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Socio-economic factors affecting teenage pregnancy in northern Indian population: A cross sectional study

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Abstract

According to United Nation Population Division & World Bank, the adolescent fertility rate is defined as "number of births per 1,000 women ages 15-19" and supposed to be one of the best indicators for world development study. The study of adolescent fertility rate is important not only because it is responsible as a factor of population growth & health cost burden but also it reveals the level of various socioeconomic status of a country in terms of development. Various world level organizations have declared that "pregnancy and childbirth" is the number one killer of 15-19 years old so the adolescent fertility issue has become international public health issue. It is assumed that socioeconomic factors are associated with adolescent fertility rate. That's why the study of socioeconomic variables to assess the level of knowledge in adolescents for early marriages and its negative effects on their lives leads some facts in the study of development of a nation. In the present observational cross sectional study we will try to find the association of various socioeconomic factors on adolescent fertility rate in the rural areas of Lucknow, capital of Uttar Pradesh.

Keywords: Adolescent Fertility rate, Development Studies, Population Growth, Public Health & Health Cost Burden.

Introduction

"Pregnancy and childbirth is number one killer of 15-19 years age group".[(1)] The WHO (World Health Organization) defines adolescent as individuals within the age group of 10-19 years. During this time period the adolescents start exploring sexuality and some young couples may start sexual relationships.[(2)] Adolescents, who are less informed, may not access the appropriate reproductive health (RH) services and are therefore at greater risk of contracting sexually transmitted infections (STIs) and sexually transmitted diseases (STDs). They are also more likely to become pregnant due to lack of knowledge of appropriate contraceptives. Teenage pregnancy (TP) is pregnancy in human females under the age of 20 years at the time the pregnancy ends. A pregnancy can take place after the start of the puberty before first menstrual period, but usually occurs after the onset of periods. Pregnant teenagers face many of the same obstetrics issues as other women. There are, however, additional medical concerns for mothers aged under 15.[(3)] For mothers aged 15–19, risks are associated more with socioeconomic factors than with the biological effects of age.[(4)] Risks of low birth weight, premature labor, anemia, and pre-eclampsia is connected to the biological age itself, as it was observed in teen births even after controlling for other risk factors (such as utilization of antenatal care etc.).[(4)] Every day in developing countries, 20,000 girls under age 18 give birth.[(5)] This amounts to 7.3 million births a year.[(6)]

According to the United Nations Population Fund (UNFPA), "Pregnancies among girls less than 18 years of age have irreparable consequences. It violates the rights of girls, with life-threatening consequences in terms of sexual and reproductive health, and poses high development costs for communities, particularly in perpetuating the cycle of poverty".[(7)] Health consequences include not yet being physically ready for pregnancy and childbirth leading to complications and malnutrition as the majority of adolescents tend to come from lower-income households. The risk of maternal death for girls under age 15 in low- and middle-income countries is higher than for women in their twenties.[(8)] Teenage pregnancy also affects girl's education and income potential as many are forced to drop out of school which ultimately threatens future opportunities and economic prospects.[(9)]

Several studies have examined the socioeconomic, medical, and psychological impact of pregnancy and parenthood in teens. Life outcomes for teenage mothers and their children vary; other factors, such as poverty or social support, may be more important than the age of the mother at the birth. Many solutions to counteract the more negative findings have been proposed. Teenage parents who can rely on family and community support, social services and child-care support are more likely to continue their education and get higher paying jobs as they progress with their education.[(8-9)]

A holistic approach is required in order to address teenage pregnancy. This means not focusing on changing the behavior of girls but addressing the underlying reasons of adolescent pregnancy such as poverty, gender inequality, social pressures and coercion. This approach should include "providing age-appropriate comprehensive sexuality education for all young people, investing in girls' education, preventing child marriage, sexual violence and coercion, building gender-equitable societies by empowering girls and engaging men and boys and ensuring adolescents' access to sexual and

reproductive health information as well as services that welcome them and facilitate their choices.[9]

South Asia has a large proportion of young people in the world and teenage pregnancy has emerged as one of the major public health problem among them and bearing serious social and medical implications relating to maternal and child health.[10] About Thousands of teenagers get pregnant each year in India .Teenage pregnancy is a public health concern both in developed and developing world. The problem is so serious that almost every social, health care and different NGOs in India is now concerned with it.[11] If we see the worldwide scenario on teenage pregnancy burden it seems that globally 15 million women under the age of 20 give birth, representing up to one- fifth of all births[11] and approximately 529,000 women die every year due to either pregnancy or by child birth related complication.[12] The risk of death due to pregnancy related causes is double among women aged 15-19 compared to women in their twenties.[13]

Adolescent pregnancy continues to be a complex and challenging issue for families, health workers, educators, societies and governments, and adolescents themselves.[14] One of the important factors for the rapid population growth in the world is adolescent childbearing.[15] United Nations also remarks that early child bearing is a high health risk for both mother and child.[16]

In the present research study we will assess the socioeconomic status which is responsible for teenage pregnancy as a risk factor in Rural Lucknow district, Uttar Pradesh. We will also observe the effect of teenage pregnancy on the health of mothers according to their own experience.

Literature Review

In reporting teenage pregnancy rates, the number of pregnancies per 1,000 females aged 15 to 19 when the pregnancy ends is generally used and expressed in numeric terms. Worldwide, teenage pregnancy rates are comparatively high in African countries while comparatively low in Maldives, Libya, China etc. But according to World Bank data the highest adolescent fertility rate was found in Niger is found 205 in 2013 whereas the minimum adolescent fertility rate was minimum in Slovenia which was 0.62 in same year.[17] The teenage pregnancy is commonly the reason of child marriage. Child marriage, defined as marriage before age 18, is practiced in all regions of the world. This harmful traditional practice not only violates the human rights of girls and young women, but also threatens their health and well-being. Nearly half of all women ages 20 to 24 in South Central Asia and Western Africa were married by age 18, putting them at a higher risk for early pregnancy and maternal disability and death, and limiting their access to education and employment. Although the prevalence of child marriage is lower in other regions, such as Southeast Asia and Western Asia, nearly one in five girls in those two regions were married by age 18. And in the poorest regions of the world—particularly Eastern Africa, Western Africa, and South Central Asia—more than one in 10 girls were married by age 15.[18]

Early marriage is the norm in Indian society.[19] Cultural and social norms in certain communities within India still prefer early marriages. In India, tradition has allowed India women to begin childbearing in their teens. Evidence shows that pregnancy after 18 years of age is in itself not a problem because biologically, a woman is most fertile at age of 18-22 years. In particular, future research in South Asian countries is needed with standardized measures and methodologies to gain an insight into observed variations in pregnancy rates.[20] Similar results were seen in Demographic and health survey 2011.Very attractive study was done by Ram Bilakshan Sah et al. on "Burden of Teenage Pregnancies In Hilly Area of Eastern Region of Nepal" conducted in Nepal concluded that fetal complication was significantly higher among below 20 years of age (81%) than women with 20 years and above (19%). The proportion of low birth weight (<2.5 kg) babies was also significantly higher in women with teenage pregnancy (78.3%) than women with20 years and above (21.7%).They also concluded that the problem of teenage pregnancy is common and has become a key public health concern for all. The teenage pregnancy was not favorable condition for baby outcome.[21]

Research Design

The present study aims to check the awareness, knowledge of teenagers on early pregnancy and the socioeconomic factors which affect the teenage pregnancy at a single point of time in a particular area. So the research setting in our study will be characterized as Cross sectional Research Design. So our research design is Observational Cross sectional Design.

Aims & Objectives

Aim: To study the socioeconomic factors affecting teenage pregnancy in North Indian Population.

Objectives:

- To identity the knowledge of teenage pregnancy & health problems.
- To find out the association of age at first sex and onset of pregnancy at teenage.
- To correlate the teenage pregnancy and general health complications.

Study Region and data collection

The present study will be conducted in rural part of Lucknow, Uttar Pradesh. Data will be collected after ethical clearance of the institute and by the permission of local administration such as Gram pradhan, police Thana or ward/toll in charges to avoid any types of misunderstanding created by the subjects. The self

administrated questionnaire after checking the reliability and validity will be used in data collection.

Sample Size Calculation

The sample size was calculated by the help of Statistician. The adolescence fertility rate of India in 2013 reported by World Bank was 32.44 (Per 1000). The information was used to calculate the prevalence of adolescence fertility rate. By using the following statistical formula the appropriate sample size was calculated as follows,

$n= z^2pq/d^2$

Where, z is the value of z statistic (1.84 at 5 % level of significance and 80% power)

p is the prevalence, q=1-p and d is specified absolute precision taken as 1 % or 0.01.

n= 1.84*1.84*0.03*0.97/0.01*0.01 = 1117, with 10 percent of data loss the minimum sample size was required as 1117+112=1229. This size can be further increases if the sample availability becomes easy to increase the scope of study.

The simple random sampling technique will be use after prior listing the household to avoid biased and purposive samples.

Research Question

The following research questions plays crucial role in our study

Is Teenage pregnancy is still a course in Northern part of India?

Is the level of knowledge and awareness of teenagers on early marriage & pregnancy is poor?

Is the heath conditions of teenage pregnant woman are poor than matures female pregnancy?

Is the social and other economical factors are the risk factors of teenagers pregnancy?

Hypothesis of the study

Null hypothesis & Alternative Hypothesis of the study

H_0: There is no association of socioeconomic factors on teenage pregnancy.

H_1: There is effect of association of socioeconomic factors on teenage pregnancy.

Statistical Analysis

After the collection of data the data will be analyzed by using SPSS software. The frequency and proportion will be calculated for categorical variable while averages and measure of dispersion will be calculated for continuous data. Chi Square test and Fisher exact test will be used to study the various associations among categorical variables. Binary and multiple logistic regression technique will be used to find out various risk factors.

Expected Outcome and feasibility of the study

The teenage pregnancy is a global health problem and more serious on developing countries like India. Previous many studies show that there is direct association between socioeconomic statuses on teenage pregnancy. The adolescent fertility rate is responsible for population growth, reason of poor health, infant & maternal mortality which is a challenge to health experts, national policy makers, economist and public. The present study becomes more needful because no study related to adolescent fertility was conducted by any investigator or public health expert in Northern part of Uttar Pradesh and its nearby places. This study will help to identify real situation of knowledge and problem about teenage pregnancy in study area and will be seem as a significant problem of development of nation .So the present study is needful and feasible.

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