Factors associated with adolescent pregnancy in selected rural municipalities of Lalitpur district: A mixed method study

Kusumsheela Bhatta[1], Shital Bhandary[2]
[1]Masters of Public Health (MPH) Student, [2]Assoc. Prof., School of Public Health, Patan Academy of Health Sciences, Lalitpur, Nepal

ABSTRACT

Introduction: Adolescent pregnancy increases the vulnerability to life threatening consequences in terms of developmental, sexual and reproductive health. This study aimed to find factors associated with adolescent pregnancy in selected rural municipalities of Lalitpur district using mixed methods approach.

Method: Cross sectional study was conducted among 30 adolescent mothers, selected purposively, from Bagmati and Konjyosom Rural Municipality of Lalitpur district. 4 in-depth interviews and 2 key informant interviews were taken for qualitative study. Concurrent mixed-method triangulation design was used. Fisher's exact test was used to find risk factors whereas Braun and Clarke's six-step thematic analysis based on socio-ecological model themes was used to explore the reasons of adolescent pregnancy. Results from quantitative and qualitative findings were triangulated.

Result: Out of 30 participants, 15(50%) participants had adolescent pregnancy. Family type, marriage type, age at marriage and unplanned pregnancy were significantly associated with adolescent pregnancy. Many risk factors were identified at different socio-ecological level from qualitative analysis. The results from triangulation of findings identified early marriage, marriage by elopement, unplanned pregnancy and perception regarding contraceptives as convergent risk factor, ethnicity as divergent risk factors and health workers behavior, laws, marriage and pregnancy norms, family pressure, access to media and decision making level as expansion risk factors.

Conclusion: Preventing adolescent pregnancy calls for multifaceted measures at different socioecological level that are focused on the empowerment of girls with interventions tailed to particular subgroups especially the most vulnerable and marginalized ones.

Keywords: adolescent pregnancy, factors, adolescents, sexual and reproductive health, Nepal

CORRESPONDENCE
Ms. Kusumsheela Bhatta, Masters of Public Health (MPH) Student, School of Public Health, Patan Academy of Health Sciences, Lalitpur, Nepal
Email: mph.kusumsheelabhatta@pahs.edu.np

INTRODUCTION

Adolescent pregnancy means any pregnancy from a girl who is 10-19 years of age , the age being defined as her age at the time the baby is born.[1] According to NHDS 2016, 17% of women age 15-19 have begun childbearing and this rate is constant to NDHS 2011 (17%).[2] Pregnancies among women before the age of 19 years have irreversible consequences as it not only violates the rights of girls but also makes them vulnerable to life-threatening consequences in terms of developmental, sexual and reproductive health.[3] Every year about 70,000 adolescents in developing countries die of causes related to pregnancy and childbirth.[4]

There have been numerous studies on adolescent pregnancy in the context of Nepal. However, they are mostly hospital-based studies with only few studies addressing the community context. This study aimed to find factors associated with adolescent pregnancy in selected rural municipalities of Lalitpur district using mixed methods approach.

METHOD

This study was a concurrent mixed-method triangulation design. This pilot study was conducted in Ward 1 of Bagmati and Ward 3 and 4 of Konjyosom Rural Municipality in Lalitpur District. Women of Bagmati and Konjyosom Rural Municipality of up to 25 years of age who have given at least one birth and FCHV's of same rural municipality were interviewed for this study. Purposive sampling was done for selecting participants. 30 adolescent mothers were interviewed for quantitative study. FCHV's were contacted one week before the data collection and explained about the study objectives along with participants inclusion criteria. FCHV thereafter contacted mothers' groups and other locals to get the tentative idea of the respondents. During data collection procedure, FCHV guided us to the households of potential respondents who were chosen purposively. Similarly, for qualitative study, in-depth interview was taken with 4 adolescent mothers and 2 key informant interview was taken with FCHV's.

A semi-structured questionnaire was used for interviewing the mothers. For qualitative research, in-depth interviews were done with the adolescent mothers using an interview guide and key informant interviews were done with the FCHV using a separate KII guide. Face validity of the tools were ensured by discussing with the faculties of SOPH, PAHS. Face to face interviews was the primary approach to collect data.

All of the qualitative interviews were recorded after obtaining permission to record from the participants. Before data collection from the participants, written consent was taken from each of them. The identity of the participants and the information provided were kept confidential.

For the quantitative study, the data were coded, entered in Epidata Version 3.1 and cleaned in MS Excel. Descriptive and inferential statistics were performed using EZR software 1.48 and STATA 13.0. Under descriptive statistics frequency, percentage, mean, standard deviation, median, minimum and maximum was calculated. The association between independent and dependent variable was tested using Fisher's exact test.

For the qualitative study, the recorded interviews were transferred to the computer and translated as soon as possible after the interview was over. The information gained from interviews (In-depth interviews and Key informant interviews) was converted in 'txt' format and then imported to RQDA package of R software. Each transcript was read and again re-read to find a similar kind of response. It was then marked, and different codes were generated. The same procedure was repeated for all the transcripts. Braun and Clarks six-steps thematic analysis was used to perform the qualitative analysis. Relevant quotes were used to represent each code within each theme. A 'socioecological model' was used to present and analyze the findings of qualitative data.

The quantitative results were triangulated with qualitative results for determining convergent, divergent, and expansion findings.

RESULT

A total of 30 participants were enrolled in this study. More than half of the respondents had married before the age of 18, which can be regarded as child marriage in context of Nepal. (Table 1)

Variables such as family type, marriage type, age at marriage and unplanned pregnancy had a significant association with adolescent pregnancy whereas religion, ethnicity, employment status of respondent, employment status of respondents husband and wanting to get married didn't show any statistically significant association (Table 2 and 3). Different factors were identified using the socio-ecological model from qualitative analysis (Table 4).

Table 1. Pregnancy and marriage related information

Variables	N (%)		Variables	N (%)
Age at first marriage (n=30)			Age at first pregnancy (n=30)	
<18	18(60%)		<20	15(50%)
≥18	12(40%)		≥20	15(50%)
Wanted to get married (n=30)			Planned Pregnancy (n=30)	
Yes	23(76.7%)		Yes	17(56.7%)
No	7(23.3%)		No	13(43.3%)
Marriage Type (n=30)				
Elopement	17(56.7%)			
Arranged Marriage	13(43.3%)			

Table 2. Association between sociodemographic variables and adolescent pregnancy

Variables	Adolescent Pregnancy		Total	p-value	Odds Ratio with Confidence interval (CI)
	Yes	No			
Religion					
Hindu	12 (57.14%)	9(42.86%)	21 (100%)	0.427	2.579 [0.41-20.45]
Buddhism	3 (33.33%)	6(66.67%)	9 (100%)		
Ethnicity					
Brahmin/Chhetri	3 (42.9%)	4 (57.1%)	7 (100%)	1	0.696 [0.08-5.18]
Janajati	12 (52.2%)	11(47.8%)	23 (100%)		
Family Type					
Single	4(26.67%)	11(73.33)	15 (100%)	0.027*	0.143 [0.02-0.83]
Joint	11(73.33%)	4(26.67%)	15 (100%)		
Employment status of respondent					
Employed	8 (47.06)	9(52.94)	17 (100%)	1	0.768 [0.142-4.05]
Unemployed	7 (53.85	6 (46.15)	13 (100%)		
Employment status of respondent's husband					
Employed	12 (52.17)	11 (47.83)	23 (100%)	1	1.44 [0.193-12.12]
Unemployed	3 (42.86)	4 (57.14)	7 (100%)		

*significant at p<0.05

Table 3. Association between marriage and pregnancy related variables and adolescent pregnancy

Variables	Adolescent Pregnancy		Total	p-value	Odds Ratio with Confidence interval (CI)
	Yes	No			
Age at marriage					
< 18	15 (83.33)	3(16.67)	18 (100%)	<0.0001*[a]	110.71
≥ 18	0	12 (100)	12 (100%)		
Wanted to get married					
Yes	13 (56.52)	10 (43.48)	23 (100%)	0.390	3.13 [0.40-39.38]
No	2 (28.57)	5 (71.43)	7 (100%)		
Marriage Type					
Arranged	3 (23.08)	10 (76.92)	13 (100%)	0.025*	0.136[0.0164-0.82]
Elopement	12 (70.59)	5 (29.41)	17 (100%)		
Planned Pregnancy					
Yes	4 (23.53)	13 (76.47)	17 (100%)	0.0025*	0.06 [0.0048-0.458]
No	11 (84.62)	2 (15.38)	13 (100%)		

[a]Haldane Anscombe Correction[15] used as one of the observed value is zero *significant at p<0.05

Table 4. Findings from Thematic Analysis of IDIs and KIIs

Intrapersonal Level	Factors: Low Education, Early Marriage, Elopement, Perception regarding contraceptive use, Ignorance, Ethnicity, Unplanned pregnancy
Interpersonal Level	Factors: Family Pressure, Lack of family and peer support, Low decision-making level, Marriage and pregnancy norms among family and friends, Parents education, Lack of husband's role in contraception
Organizational	Factors: Health Workers Behavior, Lack of Periodical Survey,
Societal	Factors: Early marriage norms in society, Marriage an pregnancy norms in society, Access to media
Policy	Factors: Lockdown, Trainings and Awareness Programs, Enforcement of Laws

Table 5. Triangulation of findings

Convergent Findings	Factors: Early Marriage, Marriage by elopement, Unplanned Pregnancy, Perception regarding contraceptives
Divergent Findings	Factors: Ethnicity
Expansion Findings	Factors: Health workers behavior, Laws, Marriage and Pregnancy norms, Access to media, Decision making level of women, Family pressure

Nepalese society is bounded by distinct marriage and birth norms and most often those norms are imposed upon a woman by her family members. A respondent explained how her family members used to emotionally and verbally abuse her to give birth as:

"After getting married, my mother-in-law used to talk very bad about me. She used to gossip that I wasn't giving birth, I was being gay (hijada) and used to tell my husband to leave me. My mother in law and father in law needed grandchild early. But we didn't want to give birth now. We wanted to have a child only after the age of 20-21. My mother-in-law used to gossip such things about me with everyone and others used to tell me. I used to feel so bad about it."
(19 years old, Adolescent Mother, Janajati, IDI2)

As per the results of qualitative study, lack of enforcement of laws was also one of the factors affecting adolescent pregnancy. Strict enforcement of law can act as a main barrier to adolescent pregnancy as per a key informant where she mentioned that even punishing one among all can prompt fear among others. She elaborates on this as:

"…I think that the laws should be implemented to stop such incidences. When even one among them are punished and goes to jail, then the rest will realize that they can also be punished in such way and will have fear among them."
(42 years old, FCHV, Janajati, KII2)

Convergent Findings

The quantitative study results showed that more than half of the respondents had married by elopement. Also, marriage type had significant association with adolescent pregnancy. Similar results were obtained from the findings of qualitative study.

"My husband worked in my hometown village. I first talked to him on mobile and then I met him. I fell in love with him and I ran away from my house."
(19 years old, Adolescent Mother, Janajati, IDI4)

From the results of quantitative study, 80% of the respondents didn't use any form of contraception. The most common reasons for not using any forms of contraception being not feeling like using (29.17%) and health concerns (25%). Similar findings were obtained from qualitative study. It is further elaborated by following verbatim:

"No, I didn't use any contraception after marriage. People used to say that if I used contraception, I won't have any kids later. I used to fear listening to them. That's why I didn't use such contraception. […] They said that I wouldn't have kids later. Also, menstruation won't happen. It will make me ill. Even my husband used to say the same."
(19 years old, Adolescent Mother, Janajati, IDI2)

Unplanned pregnancy also had a significant association with adolescent pregnancy as per findings of quantitative study. Similar finding was also reported in qualitative study as a participant explained:

"I didn't know that I was pregnant with this child. I used to digest all kinds of food and eat everything. Some women experience nausea, vomiting, anorexia but I didn't experience anything. When I went to clinic for checkup then I knew that I was 3 months pregnant already."
(19 years old, Adolescent Mother, Janajati, IDI2)

Divergent Findings

In the quantitative study findings, ethnicity did not show any significant association with adolescent pregnancy. However, in the qualitative study respondents illuminated the ethnicity wise differences in prevalence of adolescent pregnancy

"I feel that there are more superstitious beliefs regarding child birth and pregnancy among Tamang/ let's say Matwali communities. […] Also, among Nepali, Pariyar as we say now to the Damai Kami Communities. We used to hear such incidences among such communities too."
(46 years old, FCHV, Brahmin, KII1)

Expansion Findings

As per the result of quantitative study, the reasons for not using contraception's were mainly not feeling like using and health concerns. In addition to that, qualitative study also showed that the health workers behavior was also one among the reasons as she described:

"I did use pills. But I didn't use it for longer time. They used to provide it for exactly 3 months only. Children played with it. It wasn't sufficient and I stopped consuming it. I didn't go to take it again.

They would scold me. […] Before they used to make a card, you know and I used to lose it. When I went back to make it again, they used to ask me why I lost it."
(18 Years old, Adolescent Mother, Janjati, IDI1)

The quantitative study only looked through if the women had decision making authority during contraception but not during planning of pregnancy and childbirth. This information was further added/ explored by qualitative study.
A respondent shared:
"No, I haven't used any methods till now. But I didn't want a child at that time. My husband wanted a child that's why I gave birth."
(20 years old, Adolescent Mother, Janajati, IDI3)

DISCUSSION

Early marriage was significantly associated with adolescent pregnancy in this study. A systematic review for comprehensive understanding of factors related to adolescent pregnancy also revealed that early marriage increased the hazards of adolescent pregnancy.[5] Similarly, family type had a significant association with adolescent pregnancy. This was similar to findings from another study which depicted that a higher proportion of adolescent pregnant women (67%) were found to be part of an extended family. [6]

Moreover, family pressure and family norms were other factors explored from qualitative study. Similar findings were obtained from a study conducted in 3 medical hospitals of Nepal where majority of respondents perceived family problems, in-laws pressure and cultural prospects as aggravating factors leading to adolescent pregnancy. [7]

Perception on Contraceptive use was identified as a convergent finding in this study. A qualitative study conducted among adolescents also reported similar findings where a major barrier to contraceptive use was fear of side effects and perceived health risks of using contraceptive methods.[8]

Marriage by elopment was another convergent finding from this study which was similar to the findings from a case control study where adolescent pregnant women were more likely to have love marriages as compared to the other group.[9] Another qualitative study which explored the perception of teenage mothers showed that a majority of them perceived love marriage as aggravating factor leading to adolescent pregnancy .[7]

Likewise, unplanned pregnancy was identified as a convergent finding in this study. This is in alignment with a study drawn from NDHS data where more than two-fifth of the pregnancy women reported unintended pregnancy and likelihood of unintended pregnancy decreased as women's age at first marriage increased.[10]

Ethnicity was reported as a divergent finding in this study. The qualitative result of the study depicted that adolescent pregnancy was more common among Janajati and Dalit groups. However no significant association was seen in quantitative study. Most hospital-based studies in Nepal have reported ethnicity as a major risk factor for adolescent pregnancy.[11-13] Thus the lack of significant ethnicity wise differences in this study might also be due to limited sample size.

One of the major expansion finding of this study was health workers negative behavior which acted as a barrier for seeking contraceptive use. This is in alignment with the findings from a systematic review where negative behaviors and attitudes of healthcare workers was associated with provision of inadequate SRH services.[14]

Our study has some limitations. Purposive sampling method was used for the study so the study findings may not be generalized. The study was carried out with very limited sample size and limited time frame. The opinions of the participants may be limited to the participants themselves and may not be representative of other people of the study settings.

CONCLUSION

From the mixed method findings, we can conclude the factors associated with adolescent pregnancy as early marriage, marriage by elopement, perception regarding contraceptive use, unplanned pregnancy, family pressure, health worker behaviors, marriage and pregnancy norms, access to media and decision making level of women.

As adolescent pregnancies are a result of a range of factors, preventing it calls for multifaceted measures that are focused on the empowerment of girls with interventions tailed to particular subgroups especially the most vulnerable and marginalized ones.

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Conflict of Interest
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