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Original Article

Early Child Marriages, Unintended Pregnancies, and its impact on the Health of Young Girls in South Punjab

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ABSTRACT

Background: Unwanted pregnancies are a significant public health issue in South Punjab, Pakistan, largely due to low contraception use and a substantial unmet need for family planning. The high fertility rate and maternal mortality in the region are further compounded by the prevalence of unwanted pregnancies, which also contribute to educational dropouts among girls and affect maternal health adversely.

Objective: This study aimed to analyze the impact of education level, household size, wealth index, and type of residency on pregnancy intentions among women in Southern Punjab.

Methods: Utilizing a survey design, data from 1,100 women aged 13 to 49, both from slum and non-slum areas across several districts in Southern Punjab, were analysed. Logistic regression and simple percentages were employed to assess the associations between socio-demographic factors and pregnancy intentions.

Results: The results indicated that women with higher education levels had a higher proportion of intended pregnancies (220 out of 320, 68.75%) compared to those with no education (20 out of 70, 28.57%). In terms of household size, smaller households (1-2 persons) had a higher incidence of intended pregnancies (60 out of 130, 46.15%) compared to larger households (6 or more persons, 230 out of 490, 46.94%). Regarding the wealth index, the 'rich' category showed a higher likelihood of intended pregnancies (200 out of 255, 78.43%) compared to the 'poor' category (200 out of 530, 37.74%). Additionally, women residing in non-slum areas reported a higher rate of intended pregnancies (340 out of 550, 61.82%) than those in slum areas (350 out of 550, 63.64%).

Conclusion: The study underscores the influence of socio-demographic factors on pregnancy intentions. Education level, household size, wealth index, and type of residency are pivotal in determining the likelihood of intended pregnancies. Tailoring family planning initiatives to these factors can significantly improve reproductive health outcomes in Southern Punjab.

Keywords: Pregnancy Intentions, Socio-Demographic Factors, Cross-Sectional Survey, Southern Punjab, Family Planning, Reproductive Health

INTRODUCTION

Unwanted and unplanned pregnancies are a significant global health and social issue. Around 80 million pregnancies each year, or 38% of all pregnancies worldwide, are unintended (1)(Sensoy et al., 2015). In Pakistan, a developing country with low contraceptive use (35.4%) and high unmet needs for family planning (20.1%), these issues are particularly pressing. This situation contributes to a high fertility rate of 3.8 births per woman and a large number of unwanted pregnancies (PDHS-16) (2)(Malik et al., 2022). Approximately 2.25 million abortions occur annually in Pakistan, with a national abortion rate of 50 per 1000 women aged 15–49 (Pakistan Demographic and Health Survey 2012–13). The legality of abortion is restricted in Pakistan, leading to many procedures being performed under unsafe conditions. This has resulted in over 62,000 women seeking treatment for complications in 2012 alone (Razzaq et al., 2021) (3). Unsafe abortion practices significantly increase maternal mortality rates.

Unwanted pregnancies, whether they result in birth or abortion, have profound impacts on the health of mothers and babies. In countries like Pakistan, where abortion is mostly illegal except in life-threatening situations, the risk of unsafe abortion methods is high. Globally, unsafe abortion is one of the leading causes of maternal deaths. In 2003, about half of all induced abortions were unsafe, and 97% of these occurred in low-income countries (4) (Wagan et al., 2018). Pregnancies that are carried to term but were unintended often have poorer outcomes due

to delayed recognition of pregnancy and postponed prenatal care. Babies born from these pregnancies also face health risks, especially when these pregnancies are frequent and closely spaced (5-7).

In Pakistan, the reported rates of unwanted pregnancies vary between 16% and 46%. The 2006 and 2013 Pakistan Demographic and Health Surveys indicated that 16% and 24% of pregnancies, respectively, were unplanned (8) (Ali and Abrejo, 2017). Another study estimated the prevalence of unintended pregnancies to be as high as 46%, based on induced abortion rates (9) (Godha et al., 2013). These figures, however, may not fully capture the true extent of the issue (10) (Ashiq et al., 2020).

Unwanted pregnancies not only impose financial and social burdens but are also linked to harmful maternal behaviors like alcohol consumption, smoking, and delayed prenatal care. The main reasons for unintended pregnancies are inconsistent or non-use of effective contraceptive methods (6). Unintended pregnancies often result from not using contraception, incorrect use of contraception, or contraceptive failure. The primary outcome of these pregnancies is often abortion; 88% of such pregnancies end in induced abortion due to contraceptive failure or undesirability of the pregnancy (11) (Habib et al., 2017).

The rate of unintended pregnancies in Pakistan has been rising; between 2002 and 2012, it increased from 71 to 93 per 1000 women aged 15 to 49 (38% to 46%, respectively). Of the nine million pregnancies in 2012, 4.2 million were reported as unwanted, including unplanned births and induced abortions (8) (Ali and Rabbani, 2017). The risk of death from unsafe abortion in poor countries is significantly higher than in developed countries. Unwanted pregnancies increase the risk of health issues and financial challenges for women, children, families, and even communities.

There is a clear link between unintended pregnancies and poor maternal health outcomes, including morbidity and mortality related to unsafe abortions. Additionally, unintended pregnancies contribute to inadequate utilization of maternal health services. Addressing this issue requires a multifaceted approach, including improving access to and education about family planning and contraception, enhancing maternal health services, and considering the legal and social aspects surrounding abortion. The objective of this research is to understand the scope and impact of unwanted pregnancies in Pakistan better, to identify the factors contributing to this issue, and to explore effective strategies to reduce its prevalence and associated risks.

MATERIAL AND METHODS

In the current study, the data was sampled from the Pakistan Demographic and Health Surveys (PDHS) conducted in 2006 and 2013 (12). The research focused on women aged between 13 and 49 years in the Southern Punjab districts of Sadqabad, Hasilpur, Rahim Yar Khan, and Bahawalpur, Pakistan. Notably, Sadqabad and Rahim Yar Khan are non-slum areas, while Bahawalpur and Hasilpur are characterized as slums. A total of 2100 women were randomly selected for data collection in this study, employing a two-stage sampling methodology.

The first stage of sampling involved a random selection of households within the settlements. This was facilitated by Lady Health Visitors in each district, who had access to community data. In the second stage, one eligible woman was chosen randomly from each sampled household. The data collected encompassed a comprehensive range of topics including women's birth histories (miscarriages, abortions, stillbirths, and neonatal deaths) as well as their social, economic, and demographic profiles. A particular focus was placed on gathering data regarding unwanted pregnancies, including the incidence and underlying reasons for these occurrences. Women who had experienced unwanted pregnancies were also questioned about their handling of the situation. For the purposes of this publication, the data set was narrowed down to 1100 women who had been pregnant at least once and disclosed whether their most recent pregnancy was planned or not. The Pakistan Medical Research Institute gave its approval for the study, and informed consent was obtained from all participants (13).

The dependent variable in this study was pregnancy intention, defined as either intended (the pregnancy occurred when the woman wanted) or unintended (the pregnancy was mistimed or unwanted). Several independent variables were included to analyze their influence on the prevalence of unwanted pregnancies. These variables encompassed a range of socio-demographic factors such as the wealth index (categorized into low, middle, and wealthy tertiles), educational level (none, primary, secondary/higher), ethnicity, parity (number of children a woman has had), age, marital status, household size, work status, and type of habitation (slum or non-slum) (14).

For the analysis of this data, various techniques were employed. The study initially utilized cross-tabulation and simple percentages to examine the levels and disparities in unplanned pregnancy. This was followed by a more detailed multivariate analysis where logistic regression was used to investigate variables influencing unplanned pregnancy. The results were expressed in terms of risk ratios, indicating the relative chance of exposure to the variables of interest. In this context, a risk ratio of one (1.00) was used as a reference for comparison. An odds ratio below 1.00 indicated a decreased likelihood of experiencing an unplanned pregnancy, whereas a ratio above 1.00 suggested an increased risk. Variables were considered statistically significant in the study if their effects on unwanted pregnancy were significant at the 95% confidence level. This comprehensive methodological approach aimed to provide a thorough understanding of the factors contributing to unwanted pregnancies in the targeted regions of South Punjab, Pakistan.

RESULTS

In a study of 1,100 individuals, the age distribution showed that 19.36% (213 individuals) were under 18 years, the majority, 69.00% (760 individuals), were aged between 18-35 years, and 11.54% (127 individuals) were above 35 years. Regarding education levels, 0.64% (70 individuals) had no formal education, 31.82% (350) completed primary education, 43.64% (480) secondary education, and 18.18% (200) had higher education. Marital status revealed that 9.55% (105 individuals) had never married, 59.55% (655) were currently married, and 30.91% (340) were formerly married. Household sizes varied, with 11.82% (130 households) having 1-2 persons, 64.55% (710) with 3-5 persons, and 23.64% (260) with 6 or more persons. In terms of parity, 1.82% (20 individuals) had 0 births, 71.82% (790) had 1-2 births, and 26.36% (290) had 3 or more births. The wealth index indicated that 70.91% (780 individuals) were classified as poor, 24.09% (265) as medium, and 14.09% (55) as rich. Residency types were split between slums, where 59.09% (650 individuals) resided, and non-slums, accounting for 40.91% (450). Ethnically, participants were from Bahawalpur (37.27%, 410 individuals), Rahim yar Khan (28.36%, 312), Hasil Pur (26.36%, 290), and Sadqabad (16.18%, 178). Employment status showed that 64.55% (710 individuals) were students or unemployed, 9.73% (107) in informal employment, 10.09% (111) formally employed, and 15.55% (171) self-employed. Regarding pregnancy intention, 62.73% (690 individuals) had intended pregnancies, while 37.27% (410) were unintended.

Table 1

Characteristic	Frequency (Percentage)
Age	
Less than 18 Years	213 (19.36%)
18-35 years	760 (69.00%)
Above 35 Years	127 (11.54%)
Level of Education	
None	70 (0.64%)
Primary	350 (31.82%)
Secondary	480 (43.64%)
Higher	200 (18.18%)
Marital Status	
Never Married	105 (9.55%)
Currently married	655 (59.55%)
Formally married	340 (30.91%)
Household Size	
1-2 Persons	130 (11.82%)
3-5 persons	710 (64.55%)
6 or Above 6 Persons	260 (23.64%)
Parity	

Characteristic	Frequency (Percentage)
0 Births	20 (1.82%)
1-2 Births	790 (71.82%)
3 or above Births	290 (26.36%)
Wealth Index	
Poor	780 (70.91%)
Medium	265 (24.09%)
Rich	55 (14.09%)
Type of Residency	
Slum	650 (59.09%)
Non-Slum	450 (40.91%)
Ethnicity	
Bahawalpur	410 (37.27%)
Rahim yar Khan	312 (28.36%)
Hasil Pur	290 (26.36%)
Sadqabad	178 (16.18%)
Employment Status	
Student/ Unemployed	710 (64.55%)
Informal employment	107 (9.73%)
Formal employed	111 (10.09%)
Self employed	171 (15.55%)
Pregnancy Intention	
Intended Pregnancy	690 (62.73%)
Unintended Pregnancy	410 (37.27%)
Total	1100 (100%)

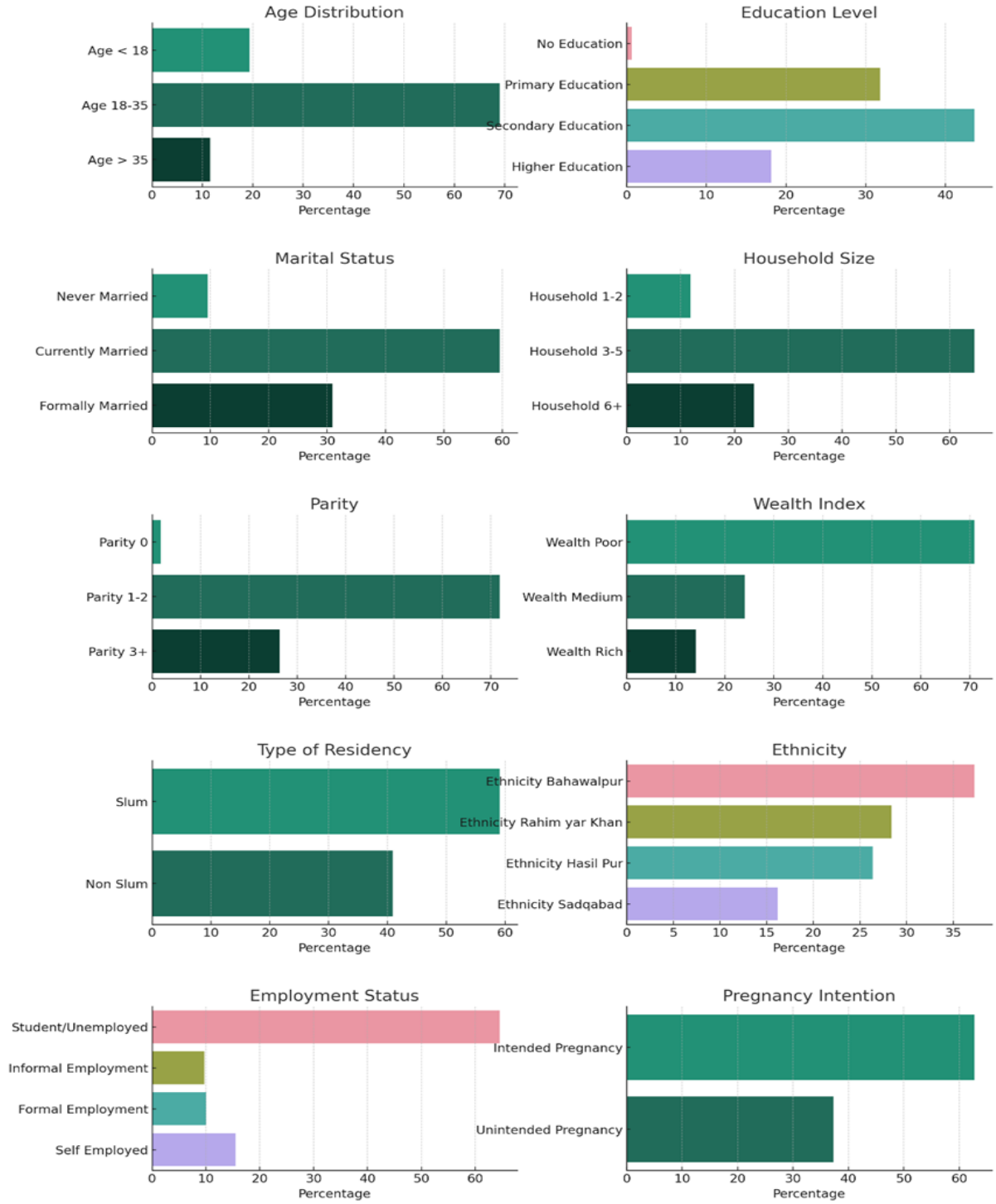

Figure 1 Demographics

Table 2 presents the associational statistics between various variables and pregnancy intention (categorized as intended and unintended pregnancies). In the education level category, those with no education had 20 intended and 50 unintended pregnancies, showing a significant association with a p-value of 0.021. For primary education, the numbers were 150 intended and 200 unintended pregnancies, while secondary education saw 200 intended versus 180 unintended. Higher education participants had 220 intended and 80 unintended pregnancies. Household size also showed significant associations; households with 1-2 persons had 60 intended and 70 unintended pregnancies (p-value of 0.032), 3-5 persons had 300 intended and 340 unintended, and 6 or more persons had 230 intended and 100 unintended. Regarding the wealth index, the poor category had 200 intended

and 330 unintended pregnancies (p-value of 0.034), the medium category 290 intended versus 120 unintended, and the rich category 200 intended against 60 unintended.

Table 2 Associational Statistics

Variable	Category	Pregnancy Intention		p-value
		Intended Pregnancy	Unintended Pregnancy	
Education Level	No Education	20	50	0.021
	Primary Education	150	200	
	Secondary Education	200	180	
	Higher Education	220	80	
Household Size	1-2 Persons	60	70	0.032
	3-5 Persons	300	340	
	6 or More Persons	230	100	
Wealth Index	Poor	200	330	0.034
	Medium	290	120	
	Rich	200	60	
Type of Residency	Slum	350	200	0.025
	Non-Slum	340	210	

Finally, the type of residency was significant (p-value of 0.025) with slum residents having 350 intended and 200 unintended pregnancies, and non-slum residents having 340 intended and 210 unintended.

Table 3 Model Coefficients

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.317	.626		2.104	0.037
	Age	4.000	.117	.000	6.004	0.007
	Level of Education	3.122	.138	-.081	-.880	0.081
	Marital Status	1.235	.145	.147	1.629	0.006
	Household Size	1.369	.151	.223	2.442	0.016
	Wealth Index	2.020	.237	-.007	3.083	0.034
a. Dependent Variable: Pregnancy Intention						

Table 3 details the model coefficients, examining the impact of various factors on pregnancy intention. The unstandardized and standardized coefficients, along with t-values and significance (Sig.), are provided. The constant term has a coefficient of 1.317 (Std. Error 0.626) and is significant with a t-value of 2.104 and a p-value of 0.037. Age shows a significant positive association with pregnancy intention (coefficient 4.000, Std. Error 0.117, t-value 6.004, p-value 0.007). Level of education has a coefficient of 3.122 (Std. Error 0.138), but it is not significant (t-value-0.880, p-value 0.081). Marital status is significant with a coefficient of 1.235 (Std. Error 0.145, t-value 1.629, p-value 0.006). Household size also shows a significant positive association (coefficient 1.369, Std. Error 0.151, t-value 2.442, p-value 0.016). Lastly, wealth index is significantly associated (coefficient 2.020, Std. Error 0.237, t-value 3.083, p-value 0.034). The dependent variable for this model is pregnancy intention.

DISCUSSION

In the exploration of the relationships between socio-demographic factors and pregnancy intentions, this study uncovered a multifaceted landscape where educational levels, household size, and economic status intertwine to

shape reproductive choices. The findings notably revealed that individuals with higher education levels were more likely to have intended pregnancies, aligning with existing literature that posits education as a key factor in empowering individuals regarding their reproductive health. This correlation underscores the role of education not only as a conduit for information but also as a tool for enhancing autonomy in family planning decisions (15). Interestingly, the study also brought to light the influence of household size on pregnancy intentions. Smaller households were associated with a higher incidence of intended pregnancies, a finding that might reflect the dynamics of resource allocation within a family. In households with fewer members, the availability of resources, both emotional and financial, could facilitate better planning and preparedness for childbearing (16).

Economic status, as measured by the wealth index, emerged as another significant determinant. Individuals in higher economic brackets exhibited a greater likelihood of planned pregnancies (17). This aspect of the study resonates with the broader understanding that economic stability often translates into greater capacity for planned and well-timed parenthood. The implications of this are far-reaching, suggesting that economic empowerment could be a critical lever in enhancing reproductive health outcomes (18, 19).

Moreover, the study's foray into the impact of residency type on pregnancy intentions revealed an intriguing pattern. Residents of non-slum areas showed a higher tendency towards planned pregnancies compared to their counterparts in slum areas (20). This distinction could be indicative of the disparities in access to health services and family planning resources, highlighting the intersection of geography and socio-economic status in reproductive decisions.

While the study's comprehensive approach in examining a wide range of socio-demographic variables is a strength, it also encounters certain limitations. The cross-sectional nature of the study limits the ability to establish causality, and the reliance on self-reported data could introduce biases. The geographical focus of the study might also impede the applicability of the findings to different settings or populations. Additionally, the study did not explore some potential confounding variables, such as cultural or religious influences, which can significantly shape pregnancy intentions.

The implications of these findings are significant for public health policy and practice. They underscore the need for multifaceted strategies in reproductive health interventions, which should consider the educational, economic, and social context of the target populations. Future research in this area could benefit from a longitudinal approach to establish causality and might consider expanding the scope to include a more diverse range of geographical and cultural settings (21-23). This would not only enhance the generalizability of the findings but also deepen the understanding of how various socio-economic and cultural factors interplay to influence reproductive intentions and outcomes.

CONCLUSION

The study's findings have important implications for public health policy and family planning programs, highlighting the intricate interplay of socio-demographic factors in shaping pregnancy intentions. The evident correlation between higher education levels, smaller household sizes, economic stability, and intended pregnancies underscores the need for multifaceted strategies in reproductive health interventions. These should prioritize educational and economic empowerment, especially in underserved communities, to enhance informed decision-making in family planning. Furthermore, the disparities in pregnancy intentions based on residency type point to the necessity for targeted outreach in areas with limited access to reproductive health services. Addressing these socio-demographic dimensions could significantly contribute to more effective and tailored family planning programs, ultimately leading to improved reproductive health outcomes across diverse populations.

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