gender, ethnicity, marital status, and education level and semester. The second part of this questionnaire includes 17 items to evaluate the attitude toward abortion, which are scored based on a five-point Likert scale (completely agree-completely disagree). The second questionnaire used in this study consisted of 68 items to assess religious orientation. This scale has been designed by Azerbaijani entitled “Islamic Religious Orientation Test” and used in several studies. Items in this questionnaire are scored based on a four-point Likert scale (completely agree-completely disagree) (10). After the compilation of these two questionnaires, the obtained collection was distributed during six months in the summer and autumn of 2014 among the targeted sample population of the study, including medical students of the internship stage, midwifery students (second, third, and fourth year), maternity assistants, obstetricians, and gynecologists

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of Babol University of Medical Sciences, and abortion healthcare personnel of the affiliated hospitals in four medical centers of 17th Shahrivar Hospital (Marzikola city), Fatemeh Al-Zahra Hospital, Shahid Yahyanejhad Hospital, and Ayatollah Rohani Hospital (Babol city). Objectives of the study were explained to the subjects prior to participation, and they were assured of confidentiality terms regarding their personal opinion. The number of completed questionnaires was calculated as follows: abortion healthcare personnel (e.g., midwives and nurses) (n=71), medical interns (n=62), midwifery students (n=44), and obstetrics and gynecology residents (n=9) (total: 186 questionnaires). For the statistical analysis of the collected data, we used inverse-coded questions in this study. In order to obtain a comprehensible analysis of the questionnaire of attitude toward abortion, which was scored based on a five-point Likert scale, scores of the participants were categorized after data collection, as follows: negative attitude (mean score: <2.5), moderate attitude (mean score: 2.5-3.5), and positive attitude (mean score: >3.5). Furthermore, items in the religious orientation questionnaire, which were scored based on a four-point Likert scale, were categorized after data collection, as follows: appropriate religious beliefs (mean score: <2.5) and inappropriate religious beliefs (mean score: >2.5). Data analysis was performed using Pearson's correlation-coefficient to examine the relationship between religious beliefs and attitude toward abortion. Moreover, independent T-test, Chi-square test, and ANOVA were used to evaluate the effect of demographic variables on the attitude of the subjects toward abortion. In this study, $p<0.005$ was considered statistically significant.

Results

In total, 186 participants were enrolled in this study. In the completion of the demographic questionnaire, 181 subjects replied to the questions of gender, 177 participants replied to the questions of marital status, 182 subjects replied to the items regarding ethnicity, 183 participants answered the questions regarding the education level, and 180 subjects replied to the questions of employment status. Other participants of the study did not complete the demographic questionnaire. Mean age of the participants in this study was 28.24±7.57 years. In addition, 78 participants (44.1%) were married, and 99 cases (55.9%) were single (table 1).

Table 1. Distribution of studied samples based on demographic variables

Variable	N (%)
Gender	
Male	30 (16.6)
Female	151 (83.4)
Marital Status	
Married	78 (44.1)
Single	99 (55.9)
Ethnicity	
Persian	166 (91.2)
Other	16 (8.8)
Education Field	
Medical	71 (38.8)
Midwifery	76 (41.5)
Nursing	28 (15.3)
Other	8 (4.4)
Education Level	
Bachelor's Level or Below	110 (60.1)
Master's Level or Above	73 (39.9)
Employment Status	
Student	101 (56.1)
Employed	79 (43.9)

In this study, total mean score of attitude toward abortion among the participants was indicative of negative attitude in 8 subjects (4.3%), moderate attitude in 65 subjects (34.9%), and positive attitude in 113 subjects (60.8%). According to our findings, there was a statistically significant difference between the participants in this regard ($p<0.001$). On the other hand, inappropriate religious beliefs regarding abortion were observed in 10 subjects (5.4%), while appropriate religious beliefs were observed in 176 subjects (94.6%), which was indicative of a statistically significant difference between the participants in this regard ($p<0.001$). According to our findings, there was a direct, moderate association between the attitude toward abortion and religious beliefs of the studied samples ($r=0.537$, $p<0.001$). In this study, no statistically significant differences were observed between the total mean scores of the attitude and religious beliefs toward abortion and the ethnicity of participants. However, total mean scores of attitude and religious beliefs had significant differences in terms of the education level and employment status of the subjects ($p<0.001$). Moreover, total mean scores of attitude and religious beliefs toward abortion were significantly higher among women compared to men ($p<0.012$). According to the results of this study, the

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mean score of attitude toward abortion and marital status of the participants had a statistically significant difference (p=0.014). In addition, there were statistically significant differences between the gender and marital status of the subjects with the total mean score of religious beliefs regarding abortion (p<0.001) (table 2). Among all the aforementioned variables evaluated using the regression model, religious beliefs were the only influential factor for the modification of the attitude of participants toward abortion (table 3). In the regression model, coefficient of determination (R^2) was calculated at 0.27 (table 4).

Table 2. Mean of total scores of attitude and religious beliefs toward abortion in terms of education field

Religious Beliefs Mean±SD	Attitude toward Abortion Mean±SD	Field of Study
2.89±0.43	3.36±0.59	Medical
3.31±0.32	3.77±0.59	Midwifery
3.47±0.28	4±0.57	Nursing
3.24±0.52	3.89±0.49	Other
<0.001	<0.001	P-value

Table 3. Mean scores of attitude and religious beliefs toward abortion in terms of demographic variables

Variable	Attitude toward Abortion Mean±SD	Religious Beliefs Mean±SD
Ethnicity		
Persian	3.67±0.63	3.18±0.41
Other	3.40±0.57	3.05±0.64
P-value	0.108	0.42
Education Level		
Bachelor's Level or Below	3.82±0.58	3.34±0.33
Master's Level or Above	3.38±0.6	2.91±0.44
P-value	<0.001	<0.001
Employment Status		
Student	3.48±0.65	3.04±0.44
Employed	3.88±0.51	3.35±0.37
P-value	<0.001	<0.001
Gender		
Female	3.71±0.62	3.25±0.36
Male	3.4±0.62	2.86±0.47
P-value	0.012	<0.001
Marital Status		
Single	3.55±0.68	3.08±0.45
Married	3.77±0.52	3.3±0.38
P-value	0.014	<0.001

Table 4. Influential factors for attitude toward abortion in study samples based on stepwise linear regression model

Variable Model	Non-standard β	Standard Error	Standard β	P-value
Complete				
Constant Factor	1.356	0.005		0.007
Gender	0.105	0.133	0.064	0.432
Marital Status	-0.032	0.109	-0.026	0.766
Religious Beliefs	0.0729	0.12	0.479	<0.001
Ethnicity	-0.0167	0.155	-0.074	0.284
Education Level	-0.094	0.108	-0.074	0.383
Employment Status	0.145	0.12	0.116	0.228
Adapted				
Constant Factor	129.1	0.322		0.001
Religious Beliefs	0.791	0.100	0.52	<0.001

Discussion

According to the results of the present study, 8.6% of the participants had a positive attitude toward abortion, while 9.34% had a moderate attitude, and only 3.4% had a negative attitude toward abortion. Furthermore, total mean score of 6.94% of the participants was indicative of appropriate religious beliefs regarding abortion, while only 4.5% had inappropriate religious beliefs.

In a study conducted by Banaeian et al. in the healthcare centers of Chaharmahal and Bakhtiari province (Iran), only 7.12% of midwives were aware of the legal and religious issues surrounding abortion (total number: 151). Moreover, adequate knowledge regarding abortion and punishment of illegal abortion with paying blood money was 8.21% and 3.13%, respectively. While 9.46% of the studied samples were reported to be aware of parliament laws on abortion, only 2.11% had adequate knowledge of the religious rules in this regard. In addition, 9.6% of the studied subjects stated that they were faced with certain cases where they had no knowledge of the abortion laws and regulations (7). Another study in this regard was conducted by Jalili et al. on 143 midwives, gynecologists, and obstetricians at different healthcare

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centers of Kerman city (Iran). According to the findings, 4.15% and 6.84% of the subjects had moderate and adequate knowledge about abortion laws, respectively, while poor knowledge was reported in none of the participants (3).

In another research, Ghadipasha et al. evaluated the awareness of 110 gynecologists, obstetricians, and midwives about the laws and regulations of therapeutic and illegal abortion in the healthcare clinics of Yazd city (Iran). According to the results, 5.25% of the participants had adequate knowledge, while 5.39% and 4.35% had moderate and poor knowledge in this regard, respectively (1). In another study conducted at Tehran University of Medical Sciences, Rahimparvar et al. evaluated the knowledge of midwifery instructors regarding the religious laws of abortion and their views toward the importance of providing related education for midwifery instructors and students. According to the findings, 2.52% of the studied samples had moderate knowledge of the religious issues regarding abortion (11).

The results of another study performed by Asadzadeh et al. indicated that 2.97% of the subjects were aware of the criminality of abortion. In addition, 1.61% and 4.19% of the samples were reported to have moderate and poor knowledge of current abortion laws, respectively, while only 6.19% had adequate knowledge in this regard (6). Findings of the present study were indicative of a moderate, direct association between the attitude and religious beliefs of the participants toward abortion. Among all the studied variables in the regression model, religious beliefs were the only influential factor for the modification of the attitude toward abortion. Moreover, it was observed that participants with higher religious beliefs had a more positive attitude toward abortion. However, due to lack of previous studies on the assessment of the relationship between religious beliefs and abortion, we were not able to compare these findings.

In the current study, 4.83% of the participants were female, and 6.16% were male. Our findings indicated that the mean scores of attitude and religious beliefs were higher in women compared to men, which is in congruence with the results of a study by Ghana et al conducted at Golestan University of Medical Sciences (8). Furthermore, the findings of Carlton et al. were in line with the results of the present study (12). Therefore, it could be concluded that negative attitude toward abortion is more common among men. This has been confirmed in the research by Carter et al. performed to determine the effects of gender and race on the attitude toward abortion. Furthermore, this finding is consistent with the results of another study by Olaitan performed to assess the attitude of medical students toward abortion in Nigeria (13, 14). According to the results obtained by Narendra et al., there was no significant association between gender and attitude toward abortion (15).

In the present study, 1.44% of the participants were married, and 9.55% were single. According to our findings, the mean scores of attitude and religious beliefs toward abortion were significantly higher among married subjects. In the study by Ghana et al., the majority of the participants were single, and no significant correlation was reported between the mean score of attitude toward abortion and marital status (8). With respect to the ethnicity of the subjects in the current study, 2.91% were Persian, and 8.8% were of other ethnical groups.

Our findings were indicative of no significant correlation between the ethnicity and mean score of attitude toward abortion among the participants. On the other hand, the results obtained by Ghana et al. denoted differences in the attitude of study samples of various ethnic groups toward abortion (8). This difference could be due to climatic diversities at Golestan University of Medical Sciences, easy access to other ethnical groups in this province, higher accuracy of statistics on ethnical communities, and limited number of individuals of other ethnicities in the present study. In the study performed by Olaitan, mean scores of attitude toward abortion were reported to be 34.33 and 28.59 in Christian and Muslim participants, respectively (14).

In the current study, a significant difference was observed between the mean scores of attitude and religious beliefs toward abortion with the field of education. As such, the mean scores of attitude and religious beliefs toward abortion were significantly higher among midwives and nurses compared to physicians. However, the findings of Lisker et al. were indicative of no significant association between the field of education and attitude toward abortion (16). On the other hand, the results of the study by Ghana et al. confirmed a significant correlation between the field of education and mean score of attitude toward abortion (8).

In the present study, 1.6% of the participants were B.A students or had a bachelor's degree (or lower), while 9.39% were students of master's degree or

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higher academic levels. Our findings were indicative of a significant correlation between the education level and attitude toward abortion, so that higher education level was associated with the reduction of the total mean scores of attitude and religious beliefs toward abortion. In their research, Narendra et al. investigated the attitudes of students toward abortion at different education levels (high school, junior students, senior students, and graduates). According to the obtained results, higher education levels were associated with more positive attitudes toward abortion (15).

In this regard, the study by Jalili et al. was conducted to evaluate the attitudes of general practitioners, gynecologists, and obstetricians toward therapeutic abortion in the health clinics of Kerman city (Iran). In total, 140 participants were enrolled in the study, including 30 specialists and 110 general practitioners. Comparison of the viewpoints of these healthcare professionals toward therapeutic abortion indicated that the majority of the subjects supported therapeutic abortion, particularly in case of thalassemia major and Down syndrome (3).

According to the results obtained by Ghadipasha et al., adequate knowledge regarding abortion was reported in 9.38% of gynecologists and 8.22% of midwives. However, despite the higher awareness of gynecologists compared to midwives, no statistically significant association was observed between the knowledge about abortion and education level (1). Moreover, a significant difference was reported between the knowledge of abortion and education level of the studied samples, as the level of awareness was found to be higher among specialists compared to midwives (5). Comparison of the mentioned study with the results of the current research demonstrated that increased awareness of abortion laws, which is attributed to higher scientific knowledge, may not necessarily lead to the modification of attitudes toward different concepts. In the research performed by Asadzadeh et al. at Alavi Hospital of Ardabil city (Iran), no significant association was reported between the education level of the studied samples and their knowledge of abortion (6). Furthermore, the results of the mentioned study showed that religious beliefs could be a contributing factor for the modification of the attitude toward abortion; as such, higher religious beliefs independent of other factors could lead to more positive attitudes toward abortion.

In conclusion, considering the findings of the current study and previous research regarding the effect of religious beliefs on the attitude toward abortion, as well as the inadequate knowledge of the medical community about abortion laws, it is recommended that educational themes revolving around abortion be included in the curricula of different fields of health care, such as medicine, midwifery, and nursing. Moreover, training courses and educational interventions for employees and post-graduate students could contribute to the integration of the attitudes and performance of individuals about abortion, adherence to the related laws, and prevention of personalized decision-making in this regard.

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