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## FROM THE EDITOR



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In this issue of the journal several papers deal with family issues, poverty and the condition of women. A paper from Bangladesh looked at Women's Health and Wellbeing in Relation to Gender, Poverty and Health Interactions. The authors stressed that a range of social and structural factors determine the shapes, experiences and opportunities of health outcomes in almost all countries. However, two important aspects, 'gender and poverty' of health and wellbeing, are likely to remain among the key challenges of health equity for the 21st century and it is important to examine how poverty in relation to socially constructed gender roles and responsibilities leads to inequities in health between men and women in developing countries like Bangladesh. The analysis illustrates how gender based social and economic roles and responsibilities create health inequalities throughout women's life cycles with special reference to Bangladesh.

A paper from Jordan looked at Application of the Family Resilience Framework. The authors discussed the many conceptual frameworks that can provide interventions and preventive efforts to strengthen families facing serious life challenges. They stressed that in recent years, resilience has become a significant concept in family health. The authors concluded that resilience-oriented services foster family empowerment as they bring forth shared hope, develop new and renewed competencies, and build mutual support and collaborative efforts among family members. From this perspective, it is not enough to solve a presenting problem. By strengthening family resilience, we build family resources to meet new challenges more effectively. In this way, every intervention is also considered a preventive measure.

awareness of Family Life Education, RTIs/STIs and HIV/AIDs among Unmarried Women in Uttar Pradesh. The authors stated that sexually transmitted diseases (STDs) ranked as the third among the major communicable disease groups in India. Family life education plays an important role to enhance awareness of reproductive/sexual health among unmarried women. The study findings show that more than one-third of unmarried women are not aware of family life education. More than fifty percent of unmarried adolescents do not know how RTIs/STIs diseases are transmitted. But, in the case of AIDS awareness, 62 percent of unmarried women have never heard of HIV/AIDs and three-quarters of women do not know the modes of transmission. The authors concluded that there is an urgent need to educate the young unmarried women both in urban and rural areas about the reproductive and sexual health symptoms as well as epidemiology of such diseases and steps to prevent the same.

A paper from the Royal Medical Services in Amman evaluated the clinical efficacy of a mixture of "Promil 1" in 30 children during the first months of life. The findings of this study support the fact that adapted milk formula "Promil 1" is a well-balanced food for children aged 0 to 6 months in case of shortage or lack of breast milk in the mother. Mixture "Promil 1" was well tolerated in children. Mixture "Promil 1 provides normal anthropometric indices of children.

A paper from India looked at

# AWARENESS OF FAMILY LIFE EDUCATION, RTIS/STIS AND HIV/AIDS AMONG UNMARRIED WOMEN IN UTTAR PRADESH, INDIA

## Introduction

Though the implementation of the Reproductive and Child Health program in India has been progressed, meagre steps are being taken to impart awareness about family life education, RTIs/STIs and HIV/AIDS among unmarried women. Sexually transmitted diseases (STDs) is ranked as the third, among the major communicable disease groups in India. In a study conducted among the clients of an STD clinic in Pune, Urmil et al. (1989) found that three-quarters of the unmarried clients, are in the age group of 15-19 years. Another study, Ramasubban (1995) reported that around 12-25 percent of the total STDs cases occur among teenagers. Young people are vulnerable to contracting RTIs/STDs due to early onset of sexual activity, low contraceptive use and greater likelihood of changing partners. The RTIs and STIs are closely related to sexual practices and behaviors. Their role in making a woman vulnerable to HIV infection has now been well established. However, awareness of STDs/RTIs is extremely poor among unmarried women, but the desire to learn more is high, particularly among young unmarried women though they have curiosity. Chandiramani et al. (2001) in India stated that awareness of STDs/RTIs is virtually non-existent in rural areas. Furthermore, adolescents did not appear to know the difference between STDs/RTIs and AIDS. High risky behavior among young people is very common in Uttar Pradesh, India. Family life education plays an important role to enhance awareness of reproductive/sexual health among unmarried women.

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## Data and Methodology

Data for this study was drawn from DLHS-3 under the authority of IIPS and MOHFW, Govt. of India. Awareness regarding Family life education, RTIs/STIs and HIV/AIDS among unmarried women is analyzed with the help of univariate analysis and chi-square test of significance. Next, the multivariate logistic regression has been employed to identify the determinants of awareness on family life education, RTIs/STIs and HIV/AIDS after controlling some socio-economic and demographic covariates.

## Results & Conclusion

The study findings show that more than one-third of unmarried women aren't aware about family life education. Awareness varies in expected directions; literate, richest quintile and urban women have been exposed to more awareness than their illiterate, poorer and rural counterparts. School/college plays a dominant role (70 percent), as a main source to build up awareness regarding family life education. It is interesting to note that only 30 percent unmarried adolescents

women are aware of RTIs/STIs.

More than fifty percent of unmarried adolescents do not know how RTIs/STIs diseases are transmitted. But, in the case of AIDS awareness, 62 percent of unmarried women have heard of HIV/AIDS and three-quarters of women know the modes of transmission. In this study, education shows the important determinants of awareness on RTIs/STIs and HIV/AIDS. Urban-rural differentials and geographical variations are the influential determinants of awareness on HIV/AIDS.

Policy planners should consider the matter seriously to build up proper awareness and knowledge among unmarried adolescent women. It is demonstrated from the study that adolescents have poor knowledge and awareness about RTIs/STIs and HIV/AIDS. There is an urgent need to educate young unmarried women both in urban and rural areas about the reproductive and sexual health symptoms as well as epidemiology of such diseases and steps to prevent the same. For this purpose, proper awareness about such aspects may be imparted to those young ones in schools and colleges by

Characteristics	N	AWARE OF FLEP*	IS IT IMPORTANT TO RECEIVE FLEP*	EVER RECEIVED FLE**	SOURCE	
					NGO	GOVT CAMP
<b>PLACE OF RESIDENCE</b>						
Rural	16869	61.8	75.1	36.9	1.3	1.3
Urban	6241	72.5	82.6	48.6	1.6	1.8
<b>RELIGION</b>						
Hindu & others	17429	66.2	78.5	42.3	1.5	1.6
Muslims	5680	60	72.8	33.1	1.1	1.2
<b>AGE GROUP</b>						
15-17	14097	60.2	73.5	35.6	1.2	1.2
17-20	7167	69.6	81.3	44.6	1.7	1.6
20-24	1846	80.2	88.7	55.9	1.6	2.7
<b>EDUCATION</b>						
Illiterate	4012	42.8	53.5	17.1	2.8	1.6
Primary	3455	49.8	63.6	22.3	2.1	1.7
Middle	7498	63.5	79.2	38.5	1.2	.9
High School & above	8142	83.0	92.6	60.3	1.2	1.8
<b>WEALTH INDEX QUINTILES</b>						
Poorest	2444	47.7	62.3	23.2	1.8	1.2
Second	3240	53.2	67.5	26.9	1.3	1.1
Middle	4307	57.9	71.6	33.9	1.2	1.0
Fourth	5891	66.8	78.9	41.0	1.7	1.9
Richest	7227	77.9	88.3	54.4	1.3	1.6
<b>REGION</b>						
Western	8413	70.2	78.1	49.2	.7	.9
Central	4248	64.0	75.6	43.7	1.3	1.2
Bundelkhand	1647	65.8	70.2	45.8	3.8	3.7
Eastern	8802	59.6	78.2	28.4	1.9	2.1
<b>TOTAL</b>	<b>23110</b>	<b>64.7</b>	<b>77.1</b>	<b>40.0</b>	<b>1.4</b>	<b>1.5</b>

\*FAMILY LIFE EDUCATION PROGRAM

\*\*FAMILY LIFE EDUCATION

# LEGAL MINIMUM AGE OF MARRIAGE

Table 1: Percent distribution of Family life education among unmarried females aged 15-24 according to some social

SOURCE OF FLE**			KNOW THE LMAM# OF BOYS	KNOW THE LMAM# OF GIRLS
SCHOOL /COLLEGE	YOUTH CLUB	OTHER		
69.6	9.7	32.6	54.8	68.7
70.7	9.5	33	63.6	77.2
74.3	9.4	28.9	59.5	73
53.1	10.6	47.6	50.1	64.9
68.9	9.2	33.8	53.6	67.7
69.3	9.6	33	60.7	74.8
77.3	11.8	26.4	71.2	81.2
4.4	15.5	79.2	28.6	42.0
28.1	15.7	62.1	39.5	54.7
71.2	9.1	32.6	60.0	75.7
85.0	8.2	21.6	76.1	87.8
56.2	12.0	38.0	35.7	50.5
60.7	12.6	36.7	44.0	59.6
64.1	9.7	35.5	53.5	66.9
66.6	8.9	36.8	59.8	74.6
78.2	9.1	27.4	70.4	82.5
52.6	11.9	56.1	56.4	70.9
71.8	9.5	30.1	61.6	74.1
86.4	11.8	7.7	67.2	79.3
92.4	5.4	3.4	53.9	68.0
<b>70.0</b>	<b>9.7</b>	<b>32.7</b>	<b>57.2</b>	<b>71.0</b>

implementing reproduction and sex education. It should improve socio-economic conditions, especially education, and create income generating activities for young unmarried women and on the one side increase their awareness about reproductive and sexual health aspects, on the other side helps them to participate in safer sex, so as to avoid the occurrence of STDs.

There is a lack of friendly environment for adolescents in Uttar Pradesh. Moreover, adolescents are reluctant to consult some issues of information regarding RTIs/STIs, HIV/AIDS, sexual practices and reproductive health. There is need to put emphasis on creating awareness among unmarried girls in general, on the above mentioned issues. Also, the high risk behaviors among adolescents is well established in Uttar Pradesh. Thus, it is high time for growing consciousness among unmarried women.

#### o-demographic characteristics

Characteristics	N	EVER HEARD ABOUT RTI/STI	KNOWLEDGE ABOUT MODES OF TRANSMISSION			
			UNSAFE DELIVERY*	UNSAFE ABORTION*	UNSAFE IUD INSERTION*	UNSAFE SEX*
<b>PLACE OF RESIDENCE</b>						
Rural	16869	27.6	12.4	6.4	4.5	
Urban	6241	36.7	11.5	9.4	5.4	
<b>RELIGION</b>						
Hindu & others	17429	30.4	12.5	7.7	5.2	
Muslims	5680	28.8	10.2	6.5	2.9	
<b>AGE GROUP</b>						
15-17	14097	24.4	11.5	6.8	4.0	
17-20	7167	35.7	12.5	7.4	5.1	
20-24	1846	51.1	12.8	9.2	6.2	
<b>EDUCATION</b>						
Illiterate	4012	14.9	13.6	5.2	1.9	
Primary	3455	17.6	12.2	4.5	3.2	
Middle	7498	26.1	10.2	6.0	2.9	
High School & above	8142	46.4	12.7	8.4	5.8	
<b>WEALTH INDEX QUINTILES</b>						
Poorest	2444	15.8	10.4	2.2	1.5	
Second	3240	18.3	15.0	6.6	4.7	
Middle	4307	24.1	9.8	5.9	4.6	
Fourth	5891	31.0	11.9	6.3	4.0	
Richest	7227	42.8	12.1	9.0	5.5	
<b>REGION</b>						
Western	8413	32.6	13.3	8.6	5.2	
Central	4248	27.8	8.0	4.7	2.3	
Bundelkhand	1647	26.1	14.9	12.2	8.5	
Eastern	8802	29.4	12.8	6.9	5.0	
<b>TOTAL</b>	<b>23110</b>	<b>30.0</b>	<b>12.1</b>	<b>7.4</b>	<b>4.8</b>	

\*MULTIPLE RESPONSES POSSIBLE

#PERCENT BASED ON ONLY THOSE WHO ARE AWARE OF RTIs/STIs &amp; KNOW HOW RTIs/STIs ARE TRANSMITTED

Table 2: Percent distribution of knowledge about RTIs/STIs among unmarried females aged 15-24 according to some characteristics

<b>TRANSMISSION OF RTIs/STIs*</b>		
<b>UNSAFE SEX WITH HOMOSEXUALS*</b>	<b>UNSAFE SEX WITH PERSONS HAVING MANY PARTNERS*</b>	<b>DO NOT KNOW</b>
14.9	69.1	57.3
13.7	72.2	51.2
14.6	71.7	52.0
14.0	63.2	65.9
14.6	69.4	59.4
14.7	69.3	53.9
13.5	74.6	43.7
11.7	52.6	74.2
15.4	61.5	74.7
11.6	68.9	61.2
15.7	72.7	46.1
15.6	66.7	65.8
13.1	62.4	64.6
10.5	67.1	60.9
12.9	70.2	57.3
16.4	72.4	49.1
12.4	59.2	63.4
11.0	71.6	41.2
8.8	80.0	31.5
19.9	76.7	56.9
<b>14.5</b>	<b>70.2</b>	<b>55.2</b>

**SMITTED**

the socio-demographic characteristics

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Characteristics	N	EVER HEARD ABOUT HIV/AIDS	KNOWLEDGE ABOUT MODES OF TRANSMISSION			
			UNSAFE SEX WITH HOMO-SEXUALS**	UNSAFE SEX WITH PRNSNS HAVING MANY PARTNER**	UNPROTECT ED SEX WITH HIV/AIDS INFECTED PERSON**	INFECTED MOTHER TO CHILD
<b>PLACE OF RESIDENCE</b>						
Rural	16815	57.2	9.3	62.8	27.0	26.0
Urban	6232	75.9	8.9	63.3	28.9	33.0
<b>RELIGION</b>						
Hindu & others	17378	64.4	9.2	62.7	28.3	28.9
Muslims	5669	55.6	9.1	63.9	24.9	26.6
<b>AGE GROUP</b>						
15-17	14061	55.6	8.7	60.8	25.6	25.8
17-20	7145	68.9	9.5	64.8	28.1	29.7
20-24	1841	86.6	10.2	66.6	34.4	35.2
<b>EDUCATION</b>						
Illiterate	4005	25.8	9.7	56.4	22.9	17.5
Primary	3447	35.5	7.1	60.1	22.5	17.4
Middle	7475	62.6	7.0	59.9	25.0	24.8
High School & above	8120	91.1	10.5	65.4	29.9	32.4
<b>WEALTH INDEX QUINTILES</b>						
Poorest	2438	29.8	7.3	56.6	25.0	21.0
Second	3232	39.4	9.3	60.6	23.7	21.9
Middle	4294	50.8	10.5	62.1	24.9	22.1
Fourth	5867	66.1	6.0	62.3	26.2	25.9
Richest	7215	86.9	5.5	64.5	30.0	33.2
<b>REGION</b>						
Western	8397	60.8	11.8	62.2	22.4	21.8
Central	4205	60.5	7.3	56.3	30.5	30.7
Bundelkhand	1647	57.2	6.2	53.8	42.3	42.7
Eastern	8799	65.3	8.2	68.5	28.3	30.6
<b>TOTAL</b>	<b>23047</b>	<b>62.2</b>	<b>9.2</b>	<b>63.0</b>	<b>27.6</b>	<b>28.4</b>

\*MULTIPLE RESPOSE POSSIBLE

#N=14258 : ##N=10667

Table 3: Percent distribution of knowledge about HIV/AIDS among unmarried females aged 15-24 according to some characteristics

<i>TRANSFUSION OF HIV/AIDS *</i>		
<i>EXPOSED OR TO D**</i>	<i>TRANSFUSION OF INFECTED BLOOD**</i>	<i>DO NOT KNOW*</i>
	59.2	27.1
	67.5	22.3
	62.7	23.7
	59.5	32.0
	59.8	29.9
	61.9	22.6
	71.5	13.1
	42.8	48.7
	48.6	43.3
	57.5	31.9
	67.6	15.3
	47.3	38.1
	51.8	35.3
	53.6	34.4
	60.0	28.0
	68.5	17.5
	63.2	27.4
	62.4	21.7
	75.1	20.5
	58.6	26.4
	62.1	25.5

the socio-demographic characteristics.

Characteristics	N*	HIV/AIDS IS TRANSMITTED							
		SHAKING HANDS WITH HIV/AIDS INFECTED PERSON		HUGGING A HIV/AIDS INFECTED PERSON		KISSING WITH HIV/AIDS INFECTED PERSON		SHARING CLOTHES WITH HIV/AIDS INFECTED PERSON	
		YES	DK	YES	DK	YES	DK	YES	DK
<b>PLACE OF RESIDENCE</b>									
Rural	9662	11.6	8.9	11.9	9.7	14.7	13.2	14.4	11.2
Urban	4734	6.7	7.5	6.7	8.3	8.8	11.6	7.9	11.2
<b>RELIGION</b>									
Hindu & others	11235	9.9	7.7	9.9	8.6	12.7	11.9	12.0	11.2
Muslims	3160	10.4	11.1	11.1	11.3	13.1	15.3	13.2	11.2
<b>AGE GROUP</b>									
15-17	7856	11.7	9.8	12.1	10.6	14.7	14.3	14.1	11.2
17-20	4941	9.1	7.5	8.8	8.4	11.4	11.9	11.2	11.2
20-24	1599	4.8	4.7	5.1	5.4	7.7	7.1	7.1	11.2
<b>EDUCATION</b>									
Illiterate	1040	16.3	16.6	17.2	17.6	20.9	22.4	19.7	11.2
Primary	1231	15.3	17.0	15.9	17.7	18.2	22.2	18.6	11.2
Middle	4704	12.7	9.8	12.8	10.8	15.6	14.6	14.9	11.2
High School & above	7421	6.5	5.0	6.6	5.7	8.9	8.5	8.5	11.2
<b>WEALTH INDEX QUINTILES</b>									
Poorest	733	17.3	16.8	18.6	17.1	23.2	19.8	23.3	11.2
Second	1282	15.8	12.1	15.2	14.5	19.8	17.7	19.2	11.2
Middle	2193	14.0	10.9	14.1	11.6	16.9	15.5	16.8	11.2
Fourth	3905	10.5	8.7	10.9	9.0	13.0	13.8	12.7	11.2
Richest	6283	6.2	5.7	6.3	6.6	8.6	9.1	7.8	11.2
<b>REGION</b>									
Western	5117	10.5	8.7	10.1	9.6	12.0	13.3	12.0	11.2
Central	2588	7.3	7.7	8.4	8.8	10.0	12.3	10.1	11.2
Bundelkhand	942	4.7	9.6	5.9	11.6	7.0	15.0	6.8	11.2
Eastern	5749	11.6	8.3	11.7	8.7	15.7	11.9	14.4	11.2
<b>TOTAL</b>	<b>14396</b>	<b>10.0</b>	<b>8.4</b>	<b>10.2</b>	<b>9.2</b>	<b>12.8</b>	<b>12.7</b>	<b>12.3</b>	<b>11.2</b>

\* N IS BASED ON NUMBER OF PERSONS WHO HAVE HEARD ABOUT HIV/AIDS  
DK- DO NOT KNOW

Table 4: Percent distribution of misconceptions about HIV/AIDS among unmarried females aged 15-24 according to

<b>BY</b>				
<b>DK</b>	<b>SHARING FOOD WITH HIV/AIDS INFECTED PERSON</b>		<b>MOSQUITO BITES</b>	
	<b>YES</b>	<b>DK</b>	<b>YES</b>	<b>DK</b>
11.2	17.3	10.3	20.6	14.8
10.3	9.0	9.3	12.2	13.2
9.9	14.8	9.2	17.8	13.2
14.3	13.9	12.7	17.8	18.0
12.4	17.2	11.1	20.2	15.8
9.9	12.5	9.5	15.6	13.2
6.7	7.9	5.6	12.9	9.8
19.3	21.5	18.4	25.6	26.0
19.4	21.6	17.6	25.2	24.0
13.2	18.1	12.1	21.1	16.6
6.9	10.2	6.1	13.4	9.5
16.5	26.2	16.1	26.2	19.9
15.4	23.4	14.5	25.4	20.0
13.5	20.1	12.5	22.6	17.0
11.7	15.7	10.3	19.8	15.3
7.9	8.8	7.3	12.4	10.9
11.7	13.8	10.8	16.7	15.4
10.2	13.3	9.1	16.6	13.6
12.6	9.6	10.9	9.2	16.2
10.2	16.7	9.4	20.7	13.2
<b>10.9</b>	<b>14.6</b>	<b>10.0</b>	<b>17.8</b>	<b>14.3</b>

to some socio-demographic characteristics

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	N	ABSTAIN FROM SEX	USING CONDOMS CORRECTLY	STAY FAITHFUL TO ONE PARTNER	AVOID SEX WITH HOMO-SEXUALS	USE TESTED BLOOD
<b>PLACE OF RESIDENCE</b>						
Rural	6349	19.0	33.8	50.4	2.0	56.8
Urban	3466	20.3	42.1	48.4	2.5	63.5
<b>RELIGION</b>						
Hindu & others	7826	19.6	36.7	49.8	2.2	59.8
Muslims	1989	18.9	36.8	47.9	1.9	56.8
<b>AGE GROUP</b>						
15-17	4973	18.9	31.9	47.6	1.9	57.0
17-20	3525	20.0	39.2	50.7	2.2	60.1
20-24	1317	20.0	48.4	52.8	3.3	65.0
<b>EDUCATION</b>						
Illiterate	457	20.6	24.9	42.2	1.8	43.1
Primary	617	19.4	27.7	45.5	1.5	45.4
Middle	2874	18.2	30.3	49.2	1.7	55.4
High School & above	5867	19.9	41.7	50.5	2.5	63.7
<b>WEALTH INDEX QUINTILES</b>						
Poorest	392	15.8	23.7	51.8	0.5	45.2
Second	751	16.6	26.2	47.4	1.9	49.0
Middle	1297	18.5	30.3	49.5	1.8	50.3
Fourth	2532	19.4	34.2	49.0	1.8	58.4
Richest	4843	20.5	42.4	49.7	2.6	64.6
<b>REGION</b>						
Western	3481	20.3	33.8	42.2	2.1	58.8
Central	1906	19.4	37.8	48.1	2.8	59.1
Bundelkhand	727	35.1	43.5	48.6	3.6	71.5
Eastern	3701	15.6	37.5	57.0	1.6	57.1
<b>TOTAL</b>	<b>9815</b>	<b>19.4</b>	<b>36.7</b>	<b>49.4</b>	<b>2.2</b>	<b>59.2</b>

Table 5: Percent distribution of knowledge about methods to avoid HIV/AIDS among unmarried females aged 15-24

	USE STERILIZE D NEEDLES	AVOID SHARING RAZORS/ BLADE	<i>AVOID PREGNANCY IN CASE OF HIV INFECTION</i>
	37.4	8.8	10.4
	45.1	10.5	13.7
	40.5	9.3	12.4
	38.8	9.7	9.8
	38.1	8.4	10.0
	41.4	9.7	11.9
	44.5	12.4	16.5
	30.0	5.5	6.8
	29.8	6.5	5.3
	35.5	8.1	9.2
	44.3	10.6	13.8
	29.3	8.4	7.1
	29.3	6.3	7.7
	33.3	8.9	8.4
	37.2	8.6	10.6
	46.1	10.5	13.9
	43.9	10.9	9.1
	39.7	6.2	14.8
	36.7	8.5	19.1
	37.6	9.8	10.7
	<b>40.1</b>	<b>9.4</b>	<b>11.6</b>

, according to some socio-demographic characteristics

Characteristics	Family Life Education			RTI		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
		Lower	Upper		Lower	Upper
<b>Residence<sup>1</sup></b>						
Urban	1.05	0.97	1.15	0.94	0.87	1.01
<b>Religion<sup>2</sup></b>						
Muslim	0.96	0.89	1.05	0.82	0.76	0.88
<b>Age Group<sup>3</sup></b>						
17-20	1.15	1.07	1.24	1.33	1.25	1.41
20-24	1.41	1.22	1.63	1.93	1.73	2.13
<b>Education<sup>4</sup></b>						
Primary	1.22	1.09	1.35	1.17	1.03	1.31
Middle	1.54	1.39	1.69	1.58	1.41	1.75
Higher School <sup>+</sup>	2.65	2.36	2.97	2.51	2.23	2.79
<b>Wealth Index<sup>5</sup></b>						
Poorer	1.09	0.97	1.24	1.07	0.92	1.22
Middle	1.06	0.94	1.19	1.29	1.12	1.46
Richer	1.26	1.12	1.42	1.49	1.31	1.67
Richest	1.35	1.19	1.53	1.71	1.49	1.93
<b>Region<sup>6</sup></b>						
Western	0.79	0.72	0.87	0.82	0.75	0.89
Central	0.82	0.72	0.94	0.74	0.65	0.83
Eastern	0.93	0.86	1.01	1.08	1.00	1.16
<b>Knows Age at Marriage<sup>7</sup></b>						
Yes	1.38	1.29	1.46	1.52	1.41	1.63

Reference categories: 1. Residence (rural) 2. Religion (Hindu & others) 3. Age group (15-17) 4. Education (Primary) 5. Wealth Index (Poorer) 6. Region (Bundelkhand) 7. Knows legal age at marriage (no)

Table 6: Results of logistic regression for family life education, knowledge of RTIs/STIs and HIV/AIDs among unmar

	HIV		
	Odds Ratio	95% CI	
		Lower	Upper
Upper			
.02	1.28	1.15	1.39
.89	0.99	0.91	1.08
.43	1.22	1.13	1.32
.16	2.19	1.84	2.60
.32	1.37	1.22	1.52
.77	2.94	2.66	3.25
.82	9.59	8.46	10.82
.24	1.35	1.19	1.54
.47	1.84	1.63	2.08
.70	2.87	2.54	3.24
.96	5.28	4.60	6.06
.89	1.12	1.01	1.23
.84	0.77	0.67	0.88
.16	1.89	1.74	2.06
.65	2.79	2.59	3.01

years) 4. Education (illiterate) 5. Wealth index (poorer)

married women by some selected socioeconomic and demographic characteristics

# PROMIL 1 FORMULA MILK IN THE DIET OF CHILDREN DURING THE FIRST MONTHS OF LIFE

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## Abstract

**Objective:** to evaluate the clinical efficacy of a mixture of "Promil 1" in 30 children during the first months of life.

**Patients and Methods:** Clinical and laboratory studies on the effectiveness of the adapted milk formula "Promil 1" in the nutrition of children, were conducted in the departments of nutrition and pediatrics clinics at Queen Alia Hospital in Amman-Jordan, from the period of January 2008 to January 2009.

Subjects were 30 healthy term infants aged 1 to 3 months, who were bottle-fed the adapted milk formula, of domestic or foreign production. Length of observation was 30 days. To monitor the effectiveness of inclusion in the diet of children of the adapted milk formula "Promil 1" diaries were used in which parents recorded the patients' daily appetite and tolerance of individual mixtures for each child, indicators of reactions regarding the skin (dryness, desquamation), and gastrointestinal symptoms (regurgitation, the presence of flatulence, colic, the frequency of bowel movements, the

nature of faeces). Physician assessed clinical variables, among which special attention was paid to the assessment of physical development (weight and body length) and its dynamics during the observation period, and laboratory values were recorded for total blood count (hemoglobin, erythrocytes).

**Results:** Mixture "Promil 1" was introduced into the diet of the child gradually, taking into account the possible individual intolerances, within 3-5 days by replacing the earlier mix in the volume, for the corresponding age with children's needs for nutrients and energy. Children received a mixture for all their feeding. The period of adaptation to the new mixture in the observed children proceeded satisfactorily. The mixture has good organoleptic qualities. All children were happy to accept this mixture and kept quiet during intervals between feedings. Tolerability was described as a mixture of excellent and good in 28 of 30 children, and satisfactory in two. During the time under observation, in 20 children regularly observed symptoms of gastrointestinal discomfort

in the form of monosymptom (regurgitation, flatulence, intestinal colic) and a combination of them occurred, which at the 7th and 10th days of initiation of the mixture, had disappeared in 17 of them.

**Conclusions:** Adapted milk formula "Promil 1" is a well-balanced food for children aged 0 to 6 months in the case of shortage or lack of breast milk in the mother. Mixture "Promil 1" was well tolerated in children. Mixture "Promil 1" provides for normal anthropometric indices of children.

**Keywords:** Children, artificial feeding, the milk mixture.

## Introduction

Optimal food for infants, shown over the long course of human evolution, is the mother's milk. However, despite the number of actively conducted trials in recent years and other events, the situation regarding breastfeeding in our country remains not uncommon. In recent years the number of children who are breastfed up to 3 months, is only (38.6- 45.1%,) while up to 6 months is (42.8-45.5%).

Organization of therapeutic and preventive care for young children deprived of the opportunity to continue breast feeding, provides for extensive use of modern tailored breast-milk substitutes in a clinic approach. Choice of adequate food is of great importance because, according to recent data [1], the nature of child nutrition in the first years of life determines the features of its metabolism and susceptibility to certain diseases during later life. This product must conform to the functionality of this age group, not only to ensure the necessary nutritional needs, but also contain easily digestible protein, to promote postnatal maturation of organ systems, and the establishment of vital body functions, including immunity.

Irrational artificial feeding contributes to the formation of alimentary-dependent states, increasing the frequency of acute and chronic diseases of the gastrointestinal tract, allergic disease, low immunity, violation of physical and intellectual development [1].

Among the most important long-term consequences of improper feeding of children to detect violations of lipid metabolism and atherosclerosis, obesity, hypertension, diabetes mellitus [2].

The purpose of an open prospective study was done to evaluate the clinical efficacy of modern adapted formula "Promil1" in the diet of children who are bottle-fed, during the first month of life for a one year period study.

## Characteristics of the composition and properties of the mixture "Promil 1"

Adapted milk formula "Promil 1" is designed for mixed and artificial feeding of children from birth to 6 months. The composition of this so-called starting mixture, complies with international standards (WHO; ESPGAN; FDA), and requirements for modern adapted formula.

Wyeth offers an infant formula to help meet the needs of babies who are not breastfed which consists of an advanced, ultra-premium infant formula with the preformed long-chain polyunsaturated fatty acids (LCPs) arachidonic acid (AA) and docosahexaenoic acid (DHA) from pure vegetable sources, 5 Nucleotides, Natural Carotenoids (also known as carotene extract) and Selenium, suitable from birth onwards, to support brain development and immunity.

The most important feature of this mixture is the introduction of its constituent nucleotides.

Nucleotides can be synthesized in the body from amino acids or other nucleotides, so until recently they were not considered essential food factors. However, in recent years it was established that these nutrients have a key role in many biochemical intracellular processes in the body. They are necessary in cases involving energy deficiency in the neonatal period, during puberty, and rapid growth of the child, with immunodeficiency, and hypoxic damage [3, 4]. The two main spheres of influence of nucleotides in the growing child's body are the development of the digestive system and the formation of immunological protection. They serve as a basis for the construction of deoxyribonucleic and ribonucleic acids, and are part of the coenzymes involved in carbohydrate metabolism and lipid synthesis, and contribute to more rapid maturation of nervous tissue, brain function, visual analyzer, and are building blocks for components of the immune system, and stimulate

the maturation of small intestinal mucosa [5].

Nucleotides were isolated from human milk about 30 years ago. The composition and number of nucleotides of breast milk differs substantially from their content in milk of various animals [6]. Among the nucleotides of breast milk identified thus far are the following most important five: adenosine monophosphate (AMP, 1.1 mg/100 ml), tsitidinmonofosfat (CMF, 1.0 mg/100 ml), guaninmonofosfat (GMF, 0.21 mg/100 ml) uridinmonofosfat (MFI, 0.7 mg/100 ml), inozinmonofosfat (IMP, 0.5 mg/100 ml). Cow's milk has only three of these nucleotides (AMP - 0.4 mg/100 ml, CMF - 6.7 mg/100 ml, IIF - 0.3 mg/100 ml). This necessitated the addition of nucleotides in a mixture of breast-milk substitutes based on breast milk samples [7, 8].

The mixture "Promil 1" contains all five major nucleotides of human milk, whereas in other mixtures containing nucleotides, there are only four.

Enrichment with a mixture of nucleotides has a positive biological effect on the early development of the body, stimulating the growth and development of children with intrauterine growth retardation and reduces the risk of intestinal infections [9].

## Patients and Methods

Clinical and laboratory studies on the effectiveness of the adapted milk formula "Promil 1" in the nutrition of children were made in the departments of nutrition and pediatrics clinics at Queen Alia Hospital in Amman-Jordan, from the period of January 2008 to January 2009.

A total of 30 healthy term infants, aged 1 to 3 months who were bottle-fed the adapted milk formula domestic or foreign production, were included in the study. Length of observation was 30 days. To monitor the effectiveness of its inclusion in

the diet of children of adapted milk formula "Promil 1" self-answering diaries in which parents recorded the patients' daily appetite and tolerance of individual mixture child, indicators of the skin (dryness, desquamation), gastrointestinal (regurgitation, the presence of flatulence, colic, the frequency of bowel movements, the nature of feces) were given out. Physicians assessed clinical variables, among which special attention was paid to the assessment of physical development (weight and body length) and its dynamics during the observation period, and laboratory values for total blood count (hemoglobin, erythrocytes).

According to history, the majority of the children surveyed were born with satisfactory weight and height indices and normal Apgar score. Regarding complicated obstetric history in the form of threatened abortion, in 1 child there were heavy manifestations of perinatal central nervous system damage (hypertension-hydrocephalic syndrome and syndrome of motor disorders).

Performance indicators were a mixture of:

- Portability of the product: regarding appetite, skin conditions, the presence of regurgitation, flatulence, intestinal colic, characteristics and the consistency of stools, colour, presence of undigested food residues, pathological inclusions;
- The dynamics of body weight;
- Health indicators: anemia, rickets, intercurrent disease;
- Results of clinical blood.

## Results and Discussion

At the time of the study all children were relatively healthy, their weight and height were within the age standards. During the period of observation and research children did not receive any additional probiotics, as well as drugs that could affect the research results.

Mixture "Promil 1" was introduced into the diet of the child gradually, taking into account the possible individual intolerances, within 3-5 days, by replacing the earlier mixture with the volume, according to the corresponding age for children's needs for nutrients and energy.

The period of adaptation to the new mixture, in the observed children, proceeded satisfactorily. The mixture has good organoleptic qualities. All children were happy to accept this mixture and kept quiet at intervals between feedings. Tolerability was described as a mixture of excellent and good in 28 of 30 children, and satisfactory in two.

Gastrointestinal disorders in the form of vomiting, regurgitation, intestinal colic, deteriorating character and stool frequency during the reception of the mixture were absent. Allergic reactions such as mild localized form of atopic dermatitis (dry skin on the cheeks, seborrheic crusts on the scalp) were observed at the initial examination, in one child and persisted throughout the observation period without signs of relapse[10,11]. In the analysis of the peripheral blood of two children, there was marked eosinophilia (more than 5%).

The health status of children treated with a mixture of "Promil 1", during the whole observation period remained quite satisfactory; there was no registered intercurrent disease.

Analysis of the results using a mixture of "Promil 1" in the diet of children observed, showed that the mixture has a good tolerance and digestibility, as evidenced by the absence of significant differences in average daily weight gain of physiological age indicators. So, the children had an observed average weight gain of  $28,4 \pm 0,7$  g / day. The study of peripheral blood dynamics of observation revealed no deviations from age norms in the content of erythrocytes and hemoglobin level in both the first and

in the final analysis (erythrocytes -  $3,3-3,8 \times 10^{12}$  / L, hemoglobin 112-124 g / l, color index 0,9-0,96).

At the time under observation in 20 children regularly observed symptoms of gastrointestinal discomfort in the form of monosymptom (regurgitation, flatulence, intestinal colic) and combinations of them, which at the 7th and 10th day of initiation of the mixture had disappeared in 17 of them (Table 1).

Initial data suggested that, the multiplicity of defecation in the majority of the subjects 1-2 times per day (Table 2), persisted throughout the observation period. Prior, the majority of children had stools soft mushy texture, yellow, contained no pathological impurities, and only seven children had a dense consistency, grayish-brown color. From 7 to 10 days from the start of clinical testing of a mixture of "Promil 1" soft consistency of faeces were 83.3% of children against the baseline of 60%.

## Conclusions

Adapted milk formula "Promil 1" is a well-balanced food for children aged 0 to 6 months of life, deprived due to any circumstances of breast milk. On food, energy and biological value, it meets all the requirements of the Code of baby food, has good taste, and is well tolerated in children. The high nutritional value is shown by a steady increase in body weight and corresponds to the physical development of children's body mass, and normal levels of red blood cells and hemoglobin levels remained.

An important advantage of a mixture such as "Promil 1" is its positive influence on the functional state of the intestine. In healthy children, fed milk formula "Promil 1", frequency and stool consistency in character were close to those in breast-feeding, and in children with a tendency to constipation during treatment, with a mixture of rapid normalization of motor function of the intestine.

Symptoms	After starting formula	After one month
<b>Mono symptom</b>		
regurgitation	5	-
flatulence	5	1
intestinal colic	5	1
<b>Poly symptoms</b>		
regurgitation+ flatulence	2	1
Regurgitation +flatulence + colic	3	-

**Table 1: Gastrointestinal symptoms during the period of the study**

Consistency & frequency	After starting formula	After one month
<b>consistency</b>		
soft	18	25
hard	7	3
semisolid	5	2
<b>frequency</b>		
1-2 per day	22	25
3-4 per day	8	5

**Table 2: Consistency and frequency of stool motions in infants**

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## APPLICATION OF FAMILY RESILIENCE FRAMEWORK

### Introduction

Many conceptual frameworks can provide interventions and preventive efforts to strengthen families facing serious life challenges. In recent years, resilience has become a significant concept in family health. Family resilience is defined as "the property of the family system that enables the family unit to respond constructively to (a) a stressor and, in so doing maintain its positive functioning and ensure well being and development of the family unit and its members and (b) disorganization and, in doing so bounce back and restore the positive functioning and endure the well-being and development of the family unit and its members (DeMarco et al., 2000, p. 299). Family resilience involves more than managing stressful conditions. It involves key processes over time that foster the ability to "struggle well," surmount obstacles, and goes on to live and love fully (Walsh 2003). A family resilience framework can serve as a valuable conceptual map to guide prevention and intervention efforts to support and strengthen vulnerable families in crisis. In this paper the family resilience framework will be used to illustrate how a family of a hypothetical patient with spinal cord injury will respond constructively to stress and disorganization caused by this disease.

### Overview of the Family Resilience Framework

This approach is guided by a bio-psycho-social systems orientation, viewing problems and their solutions in light of multiple recursive influences involving individuals, families, and larger social systems. How a family confronts and manages a threatening or disruptive experience, buffers stress, effectively reorganizes, and

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reinvests in life pursuits will influence adaptation for all members and their relationships.

The framework draws together findings from numerous studies, identifying and synthesizing key processes within three domains of family functioning: family belief systems, organization patterns, and communication processes (Walsh, 1998). Family resilience is fostered by shared beliefs that help members make meaning of crisis situations; facilitate a positive, hopeful outlook; and provide transcendent or spiritual values and purpose. Normalizing and contextualizing members' distress as natural or understandable in their crisis situation can soften their reactions and reduce blame, shame, and guilt.

Resilience can be fostered through flexible structure, shared leadership, mutual support, and teamwork in facing life challenges. Communication processes that clarify ambiguous situations, encourage open emotional expression and empathetic response, and foster collaborative problem solving are especially important in facilitating resilience (Walsh, 1998).

Communication processes that clarify ambiguous situations, encourage open emotional expression and empathetic response, and foster collaborative problem solving are especially important in facilitating resilience. Therapeutic efforts are future directed, helping families "bounce forward" (Walsh, 1998). Families become more resourceful when interventions shift from a crisis-reactive mode to a proactive stance, anticipating and preparing for the future. Most importantly, interventions help families in problem saturated situations to envision a better future and take concrete steps toward achieving their hopes and dreams (Walsh, 1998).

### Advantages of a Family Resilience Framework

Walsh (2003) presented many advantages to the family resilience framework to guide the care of families in different contexts. Firstly, the framework focuses attention on family strengths under stress rather than on pathology. Secondly, it assumes that no single model fits all families or their situations. Thus, functioning is assessed in context, relative to each family's values, structure, resources, and life

challenges. And thirdly, processes for optimal functioning and the well-being of members are seen to vary over time, as challenges unfold and families evolve across the life cycle. Although no single model of family health fits all, a family-resilience-based approach to practice stems from a strong conviction that families have the potential to recover and grow from adversity. Moreover, it offers a conceptual map to identify and target key family processes that reduce the risk of dysfunction, buffer stress, and encourage healing and growth from crisis.

### Applications of Family Resilience Approaches

Nurses and other health care providers can encourage family members to share their stories of adversity, often eliminating the silence or secrecy around painful or shameful events to build mutual support and empathy. Serious physical or mental illness poses numerous challenges for families, requiring considerable resilience for coping and adaptation. A family resilience approach uses concepts and language that humanize the illness experience and accompanying challenges as it encourages optimal functioning and personal and relational well-being.

Even when physical healing is no longer possible, psychosocial and spiritual healing can be deeply meaningful for all. When family members are encouraged to be fully present for one another, they commonly report that this most painful of times also has been the most precious in their relationship (Walsh, 1998).

### Model Case

Mr. Bassam is a 36 years old man. He is complaining of spinal cord injury since two years. He was involved in road traffic accident that resulted in a complete resection of the spinal cord at the level of L5. He was diagnosed as a case of complete paraplegia. He was admitted to hospital many times during the last two years. He finished the rehabilitation phase

6 months ago. He can perform self catheterization independently, although his wife and his brother have learnt how to do this procedure in case he needs assistance.

### Family Assessment

Bassam's family is a part of an extended family. He lives in Amman in his home in a 3-storey building owned by his father. He used to live on the third floor, but after the accident he exchanged places with his brother who lives on the ground floor. He has four brothers. All of them live in the same building; moreover, he has two sisters who live in the neighborhood. Bassam's mother and father live with his oldest brother. Bassam's family has a good relationship with the relatives and with the neighbors. Bassam is a mathematics teacher. He has been married since 1997 to Manal who is 32 years old, and she is also a teacher. They have two children; Samer 8 years old and Majed 6 years old.

Bassam described the last two years as the most stressful period not only to him but also to the whole family. The family considered Bassam's injury as a catastrophic event that disrupted the whole family.

### Application of the Resilience Framework on the Model Case

The application be based on the three key processes in the family resilience framework that include the belief system, the organizational pattern, and the communication processes.

### The belief Systems

Bassam's family tried to make meaning of the adversity, they adopted affiliative values. Although, the father has a permanent disability; the roles and functions of the family members were not interrupted. This is consistent with Killen's study (1999) that assessed roles of children in families after spinal cord injury and found that spinal cord injury did not change the roles, i.e. mothers, fathers, husbands,

and wives continued to play their traditional roles. On the other hand another study by Alexander, et al. (2002) revealed that there is impact of mothers with spinal cord injury, on family and children's adjustments.

Although, Bassam's disease was considered as a stressful situation by all of the family members, they did not lose the sense of coherence. During the time under discussion, they remained united, and they looked at the disease as meaningful, comprehensible, and a manageable challenge. It was reported in the literature that in some cases the injury strengthened the bonds between the family members, bringing the family closer together as a family. In other cases, the injury strained the relationships, placing added responsibility and stress on the family in their everyday life (DeSanto-Madeya 2006 ).

In the acute phase of Bassam's disease, all of the family members suffered from stress, grief and depression. These feelings were frequently reported in the literature. Young (2003) indicated that family members suffer from stress, grief, and depression when a spinal cord injury occurs in the family. In another study Chan (2000) studied this phenomenon in Hong Kong, finding that spouses of persons with spinal cord injury suffer emotional stress that is comparable to or greater than those of the injured partner. Moreover, Kennedy & Evans (2001) reported high levels of emotional distress in 14% of patients at 6-24 weeks after injury, significantly higher in females.

Bassam and his family recognized the strong effect of a positive outlook in coping with stress and recovery from crisis and overcoming barriers to success. They indicated that their life was full of hope, they seem to be optimistic and confident in overcoming odds. They have courage and encouragement that allows them to focus on strengths and potentials. Moreover, they maintain the "can-do-spirit". They

accept what cannot be changed. These beliefs helped Bassam to take serious steps to go back to work. These findings were supported by DeSanto-Madeya's (2006) qualitative study which pointed out that moving forward in a new way of life through gaining a new perspective on life, learning to live with a changed life, and reaching a new normalcy, were emerging themes that portrayed the experience of patients and their family with spinal cord injury. On the other hand, losing hope may lead to suicidal ideation as Kishi, et al. (2001a) reported that 7.3-11.3% of Japanese patients with spinal cord injury expressed suicidal ideation during hospital and rehabilitation phases.

Bassam and his family find strength, comfort, and guidance in adversity through connections with their religious traditions. They used to pray, and read the Quraan. They indicated that this helped in envisioning new possibilities. Bassam, Thanks Allah all the time, that his children who were with him at the time of the accident did not get hurt.

### The Organizational Patterns

Bassam and his family show flexibility and readiness to adapt to fit challenges over time. For instance, after the discharge of Bassam from the hospital, his brother exchanged the apartments with him to make it easier for him to live on the ground floor instead of the third floor.

Another point is the mutual support, the collaboration, and the commitment between Bassam and his wife. Bassam described his wife as a source of support and inspiration to him. Bassam, his wife, and other family members seem to be highly connected to each other.

Yim, et al. (1998) assessed the quality of marital life among Korean couples with spinal cord injury. Married couples with spinal cord injury were not more unstable, had similar dyadic adjustment and marital satisfaction, appear to be more cohesive than able-bodied couples, even though husbands with

spinal cord injury tend to show less affection and the couples regarded loss of sexual function as a serious problem.

Bassam and his family know his individual needs, differences and boundaries. All of the family members respect his needs. They made the necessary adjustments to make him more dependent. Adjustment to spinal cord injury and quality of life can be adversely affected by inadequate home facilities that make a person more dependent (Seki, et al., 2002).

Family, relatives, and social networks offer practical and emotional support to Bassam. All of them are considered a source of social and economic support. Chen and Boore (2007) in their qualitative study showed the importance of establishing what is called "a super-link system". This system includes the following four links: 'linking to client', 'linking to family/carer', 'linking to interdisciplinary rehabilitation team' and 'linking to community'. Another study demonstrated the unquestionable positive effect of group therapy on the impact of well-being of spouses of spinal cord injury survivors (Sheijja and Manigandan 2005)

### The Communication Processes

Bassam and his family use clear consistent messages when communicating with others and to their children. They tend to clarify ambiguous information. Rolland (1999) indicated that any long term health problem powerfully challenges a family's communication skills. Moreover, sensitive, open, direct, communication about a range of illnesses is essential to coping well with chronic illness. Bassam and his family share feelings, they have mutual empathy, they tend to avoid blaming, and even in the difficult times; they did not lose their sense of humor.

Bassam and his family used a creative method for problem solving and to discuss their problems. The communication channels

were open to all parties. They collaborate to make decisions, they focus on goals, and they try to take a proactive stance; for instance, Bassam and his family discuss openly his rehabilitation plan. Most of them used different resources to enhance their knowledge about the optimum ways to cope with the spinal cord injury. Bassam and his family members were aware about the possible complications and how to prevent them. Bassam and his wife involved their children in the discussions.

### Conclusion

Family research and clinical practice must be rebalanced from focus on how families fail to how families can succeed if the field is to move beyond the rhetoric of promoting family strengths to facilitate key processes in intervention and prevention efforts. The family resilience framework presented here can be valuable in guiding clinical practice with families in crisis and those facing persistent adversity.

Finally, resilience-oriented services foster family empowerment as they bring forth shared hope, develop new and renewed competencies, and build mutual support and collaborative efforts among family members. From this perspective, it is not enough to solve a presenting problem. By strengthening family resilience, we build family resources to meet new challenges more effectively. In this way, every intervention is also considered a preventive measure.

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## WOMEN'S HEALTH AND WELLBEING IN RELATION TO GENDER, POVERTY AND HEALTH INTERACTIONS

### Abstract

Health is fundamental for all and one of the basic elements of human development. Equity in health is increasingly cited as the goal of health policy from national level to the global level as equity in health has been closely connected with socioeconomic and cultural factors. A range of social and structural factors determine the shapes, experiences and opportunities of health outcomes in almost all countries. However, two important aspects, 'gender and poverty' of health and wellbeing, are likely to remain among the key challenges of health equity for the 21st century and it is decisive to examine how poverty in relation to socially constructed gender roles and responsibilities leads to inequities in health between men and women in developing countries like Bangladesh. This paper is therefore, aiming to demonstrate gender, poverty and health interactions. The analysis illustrates how gender based social and economic roles and responsibilities create health inequalities throughout women's life cycles with special reference to Bangladesh.

**Key Words:** Health and Wellbeing, Gender, Poverty, Social Determinants of Health and wellbeing, Health equity.

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### Introduction

Health is an important factor for all people and everybody has a right to obtain equitable health services to live a healthy life. Despite this, policies from national level to the global level have focused on improving population health by considering health as a basic human right as well as a critical determinant of human productivity. Consequently, both developed and developing world have experienced improvements in average health status. Yet equity in health is cited as the goal of health policies at all levels(1-2) because of unequal health outcomes. Understanding of population health needs social explanation along with biomedical explanation, as experts agreed in the Alma-Ata-Declaration in 1978(3) and most recently in the WHO commission report in 2007 on Social Determinants of Health(4).

Socially structured gender roles and responsibilities are not equally balanced. Both men and women occupy different social positions in all sectors from family to society; though women have less or limited control than men over socioeconomic and political positions such as money, information, power

and influence and even sometimes over health services(5). These gender base differences of roles and responsibilities and inequities in access to power and resources are reflected in their illness and access to health care services(6). Health is, thus, a multidimensional issue and a range of social and structural factors determine the shapes, experiences and opportunities of health outcomes in almost all countries(7). However, gender and poverty are yet two important challenges in achieving health equity for the 21st century(8) and poverty in relation to socially constructed gender roles and responsibilities leads to inequities in health between men and women in developing countries including Bangladesh. Experts(9) opine that gender roles and responsibilities, in Bangladesh like all other countries, are an important determinant of health and wellbeing among many others because women's access to health services is related to the socioeconomic and cultural context.

### Understanding of health and illness in relation to gender and poverty

Gender is socially and culturally constructed roles and responsibilities for men and women(10) while

poverty is a lack of basic human needs including health and its critical determinants such as adequate nutrition, clothing, housing and clean water. On the other hand, WHO defines health as a fundamental human right which is not only related to physical attributes but also to socioeconomic, cultural and political issues(3). By definition population health is closely connected with gender and poverty. The linkage between gender, health and poverty recognized the importance of a social understanding of the health approach. Social understanding of health focuses on how health is socially and culturally defined and how access and utilization of existing health services are correlated with socio-economic and cultural conditions. It also describes the health care system in producing and managing health and illness.

Gender roles and responsibilities make women more vulnerable compared to men at all levels from household to national, in relation to

access and control over economic resources as well as control over their health and wellbeing (4). This is because of social and cultural definition of women's health. In many societies, illness of women is recognised only when they are not available in their workplace. As a result women will bear a lot of pain and uneasiness before they seek health care services for their illness(11). On the other hand, women have greater prevalence of morbidity and mortality than men due to their socio-economically disadvantaged positions and poor control of the household economy. Both for men and women, socioeconomic differences shape their life chances(7) but socio-economically deprived women have a greater chance to die earlier than men who are also deprived because of gender-base division of labor(5).

Gender related imbalance in health status affects women's health in a cyclical order. A gender-base health inequity is observed at each

stage of the female life cycle. The figure(12) also shows that gender discrimination in health started before conception and continues up to old age. Poverty and gender interact with women's morbidity and mortality in each stage of the female life cycle which leads to an imbalanced sex ratio, sex selective abortion and negligence of girl children, reproductive mortality, and poor access to health care for girls and women.

Generally, life expectancy at birth is higher for women than their counterparts but in many aspects they pass through an unhealthier life than men due to low socioeconomic status. To explain these differences Sen(13) has identified seven types of inequalities which include social preference for boys over girls, discrimination against girls and women in education and employment, unequal ownership of property and unequal distribution of family resources. Then it can be argued that gender, health and

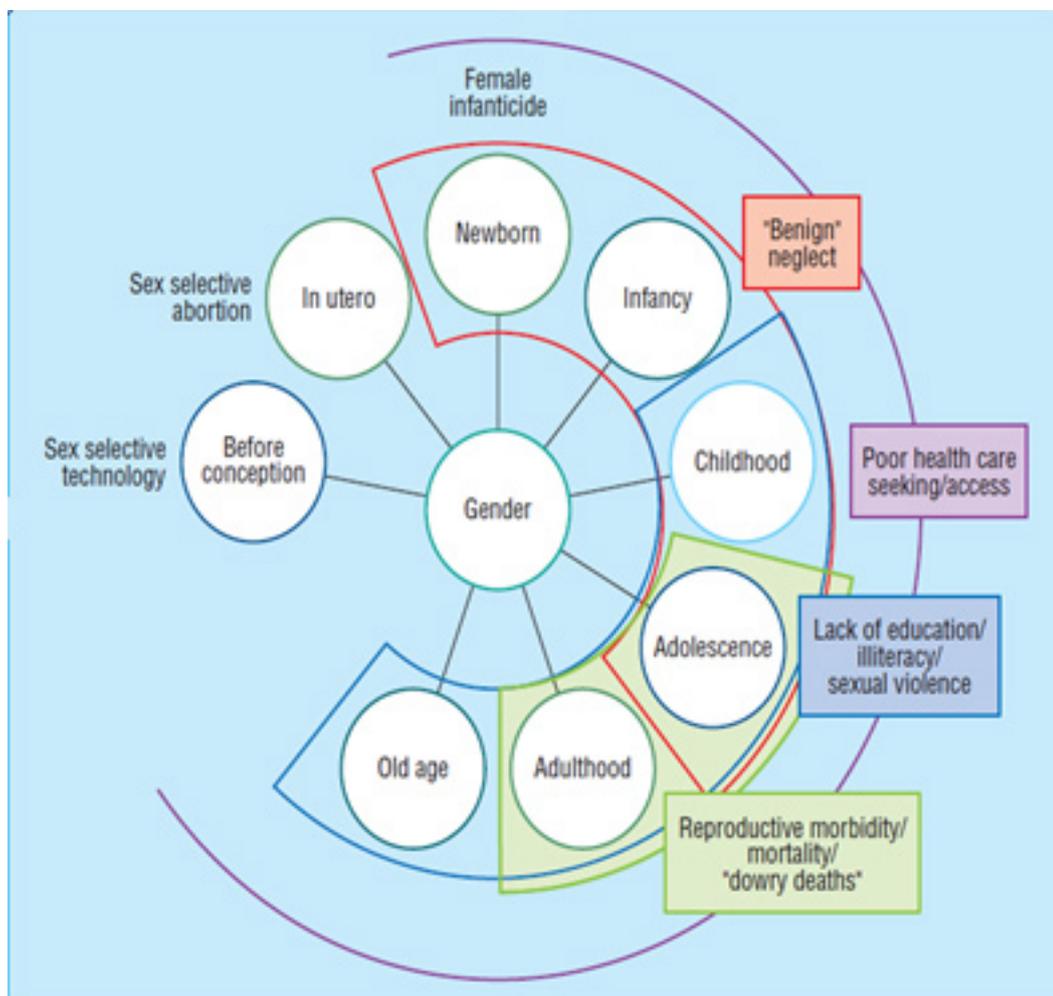


Figure 1

socioeconomic status are interrelated with each other in a complex way. Understanding this complex relationship requires a complex framework of how socioeconomic inequality affects health equity(7 & 14). Considering these complexities of gender and health issues, Moss(14) has proposed a comprehensive framework of influencing factors for women's health. This framework includes the geopolitical environment such as policy and services, legal rights and economic factors, cultural norms and sanctions such as discrimination and socio-demographic attributes, women's roles in production and reproduction at households and workplace and health related attributes such as access to social and health services, psychological and behavioral stress and finally health outcomes.

#### **Gender, poverty and health interaction**

The relationship between poverty and ill-health is very strong in poor countries(15) where gender dimension is highly concentrated. Poverty and ill health are commonly found among females in poor countries because of their disadvantaged position. Women also bear the burden of poverty disproportionately because of systematic discrimination in employment, education, health and decision making processes. For example, the unemployment rate is higher among women compared to men(18) while women execute 66% of the world's work, make 50% of the food, but possess only 1 percent of the property out of 10% of the earnings(16-17) and women have 17% lower wages than men(17). The majority of poor people are women(19). According to a 2008 estimation, women represent 70% of world's poor people(18). Additionally, in poor households women and girls are usually allocated less and lower quality food than their counterparts(20) and they have inadequate access to health services(21). In terms of education, around two-thirds of the world's adults are women(22)

while in the national political system around the world, women's parliaments' participation rate is awfully low, around 18.3% in July 2009(23). According to Oxfam International(17), globally women are getting the rawest deal as every minute one woman dies without medical care during pregnancy or child birth; two-thirds of school-denied children are girls; women work two-thirds of the total working hours but earn only 10% of the world income; and of the entire illiterate adults 64% are women; and domestic violence is the single biggest cause of women's injury or death.

Irrespective of all, health is a basic need for all, but in many countries poverty along with gender-based roles and responsibilities lead to inequalities in health. Poverty, health disparities and gender are connected with each other in a multidimensional process. While poverty as a whole causes ill-health through inadequate diet, unhealthy living and unhygienic working conditions, women disproportionately bear the brunt due to gender division of labour as women, not men, are attempting to manage household consumption and production under conditions of increasing scarcity(18). This is because of poverty and the social position of women(5) and its adverse impact is reflected in their illness and access to health care services. In many countries like Bangladesh gender inequality is one of the root causes of women's and girls' poor health status and overall national development(9). Despite the almost equal life expectancy of men and women, a wide gap exists between health indicators of men and women. In India and Pakistan a girl between her first and fifth birthday has a 30-50% higher chance of dying than a boy of her age because of poor nutrition, lack of preventive care and delays in seeking health care(12). In Bangladesh, around 70% of pregnant and breastfeeding women suffer from caloric deficiency(24).

On the other hand, ill-health can itself cause poverty. Poor people

are more susceptible to disease because of lack of access to adequate nutrition, clean water, sanitation, safe housing and medical care. As a result, illness of poor people, by forcing them into debt or into the sale of productive assets, can push them into a poverty trap from which they do not recover. Additionally, the effects of a serious illness often extend to the next generation(15). A study conducted in rural India showed that ill-health and health related expenses pushed households into poverty in more than 80% of cases. However, the rate is higher (87%) for female headed households(8). Thus poverty has brought catastrophic consequences in the form of women's sickness in households that have minimum or no capacity to pay for health care services. A survey conducted in India showed that "85% of 134 households in two districts of Gujarat and 74% of 335 households in three districts of Andhra Pradesh said that health expenses were the main reason for their economic decline"(25).

The health impacts in relation to gender and poverty are most clearly observed in terms of overwork and poor nutrition. Poverty is painful for all humankind but it adversely affects women when it leads them to increasingly heavy work burdens under unhygienic and unhealthy conditions. According to UNIFEM(18), eight out of ten women work under vulnerable conditions in sub-Saharan Africa and South Asia. Gender based division of labour leads to various causes of morbidity and mortality for women. Women have a higher risk of exposure to certain type of diseases. A study conducted in Bangladesh shows that Bangladeshi rural women cook under inhuman conditions which have adverse health effects. It reveals that a remarkable proportion of rural women suffer from cataract, headache, fatigue, bronchitis, low birth weight and lung cancer due to cooking related problems(26). Additionally, women have the burden of work especially those who combine employment with domestic duties, pregnancies and childbearing

due to social divisions of labour. While they have received very little household support, a large portion of women are abused by other family members. It is estimated that around 19% of the total disease carried by women aged 15-44 in developed countries relates to domestic violence and rape. Without having any biological evidence, women compared to men suffer more from anxiety and depression in most parts of the world(27).

Moreover, women who are participating in the labour market are sometimes more vulnerable. The reason is that many jobs, which are available for poor or less educated women, have an adverse effect on their health because of harmful working environments. Sometimes women are exposed to sexual and physical harassment and monotonous work. These are linked with low education, lack of social empowerment and low social status(28). Khan et al.,(24) states that Bangladeshi women are still facing gender specific inequity at their working place. such as lower wages than men for similar work, due to discriminatory men's behaviour and absence of gender sensitive policies. Equally, women's labor force participation is not highly appreciated because of social, cultural, religious fundamentalism and poor security, which has a direct impact on health and demographic indicators(29-31).

Poverty often forces people to work in hazardous environments. However, women suffer more and poverty may force them into sex work in order to survive or cope with household economic crisis. Poverty and HIV are intertwined and one contributes to increase another cyclically in which women and girls are affected more as they are the most disadvantaged group in society(32). The situation is exacerbated when female sex workers can not insist on men using condoms due to poverty(33) and therefore transmit HIV to their clients and then clients' partners(34). Additionally, women with poor economic circumstances have little access to education and information compared to economically well groups(33) while social stigma, discrimination and less control

over household economy obstruct women's access to health care services(33). On the other hand, migration for work due to poverty increases the risk of HIV infection to both the partners - the one who leaves, and the one who stays at home(34-35). As a result, globally women account more than half of the total HIV infections(18).

Nutrition is another important area to examine the interrelationships among gender, poverty and health. Poor nutrition of girls and women due to gender discrimination can increase the chances of life-threatening complications at the time of pregnancy. The combined and cumulative effects of poor nutrition in relation to gender-based inequality and feminization of poverty produce ill-health of women and girls. This is observed in many South Asian countries where women and girls receive inadequate food compared to men and boys; and poor nutrition, as a result, contributes to a number of health problems and conditions(36). Eventually, intergenerational transmission of poverty occurs through undernourishment and overwork, especially among pregnant and breastfeeding women(24 & 37). At household levels in Ethiopia girls are more likely to report being food insecure than boys, though there is no difference in their household food insecurity status(38). However, one study in Mexico revealed that lower food intake of girls is not the output of purposeful gender-based dietary discrimination but rather culturally structured gendered roles involving lower activity outside of their homes(36).

Moreover, women's age at marriage, child bearing, number of children and birth spacing along with fundamental ideas such as 'pardha pratha, (permission from home)' does not only place barriers for women's social mobility but also has influence on maternal morbidity and mortality. Bangladesh Health and Demographic Survey reports show that almost 22% of births occurred before women's age of 20(39). The reason is that women are socio-economically disadvantaged and voiceless, as well as having little knowledge about reproductive health and rights on the one

hand, and the structured social expectations from women on the other. For example, the BDHS-2007 report shows that in Bangladesh educated women are likely to visit health professionals and receive health care services during their pregnancies which ultimately help in reducing morbidity and mortality of women and children. Women have little bargaining power to decision making about their marriage, reproduction and access to health services because of a patriarchal social structure that nurtures unequal gender relations(24&40). All of these are linked with gender based socialization that expects women should be soft, polite, gentle, compassionate and caring for other family members(41). Several studies shows that women's access to health services is directly determined by their household and community characteristics and the nature of the program(28-29&42).

Gender-based violence is one of the most purposive violations of human rights and a very close connection between health and gender is found in Gender-Based Violence (GBV). GBV includes 'wife abuse, sexual assault, dowry-related murder, marital rape, sex selective malnourishment, forced prostitution, female genital mutilation, and sexual abuse of female children'(43). GBV occurs, more or less, in all societies and among all socioeconomic groups but poor and insecure women have little scope to leave violent relationships(44). Among many forms of gender violence, abuse of women by intimate male partners is most critical. According to UNIFEM(18), 60% of women from all over the world experience either physical/sexual or both types of violence in their lifetime. A study conducted in 36 countries showed that around 60% of married women have experienced at least one incident of physical violence from a current or former intimate male partner(43). However, the GBV is a life cycle process among women, which starts at the pre-birth period through sex selective abortion and ends with the elderly in the form of abuse of widows. The World Bank estimated that GBV is responsible for one out of every five health days of life lost to women aged 15-44. GBV increases women's long-term risk of several health problems

including physical disabilities and mental health problems(43). In developing countries, like China, only rape and domestic violence account for 16% of the healthy years lost to reproductive aged women(44).

## Conclusion

Social division of labor is yet a critical determinant for achieving equity in health, especially when poverty interacts with health and gender. Gender-based roles, rights and responsibilities function as a base for inequitable access to socio-economic positions, and to health services. And poverty makes this vulnerability more critical. Gender, health and poverty interactions are very reflective in terms of women's prolonged work, nutrition and HIV/AIDS. And it is important to focus on gender issues in all aspects of human life in order to reduce inequity in health and wellbeing as well as achieving equity in population health status.

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