



Original Article

Attitude of Healthcare Workers Towards the Termination of Pregnancy in Peshawar, Pakistan

Emaan Arif¹, Amjad Ullah¹, Javeria Taj¹, Shafi Ullah¹, Asad Jamal¹, Romana Ayub², Amara Taharat¹, Sada Anwar¹, Rabia Arshad¹ and Reesha Aftab¹¹Khyber Medical College, Peshawar, Pakistan²Department of Community Medicine, Khyber Medical College, Peshawar, Pakistan

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*Corresponding Author:

Amjad Ullah
Khyber Medical College, Peshawar, Pakistan
amjad962@gmail.com

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ABSTRACT

Unsafe abortion remains a major public health issue in Pakistan, including Peshawar, due to restrictive laws, stigma, and limited access to safe services. **Objectives:** To assess the healthcare workers' perspective towards the termination of pregnancy and their legal and religious perceptions regarding it. **Methods:** A cross-sectional study was conducted among gynecologists, Lady Health Workers (LHWs), and nurses in the Gynecology and Obstetrics Department of public and private hospitals in Peshawar from January 2025 to March 2025. Structured questionnaires were distributed among 200 healthcare workers, and their responses were analyzed using SPSS version 20.0. The frequencies and percentages were calculated for qualitative variables, and the chi-square test was applied to check statistically significant association between different categorical variables, with a p-value < 0.05 considered significant. **Results:** Among healthcare workers in Pakistan, nearly all (96.5%) agreed to terminate pregnancies when the mother's life was at risk, while approval was also high for severe fetal anomalies (87.5%). However, most disapproved of TOP for socio-economic reasons like unaffordability, unplanned pregnancy, or extramarital pregnancy. Though 66% were aware of Pakistan's TOP laws, many found them ambiguous, and 85.5% desired stricter regulations. Religion was the primary reason for not performing abortions. Significant differences in views were observed between specialties and sectors, with private providers holding more liberal attitudes on several TOP-related issues. **Conclusions:** Most healthcare workers showed a negative attitude toward abortion, largely influenced by religious beliefs, and many advocated for clearer and stricter abortion laws.

INTRODUCTION

Termination of pregnancy (TOP), commonly referred to as abortion, remains a deeply sensitive and contentious issue globally, particularly within conservative socio-religious contexts such as Pakistan. The topic lies at the intersection of health, ethics, law, religion, and culture. While Pakistan permits abortion under restricted circumstances, primarily to save the woman's life or to provide necessary treatment, the law remains ambiguous and inconsistently interpreted by both providers and patients [1]. The healthcare workers (HCWs), who serve as the frontline providers, play a pivotal role in the accessibility, quality, and ethical delivery of these services. Yet, their personal

beliefs, cultural influences, and systemic constraints heavily influence their attitudes toward abortion [2]. Across South Asia, studies suggest that healthcare workers' perspectives range from supportive to highly stigmatized, with factors like religion, gender, professional role, and training significantly shaping their views [3, 4]. In Pakistan, societal norms rooted in religious conservatism often inhibit open dialogue on reproductive rights, including abortion, thereby limiting women's access to safe procedures. Despite the high incidence of unsafe abortions contributing to maternal morbidity and mortality, there remains a scarcity of localized research, particularly from



the conflict-affected and traditionally conservative regions like Khyber Pakhtunkhwa, where Peshawar is situated [5]. The unsafe termination of pregnancy continues to be a significant public health issue in Pakistan, with estimates suggesting over 2 million induced abortions annually, most of them unsafe [6]. Despite the critical need for post-abortion care and counselling, many healthcare providers harbor stigmatized attitudes rooted in religious and societal norms, leading to judgmental care or outright refusal to provide services [7]. In conservative regions like Peshawar, these attitudes may be exacerbated by tribal customs, lack of formal training on reproductive rights, and limited exposure to gender-sensitive health discourse [8]. Existing research predominantly focuses on urban centers like Lahore or Karachi, leaving a knowledge gap regarding the socio-cultural and institutional dynamics influencing HCWs in peripheral and conservative regions. This knowledge vacuum creates challenges in designing targeted interventions, policy reforms, or education programs to mitigate the risks associated with unsafe abortions. Understanding the attitude of healthcare workers toward termination of pregnancy in Peshawar is not merely an academic exercise but a pressing health system priority. Given their gatekeeping role, HCWs' perceptions can either facilitate or hinder access to safe abortion services. Documenting these attitudes can inform culturally appropriate training programs, reproductive health policies, and behavior change interventions aimed at reducing maternal mortality linked to unsafe abortion. Furthermore, it enables stakeholders to uncover region-specific social, institutional, and personal that shape health service delivery in Peshawar [9, 10]. Additionally, with global and national commitments to achieving Sustainable Development Goals (SDG 3: Good Health and Well-being), including reductions in maternal mortality, there is an urgent need to address unsafe abortion practices through evidence-based strategies. This study aimed to contribute to that evidence by exploring the views of those most directly responsible for implementing reproductive health services in one of Pakistan's most sensitive regions

METHODS

This study followed a cross-sectional, descriptive design with correlational analysis and was conducted over a period of four months (January 2025 to Apr 2025) in private autistic centers located in Lahore, Pakistan. When a prevalence (p) of 73% was assumed (based on the previous literature), with a confidence level (Z) of 95% ($Z=1.96$) and a margin of error (d) of 5% ($d=0.05$), the sample size approximately equaled 303. Based on practical limitations and scarcity of resources, a sample size of 249 participants

was recruited, which was considered satisfactory to address the descriptive and correlational aims of the study [17]. In this study, a selected sample of 249 participants from the total population was used for the collection of data from private autistic centers of Lahore. The study followed the ethical guidelines and ethical approval was taken. Non-probability sampling technique was used for this purpose. The outcomes of this study were assessing sensory avoidance and sleep habits using standardized tools: The Short Sensory Profile (SSP) and the Children's Sleep Habits Questionnaire (CSHQ). Both are validated tools commonly used in neurodevelopmental research. To assess the internal consistency of the tools in the present sample, Cronbach's alpha was calculated. The SSP showed a Cronbach's alpha of 0.89, while the CSHQ yielded a Cronbach's alpha of 0.83, indicating good reliability in this population. Children aged 3–12 years with Autism Spectrum Disorder (ASD), diagnosed according to DSM-5 criteria by a licensed clinician, were included in the study. Primary caregivers were involved in the child's care and provided detailed reports of the child's sensory and sleep behaviours. Children were excluded if they had a primary diagnosis of another developmental disorder, such as intellectual disability or a genetic syndrome, which might affect sensory or sleep patterns. Children on sedative medications, with severe medical or neurological conditions, or with co-existing psychiatric disorders were excluded. Single parents with more than one disabled child, or parents not residing in the same household as the child, were also excluded. Data were analyzed using SPSS version 27.0. Categorical variables were described as absolute frequencies (n) and relative frequencies (%), while continuous variables were expressed as mean \pm standard deviation for parametric distributions or as median and percentiles for non-parametric distributions. The Chi-square test was used to assess associations between categorical variables. Pearson's or Spearman's correlation coefficients were applied, as appropriate, to examine relationships between continuous variables. A p -value of less than 0.05 was considered statistically significant.

RESULTS

Results suggest that 145 (72.5%) of our research participants were gynecologists, 40 (20%) were nurses, and 15 (7.5%) were LHWs. 72.5% of the participants had a working experience of 1–5 years. 9.5% had an experience of 6–10 years, while 18% of participants had a working experience of above 10 years. In the case of women with psychological illness having a healthy fetus at a viable stage, only 29.5% of the HCWs were in favor of an induced abortion. Similarly, as far as TOP in the case of parents' socioeconomic instability was concerned, 93.5% of the HCWs showed complete disagreement. In the case of a

fetus with congenital defects, 87.5% of participants were in favor of TOP. Similarly, 96.5% of HCWs agreed to terminating the pregnancy if it poses some serious threat to the mother's life. Most HCWs, i.e., 67.5%, opposed terminating the pregnancy that poses some serious risk to the mother's mental health. Moreover, 14% of HCWs were in favor of TOP if the pregnancy was a result of an extramarital or premarital relationship. 67% of the HCWs were of the view that they should not even carry out abortion in women who get pregnant as a result of rape. 94% of HCWs were also against the TOP in case of an unplanned pregnancy. 69.5% of the HCWs were trained in the TOP. 42.5% of HCWs were of the view that they would get stigmatized by society if they provided safe abortion. This study sample included 96% Muslims and 4% Christians. 91.5%. 92% of HCWs make their professional decisions in light of their religious beliefs, while 8% of HCWs take professional decisions independent of this regard. 66% of HCWs were aware of Pakistan's law regarding TOP. 47.5% of HCWs said the law is ambiguous and should be clarified further. To determine differences in views among physicians, nurses, and LHWs on several statements related to abortion, the chi-square test was utilized. Significant differences were observed between different categories of healthcare workers (e.g., gynecologists, nurses, and LHWs) regarding several issues. For instance, their knowledge of abortion laws in Pakistan differed significantly ($p=0.014$), as did their perceptions about the ambiguity of these laws ($p=0.011$). Opinions also varied significantly on whether abortion should be allowed in cases of extramarital pregnancy ($p=0.001$), due to financial constraints ($p=0.0002$), or following rape ($p=0.048$). Similarly, differences were noted in views about allowing abortion in any circumstance ($p=0.049$) and on the issue of female autonomy in making abortion-related decisions ($p=0.032$). In contrast, no statistically significant differences were found among healthcare worker groups concerning abortion when the mother's life is at risk ($p=0.516$), in the case of fetal abnormalities ($p=0.163$), or for unwanted/unplanned pregnancies ($p=0.128$), indicating a shared consensus across these roles (Table 1).

Table 1: Comparison of Abortion-Related Opinions Across Health Care Providers

Statements	Gynecologist (n=145)	Nurses (n=40)	LHWs (n=15)	Total (n=200)	p-Value
Aware of Pakistan's law regarding the termination of pregnancy	106 (%)	20 (50%)	6 (40%)	132 (66%)	0.002

The Pakistani Penal Code clarifies all confusions related to the termination of pregnancy	88 (60%)	15 (36.5%)	2 (13%)	105 (52.5%)	0.001
Abortion should be made legal and easily accessible	23 (15.8%)	8 (20%)	1 (6.6%)	32 (16%)	0.242
Abortion should be legal if a pregnancy resulted from a premarital or extramarital relationship	12 (8%)	12 (30%)	4 (26.6%)	28 (14%)	0.003*
Abortion should be legal if a family cannot afford to raise the child	12 (8%)	10 (25%)	5 (33%)	27 (13.5%)	0.002*
Abortion should be legal if pregnancy was a result of rape	43 (29.6%)	20 (50%)	3 (20%)	66 (33%)	0.013*
Abortion should be legal if the pregnancy is unplanned or unwanted	9 (6%)	2 (5%)	1 (6.6%)	12 (6%)	0.171
Prefer the restricted law of abortion	141 (97%)	25 (62.5%)	5 (33%)	171 (85.5%)	<0.0001*
Safe abortion should be made accessible under any circumstances	67 (46%)	21 (52.5%)	4 (26.6%)	92 (46%)	0.654
Abortion should be legal if the fetus shows signs of serious congenital anomalies	142 (97.9%)	27 (67.5%)	6 (40%)	175 (87.5%)	<0.0001*
Abortion should be legal if a woman's life is in danger	143 (98%)	36 (90%)	7 (46%)	193 (96.5%)	0.51
Women should have the right to decide for themselves whether to have an abortion	51 (35%)	21 (52.5%)	3 (20%)	75 (37.5%)	0.032

The counts reflect how many respondents answered "Yes" to each statement. * Represents that the value is statistically significant.

Results show the frequencies and percentages of abortion-related statements in different medical sectors (public, private, and NGOs). 76.5% of the respondents were from public hospitals, 16.5% from private sector hospitals, and 7% were from NGOs. Healthcare providers working in various sectors had significantly different knowledge and attitudes towards abortion. Awareness of Pakistan's abortion laws was higher among public sector respondents, 70.5%, as compared to workers of NGOs, 28.5% ($p=0.0049$). Support for access to safe abortion in any condition, abortion in cases of unplanned pregnancy, and women's autonomy to decide on abortion by private sector providers were the highest, at 85%, 18% and 78.7% respectively; and all differences were statistically significant at $p=0.00045$, $p=0.0035$, and $p<0.0001$ respectively. While overall support for abortion to save the life of a woman was high in all three sectors (96.5%), this too

was significantly different by sector ($p=0.038$). But there was no significant difference between the groups when it came to attitudes towards abortion in cases of rape or fetal defects or for financial hardship (Table 2).

Table 2: Comparison of Abortion-Related Opinions Across Sectors of Health Care Providers

Statements	Public sectors (n= 33)	Private sectors (n= 33)	NGOs (n=14)	Total (n=200)	P-Value
Aware of Pakistan's law regarding the termination of pregnancy	108 (70.5%)	20 (60.5%)	4 (28.5%)	132 (66%)	0.0049
The Pakistani Penal Code clarifies all confusions related to the termination of pregnancy	77 (50%)	22 (66.6%)	6 (42.8%)	105 (52.5%)	0.176
Abortion should be made legal and easily accessible	20 (13%)	9 (27%)	3 (21%)	32 (16%)	0.116
Abortion should be legal if a pregnancy resulted from a premarital or extramarital relationship	21 (13%)	5 (15%)	2 (14%)	28 (14%)	0.961
Abortion should be legal if a family cannot afford to raise the child	19 (12%)	6 (18%)	2 (14%)	27 (13.5%)	0.677
Abortion should be legal if pregnancy was a result of rape	51 (33%)	12 (36%)	3 (21%)	66 (33%)	0.599
Abortion should be legal if the pregnancy is unplanned or unwanted	4 (2.6%)	6 (18%)	2 (14%)	12 (6%)	0.0035*
Prefer the restricted law of abortion	142 (92.8%)	23 (70%)	6 (42%)	171 (85.5%)	0.0001*
Safe abortion should be made accessible under any circumstances	60 (39%)	28 (85%)	4 (28%)	92 (46%)	0.00045*
Abortion should be legal if the fetus shows signs of serious congenital anomalies	139 (90%)	29 (87%)	11 (78.5%)	175 (87.5%)	0.338
Abortion should be legal if a woman's life is in danger	150 (98%)	31 (94%)	12 (85.7%)	193 (96.5%)	0.038*
Women should have the right to decide for themselves whether to have an abortion	42 (27%)	26 (78.7%)	7 (50%)	75 (37.5%)	>0.0001*

NGO = non-governmental organizations * Represents that the value is statistically significant

Findings show that the reasons for the unfavorable attitude of HCWs towards TOP: the majority (78%) declared their religious beliefs to be the reason for not providing abortion services, while some provided other reasons. One item in the questionnaire assessed the reason for refusal of termination of pregnancy. Although the question was formatted in multiple-choice style for clarity, participants were instructed to select only one primary reason that best

represented their view (Table 3).

Table 3: Reasons for Refusal of Termination of Pregnancy

Reasons	Frequency (%)
Against the Religion	156 (78%)
Out-of-Scope Practice	4 (2%)
Against Personal Values	6 (3%)
No Training	4 (2%)
Against the Law	21 (10.5%)
Social Stigma	3 (1.5%)
Afraid of Being Called an Abortionist	1 (0.5%)
Other	5 (2.5%)
Total	200 (100%)

DISCUSSION

The focus of this study was healthcare professionals employed in gynecology departments across a variety of public and private hospitals. This study showed that restricted and stricter attitudes of healthcare workers towards the termination of pregnancy (85.5%), as compared to the study done in Ethiopia and Pakistan, which showed 35.4% and 67.3% of HCWs were against abortion under any circumstances, respectively [12, 8]. In a qualitative study conducted in South Africa, complex patterns of attitudes were found in the health care workers towards the termination of pregnancy. These included a combination of personal interest, religious and moral beliefs, and fears of being stigmatized, which played an important role in the decision not to get involved in the provision of abortion [13]. These results were consistent with the findings of this study that religion was a major factor affecting the attitude of health care workers towards the termination of pregnancy. The debate hinged on a fundamental religious and legal issue concerning the point at which the fetus could be regarded as a human being. There are four schools of Islam, with slightly different approaches to abortion. In Pakistan, most of the Muslims follow the Hanafi school of thought. Hanafi jurists allowed women to terminate their pregnancies until the fourth month [14]. It is important to note that the Hanafi women had the right to terminate their pregnancies even without their husbands' consent. However, the Hanafi women were not allowed to terminate their pregnancies without a good reason. Abortion is still considered a sinful act in Pakistan. This may be the reason most doctors have a negative opinion on abortion. In contrast to the results of these studies, opposite findings were found in the three different studies conducted in three different countries: Ethiopia, India, and Mexico. In Ethiopia, mid-level health care providers (HCPs) had a positive opinion towards safe abortion (by 54.1%) [15]. In India, about 62% of HCPs had a positive opinion regarding medical abortion [16]. In Mexico, a large majority of about 71.1% of the healthcare providers

had a positive opinion on abortion [17]. The 2nd most influential factor, according to this study, which is hindering healthcare providers from providing abortion, is Pakistan's law regarding the termination of pregnancy. The frequency of healthcare providers who do not provide abortion because it is against the law was found to be 21 (10.5%). In 1990, the government of Pakistan amended its colonial-era Criminal Code of 1860 regarding abortion. The amendments aimed to better align it with Islamic teachings. According to the 1990 amendment, the conditions of legal abortion are dependent on the stage of development of the fetus (i.e., whether or not its organs are formed). Traditionally, Islamic scholars have believed that the fetus's organs are formed by the 4th month of pregnancy. Before the organs are formed, abortion is only allowed to save the life of the woman or to provide "necessary treatment". After organs are formed, abortions are permitted only to save the woman's life [18]. According to the Pakistan Penal Code (PPC), Section 338 defines *Isqat-i-Haml* as the unlawful miscarriage of a fetus whose organs are not yet formed, unless done in good faith to save the woman's life or provide necessary treatment. Section 338-B defines *Isqat-i-Janin* as causing miscarriage when fetal organs have formed, which is only permissible if it is done in good faith to save the mother's life [19]. This research concluded, 47.5% of the healthcare workers declared the above-stated law ambiguous and wanted to know the clear implication of the term "good faith" as stated by the above law. The significant preference among respondents for stricter abortion laws suggests a perception that current legal provisions are either insufficiently clear or ethically inadequate. This interpretation should be understood in the context of Pakistan's socioreligious environment, where abortion is legally permissible under limited conditions, but often perceived as taboo. The statistical significance ($p=0.032$) reinforces the relevance of these attitudes in shaping clinical practice and legal advocacy. The findings of this study highlight important discrepancies in knowledge and attitudes around abortion between different sectors within the healthcare provider population. Employees of the public sector had a greater understanding of the legal parameters, whereas workers in the private sector were more in favor of the availability of abortion services in instances of both a non-planned pregnancy and a woman's choice to abort ($p<0.05$). These results align with earlier studies regarding the attitude of private healthcare providers, who are more likely to be in favor of abortion given that they interact with more patients and are therefore exposed to varying degrees of healthcare needs [20,].

CONCLUSIONS

Most healthcare workers expressed negative attitudes toward abortion, primarily due to religious beliefs, and called for clearer and stricter abortion laws. The study highlights the need for better training on safe abortion care and legal knowledge, integration of religious and ethical counselling in medical education, public awareness to reduce stigma, clearer legislation, psychosocial support services, and further research to improve abortion care in Pakistan.

Authors Contribution

Conceptualization: EA

Methodology: AU, JT, SU, AJ, RA¹, AT, SA, RA², RA³

Formal analysis: RA, SA

Writing review and editing: EA, AU, SU

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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