

A REVIEW OF REGIONAL VARIATIONS OF CONTRACEPTIVE USE IN BANGLADESH

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ABSTRACT

In this study Regional Variation of Contraceptive Prevalence Rate (CPR) of Bangladesh has been analyzed. Bangladesh is one of the south Asian countries where CPR was worse in few decades ago, but improvement of CPR is quite fantastic. Though Bangladesh is improving a lot in CPR but not all the districts of Bangladesh did same improvement some districts did much better improvement compare with other. Even urban area & rural area of same district didn't do same kind of improvement. The difference is significant. Five open access articles published in different journal has been studied and data from these articles have been analyzed. The regional variation of contraceptive uses have not been analyzed directly in those article. So only regional variation of CPR part has been analyzed to for this review study. This review study will help everyone to understand Regional Variations of Contraceptive used in Bangladesh.

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The author takes the opportunity to thank Mr. Akkur Chandra Das, Mr. Khan & Mrs. Jerifa, Mr. Mohammad Nazmul Hoq as very important and influential data has been extracted from their published article.

As this is a review article, data and information were collected and analyzed from different published articles. The cordial thanks and indebtedness are expressed to all the authors of the articles from where information and data was collected to complete this review article.

Finally, the authors are deeply indebted to their parents, siblings and friends for providing mental strength to continue the research work smoothly.

CHAPTER-1

INTRODUCTION

Fertility control is one of the main issues for the last five or six decades for global leader. As per Muhammed Ashrafal Alam & his team confirmation most of the European country already reached to their goal for Fertility control. Australia, New Zealand, USA & Canada also did same as Europe. Some Asian country (Japan, Singapore & South Korea) also top of the target but countries of south Asia, Africa & Latin America still struggling for controlling fertility rate [2]. According to global context, total fertility rate (TFR) was 2.5 live birth/woman in 2015. There is a significant regional difference in this rate, the highest fertility rate was found 4.7 live birth/woman in Africa, while the lowest found was 1.6 live birth/woman in Europe [2]. From the MD. Kamrul Islam & his team article we can see though Bangladesh is Muslim-majority country characterized by higher poverty, a lower literacy rate, and a lower level of women's autonomy but did a tremendous job in contraceptive prevalence rate (CPR) from 8.0% in 1975 to 62.4% in 2014 as a result Total Fertility Rate (TFR) of Bangladeshi fertile women (Aged 15-49) declined simultaneously [1]. In order to slow population growth and further improvement in maternal and child health, the Government of Bangladesh has a target to increase CPR 75% by 2021 [1], thus achieving the below replacement level of fertility (less than 2.1 children per woman). Within current situation Bangladesh government need to take initiative to continue increasing trend of the CPR by addressing barriers of contraceptive usages in different region (in this case administrative divisions). Following Mohammad Nazmul Haq study, we find that preference for son is one of the main reasons for low Contraceptive Prevalence Rate in rural area of Bangladesh where the maximum people live [5]. As per Mr. Akkur Chandra Das study Bangladesh government need to increase Contraceptive using; especially condom use would need to be increased by 4 times in 10 years to reduce the TFR (Total Fertility Rate) by 1 child in rural area of Bangladesh [3]. Bangladesh government also need to take initiative to reduce gap between rural & urban area of same

region. My review analysis from 5 articles will show us what initiative need to take to reduce Regional Variations of Contraceptive use in Bangladesh.

CHAPTER-2

METHODOLOGY

I will use five study (Regional variations of contraceptive use in Bangladesh: A disaggregate analysis by place of residence by Md. Kamrul Islam, Md.Rabiul Haque, Prianka Sultana Hema [1], Regional Variations of Fertility Control Behavior among Rural Reproductive Women in Bangladesh: A Hierarchical Analysis by Muhammed Ashraf Alam, Kanittha Chamroonsawasdi, Natkamol Chansatitporn, Chokchai Munsawaengsub & Md Shafiqul Islam [2] Contraceptive Using Trends in Bangladesh by Akkur Chandra Das [3], Prevalence of Contraceptive use among Married Women of Reproductive Age groups in a Rural Area of Bangladesh by Khan & Jerifa [4] & Influence of the preference for sons on contraceptive use in Bangladesh: A multivariate analysis by Mohammad Nazmul Haq [5], which already published in different journal. The study which already published mostly used DHS data for analyze all the data (BDHS report 2004, BDHS report 2014 & BDHS report 2017). BDHS report had a wide range of information on respondents' sociodemographic characteristics, marriage and sexual activity, levels of fertility, fertility preferences, fertility regulations, child mortality, women's autonomy and health-seeking behavior. Mr. Akkur Chandra Das used monthly data of Directorate General of Family Planning (DGFP), Bangladesh from January, 2007 to May, 2015. The 2014 BDHS is a nationally representative cross-sectional survey in which data were collected following a two-stage stratified sampling procedure. The total sample size in the 2014 BDHS was 17,863 ever married women ages 15–49 years. However, for this study only currently married women ages 15–49 was selected for analysis because considering the nature of the outcome variable of interest, the articles I used for my review study is excluded women who were either pregnant or divorced/widowed/separated at the time of the survey. The articles also excluded women who mentioned that they had never sex. The percentages of missing cases were very low (less than 0.2%). Hence, listwise delete procedure was

followed for dealing with missing cases in selecting the final sample size. Thus, the final sample size for Md. Kamrul Islam & his team study was reduced to 15,699 currently married women ages 15–49 years for Bangladesh demographics Health Survey 2014. Mr. Mohammad Nazmul Haq use Bangladesh Demographic and Health Survey datasets (BDHS-2004, 2007, 2011, and 2014). These datasets were gathered for the Government of Bangladesh by the National Institute for Population Research and Training (NIPORT), with financing from the United States Agency for International Development (USAID)/Dhaka (NIPORT, 2005, NIPORT, 2009, NIPORT, 2012, NIPORT, 2016). So, I will use all information which was already collected by other & published in their articles. There is no information is directly collected by me.

Variables

All the articles I use for my review thesis are not using same variable as there dependent or independent variable. The dependent variable for my study is region or administrative district variation of using Contraceptive among fertile women. Along with this variable I also find education of sample, husband education, residence of sample, age of sample, religion of sample, financial condition of sample & Occupation of sample are the independent variable of the study. Media coverage also a independent variable for my study. All the article I use I will review the all variable so that I can complete my study & find out the regional variation of contraceptive use for Bangladesh.

Covariates

Mr. Kamrul Islam & his team [1] take a number of sociodemographic and cultural variables were included in the multivariate analysis. Sample are divided in two categories following their age one is less than 20 years & other is 20 years & above. This age group provide policy maker a clear view of difference between adolescent fertility rate of Bangladesh compares with other country. Adolescent fertility rate is highest in Bangladesh among all the south Asian country [As per 2017 survey 84 births per 1000 women—compared to other countries in south Asia such as India (25 births), Sri Lanka (15 births), Nepal (62

births), Bhutan (22 births), Pakistan (38 births) and Afghanistan (69 births) [1]). The higher rate of adolescent fertility rate has a negative impact on women's health & careers. Among other variables included in the analysis were religion (Islam and others), education (no education, primary, secondary, and post-secondary), employment status (yes and no), wealth index (poorest, poorer, middle, richer, and richest), husband's education (no education, primary, secondary, and post-secondary), access to media (yes and no), family planning workers' visit in the last six months (yes and no), attitude towards the ideal number of children to have (0–2, or more than 2), and women's autonomy (high and low). The variable on access to media was derived using information on whether samples read newspaper, listening radio, or watched television. Concerning the attitude towards the ideal number of children to have, they included 0–2 children in one category to provide better view into the extent to which women consider having less than three children as the ideal number of children to have. Having 0–2 children on average is considered an important marker of slowing the population growth. Mr. Shafiqul Islam & his team [2] divided there sample in three categories one is equal or less than twenty years another is twenty one to thirty five & last one is more than thirty five. They also selected sample from rural area different upazila of different division so that they can find a clear view of contraceptive uses trend in rural area of Bangladesh. They also use almost same variable as Mr. Kamrul Islam & his team use. Mr. Khan & Mrs. Jerifa [4] collect data from a specific village & compare their data with BDHS data & showing difference so we can get only one village scenario from there study, it also helps us to find out CPR in a specific village of rural Bangladesh. They don't divide there sample any age group.

Analytical approach

Md. Kamrul Islam, Md.Rabiul Haque, Prianka Sultana Hema used both bivariate & multivariate analyses to examine divisional variation of contraceptive use in Bangladesh both at aggregate (total sample) and disaggregate levels (Rural and urban separately) [1]. In bivariate analyses, the relation between contraceptive use and the selected background characteristics of the sample were follow up by reporting test of significance using the Chi-square test. The outcome variable of interest in this study was bifurcate: whether the

samples are using any contraceptive or not. Hence, multivariate logistic regression models of contraception use were followed up with sociodemographic characteristics and cultural reasons. To develop the multivariate logistic regression models, they followed a two-stage work procedure for selecting the covariates. Firstly, they conducted a thorough review of literature to identify variables which they found to influence contraceptive use particularly in the context of developing countries. Secondly, they followed a bivariate analysis between contraceptive use and the variables selected based on the review of literature. The variables that were statistically significant in the bivariate analysis were included in the multivariate logistic regression models as control variables. Thus, the control variables in all three models were the respondents' age, religion, education, employment status, wealth index, access to media, family planning workers' visit within the last six months, attitude towards the ideal number of children to have, women's autonomy, and the husband's education. The logistic regression estimates for the total sample were also adjusted for place of residence (Rural or urban) in addition to the above controls. In the regression models, the Barisal division was used as the reference for other division calculations because Barisal had the median prevalence of contraceptive use among the seven administrative divisions of Bangladesh. Using Barisal as the reference would facilitate identifying which divisions had higher rates of contraception usage and which divisions had the lower even after controlling for the sociodemographic attributes and cultural factors. This information will help policy makers and program planners to take decisions for other divisions for further improvement of using contraceptives.

Mr. Muhammed Ashraf Alam & his team use Hierarchical regression model to report the importance of predictors as well as regional scenarios on fertility control behavior. They also use one-way analysis of variance test to find out regional variations of fertility control characteristics among rural women. Mr. Mohammad Nazmul Hoq used Logistic regression model to find out the effects of the preference for sons on current contraceptive use with so many independent categorical variables. He also uses multivariate binary logistic regression model for the CPR among those with only daughters & only sons.

CHAPTER-3

RESULTS

From Md. Kamrul Islam, Md.Rabiul Haque, Prianka Sultana Hemas article [1] we find sample characteristics of the respondents. From this article we also find that 66.8% of sample use contraceptive. Use of contraceptive in urban (69.9%) area is little beat higher than rural (65.5%) area. Most of the sample from Dhaka division (34.9%), almost 90% (89.6%) aged more than 20. Only 9.9% of sample from other religion (non-Islam). More than one third (37.9) sample has secondary education only 8.8% of them has post-secondary education. Most of the sample are unemployed (67.1%) & are richest (21.5%). Only 19.1% women mentioned that they had family planning workers' visit in the last six months; and the percentage was slightly higher in rural areas than urban areas. About one-fifth of women mentioned having three or more children as the ideal number of children to have, and the percentage was higher in rural areas than urban areas. Overall, 63.3% of women had high level of women's autonomy, with urban areas having a higher percentage of high autonomy than rural areas. We also find association between contraceptive use and selected background characteristics of the respondents of Bangladesh from Md. Kamrul Islam, Md.Rabiul Haque, Prianka Sultana Hemas article [1]. It will show us current scenario (2014) of contraceptive use among the sample. From there study we can see that more than 4.4% more sample of urban area use contraceptive compare with rural area. There is a huge difference in district wise. Highest percentage of sample use contraceptive in Rangpur district (73.9) following Rajshahi (73.0) & Khulna (70.5). Only 54.3% of sample from Sylhet are using contraceptive right now (2014). 70.9% of urban sample aged less than 20 are using contraceptive where only 58.9% using contraceptive in rural area. Other religion (Without Islam) sample have higher percentage (74.1%) than sample religiously Islam (65.9%). About one-third women were employed with slightly higher percentage in rural areas. Only 19.1% women mentioned that they had family planning

workers' visit in the last six months; and the percentage was slightly higher in rural areas than urban areas. About one-fifth of women mentioned having three or more children as the ideal number of children to have, and the percentage was higher in rural areas than urban areas. Overall, 63.3% of women had high level of women's autonomy, with urban areas having a higher percentage of high autonomy than rural areas. We also find presents three logistic regression models of divisional variations in contraceptive use (modern and traditional methods combined) among women ages 15–49 in Bangladesh after adjusting for the selected covariates. Findings based on the total sample showed that significant variations in contraceptive use existed even after controlling for the selected covariates. Sample live in Rajshahi had 25% [95% CI, 1.07-1.47] more odds compare with reference value (Barisal). We also find Sylhet had 37% less odds than Barisal. Urban sample had 32% more odd than rural sample which is quite significant. Sample who was religiously Islam had 28% less odds than other religion. Sample have no education had 20% less odds than sample who completed post-secondary. We also see sample who aged less than 20 had 22% less odds than 20 & above aged. Concerning the regional variations in contraceptive use in urban areas, no significant difference in contraceptive use was found across divisions in Bangladesh. On the other hand, significant variations in contraceptive use by division were found in the case of rural areas of Bangladesh. For example, Rajshahi and Rangpur had higher odds of contraceptive use (33.0% and 37.0% respectively) compared to Barisal. However, Chittagong and Sylhet had lower odds of contraceptive use (32.0% and 39.0% respectively) than Barisal. These contrasting findings in the regional variations (i.e., between urban and rural areas) of contraceptive use between urban and rural areas bear huge implications from the perspective of family planning program interventions. This aspect is illustrated in detail in the subsequent section.

Finally, the regional variation was determined as an important factor showing significance to predict fertility control behavior of rural women. Fertility control behavior of respondents of Dhaka and Rajshahi divisions were significantly different ($p < 0.05$) from fertility control behavior of rural women of Chittagong division.

From Muhammed Ashraful Alam, Kanittha Chamroonsawasdi, Natkamol Chansatitporn, Chokchai Munsawaengsub & Md Shafiqul Islam study [2] we found that almost 45%

sample are in 21-35 years age group & 52.2% of their husbands are 26-35 years age. Majority of the samples were religiously Muslim rest of others were Hindus. 78% of the sample were literate where 48.9% of them were literate up to primary level. Mostly sample are housewife (90%). Most of them (two-third of samples, 62.8%) are lived in extended family. Among all the sample 59.9% of the sample used contraceptive sometime. 48.6% of them use contraceptive regularly. 54.2% of them used oral pill 22.5% of them used Injection. We also find there is difference of using contraceptive between district to district. Samples educational background, husband education level also impacts on contraceptive prevalence rate.

From Mr. Mohammad Nazmul Hoq study we find that the highest contraception rate was found among more highly educated women. 70.3% & 69.3% percent respectively sample who had only sons & had only daughter were used contraceptive. Sample of rural area who had no son are less using contraceptive then which sample had son. Sample of urban area had less percentage to not using contraceptive compare with their rural counterpart. The highest CPRs of urban respondents were found in 2014, which were 70.1 and 73.5 percent for those had only daughters and had only sons, respectively.

Mr. Khan & Mrs. Jerifas study give us just one village scenario where majority of the samples were age between 20-24 (27.17% of total samples). Most of the samples were educated up-to secondary level (28.7% of total samples). In this particular village 87.5% samples were had knowledge about contraceptive! 62.3% of the samples were used one of contraceptive methods & rest of were (37.7%) not using any method. 12% of non-contraceptive users were eager to take children so total scenario of contraceptive used those particular village is well ahead from throughout the rural area of Bangladesh.

CHAPTER-4

DISCUSSION

Reviewing all five study that we can see that regional variation in contraceptive use in Bangladesh & to assess the extent to which the variations differ by place of residence. We hypothesized that there would be substantial variations in contraceptive use by divisions, and we also expected to find significant differences in the divisional variations in contraceptive use both in rural and urban areas. We also find there is a significant difference between rural & urban area of same district. However, we didn't find significant difference in urban area of all division. Difference in rural areas may be due to difference in prevalence of poverty, unequal allocation of resources and family planning activities across divisions in Bangladesh. Son preference is one of the findings that causes regional variation in CPR. From Mr. Mohammad Nazmul Hoq study it is very clear that son preference in rural area is higher than urban area. It also higher among less educated women compare with their educated counterpart. This finding suggests policy maker to take special program for rural area of Bangladesh specially for Sylhet & Chittagong division. What policy interventions should be taken to address the regional disparity in contraceptive use in rural areas of Bangladesh? First and foremost, emphasis should be given in allocating more resources to rural areas compared to urban areas in general, and for rural areas of Chittagong and Sylhet divisions specially. In rural area of Bangladesh some women confirm 3 or more than 3 children is the ideal number! Policy makers need to take special project to create awareness among these women for small family & benefit of small family. It will increase CPR of rural area of Bangladesh. Findings of this review study also suggest that another effective intervention for increasing the CPR is to increase family planning worker's visits in rural areas focusing on the Chittagong and Sylhet divisions. From Mr. Md. Kamrul Islam & his team's study we found a rate of contraceptive use that was 2.14

times higher among women in rural areas who had a family planning workers' visit in the last six months in rural areas compared to those who did not have a visit. So, policy makers should take initiative to increase the number of family planning workers' visit in rural area of Bangladesh to achieve more success in CPR. We also find religion is one the key issue in CPR in rural Bangladesh. Women's who are religiously Islam had 29% less odd ratio then other religion. Policy maker should take special program among rural Islamic women to increase contraceptive prevalence rate. Women's autonomy also helps to increase CPR in rural Bangladesh. We find that 15.0% higher odds of contraceptive use compared to their peers with a low autonomy. The prevalence of child marriage among girls (married before the age of 18) in Bangladesh is another hindrance for enhancing women's autonomy because child marriage has a wider negative impact on their education, their health, labor force participation and financial solvency. Policy makers should take special program to reduce child marriage to improve CPR in rural Bangladesh. Women's education & Husband education is also a key factor in CPR of rural Bangladesh. If women's & their husbands are more educated the rate of CPR in increase simultaneously so education play a vital role for increasing CPR in rural Bangladesh. If policy makers take project to increase education level for both Men & Women, it will help to increase CPR in rural area of Bangladesh. A good sign that wealth index doesn't play vital role in CPR there is only 3.2% difference in higher & lower index, so action need to take all kind people (All kind of financial condition such as Poorest, Poorer, Middle, Richer & Richest) to increase CPR at rural Bangladesh.

CHAPTER-5

CONCLUSION

The family planning programs in Bangladesh—which was once considered the role model for developing countries. Though Bangladesh had did a great job they still behind from many develop country so policy makers of Bangladesh can't say Job is done! Bangladesh target to increase CPR to 75% by 2021 where recent BDHS report (2017-18) say there is no increase of CPR in 2017-18 from 2014 it is slightly decreased (62.0% from 62.4%) so it is alarming for Bangladeshi policy maker to take proper step to get rid of from this situation & archive the 75% goal by 2021.

REFERENCE

- [1] <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0230143>
- [2] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6116072/>
- [3] <http://www.ijbssr.com/journal/details/contraceptive-using-trends-in-bangladesh--14013104>
- [4] <https://www.banglajol.info/index.php/JDMC/article/view/22686>
- [5] <https://www.sciencedirect.com/science/article/pii/S2405844020319630>