ORIGINAL ARTICLE

Assessment of Pregnancy Intention and Its Related Factors among Females Attending the Antenatal Clinic

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Abstract

Background: The intention of pregnancy is considered one of the major factors contributing to the foetal or maternal outcome. An exploration of the magnitude of this problem and its related factors can lead to improved foetal or maternal health.

Objective: The objective of this study was to assess pregnancy intention and its related factors among females attending antenatal clinics of tertiary care hospitals.

Methods: It is a cross-sectional (analytical) study conducted at the antenatal clinic, Jinnah Hospital Lahore, within the duration of January-April 2022. Two hundred and fifty(250) pregnant women aged 20 to 39 years were enrolled using non-probability convenience sampling. All the information was noted in a structured questionnaire based on study variables. The collected data was analysed using SPSS version 27.0 and frequency tables were generated. Appropriate test of significance was applied and p-value < 0.05 was taken as statistically significant.

Results: Among 250 pregnant females, about 195(78%) of the females reported the current pregnancy to be intentional while 55(22%) were unintentional. It was also seen that age and parity were significantly related to the intention of pregnancy p-value<0.05. The main reasons behind unintentional pregnancies were; 28(51%) unaware about contraception, and 20(36.4%) contraception methods had failed.

Conclusion: Approximately one-fourth of all pregnancies were unintentional which raises a concern regarding contraceptive usage and its effectiveness. The prevalence is high compared to reported by the Pakistan demographic health survey. Health education, advocacy, and health protection measures taken on all levels of health care to increase the use and access to contraceptive services are need of hour to address this unwanted situation of unwanted pregnancies.

Keywords: *Contraceptive, health care, Intended pregnancy, unintended pregnancy.*

INTRODUCTION

The right of pregnant women to participate in health care activities is essential to woman-centered maternity care [1]. The World Health Organization defines perinatal mortality as the "number of stillbirths and deaths in the first week of life per 1,000 total births, the perinatal period commences at 22 completed weeks (154 days) of gestation and ends seven completed days after birth" [2]. The burden of perinatal mortality rate (PMR) which includes stillbirths and premature infant deaths, remains an issue in low-income nations, notably in South Asia and Sub-Saharan Africa [3]. More than 98% of the world's stillbirths which constitutes 3.2 million, occur in poor and middle-income nations like Pakistan [4]. Pakistan has the third-highest stillbirth rate in the world (47 per 1000 live births), and in 2015, there were 242,600 foetal mortalities at 28 weeks gestational age. Pakistan is second on the list of countries with the highest newborn mortality rate, with 244,700 neonatal fatalities within the first week of life in 2015 [5]. To put this in context, the average stillbirth rate in most high-income nations is 35 per 1000 total births [6].

In Pakistan, evidence suggests that unintended and unplanned pregnancies account for 46% of all conceptions, with intended abortions accounting for 54% [7]. An unintended pregnancy can be mistimed (happens before the actual point in time) or unplanned/unwanted (happens despite the partner's desire for more babies) [8]. As a result, unintended pregnancies can have serious health, economic, and social consequences for females and children [9]. Females who have an unplanned pregnancy are less likely to seek care during the antenatal period, are more likely to have an unsafe induced abortion, and have poorer pregnancy outcomes [7].

Despite Family Planning policies and programs in Pakistan, the prevalence rate of contraceptives (CPR) has only increased to thirty-four percent, while the total fertility rate (TFR) is 3.6%, slightly decreased from previous years [10]. Furthermore, according to a demographic health survey conducted in Pakistan in 2017-18, 42% of married females do not want to have a

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baby, but at least 25% use family planning ways, leaving an unmet need of 17%. In addition to that, the report explained that preventing unplanned pregnancies would reduce Pakistan's Total Fertility Rate, or childbirths per woman to 3.1%. Hence, to address the problem appropriately through reproductive health programs (RCH), demographers and policy implementers must understand the aspects of mistimed and unwanted conception, as well as its determining factors, such as contraceptive failure, sociocultural and demographic factors, and access to health information, autonomous women, and spousal communication for family planning [11].

Hence aim of this study was to explore the intention of pregnancy among pregnant females presenting to the antenatal clinic along with assessment of factors contributing to unintentional pregnancy. Pakistan Demographic and Health Survey (PDHS) 2012-2013 reported prevalence of unintentional pregnancy was 19.4%. To the best of our knowledge, there is no local study available at that time of research in the tertiary hospital of Lahore and there was also lacking in area about up to date knowledge about unintentional and intentional pregnancies. This survey didn't explore the reasons behind the unintentional pregnancy, which provides further insight into the issue. Furthermore, the study doesn't consider other potential factors such as contraceptive use reproductive health care services, and contraceptive awareness that contribute to unintended pregnancies [12]. Considering the escalated risk of poor maternal and foetal outcomes related to unintentional pregnancy as reported in previous studies, it is of paramount importance to identify its magnitude in our population. This will help in early recognition and preparing these couples to handle the pregnancy-related issues during the conception period as well as highlighting the importance of contraceptive usage in the postpartum period specifically in these couples as well as generally in all the eligible couples to achieve healthy families and communities.

METHODS

This cross-sectional study was conducted on 250 pregnant females of the reproductive age group who were attending the antenatal clinic of Jinnah Hospital Lahore (150 to 200 pregnant females visits per day at this antenatal clinic) from January 2022 to April 2022 after ethical review board approval (Ref. no. 269/09/06/2022/S1 ERB-JHL). The calculated sample size was 189 at a 95% confidence interval, 7% margin of error, and taking the expected frequency of unintentional pregnancy as 40% [13]. However, a sample of 250 was taken to increase the validity of the study. The main variables of the study were the intention of pregnancy (dependent variable) and demographic factors (independent variables) such as age, educational level, and parity.

Inclusion Criteria:

Pregnant females of the reproductive age group presenting at any gestational age were included in the study by non-probability convenience sampling.

Exclusion Criteria:

Females with language barriers, still death, or abortion detected on ultrasound were excluded.

An informed consent was taken by ensuring the anonymity and confidentiality of a participant. Pre-tested Structured questionnaire was used to record the data. The intention of pregnancy was assessed using the London measure of Unintentional pregnancy [14]. It has six items that are designed to assess the degree of intent to have a current or recent pregnancy. It can also be used for evaluations of family planning and prenatal care programs. The questionnaire was filled out by the researcher herself for those pregnant females who were having problems reading and writing the questionnaire items through one-to-one interviews with the respondent ensuring privacy.

Data was analysed by using Statistical Package of Social Sciences (SPSS) 27.0. Mean+SD was measured for continuous variables and frequency percentages were measured for categorical variables. To determine statistical significance χ2-square test, taking p-value <0.05 as significant, was used.

RESULTS

The results of the study regarding the intention of pregnancy in females, it was seen that one-fourth of pregnancies were unintentional 55(22%) (**Fig. 1**). On further exploration of the reason for unintentional pregnancies, the majority of females reported that they had not been using contraceptive method because they were unaware about contraception (51%) followed by failure of contraceptive method (36.4%) (**Fig. 2**).

On comparing the data between intentional and unintentional pregnancy it was seen that the mean

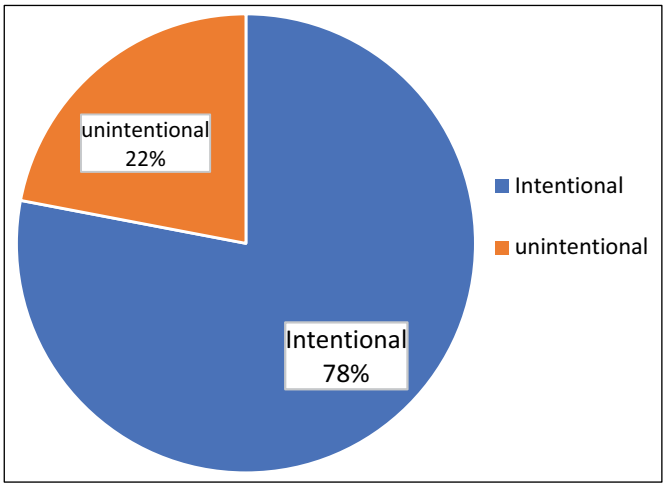

Fig. (1): Pie chart showing the frequency distribution of intention of pregnancy.

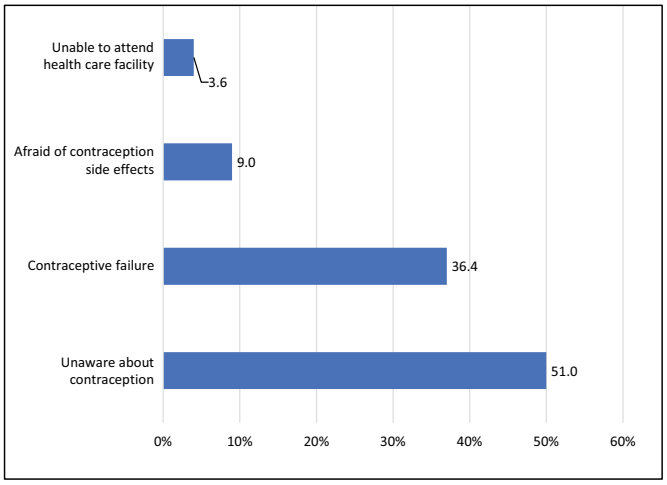

Fig. (2): Bar graph showing reasons for unintentional pregnancy.

age of respondents among intended is 29.30+5.02 and among unintended is 26.32+4.50.

Among 55 unintended pregnant females, those whose age was ≥35 years despite having a complete family still had 13(23.6%) unintentional pregnancies, and the majority of unintended pregnancies 42(76.4%) were among ≤ 35 years of age and p-value is < 0.05 which is significant (**Table 1**).

The education level indicates females whose education was matric or above matric had only 08(14.5%) unintentional pregnancies. Among the 250 pregnant females, the majority had multiparty 188(75.2%). Moreover, age groups and parity were found to be statistically significant with intention of pregnancy with p-value <0.05.

DISCUSSION

The intention of pregnancy is a vital indicator of contraceptive services or contraceptive failure. It is also a determinant of the utilization of antenatal services with significant repercussions on maternal and foetal outcomes. This study was cross cross-sectional survey conducted to determine the frequency and contributing factors of unintentional pregnancies at Jinnah Hospital Lahore which is one of the largest tertiary care hospitals with a draining population representative of metropolitan cities as well as underprivileged rural areas. In this study, it was seen that 22% of pregnancies were unintentional.

On exploration of the underlying reasons in these females with unintentional pregnancies, the most common reason came out to be lack of knowledge regarding contraception (51%) followed by contraception failure (36.4%). It was also seen that younger females with ages less than 35 years and multiparity are significantly associated with unintentional pregnancy($p<0.05$). Young females, might not be interested in contraceptive practices. Poor compliance with contraceptive programs along with low educational levels are interlinked with high rates of unintentional pregnancy within young females resulting in multiparity.

A study based on secondary data from the Demographic and Health Survey was conducted to determine the prevalence of unintentional pregnancy in six South Asian countries including Pakistan. It states the prevalence of unintentional pregnancy in South Asia overall is 19.05% while in Pakistan it is reported to be 14.1% [15]. Another study done on Nairobi women by Ikamari *et al.* found that every fourth pregnancy was unintentional with the frequency of unwanted pregnancies at 24% [16]. Similar results were reported in another study conducted in Pakistan by Razzaq *et al.* with a reported frequency of unintentional pregnancy as 27.4% among pregnant females of Karachi [17]. It was also revealed that lack of communication between the couple about family planning and having more than 5 children was significantly related to unintentional pregnancy which are findings consistent with the current study as well. However, they reported unintentional pregnancy in females more than 35 years which contradicts with results of our study. This difference can be attributed to the settings of the study as the current study was conducted in the antenatal clinic and it is seen that younger pregnant females tend to utilize the antenatal services more as compared to older females. So, we need to focus on this predominant age group presenting to the antenatal clinic to avoid unintentional pregnancy. This can be done by guiding them the right way or modern methods that can be easily learned either through campaigns based on health facilities or outreach in the community to facilitate accessibility to these health awareness drives [18].

It is seen that when literacy rates rise, the likelihood of unintended pregnancy declines. These findings were also observed in the current study where it was seen that only 14.5% of females who had unintentional

Table 1: Demographic factors related to intention of pregnancy (N=250).

Variables		Intentional n(%)	Unintentional n(%)	Total n(%)	p-value
Age group	<35 years	182 (93.3)	42 (76.4)	224 (89.6)	<0.001
	≥35 years	13 (6.7)	13 (23.6)	26 (10.4)	
Education level	No formal education	65 (33.3)	17 (30.9)	82 (32.8)	0.861
	Primary	51 (26.1)	17 (30.9)	68 (27.2)	
	middle	44 (22.7)	13 (23.7)	57 (22.8)	
	Matric & above	35 (17.9)	08 (14.5)	43 (17.2)	
Parity	Primigravida	55 (28.2)	07 (12.7)	62(24.8)	0.020
	Multipara	140 (71.8)	48 (87.3)	188(75.2)	

pregnancies had educational levels as matric or above matric. These findings are also coherent with the reason for unintentional pregnancy reported by these females such as non-usage of contraception due to lack of knowledge or fear of side effects and inappropriate use of contraception leading to contraceptive failure. All of these factors are related to the educational status of the females thus a decline in educational status also leads to a subsequential reduction in contraceptive usage [19]. Klima *et al.* also reported that a low literacy rate leading to a lack of knowledge and education regarding contraception and health services is the core problem that needs to be highlighted while addressing unintentional pregnancies [20]. Focus on educational reforms, especially women's literacy can lead to improved attitudes and decision-making regarding family planning and size.

Parity is seen to be an important contributing factor to unintentional pregnancy. These findings are seen by Razzaq *et al.* [17], Mohammed *et al.* [21], and the current study. All these studies have reported that females having more children are more prone to unintentional pregnancy further highlighting the importance of contraception and family planning in these multigravida females who have already achieved maximum family size [21]. This can be taken as a proxy indicator of the quality of contraceptive services and their coverage as the current findings are suggesting a substantial void in this area. Improvement in these services thereby can result in reducing the rate of intended abortions and maternal deaths which is also summarised by the study conducted by Cleland *et al.* [22].

Unmet need for contraception is another important factor leading to unwanted pregnancy and raises further concerns as these couples already want to limit or space the family and can turn out to be most receptive and sensitive to well-timed family planning advice. This can be achieved by a couples-based approach in which male partners are also involved to improve the decision-making in couples. Furthermore, intensified efforts are needed to promote simple and modern methods of contraception by improving the policy designs and using community-based interventions.

LIMITATIONS OF STUDY

This cross-sectional study explored the intention of pregnancy and its related factors in pregnant females presenting to a major tertiary care setup of the metropolitan city which has representation from females belonging to diverse socioeconomic classes. To the best of our knowledge, there has only recently been a small extensive literature on the local level. However, a major limitation of this study is that it is single-centered and conducted by limited doctors in a busy clinical setting. Therefore, further multicentred studies based on in-depth interviews focusing on other major factors should be conducted in different regions to get information on a wider level. This will help in health education, advocacy, and decision making resulting in better outcomes and utilization of contraceptive services.

CONCLUSION

It can be concluded from this study that approximately one-fourth of all pregnancies were unintended attributed to low literacy rate and lack of knowledge or misconception regarding contraception. This reported prevalence was higher than reported previously, which may increase the total fertility rate. The total fertility rate can be reduced by promoting a family size of two children to control the population momentum. Thus, an improvement in the literacy rate generally and regarding contraception specifically can help in alleviating this problem. This may be accomplished through identifying and enhancing eligible couples' accessibility, affordability, and contraceptive literacy, particularly through community-based advocacy and door-to-door outreach programs. An increase in educational level by close coordination between health care providers and community leaders, as well as strong political will, using all means of communication especially mass and social media can prevent unintended pregnancies. This will result in lowering the number of planned abortions and maternal deaths and enhancing maternal and foetal outcomes.

LIST OF ABBREVIATIONS

PMR	Perinatal Mortality Rate
CPR	Contraceptive Prevalence Rate
TFR	Total Fertility Rate
RCH	Reproductive and Child Health
SPSS	Statistical Package for Social Sciences

ETHICAL APPROVAL

Ethical approval was obtained from the Ethical Review Board of Jinnah Hospital Lahore, Karachi (REF letter No. 269/09/06/2022/S1 ERB-JHL). All procedures performed in studies involving human participants were following the ethical standards of the institutional and/ or national research committee and with the Helsinki Declaration.

CONSENT FOR PUBLICATION

Written informed consent was taken from the participants.

AVAILABILITY OF DATA

The data set may be acquired from the corresponding author upon a reasonable request.

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Declared none.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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AUTHORS' CONTRIBUTION

Nida Arif: Literature search, data collection, write-up, Mehwish Akhtar: Conceptualization of study design, Literature search, data analysis, Critical intellectual input, revisions, and approval of the final version of the manuscript to be published, Kashif Ayoub: data collection, data analysis, data interpretation, Ariba Fida: Proof readings, write-up, data collection, Bushra Arif: Literature search, proofreadings, write-up, and Abdullah Arif: proofreadings, write-up. Data entry.

REFERENCES

1. General Medical Council (Gran Bretanya). Consent: patients and doctors make decisions together. GMC; 2008. [Last assessed on 20th Jan 2022]. Available online from https://www.gmc-uk.org/gmpinaction/gmc-guidance/consent/index.asp.
2. "WHO – Maternal and perinatal health". www.who.int. Archived from the original on January 2023.
3. Kayode GA, Grobbee DE, Amoakoh-Coleman M, Adeleke IT, Ansah E, De Groot JAH, *et al.* Predicting stillbirth in a low resource setting. BMC Pregnancy Childbirth 2016; 16(1): 1-8. DOI: https://doi.org/10.1186/s12884-016-1061-2
4. De Bernis L, Kinney MV, Stones W, Hoope-Bender PT, Vivio D, Leisher SH, *et al.* Stillbirths: ending preventable deaths by 2030. Lancet 2016; 387(10019): 703-16. DOI: https://doi.org/10.1016/s0140-6736(15)00954-x
5. Lawn JE, Blencowe H, Waiswa P, Amouzou A, Mathers C, Hogan D, *et al.* Stillbirths: rates, risk factors, and acceleration towards 2030. Lancet 2016; 387(10018): 587-603. DOI: https://doi.org/10.1016/s0140-6736(15)00837-5
6. Flenady V, Wojcieszek AM, Middleton P, Ellwood D, Erwich JJ, Coory M, *et al.* Stillbirths: recall to action in high-income countries. Lancet 2016; 387(10019): 691-702. DOI: https://doi.org/10.1016/s0140-6736(15)01020-x
7. Sathar Z, Singh S, Rashida G, Shah Z, Niazi R. Induced abortions and unintended pregnancies in Pakistan. Stud Fam Plann. 2014; 45(4): 471-91. DOI: https://doi.org/10.1111/j.1728-4465.2014.00004.x
8. Santelli J, Rochat R, Hatfield-Timajchy K, Gilbert BC, Curtis K, Cabral R, *et al.* The measurement and meaning of unintended pregnancy. Perspect Sex Reprod Health 2003; 35(2): 94-101. DOI: https://doi.org/10.1363/3509403
9. Yazdkhasti M, Pourreza A, Pirak A, Abdi F. Unintended pregnancy and its adverse social and economic consequences on health system: a narrative review article. Iran J Public Health 2015; 44(1): 12-21.
10. National Institute of Population Studies (NIPS) Pakistan and ICF. Pakistan Demographic and Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF; 2019. [Last assessed on 30th March 2022]. Available online from https://dhsprogram.com/pubs/pdf/FR354/FR354.pdf.
11. Adhikari R, Soonthorndhada K, Prasartkul P. Correlates of unintended pregnancy among currently pregnant married women in Nepal. BMC Int Health Hum Rights 2009; 9: 17. DOI: https://doi.org/10.1186/1472-698x-9-17
12. Shiyam, Sunder, Tikmani., Sumera, Aziz, Ali., Margo, S., Harrison., Sana, Roujani., Sarah, Saleem. Prevalence and Predictors of Unintended Pregnancy in Pakistan: Findings from Pakistan Demographic Health Survey 2012-13. (2020).;9(3):01-08.
13. Sedgh G, Singh S, Hussain R. Intended and unintended pregnancies worldwide in 2012 and recent trends. Stud Fam Plann 2014; 45(3): 301-14. DOI: https://doi.org/10.1111/j.1728-4465.2014.00393.x
14. Lang AY, Hall JA, Boyle JA, Harrison CL, Teede H, Moran LJ, Barrett G. Validation of the London Measure of Unplanned Pregnancy among pregnant Australian women. PLoS One 2019; 14(8): e0220774. DOI: https://doi.org/10.1371/journal.pone.0220774
15. Sarder A, Islam SMS, Maniruzzaman, Talukder A, Ahammed B. Prevalence of unintended pregnancy and its associated factors: Evidence from six South Asian countries. PLoS One. 2021; 16(2): e0245923. DOI: https://doi.org/10.1371/journal.pone.0245923
16. Ikamari L, Izugbara C, Ochako R. Prevalence and determinants of unintended pregnancy among women in Nairobi, Kenya. BMC Pregnancy Childbirth 2013; 13: 69. DOI: https://doi.org/10.1186/1471-2393-13-69
17. Razzaq S, Jessani S, Rizvi N, Saleem S. Unintended pregnancy and the associated factors among pregnant females: Sukh Survey-Karachi, Pakistan. J Pak Med Assoc 2021; 71(Suppl 7)(11): S50-S56.
18. Habib AF, Raynes-Greenow C, Nausheen S, Soofi SB, Sajid M, Bhutta ZA, *et al.* Prevalence and determinants of unintended pregnancies amongst women attending antenatal clinics in Pakistan. BMC Pregnancy Childbirth 2017; 17(1): 156. DOI: https://doi.org/10.1186/s12884-017-1339-z
19. Zegeye B, Ahinkorah BO, Idriss-Wheeler D, Olorunsaiye CZ, Adjei NK, Yaya S. Modern contraceptive utilization and its associated factors among married women in Senegal: a multilevel analysis. BMC Public Health 2021; 21(1): 231. DOI: https://doi.org/10.1186/s12889-021-10252-7
20. Klima CS. Unintended pregnancy: consequences and solutions for a worldwide problem. J Nurse Midwifery 1998;43(6): 483-491. DOI: https://doi.org/10.1016/s0091-2182(98)00063-9
21. Mohammed F, Musa A, Amano A. Prevalence and determinants of unintended pregnancy among pregnant woman attending ANC at Gelemso General Hospital, Oromiya Region, East Ethiopia: a facility based cross-sectional study. BMC Womens Health. 2016; 16(1): 56. DOI: https://doi.org/10.1186/s12905-016-0335-1
22. Cleland J, Conde-Agudelo A, Peterson H, Ross J, Tsui A. Contraception and health. Lancet 2012; 380 (9837): 149-56. DOI: https://doi.org/10.1016/s0140-6736(12)60609-6