

## An Epidemiological Study on Morbidity Pattern of Women of Reproductive Age Group (15-45 Years) in a Peri-Urban Area of Tripura

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**Abstract:** Indian women have high mortality rates, particularly during childhood and in their reproductive years. Women's workload may affect their health status, increasing risk of maternal death. To find out distribution of morbidity pattern among reproductive age women (15-45 years) in a peri-urban area of Tripura. A community based cross-sectional study was conducted among 325 women of reproductive age group (15-45 years), selected from 4 Paras (sub-units) under the field practice area of UHTC, Dukli from January 2016 to April 2016. Systematic random sampling technique was done to select appropriate number of households from each Para for the study. Mean age of the reproductive age women was 29.56 ( $\pm$  8.68) years. The present study found 82.2% of reproductive age women of Dukli had single morbidity or multiple co-morbidities. Majority of the reproductive age women were suffering from upper respiratory tract infection (31.69 %), gastritis (79.1%), irregular menstrual cycle (36.6%), low back pain (39.1%), seborrhic dermatitis (20.6%), anaemia (52.0%), headache (30.2) and excessive hair fall (24.3%). Women between 30 to 39 years had highest morbidities (85.8%) compared to other age groups. Muslim women (87.0%) and illiterate women (89.5%) were suffering from higher number of morbidities compared to Hindu (81.8%) & literate women (81.7%) though this difference was not statistically significant. The current morbidity pattern in women can help in planning preventive measures to reduce burden of different diseases among reproductive age women.

**Keywords:** Anaemia, Female, Health Status, Maternal Mortality, Workload.

### INTRODUCTION

The years between puberty and menopause of women offer multiple opportunities for personal fulfillment and development. However, this period also bears different health risks specifically associated with sex and reproduction that may result in a significant burden of mortality and morbidity among reproductive age women (15-45 years). The burden of ill-health in this age group is particularly high in Africa due to high rates of mortality and morbidity associated with HIV/AIDS and maternal conditions. Globally, the single leading risk factor for death and disability in women of reproductive age in low and middle income countries is unsafe sex, which can lead to sexually transmitted infections, including HIV. Moreover, while it takes two to make a baby, women alone face the health problems that are associated with pregnancy and childbearing and which cause 14% of deaths globally in this age group [1].

Indian women have high mortality rates, particularly during childhood and in their reproductive years. From a global perspective, India accounts for 19% of all live births and 27% of all maternal deaths (NFHS-3 data) [2]. Death and disability due to sexual and reproductive health accounted for 18% of the total disease burden globally and 32% of the disease burden among women of reproductive age in 2001 [3]. More than half a million women in the developing world die during pregnancy and childbirth due to preventable causes, with over 90% of those in Africa and Asia [4].

Women's workload may affect their health status, even increasing the risk of maternal death. Many women have a workload that consists of hard manual labour in agriculture, responsibilities for housekeeping and childcare and cooking, collecting firewood and fetching water which may result in chronic fatigue and other health problems [5]. The health of Indian women is intrinsically linked to their status in society,

especially for those living in a remote rural area. Woman carries a disproportionate and growing share of economic and domestic responsibility for the family. In fact, they do not have the decision making power to determine when they are to start a family and at what time intervals they will have children [6], instead they are often regarded as economic burdens. These factors have a negative impact on the health status of Indian women. In the early stages of the health transition, women and children face high levels of mortality and morbidity, often linked to nutritional deficiencies, unsafe water and sanitation, smoke from solid fuels used for cooking and heating, and lack of care during childhood, pregnancy and childbearing [7]. Women with poor nutrition, infectious diseases and inadequate access to health care facility tend to have low birth weight infants which in turn will increase infant and under five child mortality & morbidity. In this context, researcher wanted to assess regarding distribution of morbidity pattern of women of reproductive age (15-45 years) and association of morbidity with their socio demographic profile, if any in Duki, a peri-urban area of Tripura.

#### **MATERIALS AND METHODS**

A community based cross-sectional study was conducted among women of reproductive age group (15-45 years) living in Dukli, the field practice area of Urban Health Training Centre (UHTC), Dukli under Department of Community Medicine, Tripura Medical College & DR. BRAM Teaching Hospital, Hapania. The duration of the study was 4 months (from January 2016 to April 2016). Sample size was calculated using the formula of  $N = \frac{4pq}{l^2}$ , and p was taken as 75.73% [8] and l (error) was considered as 5% absolute precision giving a sample size of 294 approximately. Taking 10% as non-response rate, finally 325 reproductive age women were included in study. There are 4 Paras (sub-units) under the field practice area of UHTC, Dukli. The total number of households in the field practice area of Community Medicine was 503. All the houses were enlisted from those four paras. Systematic random sampling technique was done to select the appropriate number of households for the study from each para. Every 5<sup>th</sup> house in each para was selected systematically starting from 2<sup>nd</sup> house till we reached desired sample size from each para. Women of reproductive age group (15 to 45 years) who were resident of selected study area and those who gave consent to participate in the study were included in the study and a women who had any major and chronic gynecological problems such as cervical cancer, who was in the puerperium period were excluded from the study. In this house-to-house survey, if a house was found locked or reproductive age women not available, the next adjacent house having reproductive age women of 15 – 49 years was included in our study. Data collection during household survey was done by direct interview using a pre-tested and structured schedule. The interview was carried out in local language at the

home of the study subjects. Relevant socio demographic data like age, religion, total family members, education, occupation, type of family, monthly income and marital history, morbidity status of reproductive age women was also recorded. Validity of the questionnaire was checked by conducting pilot study among randomly selected 10 % reproductive age women of study population. Before the start of the study, participants were told about the purpose of the study and written consent was taken. The data were entered, coded and analyzed with the help of SPSS version 19 soft-ware package. Chi-square test was applied to find out any statistical association of morbidity. The present study was conducted after approval from Institutional Ethics committee.

#### **RESULTS**

Mean age of the reproductive age women was 29.56 ( $\pm$  8.68) years. Majority of the study population belongs to 3<sup>rd</sup> & 4<sup>th</sup> decade i.e., 20 to 29 years (32.0%) and 30 to 39 years (32.6%). Reproductive age women were predominantly from Hindu (92.9%) and most of them were literate (94.2%). The study participants included in this study were housewife (39.1%), student (16.9%), businessmen (17.8%), service holder (10.2%) & unemployed (13.8%). Majority of the reproductive age women were married (75.4%), from nuclear family (67.1%) and belongs to lower middle class (33.2%), middle class (30.2%), lower class (22.5%) socioeconomic status (SES) according to Modified BG Prasad 2016 SES scale [9]. (Table 1)

The present showed prevalence of morbidity was 82.2%; i.e had single morbidity or multiple co-morbidities among women of reproductive age residing at Dukli (Figure 1).

Table 2 showed that most of the women were suffering from different co-morbid conditions of respiratory system, cardiovascular disease, and gastrointestinal system (GIT), reproductive system, musculoskeletal system, skin disease, eye and ear nose throat problems etc.

Majority of the reproductive age women were suffering from upper respiratory tract infection (31.69%), gastritis (79.1%), irregular menstrual cycle (36.6%), low back pain (39.1%), Seborrhic dermatitis (20.6%), anaemia (52.0%), headache (30.2) and excessive hair fall (24.3%).

Women were also suffering from different problems of reproductive system like irregular menstrual cycle (36.6%), dysmenorrhea (12.0%), leucorrhoea (14.5%), dyspareunia (11.4%), uterine prolapse (1.5%), pelvic inflammatory disease (17.5%), infertility (2.8%), pruritus vulvae (6.5%), and urinary tract infection (23.4%).

In Gastrointestinal system, gastritis was the most frequent complaint (79.1%) followed by constipation (32.9%) and indigestion (27.4%). In respiratory system, cases of upper respiratory tract infection (31.69 %), lower respiratory tract infection (17.53 %) and asthma (7.69%) were seen. Low back pain (39.1%), generalized body aches (27.1%) and arthritis (15.1%) was also found among reproductive age women. Different skin diseases like boils (10.2%), Seborrhic dermatitis (20.6%), scabies (11.4%), fungal infection (8.9%) and eczema (4.9%) was also seen in women. Other morbidities like headache (30.2%), dental caries (13.8%), worm infestations (8.3%) and deviated nasal septum (10.5%) were also present among study population.

Women between 30 to 39 years had highest morbidities (85.8%) compared to other age groups. Table 3 showed that muslim women (87.0%) and illiterate women (89.5%) were suffering from higher number of morbidities compared to Hindu (81.8%) & literate women (81.7%) though this difference was not statistically significant ( $p>0.05$ ). Housewife (85.8%) and self-employed women (85.7%) were the most affected group due to different morbidities. Women from nuclear family (84.9%), middle (86.7%) and lower (82.2%) socio-economic status were suffering more from different morbidities compared to women from joint family (76.6%) & upper (71.4%) socio-economic status women. The study showed married women had more prevalence of morbidity (83.7%) compared to unmarried women (76.9%) and both the widows having morbidity in the form of low back ache and gastritis.

**Table-1: Socio- demographic profile of women of reproductive age (15-45 years): n = 325)**

Socio demographic Characteristics	Frequency n (%)
<b>Age group (years)</b>	
≤ 19	68 (20.9)
20 to 29	104 (32.0)
30 to 39	106 (32.6)
≥ 40	47 (14.5)
<b>Religion</b>	
Hindu	302 (92.9)
Muslim	23 (7.1)
<b>Education</b>	
Illiterate	19 (5.8)
Below primary	35 (10.8)
Primary	53 (16.3)
Middle	50 (15.4)
Secondary	86 (26.5)
H.S	58 (17.8)
Graduate and above	24 (7.4)
<b>Occupation</b>	
Service	33 (10.2)
Student	55 (16.9)
Housewife	127 (39.1)
Business	58 (17.8)
Self employed	7 (2.2)
Unemployed	45 (13.8)
<b>Marital status</b>	
Married	245 (75.4)
Unmarried	78 (24.0)
Widow	2 (17.7)
<b>Type of Family</b>	
Nuclear	218 (67.1)
Joint	107 (32.9)
<b>Socio-economic class (Modified BG Prasad 2016)</b>	
Upper (Class I) (Rs. ≥ 6261)	7 (2.2)
Upper middle (Class II) (Rs. 3099-6260)	39 (12.0)
Middle (Class III) (Rs. 1835-3098)	98 (30.2)
Lower Middle (Class IV) (Rs. 949-1834)	108 (33.2)
Lower (Class V) (Rs. <948)	73 (22.5)
Total	325 (100.0)

(n=325\*)

**Table-2: Morbidity profile of women of reproductive age (15-45 years)**

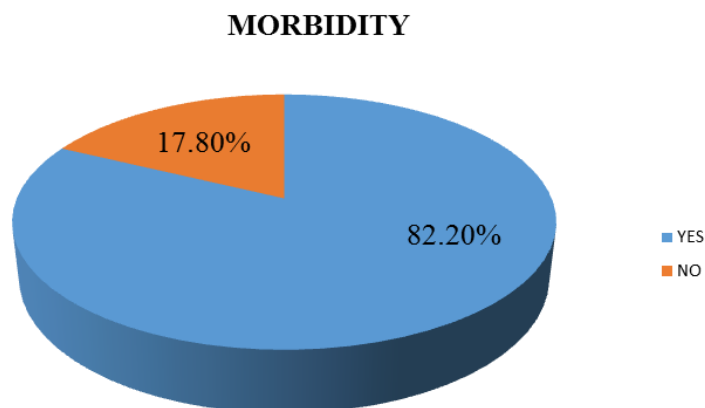
Disease / Symptoms	Frequency (%)
Respiratory Diseases	
Upper respiratory tract infection	103 (31.69)
Asthma	25 (7.69)
Lower respiratory tract infection	57 (17.53)
Cardiovascular disease	
Hypertension	47 (14.46)
Coronary heart disease	8 (2.46)
Diseases of Gastro-Intestinal Tract	
Gastritis	257 (79.1)
Indigestion	89 (27.4)
Constipation	107 (32.9)
Diarrhoea	22 (6.8)
Enteric fever	2 (0.61)
Diseases of Reproductive System	
Irregular menstrual cycle	119 (36.6)
Dysmenorrhea	39 (12.0)
Leucorrhoea	47 (14.5)
Painful sexual intercourse (Dyspareunia)	37 (11.4)
Uterine Prolapse	5 (1.5)
Pelvic inflammatory disease	57 (17.5)
Infertility	9 (2.8)
Itching around genitalia ( Pruritus vulvae)	21 (6.5)
Burning sensation and or pain during micturation (UTI)	76 (23.4)
Musculoskeletal system	
Generalized Body ache	88 (27.1)
Arthritis	49 (15.1)
Low back pain	127 (39.1)
Skin Diseases	
Boils	33 (10.2)
Seborrhic Dermatitis	67 (20.6)
Scabies	37 (11.4)
Eczema	16 (4.9)
Fungal infection	29 (8.9)
Deficiency Diseases	
Night blindness	7 (2.2)
Anaemia	169 (52.0)
Eye	
Blurring of vision	4 (1.23)
Watering of eyes	17 (5.2)
Conjunctivitis	11 (3.4)
Cataract	3 (0.9)
Ear	
Diminished hearing	4 (1.2)
Discharge from ear	12 (3.7)
Other Diseases / condition	
Diabetes Mellitus	33 (10.15)
Headache	98 (30.2)
Dental caries	45 (13.8)
Worm infestations	27 (8.3)
Excessive hair fall	79 (24.3)
Deviated nasal septum	34 (10.5)

(\* Multiple response included)

**Table-3: Association of morbidity among women of reproductive age with their Socio-demographic characteristics: (n=325)**

Socio-demographic characteristics	Morbidity		Chi Square Test $\chi^2$ (P Value)
	Yes n (%)	No n (%)	
<b>Age (years)</b>			
≤ 19	53 (77.9)	15 (22.1)	1.877
20 to 29	85 (81.7)	19 (18.3)	(0.598)
30 to 39	91 (85.8)	15 (14.2)	
≥ 40	38 (80.9)	9 (19.1)	
<b>Religion</b>			
Hindu	247 (81.8)	55 (18.2)	0.389
Muslim	20 (87.0)	3 (13.0)	(0.533)
<b>Education</b>			
Illiterate	17 (89.5)	2 (10.5)	0.737
Literate	250 (81.7)	56 (18.3)	(0.39)
<b>Occupation</b>			
Service	27 (81.8)	6 (18.2)	
Student	40 (72.7)	15 (27.3)	4.92
Housewife	109 (85.8)	18 (14.2)	(0.425)
Businessman	49 (84.5)	9 (15.5)	
Self employed	6 (85.7)	1( 14.3)	
Unemployed	36 (80.0)	9 (20.0)	
<b>Socio-economic status</b>			
Upper	5 (71.4)	2 (28.6)	
Upper Middle	32 (82.1)	7 (17.9)	
Middle	85 (86.7)	13 (13.3)	2.829
Lower Middle	85 (78.7)	23 (21.3)	(0.587)
Lower	60 (82.2)	13 (17.8)	
<b>Type of family</b>			
Nuclear	185 (84.9)	33 (15.1)	3.13
Joint	82 (76.6)	25 (23.40)	(0.069)
<b>Marital status</b>			
Married	205 (83.7)	40 (16.3)	2.061
Unmarried	60 (76.9)	18 (23.1)	(0.372)*
Widow	2 (100.0)	0 (0.0)	
<b>Total</b>	267 (82.2)	58 (17.8)	325 (100.0)

(\*Fisher exact test used)



**Fig-1: Prevalence of morbidity among women of reproductive age (15 to 45 years)**

**DISCUSSION**



Mean age of the reproductive age women was 29.56 ( $\pm$  8.68) years which is similar to a study done by Inamdar IF *et al.* in Nanded city, India [8]. Majority of the study population belongs to 3<sup>rd</sup> & 4<sup>th</sup> decade i.e., 20 to 29 years (32.0%) and 30 to 39 years (32.6%) similar to a study done by Maher S *et al.* in Mumbai [10]. Reproductive age women were predominantly from Hindu (92.9%) which is similar to a study done by Lobha *et al.* in Beed district [11].

The present showed 82.2% of reproductive age women of Dukli had single morbidity or multiple co-morbidities which is a matter of serious concern. The present study showed 12 % of reproductive age women were suffering from dysmenorrhea and 14.5% had leucorrhoea, whereas Maher S *et al.* [10] found 31.4% women had dysmenorrhea and 55.9% had leucorrhoea. Kaur S in Ludhiana, Punjab [12] found one fourth of the woman (24.5%) suffered from excessive vaginal discharge, followed by pain during menstruation (18%) and Rizwan S A [13] in Panipat District, Haryana found white discharge per vaginum was reported by 53% women and dysmenorrhea by 73% women. These problems may be attributed to their poor personal hygiene and poor nutritional status which needs to be explored in future research. Women also complained of painful coitus (11.4%) which is almost similar to study done by Maher S *et al.* (10.5%) [10]. Other reproductive morbidities like uterine prolapse (1.5%), pelvic inflammatory disease (17.5%), infertility (2.8%), pruritus vulvae (6.5%), and urinary tract infection (23.4%) were also present among study population. Maher S *et al.* also found 15.1% participants had burning or pain during urination and 2.9% women had uterine prolapse [10]. In a similar study done by Sajna M V in a rural area of Kozhikode showed that most commonly reported menstrual abnormalities was dysmenorrhoea (68.2%), followed by hypomenorrhoea 27 (10.5%), amenorrhoea (10.2%), menorrhagia 18 (7%) and oligomenorrhoea 14 (5.4%) [14]. Samanta A in their study in Hooghly district of West Bengal found, most common sexually transmitted infection symptoms among females were excessive bad smelling or colored discharge (7.5%) followed by pruritus vulvi (5.7%) [15]. Ravindra N in Jalgaon found 20.33% and 24.93% of female were suffering from menstrual problems in urban area and rural area respectively [16]. Rani V in rural Etawah district, Uttar Pradesh found abnormal discharge was the main symptom of reproductive morbidity complained by (28.92%) married woman, accompanied by lower abdominal pain (21.08%) [17].

The present study also revealed presence of non-communicable diseases like hypertension (14.46%), diabetes mellitus (10.15%) and coronary heart disease (2.46%) among study population. Maher S *et al.* found 6.5% of women had diabetes and 5.9% were having hypertension [10].

In our study, gastritis was the most frequent complaint (79.1%) followed by constipation (32.9%) and indigestion (27.4%). Different diseases of eye and ear were found among reproductive age women like blurring of vision (1.23%), conjunctivitis (3.4%), watering of eyes (5.2%), cataract (0.9%), diminished hearing (1.2%) and discharge from ear (3.7%). Low back pain (39.1%), generalized body aches (27.1%), arthritis (15.1%) and headache (30.2%) were also found among reproductive age women. Lobha W R [11] in a study found, 7.4% complained of epigastric pain, 5.6% complained of dyspepsia. They also found, 92.0% of study population had watering of eyes, 63.9% had blurring of vision, 14.0% had cataract, 10.1% women had diminished hearing, 41.9% women had arthritis, 6.0% women complained of backache and headache was seen among 45.8% women.

#### **Limitation of the study**

Data collection was based on the symptoms told by reproductive age women and diagnosis from previous health records. Local examination of the subject could not be performed due to operational infeasibility.

#### **CONCLUSION**

The present study reveals that most of the reproductive age women were suffering from different co-morbid conditions. Providing early diagnosis, adequate treatment and preventive measures by health care providers is an important aspect to reduce morbidity. The current morbidity pattern in women residing in the peri-urban area can help in planning preventive measures to reduce burden of communicable and non-communicable disease among reproductive age women.

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