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## *Contents*

### **Editorial**

#### *Original Contributions*

**Gender Based Domestic Violence against Married Women  
among the Slum Dwellers in Dhaka**

*SMR Islam, N Yasmin, M Shahjahan, M Rahman, S Lahiry*

**Contraceptive Practice among Newly Married Women in a  
Selected District in Nepal**

*GR Budhathoki, MH Faruquee, N Yasmin, S Lahiry, T Ahmad*

**Awareness Level on Five Danger Signs in Pregnancy among the Married  
Women of Selected Village Development Committees of Nepal**

*RK Mahato, S Lahiry, N Yasmin, M Shahjahan, T Ahmad*

**Work-Related Musculoskeletal Disorders among Computer Users**

*MFA Bhuiyan, FH Lovely, MM Rahman, N Yasmin,  
M Shahjahan, MH Faruquee*

**Status of Personal Hygiene among Prisoners: A Study on Two  
Selected District Prisons in Nepal**

*RN Yadav, S Lahiry, M Shahjahan, N Yasmin, T Ahmad*

#### *Perspective*

**Implementing Hospital Autonomy in Bangladesh**

*M Shahjahan, R Murshed*

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## EDITORIAL

The major challenges for Bangladesh to achieve the Millennium Development Goals or MDG's are its backward economy characterized by high population density, low resource base and per capita income, lack of adequate infrastructure and corresponding lack of access to appropriate level of nutrition, education, safe water and sanitation. In addition, recurrent natural disasters result in food shortages and corresponding problems of health and adequate nutrition. Against this backdrop, the public health departments of private universities in Bangladesh are attempting to undertake study and research to search for sustainable solutions to these problems through a participatory approach of public-private partnership. Keeping this in mind, the public health academics and researchers in private universities are seeking to work with the government, NGO, industry and international organizations. It is our belief that only such a public-private partnership and collaboration will allow the attainment of the MDG's for Bangladesh.

Education and research in public health require problem based critical interdisciplinary thinkers to provide unique and innovative solutions to public health problems of Bangladeshi communities. This requires active collaboration and cooperative teamwork of public health practitioners, managers, policy makers, researchers and academicians at the community, district, national and international levels. Best practice and rigorous research methods need to be adopted using a multidisciplinary intersect oral approach for maximum effectiveness. Such an approach by all stakeholders working in the area of public health will play a significant role in attaining the national targets set in light of the MDG's for Bangladesh.



***Editor***

## GENDER BASED DOMESTIC VIOLENCE AGAINST MARRIED WOMEN AMONG THE SLUM DWELLERS IN DHAKA

SMR Islam<sup>1</sup>, N Yasmin<sup>2</sup>, M Shahjahan<sup>2</sup>, M Rahman<sup>2</sup>, S Lahiry<sup>2</sup>

### ABSTRACT

Violence against women by intimate partner, especially husband, is a globally recognized agenda in human devolvement. This cross-sectional study was conducted between August 2006 through December 2006 to determine the prevalence and risk factors for Gender Based Domestic Violence against Married Women (GBDVAMW), inflicted by their husband, in the slum area of Dhaka city. Bivariate correlation and chi-square tests were done for data analysis to determine the domains of violence that served as the dependent variable. Prevalence of GBDVAMW was found to be 57.3%. Prevalence of physical violence was found to be 44.8%; sexual violence 18.2% and psychological violence 22.9%. The significant factors associated with physical and psychological violence were level of education of the partner and parents of the respondent, and the literacy of the respondent herself ( $p < 0.05$ ), history of women violence in the women's family ( $p < 0.001$ , OR=40.9; 95%CI=2.87-7.99). Factors related to sexual violence were 'dowry contact' ( $p < 0.05$ , OR=1.8, CI=1.02-3.04), and 'women violence in the family' of the respondent ( $p < 0.05$ , OR=1.93; 95%CI=1.11-3.37). Study findings confirm that violence against women is a prevalent phenomenon in slum area in Dhaka city. Awareness-raising campaigns about intimate partner violence should bring this important issue to the frontline of public discussion. Such efforts can potentially help assuring that future generations would not experience partner violence to the extent that contemporary Bangladeshi women do.

**Key Words:** Domestic violence, Married women

### Introduction

Violence against women is a complex and multidimensional problem. Any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.<sup>1</sup>

Physical, sexual and psychological violence occurring in the family and in the general community including battering, sexual abuse of female children, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation, sexual harassment, and intimidation at work, in educational institutions and elsewhere, trafficking in women, forced prostitution, and violence perpetrated or condoned by the state also encompasses Gender based violence against women.<sup>2</sup> The consequences of violence

<sup>1</sup>ICDDR,B, Dhaka; <sup>2</sup>Department of Public Health, State University of Bangladesh

against women are far reaching. It impacts on all aspects of women's lives, their health and that of their children, and also on broader society. Moreover, violence determines women's sense of self-worth, their sense of autonomy, their ability to feel and act as independent, capable women.<sup>3</sup>

Violence against women, particularly domestic violence and sexual abuse, has been associated with many negative health consequences include: injuries (ranging from cuts and bruises to severe injuries leading to permanent disabilities such as loss of hearing); sexually transmitted diseases; HIV/AIDS; unwanted pregnancy; gynecological problems; chronic pelvic pain; hypertension; depression and anxiety disorders,<sup>4-7</sup> post-traumatic stress disorder,<sup>7-9</sup> headaches; irritable bowel syndrome and various psychosomatic manifestations<sup>10</sup>

Violence during pregnancy has been associated with miscarriage, still birth, pre-term labor and birth, fetal injury and death.<sup>11</sup>

Violence against women crosses socioeconomic lines<sup>12</sup>. However, low-income women may be more often trapped in abusive relationships because of a lack of financial resources for housing and income support. Domestic violence against women (DVAW), especially beating wives by husbands, has been common in all culture perhaps in all times.<sup>13-15</sup> Bangladesh seems to be no exception. Newspaper reports in the country clearly indicate that the prevalence of violence against women is very high.<sup>16, 17</sup>

National data on the general population do not exist. However, small-scale studies support the above conviction.<sup>18</sup> As of now, the estimate of the prevalence of physical violence against women by husbands in Bangladesh varies between 30% and 50%.<sup>19,20</sup> The extent, nature, and the context of DVAW in Bangladesh and other developing countries need to be explored. Of them, methodological difficulties in studying the topic are the important ones.

Interventions to alleviate the problem have mostly been driven towards reducing the harm after the incidence through medical treatment and counseling.<sup>15</sup> Preventive efforts, on the other hand, have been limited to enactment of punitive legislative measures against the aggressor for abusing women. Although the incidence of domestic violence against women directly involves husband, wife, and other family members, and is possibly perpetuated by the societal context,<sup>17</sup> a family and/or community-centered approach to alleviate the problem has largely been absent so far. Therefore, such studies can generate knowledge on domestic violence against women with a special focus on the nature, extent, and correlates of violence against women in technique. The present study was done to find out the prevalence and factors affecting Gender Based Domestic Violence against Married Women of selected slum dwellers in Dhaka City. Based on the findings of the study and their careful review, the possibility of family/community centered interventions was recommended to reduce such incidences.

### Materials and Methods

The present descriptive cross-sectional study was undertaken in Mohammadpur slum area Mohammadpur Thana, Dhaka. The total household of this slum is 22,773 (according to 1997 slum census). Among these households 400 (four hundred) households were selected randomly picking up one household from every fiftieth house. All the data were collected with the help of structured questionnaires made according to objectives and variables of the study.

### Results

Violence rate was found to be 57% (220 out of 384 respondents) which is similar to the global situation (70%) and still alarming. Mean age of the victims was 28.3 years with standard deviation, 8.8 years.

**Table 1. Relationship of gender based domestic violence against married women with the respondents' socio-demographic characteristics**

Characteristics	Gender Based Domestic Violence				p-value
	<u>All or any type of violence</u>		<u>No violence</u>		
	n= 220	%	n=164	%	
<i>Age of women (in years)</i>					
<30	143	65.0	97	59.1	0.143
≥30	77	35.0	67	40.9	
<i>Literacy of the women</i>					
Illiterate	128	58.2	66	40.2	0.001
Literate	92	41.8	98	59.8	
<i>Literacy of the father</i>					
Illiterate	143	65.0	77	47.0	0.001
Literate	77	35.0	87	53.0	
<i>Literacy of the mother</i>					
Illiterate	174	79.1	108	65.9	0.003
Literate	46	20.9	56	34.1	
<i>Occupation of the women</i>					
Unemployed	165	75.0	138	84.1	0.020
Employed	55	25.0	26	15.9	
<i>Family Income (Tk /Month)</i>					
<5000	131	59.5	83	50.6	0.051
≥5000	89	40.5	81	49.4	
<i>Religion</i>					
Muslim	216	98.2	161	98.2	0.639
Non Muslim			4	1.8	
<i>Type of family</i>					
Joint	55	25.0	50	30.5	0.141
Nuclear	165	75.0	114	69.5	

Literacy of the women, literacy of perpetrator, literacy of women's father and mother showed highly significant ( $p < 0.001$ ) relationship with the domestic violence.

Violence had shown more prevalent to the illiterate subjects (Table 1). In this study no socio-cultural factors were found to be related ( $p > 0.05$ ) with the domestic violence (Table 1).

**Table 2. Relationship of gender based domestic violence against married women with the respondents' socio-cultural characteristics**

Gender based violence					
Characteristics	<u>All type of violence</u>		<u>No violence</u>		p-value
	n=220	%	n=164	%	
<i>Tenure of staying in slum in years</i>					
<5	103	46.8	81	49.4	0.346
≥5	117	53.2	83	50.6	
<i>Duration of Marriage in years</i>					
<10	110	50.0	69	42.1	0.075
≥10	110	50.0	95	57.9	
<i>Age at marriage in years</i>					
<15	77	35.0	47	28.7	0.114
≥15	143	65.0	117	71.3	
<i>Number of children</i>					
<3	153	69.5	112	68.3	0.439
≥3	67	30.5	52	31.7	
<i>Personal habit</i>					
Yes	6	2.7	8	4.9	0.201
No	214	97.3	156	95.1	
<i>Contact of media</i>					
Yes	186	84.5	144	87.8	0.224
No	34	15.5	20	12.2	
<i>Dowry contact</i>					
Yes	52	23.6	33	20.1	0.244
No	168	76.4	131	79.9	
<i>Dowry paid</i>					
Yes	30	13.6	29	17.7	0.172
No	190	86.4	135	82.3	

Inner feelings of the women showed (Table 2) generous association with the domestic violence. All the factors of the inner feelings of women found very significantly ( $p < 0.001$ ) associated with the domestic violence of the women except 'history of sexual harassment in childhood of women' ( $p > 0.05$ ).

### Discussion

The distribution and prevalence of Gender Based Violence to a class of under-privileged community can bring to light the parallel thinking to be applied in the others. It was found through this study that the prevalence of physical violence to the women was 44.8%. It is less worthy to note

that the life time prevalence ratio will be obviously albeit higher than the last year to the survey year prevalence of physical violence. This study connotes the study done by the World Health Organization: In Bangladesh, a cross-sectional survey conducted in Matlab (rural area having world famous HDSS under ICDDR, B) which reported 16% physical assault in the last year.<sup>21</sup> A cross-sectional study carried out at a primary healthcare unit in the city of Porto Alegre, Southern Brazil, it was found 38.4%(95% CI=32-44) of physical violence. Another, a recent national survey of 8,000 women found in United States that 25 million (25%) U.S. women are physically assaulted by an intimate partner in their lifetime, and 1.5 million (1.5%) women experience IPV annually.<sup>22</sup> This study makes known to us that physical violence was significantly related to the level of education not only to women, also to her parents and partners ( $p<0.05$ ). Illiterate women were becoming more victims than the literate women. Illiterate perpetrators were becoming more violent than the literate perpetrators. One study related to this showed that year of schooling was inversely associated with prevalence of violence, which imply with this study.<sup>19</sup> Physical violence to women was significantly associated to the structure of the family ( $p<0.01$ , OR 0.4, 95%CI 0.7-0.3). Eighty two percent (of Total 172) of respondents from the nuclear family was victim to violence than the joint family (19.8%). It might happen that the joint family might seek help immediately somehow from the others. Some study shows that women who reported having been victims of violence by a family member or experienced any women violence in the family during childhood are more likely to have been victims of violence from their partner during their adult life, as compared with women who have not

experienced violence during their childhood.<sup>23</sup> This study also supported those studies found 'history of VAW in the family' (in the respondents) bears a remarkable association to the physical violence to the respondent by the perpetrators ( $p<0.001$ ).

### Conclusion and Recommendations

It can be concluded from the present study that there is substantial prevalence of gender based domestic violence against women among the study population. The women violence leads to women's morbidity significantly that is cleared and already discussed in background of this study, the study shows the index finger to the burden from that type of morbidity, and leading to mortality of the mother obviously would be very high.

Access to education and health care and control over economic resources, improving legal and institutional framework for the protection of women and girls and raising awareness and qualifications amongst governmental service providers, measures must target (potential) victims and (potential) offenders directly because without changing the awareness of women, men and young people of both sexes, there can be little genuine structural change. Women and girls must learn not to give in to violence, to stand up for them and exercise the rights they have. Boys and men must be offered new role models to allow them to assume new behavior patterns based on partnership rather than power and dominance.

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## CONTRACEPTIVE PRACTICE AMONG NEWLY MARRIED WOMEN IN A SELECTED DISTRICT IN NEPAL

GR Budhathoki<sup>1</sup>, MH Faruquee<sup>2</sup>, N Yasmin<sup>2</sup>, S Lahiry<sup>2</sup>

### ABSTRACT

The present cross-sectional study was performed to find out the current status of contraceptive practice among 230 newly married women. Who had 15 to 30 years with marital duration of 3 years. The duration of the study was from September to December 2007. Data were collected through face to face interview using pre-tested questionnaire by adopting purposive sampling technique. The mean age of the respondents was  $20.79 \pm 2.4$  years and the mean age of marriage was  $19.26 \pm 2.23$  years. Majority of (85.2%) of respondents were hindu. Analysis revealed that respondent's education, respondent's husband education and decision-making process were significantly associated with current contraceptive practice ( $p < 0.05$ ) while no significant association was found with religion, age group, types of family and levels of obstacle encountered regarding service. Based on the study, awareness on health and family planning services with special attention towards newly married couple regarding effective contraceptive dynamics to combat population explosion is highly recommended.

**Key Words:** Contraceptive practice; Newly married women

### Introduction

Nepal is a developing country with a population of 23 million along with growth rate of 2.77. This growth rate implies population-doubling time to be within 32 years<sup>1</sup> as TFR is 3.7 births per women.<sup>2</sup>

The reproductive health issues of newly married women are of global concern. Since newly wed women constitute a large portion of women of reproductive age, their contraception dynamics is directly related with national, regional and international health matrix, namely millennium development goals. The contraceptive practice of newly married women can be

considered as an important indicator in case of determining the status of family planning programs. Achievement of expected CPR heavily depends on such population.<sup>3</sup> Among the contraceptive methods, long-term ones are more desirable as most of the women in a developing country like Nepal appear less educated and they need to choose a method which are safe, cheap and has long term effects.<sup>3-5</sup> Lack of education, lack of knowledge and practice of health services and other socio-cultural barrier to access the contraceptive services are main factors influencing in maternal morbidity, mortality and unwanted pregnancies.<sup>4</sup>

Although the rate of contraceptive uses has increased, the numbers can be improved

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further. A large section on the female population is still unaware about the proper use of contraceptive or the management of its side effects.<sup>5</sup> The present study attempted to find out the current use of contraceptive methods among the newly married women in the Banke district, Nepalgunj.

### Materials and Methods

The present descriptive cross-sectional study was done among purposively selected 230 newly married women between 15-30 years of age group having three years of marital duration in Banke district, Nepalgunj, Nepal from September 2007 to December. Data for the study were mainly collected from primary source and secondary data were also taken from the District Health Office, Banke and the related health institutions as per need.

### Results

The most common and major aspects of the socio demographic perspectives are mentioned in the following tables.

**Table 1. Socio-demographic characteristics of the respondents**

1.1 Distribution of Respondents by Age Group (year)		
Age group	Frequency (n)	Percentage (%)
<20	114	49.6
20-24	100	43.5
>25	16	7.0
Mean $\pm$ 20.79, SD $\pm$ 2.403 Yrs, Range = 10 yrs		
1.2. Distribution of Respondents by Religion		
	Frequency (n)	Percentage (%)
Hindu	196	85.2
Buddhist	9	3.9
Muslim	12	5.2
Christian	13	5.7

The mean age of respondents was 20.79 as is the scenario with national figure of newly married women. Hindus are majority in Nepal.

**Table 2. Distribution of the respondents by age group and practice regarding current contraceptive use (n = 230)**

Age in year	Contraceptive Use			
	No (n=138)	%	Yes (n=92)	%
16- 20	65	57	49	43
>20	73	62.9	43	31.1
Mean $\pm$ SD	20.93 $\pm$ 2.4		20.57 $\pm$ 2.3	
p-value 0.360				

Table 2 shows that age of the respondents using contraceptives were 20.57  $\pm$  2.3 years and the respondents who did not use were 20.93 $\pm$ 2.4 years. It was found that contraceptives use among the respondents' age group of 16 to 20 years, 49 (43 %) years were higher in percentage and lowest users above 20 years were 43 (31.1%). Analysis reveals that there was no significant association between age group and current contraceptives use. ( $p > 0.05$ ).

**Table 3. Relationship between current contraceptive use and level of education of the respondents**

Level of Education	Contraceptive Use			
	No (n=138)	%	Yes (n=92)	%
Up to Secondary	113	64.6	62	35.4
Above secondary	25	45.5	30	54.5
p- value 0.012				

Table 3 shows that the relationship between current contraceptive use and education of

the respondents appeared to be an important influencing factor for contraceptive use. The study found that the use of current contraceptive methods was higher among the respondents who had above secondary level of education were 30 (54.5 %) and up to secondary level (VI-X) were 62 (35.4 %). Analysis found that there was a statistically significant association between education of the respondents and current contraceptive use ( $P < 0.05$ ).

**Table 4. Relationship between current contraceptive use and level of education on the respondent's husband**

Level of Education (Husband)	Contraceptive use			
	No (n=138)	%	Yes (n=92)	%
Up to Secondary	107	79.3	28	20.7
Above secondary	31	32.6	64	67.4
<b>p- value</b>	0.00			

Similarly, Table 4 shows that contraceptive methods use was highest among the respondents' husband whose level of education was above secondary level were 64 (67.4%) and up to secondary level of education were 28 (20.7%). The analysis found there was significant association between current contraceptive use and level of education of respondent's husband ( $p < 0.05$ ).

### Discussion

The findings regarding socio-demographic characters were in accordance with the NDHS report, annual report and ethnographic perspectives on obstetric health issues in Nepal.<sup>1,2,5</sup> Regarding the age group of respondents, no significant association was found with current contraceptive use. No similar findings were

found in any matched study, but a study by Ramesh BM et al shows fairly identical findings.<sup>6</sup> With regards to the respondents' level of education, it was found those with higher education used more. The study showed that relationship between husband's level of education is significantly associated with use of contraceptives. A study by Bhuian KC, et al shows family planning practices in rural Bangladesh is dependent on awareness.<sup>7</sup>

### Conclusion and Recommendations

The current study clearly revealed that the association between the education of the respondents' husband and decision making process for contraceptive use was statistically significant ( $p < 0.05$ ). Analysis also showed that contraceptive use had no statistically significant association with religion age group, type of family and other social characteristics.

Promotional and awareness program focusing family planning should aim to encourage newly married couples. Program should be formulated to access the gaps between education and knowledge of respondents and practice of contraceptive methods and steps are to be taken to raise literacy level, which will minimize the gaps of personal liking for particular contraceptive use. Existing study does not sufficiently address the reproductive, sexual behavior, family planning methods and needs of the newly married women. Therefore, further studies are recommended to address contraceptive dynamics.

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## AWARENESS LEVEL ON FIVE DANGER SIGNS IN PREGNANCY AMONG THE MARRIED WOMEN OF SELECTED VILLAGE DEVELOPMENT COMMITTEES OF NEPAL

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### ABSTRACT

The present study on the assessment of awareness level on five danger signs in pregnancy among the married women was carried out in Nakatajhij and Dhalkewar VDC of Dhanusha district. This cross-sectional study was conducted among the married women from September through December 2007 and the data were collected by a pre-tested self-administered questionnaire (SAQ) from a sample of 301 eligible mothers. The finding revealed that 156 (60.7%) of respondents had low level of awareness regarding five danger signs while 101(39.3%) of respondents had high level of awareness on five danger signs in pregnancy period. With regards to five danger signs 123(43.5 %), respondents had received the information from family members while 159 (56.2%) had been informed by electronic media. Out of 301 respondents, 231 (76.7%) received counseling about danger signs, 35.1% had correct knowledge (visiting ANC 4 times or more) Regarding the frequency of antenatal check up during pregnancy period 209 (69.4%) had eaten food more than no pregnant women, 257 (85.4%) had knowledge about danger signs in pregnancy. There was significant association between educational status and level of awareness on five danger signs ( $p>.000$ ). More than half of the respondents had low level of awareness regarding five danger signs due to low education. Educational level was associated with knowledge significantly and was the main influencing factor for preventing complication, there fore sustained education program aiming to reproductive health needs to be ensured. The study, therefore, suggest that additional awareness and BCC activities should be encouraged to increase the knowledge as well as practice of ANC among the mothers of the selected VDC in order to meet the national objective.

**Key words:** Awareness; Danger signs in pregnancy; Married women

### Introduction

Pregnancy related complications kill over 4500 married women every year in Nepal, amounting for nearly 12 deaths every day and one in every two hours.<sup>1</sup> According to the government of Nepal, maternal mortality rate is 539/100,000 live births. Reduction in the maternal mortality rate (MMR) to reduce such burden is one of the major health

related Millennium Development Goal (MDG).<sup>1</sup>

One of the major causes of high maternal and prenatal mortality rate is lack of awareness on management of reproductive crisis, namely danger signs in pregnancy and on astutely seeking treatment.<sup>2</sup> On the basis of inter-related social, cultural and financial factors of reproductive age women, various strategies on maternal and child health have been taken.<sup>2</sup> Though MCH services have also been updated, little has been so far done

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to increase the awareness among the women for undertaking health services during pregnancy and child birth. The present structure of the health education program in Nepal to impart knowledge appears to be insufficient and inefficient.<sup>3</sup> Research is essential for careful health service planning and health education programs. It is also a significant step to impart knowledge to the women regarding different types of danger signs as these can eventually lead to complications in pregnancy and its total consequences.<sup>3</sup> Such needs-assessment can also help women to seek early treatment against the grave aftermath and crux of consequences in appropriate time and thereby can help reducing maternal and child morbidity and mortality.

Considering the aforesaid circumstantial evidences, the present study was conducted to explore the awareness level regarding five danger signs in pregnancy among the married women.

### Materials and Methods

This descriptive cross-sectional study was conducted in the selected VDC Nakatajhij and Dhalkewar VDC of Dhanusha district, Nepal from September to December 2007. Using structured questionnaire, 301 married women of reproductive age were interviewed face to face. Data were properly checked and scrutinized before analysis.

### Results

The findings regarding knowledge, regarding five danger signs in pregnancy, awareness level and their association to different variables are presented as below in tabular and graphical forms.

**Table 1. Distribution of the respondents by knowledge regarding danger signs in pregnancy (n=301)**

Knowledge Regarding Danger Signs in Pregnancy	Frequency (n)	Percent (%)
Yes	257	85.4
No	44	14.6
<b>Total</b>	<b>301</b>	<b>100.0</b>

Out of 301 married women interviewed, 257(85.4%) knew the danger signs in pregnancy and only 44 (14.6%) did not have any knowledge on these signs (Table 1).

**Table 2. Distribution of the respondents by knowledge about pregnancy related five danger signs (n=301)**

Knowledge on Pregnancy Related Live Danger Signs	Multiple Responses (number)	% of Cases
Severe headache	108	42.0
Severe abdominal pain	156	60.7
Swelling of the face and leg	162	63.0
Per vaginal bleeding	146	56.8
Convulsion	50	19.5
<b>Total</b>	<b>622</b>	<b>242.0</b>

Among 257 respondent, 108 (42.0%) reported that they knew about severe headache as danger signs in pregnancy, 156 (60.7%) knew about severe abdominal pain, 162 (63.0%) knew about swelling of the face and legs, 146 (56.5%) knew about per vaginal bleeding and 50(19.5 %) knew about convulsion, and that these were signs of danger in pregnancy (Table 2).

**Table 3. Distribution of respondents on the basis of awareness level (n= 301)**

Level of Awareness	Frequency (n)	Percent (%)
Low awareness level	156	60.7
High awareness level	101	39.3
<b>Total</b>	<b>257</b>	<b>100.0</b>

Since there was asymmetry of awareness so the median was taken as the divider. Awareness regarding one signs to three danger signs was taken as “low level” and those with one to five fell under “high awareness level” group. With this perspective, out of all (n = 301) married women interviewed, 156 (60.7 %) had low awareness level while 101 (39.3 %) were found to be with high level of awareness.

**Table 4. Knowledge about pregnancy related five danger signs in relation to educational status**

Educational Level	Knowledge about five Danger Signs in Pregnancy				Total	
	Yes		No			
	n	%	n	%	n	%
Illiterate	116	80.6	28	19.4	144	100
Literate	141	89.8	16	10.2	157	100
<b>Total</b>	<b>257</b>	<b>85.4</b>	<b>44</b>	<b>14.6</b>	<b>301</b>	<b>100</b>

p value=.023, df= 1

Out of 301 married women interviewed, 257 (85.4%) knew the danger signs of pregnancy while 44 (14.6 %) didn't. Table 4 shows that 116(80.6 %) illiterate respondents and 141 (89.8 %) literate respondents having knowledge regarding five danger signs during pregnancy. There was significant relationship between education and this awareness level. It showed that awareness level on five danger signs among the

illiterate was low (i.e.80%) while 89.8% high among the literate one.

**Table 5. Association between educational level and awareness level on five danger signs in pregnancy**

Educational level	Awareness level on five dangers signs				Total	
	Low Awareness Level		High Awareness Level			
	n	%	n	%	n	%
Illiterate	85	73.3	31	26.7	116	100.0
Literate	71	50.4	70	49.6	141	100.0
<b>Total</b>	<b>156</b>	<b>60.7</b>	<b>101</b>	<b>39.3</b>	<b>257</b>	<b>100.0</b>

(p value<0.000, df=1)

Among the illiterate respondents, 26% of and among the literates, 49.6% were found to be with high level of awareness regarding the danger signs of pregnancy. Among 156 (60.7%) respondents having low level of awareness, 85 (73.3%) was illiterate and 71 (50.4%) was literate. Significant relationship was found between education level and awareness level on five dangers signs.

**Figure 1. Association between occupation and awareness level on five danger signs in pregnancy**

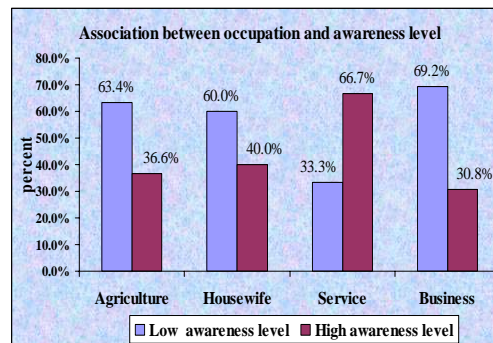


Figure 1 shows that among the 101 respondents having high level of awareness, 41 (36.6 %) are engaged in agriculture, 26 (40.0 %) as housewife, 26(66.7%) as service holder and, 28 (30.8%) in business. On the

other hand among 156 respondents having low level of awareness 71 (63.4 %) are engaged in agriculture, 9 (60.0 %) as housewife, 13 (33.3%) as service holder, and 63 (69.2 %) in business. The study revealed that there were significant association between occupation and awareness on five danger signs during pregnancy. It showed that awareness level regarding five danger signs among the service holders was more than other occupation.

### Discussion

Since the majority of the women had low level of awareness on five danger signs in pregnancy, it was important to scrutinize the association between these variables. Due to low literacy level (49%) of our female population they have less knowledge regarding pregnancy, it's complications, and it's early danger signs they cannot take decision timely and therefore, cannot avail or afford proper treatment. Education can bring change in people's attitude and practice. An educated woman is more aware of the health care. In the present study around one half (47.8%) of women had never gone under school education, which indicates most of the mothers were illiterates. Comparison to this study with the finding of Pradhan S.M. study (2002), Where 37% of respondents were illiterate from Morong district<sup>4</sup> The probable reason for this variation may be due to higher percent of respondent of Dhanusha were illiterate than Morang district.<sup>5</sup>

Regarding occupation, Nepal is an agricultural country where nearly 80% of total population is engaged is agro based jobs. It was found in the present study that the occupation of most of the respondents (44.9%) were agriculture, labor and housewife and such occupational status limit them within the rural community, It is seen that about half of the family income source

is based on agriculture. Around 1/3<sup>rd</sup> of family member depends up on the business and rests of the family member are engaged in the services either in government or in private sectors. Comparison is with Pardhan S.M. Study (2002) where 92% respondents engaged is agro-based occupations. This is similarly to present study found.<sup>4</sup> Service holders had high level of awareness on five danger signs during pregnancy than other occupations. It shows that awareness level on five danger signs in pregnancy among the illiterate was low (i.e.73.3%) while 49.6% literate respondents had high level of awareness regarding five danger signs during pregnancy.

### Conclusion and Recommendations

More than half of illiterate married women had low level of awareness regarding five danger signs.(i.e. 26.7 %) while literate respondents (49.6 %) had high level of knowledge. So emphasis should be given to upgrade the educational level this weak and vulnerable population of the country who are the most susceptible groups for morbidity and mortality. One strategy that would change the tide of maternal death is by to improving female literacy. Female literacy and maternal mortality are intertwined in a inverse relationship. It can be concluded that appropriate educational intervention can play an important role to increase the married women's knowledge regarding the pregnancy related five danger signs and its consequences. Female education should be encouraged to improve the status of the women especially child-bearing age. Since awareness level on five danger signs is highly influenced by education and socio-economic status as occupation, therefore, priority should be given to better education and awareness program of five danger signs by using effective media.

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## WORK-RELATED MUSCULOSKELETAL DISORDERS AMONG COMPUTER USERS

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### ABSTRACT

Computer-related musculoskeletal disorders continue to increase in both developed and developing nations, as a result of increase of number of computer users. The objective of this study was to determine the pattern and factors associated with musculoskeletal disorders among computer users. The descriptive cross-sectional study was carried out using a structured questionnaire among 305 computer users, aged 20 to 40 years, in two areas in Dhaka, Bangladesh. Neck and finger pain were found to be the highest complaints with 61.3% and 41.3%, respectively. About two fifths (38.4%) of the respondents complained of low back pain followed by shoulder pain (26.6%). Most of the subjects complained of pain which was mild and temporary in nature. A statistically significant association was observed between musculoskeletal disorders with longer duration and incorrect position of computer use. Computer users are encouraged to get a formal training and use of proper ergonomical set up for computer workstation through occupational health and safety services.

**Key Words:** Computer; Musculoskeletal Disorders; Ergonomics; Pain

### Introduction

Computer related musculoskeletal disorders (MSD) affect millions of computer users in developed nations. With proliferation of computer systems in the developing nations, the associated musculoskeletal pain is yet to be investigated.<sup>1</sup> Socio-demographic factor and ergonomical design of the computer workstation are associated with the problem.<sup>2</sup> The term “Repetitive Strain Injury (RSI)” suggests that repetitive movement of the musculature of the neck, shoulders and upper limbs is an essential causative factor of the condition.

In a study of typists, it was shown that this static loading was often equivalent to 20-30% of maximum contraction level. At 20% of maximum voluntary contraction (MVC), the circulation becomes impaired and capillary occlusion results in tissue ischemia and delayed clearing of metabolites. This causes impaired muscle relaxation and muscle fatigue, and in order to maintain the necessary posture, secondary muscle groups come into play.

It is easy to see how diffuse muscle fatigue and strain may result.<sup>3</sup>

Ergonomics focuses on the physical interface between the worker and the way he or she uses the tools of their job. With good ergonomics, the user does not have to contort their body or perform repetitive

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movements in ways that could cause discomfort, strain, or injury.<sup>4</sup>

Ergonomic hazards refer to workplace conditions that pose the risk of injury to the musculoskeletal system of the worker. Examples of musculoskeletal injuries include tennis elbow (an inflammation of a tendon in the elbow) and carpal tunnel syndrome (a condition affecting the hand and wrist). Ergonomic hazards include repetitive and forceful movements, vibration, temperature extremes, and awkward postures that arise from improper work methods and improperly designed workstations, tools, and equipment<sup>5,6</sup>.

Common complaints among computer operators include discomfort, aches and pains in the neck and shoulder, but also eyestrain.<sup>5,6</sup> The sheer number of such complaints indicates that the proper position of the monitor has not received enough recognition as an important factor in the arrangement of a computer workstation. The objective of this study was to determine the pattern and factors associated with work-related MSDs among computer users.

### Materials and Methods

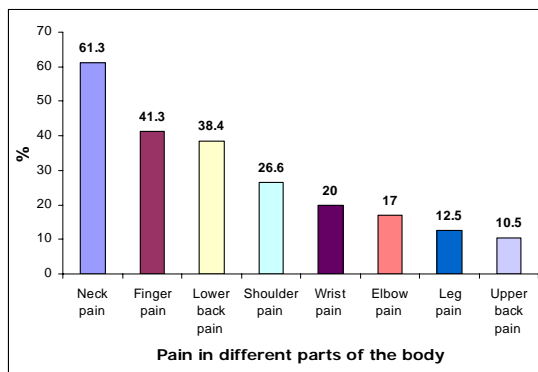
The study population consisted of both male and female with age ranging from 20 to 40 years. This cross-sectional study was conducted among 305 computer users in selected government and private offices and educational institutes situated in Dhanmondi and Mohammadpur areas of Dhaka city, using a structured questionnaire. The questionnaire had three sections of items: the first section included items on socio-demographic characteristics and height and weight of the respondents; the second section included items on computer usage related information, including type of computer applications commonly used, years of computer use, hours spent, type and duration of physical complaints, treatment seeking behavior and knowledge on

ergonomics. Pain perception was assessed by using a 4-point pain index (0= No pain, 1= mild pain, 2= moderate pain, and 3= severe pain).

### Results

About 93% of the respondents had pain in different parts of the body due to computer use. Neck pain and finger pain were found to be the most frequent complaints, in 61.3% and 41.3% of subjects, respectively (Figure 1). About two fifths (38.4%) of the respondents complained of low back pain, followed by shoulder pain (26.6%). The leg and upper back pain were the least complaints reported in 12.5% and 10.5% of subjects, respectively.

**Figure 1. Sites of pain as complained by computer users**



The clinical diagnosis included carpal tunnel syndrome (33.1%), neck shoulder syndrome (21.6%), cervical spondylosis (20.7%), repetitive strain syndrome (15.7%) and tennis elbow (12.1%) (Table 1). Most of the pain was mild and temporary in nature. Two fifths (60.4%) of the respondents visited qualified physicians for treatment, followed by 33.7% who used self medications and only 2.8% who visited any physiotherapists.

**Table 1. Clinical diagnosis of pattern of musculoskeletal disorders**

Musculoskeletal Disorders (n=305)	Frequency	Percent
Pain in different parts	285	93.4
Carpal Tunnel Syndrome (CTS)	101	33.1
Neck shoulder syndrome	66	21.6
Cervical spondylosis	63	20.7
Repetitive Strain Syndrome (RSS)	48	15.7
Tennis elbow	37	12.1
Ulnar neuritis	4	1.3

Nearly 100 percent of the respondents used computer for word processing followed by Internet browsing (88.5%), E-mail (73.8%), data entry (67.9%), games (22.6%) and computer programming (8.5%). The mean duration of computer use was  $4.5 \pm 1.6$  years ranging from 1 to 13 years. More than two fifths of the respondents used computers for 4-5 years. The mean duration of computer use per day ranged from 2 to 8 hours. It was also evident that the respondents spent approximately 3 hours for watching TV or reading articles. So, the mean duration of computer use and watching TV was 8 hours. Table 2 shows that more than half of the respondents (53.7%) reported that they had altered their daily life style due to pain complaints. The frequent alteration was reducing the computer usage (58.8%) followed by stopping exercise and other physical activities (31.4%).

**Table 2. Pattern of changes in life and treatment seeking behavior for complaints of pain due to computer usage**

Variables	Frequency	Percent
<b>Altering daily life due to computer use(n=285)</b>		
Yes	153	53.7
No	132	46.3

Variables	Frequency	Percent
<b>Pattern of Changes of Life (n=153)</b>		
Miss office/College or university	2	1.3
Stop using computer	13	8.5
Use computer less than previous	90	58.8
Stop exercise or other activities	48	31.4
<b>Treatment Seeking Behavior (n=285)</b>		
Qualified physician	172	60.4
Self medication	96	33.7
Physiotherapist	8	2.8
Over-the counter	5	1.8
Physical rest	4	1.4

In the present study, 24 positions were assessed. Distribution of subjects by use of correct positions were as follows: 21.3% used 1-9 correct position, 45.9% used 10 to 14 correct positions; and 32.8% used 15 to 25 correct positions (Table 3). A statistically significant association was found between musculoskeletal disorders and longer duration of computer use and number of incorrect position for computer use.

The proportion of musculoskeletal disorders was significantly higher among the respondents aged 30 years and above, male sex, married respondents with higher level of education, service-holders, monthly family income of Taka 20,000 and above, and better nutritional status. However, no statistically significant association was found between musculoskeletal disorders and family size.

**Table 3. Proportion of respondents who used correct computer positions (n=305)**

Number of Correct Position	Frequency	Percent
1-9	65	21.3
10-14	140	45.9
15-25	100	32.8
<b>Total</b>	<b>305</b>	<b>100.0</b>

Mean  $\pm$  SD =  $12.5 \pm 3.6$ ; Range = 2 - 21

## Discussion

The result of this study indicated that about 93.4% of the respondents had one or more complaints of pain in different parts of body due to computer use. The highest percentage of pain was identified in the neck (61.3%) followed by finger, lower back and shoulder regions. The most frequent musculoskeletal disorders was carpal tunnel syndrome, neck shoulder syndrome, cervical spondylitis and repetitive strain syndrome due to frequently exposure to certain risk factors for long period of time such as, keying for long periods of time without breaks or rest, using force when striking the keyboard, working with poor postures, remaining in the same position for long period of time with little or no movement, working without back support of chair and job stress.

The results have shown that adverse working posture poses risk for pains in neck, shoulder, finger and back region. A study on postural and visual loads at workplaces<sup>7</sup> found that back pain was linked with poor sitting posture and faulty furniture and neck pain may be resulting from wrong placement of monitors.<sup>7</sup> Another study on back pain found that poor awkward postures cause fatigue, strain and eventually pain. Poor posture may result in structural deformation of the body, muscular contractures, pain in the back and legs.<sup>8</sup> The result of this study revealed a statistically significant association between musculoskeletal disorders and duration of computer usage. Pain complaints were more pronounced with respondents spending 5 or more hours daily with computer. A study on effects of work with visual display units on musculoskeletal disorders in the office environment found no statistical association between the duration of daily computer use and musculoskeletal pain.<sup>9</sup> Another study on musculoskeletal symptoms among computer-assisted design (CAD) operators and evaluation of a self-assessment questionnaire found that working

at least 5-6 hours a week with computer increased the risk of musculoskeletal symptoms in the shoulder, elbow, wrist, hand or fingers.<sup>10</sup> A review on visual display unit work and upper extremity musculoskeletal disorders suggested that hand, arm, shoulder and neck symptoms are associated with the duration of computer use and, in fact, increase steadily with each hour of computer use per day.<sup>11</sup>

Different ergonomical factors are responsible for the development of different musculoskeletal problems. In this study, 24 positions were assessed. More than two fifths of the respondents maintained correct position ranging 10 to 14 followed by one fifths ranging from 15 to 25. The proportion of people with MSDs increased with use of computers in incorrect positions. A study on the relationship between upper limb symptoms and keyboards users concluded that the use of keyboards was associated with discomfort at the shoulder and wrist or hand.<sup>12</sup> The aforementioned study on effects of work with visual display units on musculoskeletal disorders in the office environment found that ergonomically poor workstations were associated with pain in the neck, shoulders, elbows and fingers in all the occupations, with pain in the neck, elbows and fingers among the office workers and with pain in the neck and shoulders among the customer service workers.<sup>9</sup> Postural load during VDU work: in a comparative study between various work postures showed that postural stress caused by poor workstation ergonomics, such as inappropriate location of the screen, keyboard, or mouse, have been associated with musculoskeletal problems.<sup>13</sup> A study on work related and individual predictors for incident of neck pain among office employees working with Visual Display Unit verified an association between poor ergonomical conditions and pain in neck/shoulder.<sup>14</sup> In another study on the risk

factors for work related musculoskeletal disorder in call center operators of a bank in Brazil, it was observed that wrist/hand symptoms were associated with height of the chair ( $p < 0.001$ ).<sup>15</sup> The mean height of the respondents was  $163.9 \pm 3.8$  cm ranging from 145 to 175 cm. More than half of the respondents had height 165 cm and above. The mean weight of the respondent was  $64.6 \pm 5.2$  kg ranging from 50 to 85 kg. About three fifths of the respondents had body weight 65 kg or more. Analysis of the present study showed a statistically significant association between MSDs with persons with increased height and weight. However, in this study in Brazil, it was found that height of the computer workers was not associated with either neck/shoulder or wrist/hand symptoms.<sup>15</sup>

### Conclusion and Recommendations

The present study concludes that computer users suffered from different types of MSDs due to frequently exposure to certain risk factors, such as use of computers for a long period of time without any rest, using force when striking the keyboard, working with poor postures, remaining in the same position for long period of time with little or no movement, and working without back support of chair and job stress. The most vulnerable sites of pain were neck, finger, lower back muscles and shoulder. Based on this study results, it is imperative to educate computer users on proper ergonomics and physical exercises in preventing occupational injury associated with the use of computer.

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## STATUS OF PERSONAL HYGIENE AMONG PRISONERS: A STUDY ON TWO SELECTED DISTRICT PRISONS IN NEPAL

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### ABSTRACT

Prison health is a neglected area. The present cross-sectional study was carried out among the prisoners of the Narayani Zone (Rautahat and Parsa district), Nepal to find out the status of personal hygiene among the prisoners. Non-probability purposive sampling technique and structured type of questionnaire was used to collect the data. Findings showed that among the total 378 prisoners interviewed, 50% was literate and only 37% uses to take bath daily in prison. Among the respondents, 57% was found to be using soap during their bath while 32% washing their clothes daily though only 38% used detergent. Majority (32.30%) of the respondents suffered from mental problems followed by 30.20 % from respiration related problems, 15.64 % from skin-related, 13.88 % from diarrhea related, 5.20 % from joint pain related, 2.08 percent from ENT related and 0.7% from dental problems. There was significant association between personal hygiene and occurrence of diseases. It was recommended that it is heavily necessary to maintain the hygiene and cleanliness of the institution and the prisoners.

**Key Words:** Prison health; Personal hygiene

### Introduction

Prison health is a neglected area and those who are in prison represent a medically underserved population and are at a high risk of medical disorders.<sup>1</sup> Prison is often a time when vulnerable groups of people come into contact for the first time with medical services and, therefore, period is an opportunity both for preventive aspects as well as for treatment for existing conditions.<sup>1</sup>

The key health problems experienced by prisoners are subject to human rights and health promotion, medical ethics and crux of predicaments.<sup>2</sup> Currently, the structural conditions of penitentiary health have been

found to hamper effective and efficient health policy, including the implementation of evidence-based prevention and treatment strategies. Hardly any health professional wants to work in a prison set-up.<sup>1,2</sup> The lack of concern, facilities and expertise further deteriorates the health of inmates.<sup>2</sup>

The prisoners in Nepal are at high risk and undoubtedly very susceptible to diseases including HIV/AIDS.<sup>1,2</sup> Prisoners undergo unnecessary sufferings and hardship, in particular the predicaments experienced by innocent children and prisoners.<sup>2</sup> Since there are no studies (health status) available on the health condition of Nepalese prisoners, it is important to identify the responsible factors affecting prisoner's health and to gain an insight into the menace as well as the viewpoints on health and hygiene aspects in prisons. It is also essential to find out the

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status of personal hygiene, sanitation and health care practices of prisoners and this can in turn help the policy planners to design astute health care delivery system for the prisoners. The current study is an attempt to determine the status of personal hygiene and sickness pattern among the prisoners in Narayani Zone of Nepal.

### Material and Methods

The current cross-sectional descriptive study was carried out at Rautahat and Parsa District Prison. Out of 787 convicted prisoners confined, a sample of 378 was taken up. A purposive sampling was done based on the sentence category. The study period was from May 2008 through September 2008. A pre-tested questionnaire was undertaken first. The inmates were subjected to an interview. The prison observational records were also consulted to ascertain the sanitary status of inmates.

### Results

The findings regarding socio-demographic factors, status of personal hygiene and sickness patterns of the 378 prisoners at Rautahat and Parsa District Prison in Nepal are presented as follows:

**Table 1. Demographic characteristics of the respondents (n=378)**

Distribution of the Respondents by Age		
Category	Frequency (n)	Percentage (%)
< 25 Years	69	18
26-35 Years	149	39
36-45 Years	106	28
46 and above	54	14
<b>Total</b>	<b>378</b>	<b>100</b>
Mean $\pm$ Std. Deviation = 34.42 $\pm$ 9.807 Minimum 14 years Maximum 65 years		
Educational Level of the Respondents		
Illiterate	189	50
Primary (Literate)	121	32
S. L. C.	46	12
S. L. C. above	22	6
<b>Total</b>	<b>378</b>	<b>100</b>

Sex of the Respondents		
Female	18	5
Male	360	95
<b>Total</b>	<b>378</b>	<b>100</b>

Majority (39%) of respondents belonged to 26 to 35 years age group and the lowest (14%) of them belonged to 46 and beyond. The mean age was found to be 34.42  $\pm$  9.807 and age structure ranged from 14 to 65 years. Similarly, majority (50%) of the respondents was illiterate and regarding sex distribution, the respondents were male dominant (95%).

**Table 2. Status of personal hygiene of the prisoners (n = 378)**

Daily Use of Soap During Bath		
Category	Frequency (n)	Percentage (%)
Yes	217	57
No	161	43
Daily Use of Soap for Washing Clothes		
Yes	145	38
No	233	62
Washing Bed-sheets in a Month		
1 – 2 times	133	35
3 – 4 times	181	48
> 4 times	64	17
Hand Washing Practice with Soap after Using Latrine		
Illiterate	132	35
Literate	182	48
Practice of Tooth Brush		
Tooth paste	333	88
Datiwan (Bamboo Brush)	45	12

Out of 378 respondents, majority were found to be taking bath daily in prison. Among them (who took bath daily) majority (57%) exhibited the regular habit of using soap during their bath. Regarding the practice of washing clothes, majority of respondents did not have the habit of

washing their clothes daily. Among those who washed their clothes daily, majority (62%) stated that they did not use soap. Regarding hand-washing practices after use of latrine, majority of the literate respondents used soap after each use. Majority (88%) used to use toothpaste while brushing their teeth.

**Table 3. Sickness pattern of prisoners (n = 378)**

Name of the Disease	Frequency (n)	Percentage (%)
Mental Related	93	32.30
Respiratory Related	87	30.20
Skin Related	45	15.64
Diarrhea Related	40	13.88
Joint pain	15	5.20
Ear, Nose and Throat (ENT) Related	6	2.08
Dental problem	2	0.70
<b>Total</b>	<b>288</b>	<b>100.0</b>

Majority (32.30%) of the respondents suffered from mental related problem while 97% inmates reported that they were 24 hours' mental sufferer. Regarding skin disorders, it was found that 15.64% inmates suffered from skin related problems while 30.20% inmates suffered from respiratory related problems. Chronic bronchitis and TB contributed to 5 and 7 cases with overall.

Regarding STDs and genitourinary disorders, 7% inmates suffered from STI and RH related problems though they could not particularly mention the name of the ailment. Three cases of HIV/AIDS and urinary tract infection were also diagnosed. Regarding diarrheal diseases, 13.88% inmates suffered from diarrhea while 5.20% inmates suffered from joint pain.

**Table 4. Association between personal hygiene and occurrence of diseases of the prisoners (n = 378)**

Hygiene of the Respondents	Suffering from Diseases				Total	
	Yes		No		N	%
	n	%	n	%		
Below Average	92	24	44	12	136	36
Average and Above	196	52	46	12	242	64
<b>Total</b>	<b>288</b>	<b>76</b>	<b>90</b>	<b>24</b>	<b>378</b>	<b>100</b>

$p = 0.003$ ,  $df = 1$

Table 4 shows the association between personal hygiene and disease occurrence among the respondents. The factors of personal hygiene included in the table were brushing teeth regularly with tooth paste, taking bath regularly, washing clothes daily, sharing bed-sheet with others and washing hands with soap after using latrine. Table 4 shows that the sufferings of respondents from diseases below average were 24% and at average or above average were 52%. Similarly, the respondents who were not suffering from any diseases were 12% below average and 12% for average and above average. It is to be noted that the average was found to be approximately 3. The association was found to be statistically significant ( $p = 0.003$  and  $df = 1$ ). Thus, the inference drawn was that personal hygiene is strongly related to the occurrence of diseases.

### Discussion

With regards to respondent's personal hygiene, it was found that majority of the respondents exhibited the habit of taking bath daily in prison. Among them (who took bath daily) majority used to use soap during their bath. Regarding the habit of washing

clothes, majority of respondents washed their clothes daily. Among them (who washed their clothes daily) majority had used soap. Regarding disease patterns among the 378 prisoners, there were multiple responses. The majority of the respondents suffered from psychological problems. The basic rights of prisoners include clean prison, and to this end they are supposed to be provided with water and with toilet articles needed for maintaining health and cleanliness.<sup>3</sup> The present study does not support such ideal situation as the environment was not healthy and clean at all. Out of 378 respondents, 32.30% suffered from mental related problems followed by 30.20% from respiratory related illness, 15.64 % by skin related diseases, 13.88% by diarrhea related, 5.20 % by joint pain related, 2.08 % by ENT related, 0.70 % by dental related ailments and 6.62 % had suffered from STI and RH related problems. Similarly the largest number (97%) of respondents faced with mental difficulties in prison followed by 2% with physical difficulties and only 1% reported to have no difficulties. According to the findings based on the survey of inmates in state and federal correctional facilities<sup>10</sup> and on the basis of survey of inmates in local jails,<sup>4</sup> it is evident that prisoners suffer from mental problems. These aforementioned surveys show that nearly a quarter of both state prisoners and jail inmates who had a mental health problem, compared to a fifth of those without, had served three or more prior incarcerations. Such findings support the results of the present study as in this case, 32.30% respondents were found to be suffering from mental related problems and 97% respondents had faced with mental difficulties while in prison.

According to the annual report of the Department of Health Services, tuberculosis (TB) appears as a major public health problem in Nepal. About 45% of total

population is infected with TB; out of these, 60 % is adult.<sup>5</sup> The present study found that 30.20% respondents suffered from respiratory related problems. According to a study in India<sup>1</sup>, TB is the commonest illness observed which amounts for 25.15% of all respiratory disorders. A prevalence of TB as high as 7.5% in Indian prisons is about 4 times higher than national figures of about 1.8%.<sup>6</sup> Reasons for this high rate were found to be overcrowding and close contacts in prison as well as over-representation of poor.<sup>7</sup> The results of the present study is in accordance as in this study, it was found that 30.20 % respondents had respiratory related problems and majorities (60%) had habit of smoking.

The current study also shows that 15.64 % respondents suffered from skin related problems. According to a study in India, 58.15% of all inmates suffered from skin disorders but ironically there are no studies on skin disorders in other jails in the world, which could be traced by the author.<sup>7</sup> The results of present study are quite different in this aspect as this study shows that only 15.64% suffered from skin related problems.

A study on Parasi, shows sufferings of inmates from diarrhea, fever, viral fever and skin related diseases.<sup>8</sup> The present study also shows that 13.88% of the respondents suffered from diarrhea related problems. So, the present study is partially in accordance with the aforesaid one because there is no clear data regarding diarrhea. According to the Demographic Health Survey (2006), STI prevalence among women and men aged 15-49 in Nepal is negligible (<1% in both women and men). The actual prevalence of STIs among the sexually active population in Nepal is not available as many of the STI symptoms are not easily recognized or do not always have a visible symptoms.<sup>9</sup> The result of present study is in accordance with such findings as findings show that out of

378 respondents, 6.62 % had suffered from STI and RH related problems.

In the present study, 3% inmates suffered from acute urethritis (diagnosed as gonorrhoea). Regarding AIDS, STDs and genitourinary disorders, a study on Banke<sup>10</sup> show a prevalence of penile ulcers to the level of 5.7%. Various American studies quote the prevalence of syphilis to be 15% to 22%.<sup>9</sup> In the present study, only 3% inmates suffered from acute urethritis as against higher figures reported by US prisoners.<sup>9</sup> These high figures could be due to the fact that they are based on serological positivity also and not on clinical diagnosis alone. HIV positivity prevalence of 0.4% was detected in the present study. Data from Maharashtra, India has a prevalence of 0.026-0.034%, in the general population.<sup>4</sup> The results of present study is much higher as 6.62 % had suffered by STI and RH related problems which looks like a burning problem in Nepalese prisons in current study.

The present study shows prisoners to be suffering from eye, ear, tooth, and nose problems. In Bangladesh, many of the VIP detainees have been suffering from diabetes, hypertension and high blood pressure, along with heart, backbone, kidney, eye, ear, tooth and nose problems.<sup>1</sup> The present study partially supports this statement because sufferings from eye, ear, tooth, and nose problems constituted 2.78%.

The occurrence of skin diseases among the prisoners were 15.64% in the current study. A study in India shows that scabies accounted for 57.6% of all skin conditions followed by fungal infections (34.9%). Respiratory problems in current study amounted for 30.20%. Inmates suffering from respiratory diseases as chronic bronchitis and TB contributed to 19 and 17 cases with overall prevalence of 8.4% and 7.5% respectively.<sup>1</sup> Further analysis showed

significant association between personal hygiene and occurrence of diseases. No study was found to compare the finding.

### Conclusion and Recommendations

With regards respondent's personal hygiene, majority of the respondents were taking bath daily in prison among them (who took bath daily) majority used soap during their bath. Regarding washing of clothes, majority washed their clothes with soap. Regarding disease out of 378 the majority of the respondents suffered from mental related problem. The Pearson correlation (Bivariate) analysis showed that correlation coefficient and significant association between personal hygiene and occurrence of diseases. On the basis of the findings of the current study, it is heavily necessary to maintain the hygiene and cleanliness of the prison and the prisoners.

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## Implementing Hospital Autonomy in Bangladesh

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### Introduction

In public health care system, many decision-makers are exploring the introduction or expansion of hospital autonomy as a means of improving the efficiency and financial sustainability of the overall public health care system. Since the mid 1990's, public hospitals around Bangladesh came under intense analysis in policy circles due to the bureaucratic complexity of these 'health service care' institutions. There is no doubt that there are chaotic situations existing in public hospitals. As a result, Governments in many developing countries are thinking of granting greater autonomy to public sector hospitals in running their operations. In fact, 'hospital autonomy' initiatives should be an integral part of a broader health sector reform process like Singapore. The purpose of this article is to describe the two key aspects of hospital autonomy — operations and management.

### Background

A hospital is an establishment that provides continuous nursing service, diagnosis and treatment through organized medical professional staff in a permanent facility having inpatient beds and other technical facilities. Historically hospitals and nursing homes are the most common and prominent health-service organization (HSO) engaged in the delivery of health-services.

Hospitals consumes 50% - 80% of public health sector resources in terms of men,

material and money. The rest of the resources go to preventive care and other health care services. Though preventive health-care expenditure is more cost effective than curative or hospital services yet due to spectacular immediate results the people tend to spend more on hospital care. Various studies indicated that there is ample scope to reduce the health-care budget by avoiding the waste of resources in hospitals caused by inappropriate allocation of fund within health sector and technical and managerial inefficiency within the hospital. About a decade ago, people involved in health-care delivery system had little or no knowledge of hospital and for health economies. Recently various studies sponsored by WHO, USAID, DFID, World Bank etc have begun to fund research activities on improved health service delivery system through efficient health resource management.

### Problem Identification

The allocation of large sum of money for hospitals will not necessarily improve the quality of care. Rather efficient use of available fund, effective management system and appropriate allocation of fund will make the difference.

This requires few questions to be answered:

- Amount resources absorbed by hospital in term of man, material and money.
- Who uses hospital or types of clientele.
- Maximum health benefit obtained from hospital in comparison to resources utilized.

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- d. Relation between unit cost and occupancy rate, average length of stay (ALS) and quality of service.
- e. How the cost can be reduced without affecting the quality of care.
- f. How efficiency vary with type and size of hospital
- g. Feasibility and procedure of cost recovery.  
Level of Hospital - District , upazilla, zonal  
Socio-economic status of clientele  
Community perception  
National law on health
- h. Referral system and its effective maintenance.
- i. Availability of alternative health-care services and their acceptability to community members.

#### **Classification of Hospitals**

The most important means of classifying hospitals is on the basis of their financial management-viz for-profit hospitals and not for profit hospitals they may also be divided on the basis of ownership, i.e. private or public ( government owned).

The public sector hospitals play the major role in health-care delivery system of developing countries. These hospitals are totally financed by the govt. with centralized budgetary system .The administration of hospital also guided and controlled by concerned ministry .The hospital authority neither have the authority to generate fund nor can spend the revenue collected by them .The recruitment, training, reward and punishment for employees is controlled centrally .Thus the people working in public hospitals lack motivation to deal with large volume of patients. This in turn affects the quality of care in hospitals.

#### **Magnitude of Problem in Public Hospitals**

- a. Centralized administration reduces the management capability of hospital administrators.
- b. Strategic management in public hospital is not based on local need rather even if the community desire to bring in some changes they can't do so.
- c. Financial management of public hospitals completely depends on MOHFW and DGHS as the budget procurement, supply and maintenance of resources are controlled centrally.
- d. Human Resource management is controlled by a beauracratc process through rigid rules and regulations that hinders the efficiency of employees. Posting and transfer of personnel are controlled centrally. Even the Punitive/Reward system is beyond local capacity.
- e. Quality of care in public hospitals are compromised due to non availability of sufficient fund and lack of accountability.
- f. Inventory management limited power to procure hospital supplies and goods, consumables and disposables, beauracratc procurement process hinders the inventory management. Overstocking of curtain items and under stocking of others are very common.

#### **Innovative Changes to Address the Problems:**

The deteriorating quality of health-care delivery in public hospitals can be attributed to a centralized, too rigid administrative system prevailing in health sector. There is no doubt that resource constraint hinders the health-care but we must appreciate that govt. has allocated about 7% of GDP in the health sector. In addition there are a lot of NGO's philanthropists working to ameliorate the public suffering . In spite of all efforts the

hospitals could not satisfy its clientele i.e., patients and the community. What can be done to improve the quality of care.

The main focus will be public hospitals where almost 70-80% of health sector expenditure being spent. Most of the public hospitals are run by doctors having very little or no administrative training. The major hurdle is whatever knowledge and expertise they have are usually wasted due to centralized controlling system.

Hospital autonomy is based on the belief that public hospitals can function better if administrative and financial powers are decentralized. Hospital autonomy will address the financial and administrative power and responsibility between MOHFW and autonomous public hospitals.

#### **Objectives of Hospital Autonomy**

- a. Reduce administrative complexity .
- b. Enhance efficiency of hospital management .
- c. Increase accountability to public.
- d. Improve resource mobilization and set development priorities base on local requirement.
- e. Improve communication.
- f. Achieve political objectives of health for all.

#### **Areas to have decentralized decision making power are:**

- a. Strategic management.
- b. Procurement.
- c. Financial management.
- d. Human resource management.
- e. Administration .
- f. Clinical governance.

#### **Definition of Autonomous Hospital :**

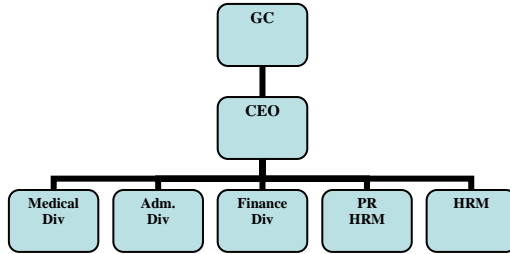
An autonomous hospital is an institution which is:

- Constituted under public organization act and accountable to the community operating under state supervision.
- Primarily responsible for curative care provision but providing preventive and primitive health services financed by state subsidies.
- With physical assets owned by MOHFW but operated by hospital authority.
- Financed through a system of grants as well as locally generated revenue with clear lines of authority within hospital and between hospital and MOHFW and DHHS.
- Governed by a governing committee and administered by a chief executive officer.

#### **Governance**

An autonomous hospital must have its own governing committees (GC) to oversee the functioning of hospital and be accountable to the constancy it serves and the state authority (ie, DGHS, MOHFW etc).

GC will have independent authority to guide the hospital to achieve its mission and objective. GC will monitor, evaluate and control (where necessary) the hospital performance. GC will appoint a Chief Executive Officer (CEO) who will have power, authority and responsibility to administer the hospital as per guideline give by the GC and MOHFW).



The CEO will be the main person responsible for operation of hospital and will be selected by the GC of concerned hospital and appointed for a fixed term period with appropriate terms and conditions. The CEO will be accountable to the GC and govt. for overall performance of hospital as per laid down terms and condition.

### Conclusion

Today, an increasing number of countries are exploring the introduction or expansion of autonomous hospitals as one of the numerous health reforms they are introducing to their health system. Hospital autonomy is one of the forms of decentralization that is focused on a specific

institution rather than on a political unit. It has gained much interest because it is an attempt to amalgamate the best elements of the public and private sectors in how a hospital is governed, managed and financed. The public hospital due to its own financial constraint can not meet people's expectation but with some changes in the system like autonomy, decentralization of power and accountability it can perform far better and at least reach near to its peak.

Enormous development in the field of medical science and technology vis-à-vis globalization of electronic media lead to sky high expectation of people towards health-care delivery system. Unless addressed to these problems and 'root cause analysis' the whole system will be destabilized. Than again, as with decentralization, success is dependent upon the preparation done with the systems and management necessary for the proper governance and operation of autonomous hospitals.