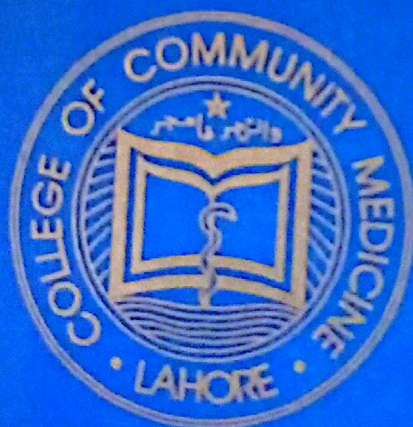


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RISK OF MYOCARDIAL INFARCTION AS PREDICTED BY SERUM CONCENTRATIONS OF LIPOPROTEIN CHOLESTEROL IN OBESE & SMOKER PAKISTANI POPULATION

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Summary

We measured lipoprotein concentrations in blood samples from obese, smoker and control subjects in Lahore. Significant differences ($P < 0.05$) in the concentrations of high and low density lipoproteins were found. Concentrations of HDLC < 35 mg/dl and that of LDLC > 200 mg/dl occurred in both groups, 1.3 and 1.25 times more frequently than in control subjects. These risk factors may be used clinically for the prediction and prevention of MI or CHD in both groups.

Introduction

Acute myocardial infarction is one of the most common causes of death(1) resulting from coronary atherosclerosis and occlusion(2). Many factors such as smoking, obesity, hypertension, diabetes and stress have been implicated in the etiology of the disease. Early diagnosis of high risk is important for disease prevention. However except for the familial hyper-lipidemias, which are detected through pedigree studies and genetic inheritance(3), it is difficult to predict which individual, in the general population will be affected by CAD. When increased in concentrations, low density lipoprotein, the main cholesterol carrier in blood, can be deposited in tissues and occlude the arteries. Early report(4) indicated that increased blood cholesterol is associated with CAD. Recent studies show that serum lipoproteins i.e., high and low density lipoproteins concentrations may also be indicators of coronary risk. It is no longer considered adequate to use blood cholesterol measurements to assess risk factors for heart disease. In this study we found that the HDLC and LDLC concentrations are more useful in predicting CAD risk.

Materials & Methods:

Selection of Subjects

Adult volunteer subjects 100 in number were taken for this study (age group between 30-50

years). Fifty subjects were obese, non smokers and fifty were non obese, smokers. These volunteers were not having any other ailment. Thirty healthy non-smokers non-obese subjects matched for age and sex were taken as control. The diabetic, hypertensive and those with angina were excluded. The criteria for smokers was > 10 cigarettes / day smoking for the last 10 years. For obese, the subjects having BMI $30 \text{ kg} / \text{M}^2$ were taken.

Methodology

Sample were drawn from subjects after 12-14 hours fasting. Serum was obtained and after proper labelling, it was stored at -4°C until assayed. HDL cholesterol and LDL cholesterol were estimated by the method described by Weingard and Laggy (6).

Results

Serum lipoproteins concentrations were measured in 100 healthy volunteers having different socio-economical back grounds. They were divided into two groups:

- (a) Obese - Non-smokers.
- (b) Smokers - Non-obese.

Control studies were done on normal healthy volunteers who were non-obese non-smokers.

Table 1, shows the mean values of HDLC along with their S.D.S. for control, obese and smokers respectively. The values are 39.5 ± 5.0 mg / dl for control, 29.4 ± 4.5 mg / dl for obese and 32.04 ± 4.4 mg / dl for smokers. There is a highly significant

decrease ($P < 0.001$) in the HDLC of obese and smokers.

Table 1:

	Control	Obese	Smokers
Mean	39.4	29.5	32.04
S. D.	5.0	4.50	4.40
		$P < .001$	$P < .001$

Legend

S. D. = Standard Deviation

Normal Values = 35 - 55 mg / dl

The comparison between HDLC of obese and smokers shows that the obese have significantly low ($P < 0.01$) HDLC than smokers, predicting a greater risk of myocardial infarction in obese.

The mean values LDLC along with their S.Ds for control, obese and smokers are shown in table 2. The obese (204 $\pm$ 28.9 mg / dl) and smokers (206 $\pm$ 31 mg / dl) have higher values as compared to control (165 $\pm$ 32.6 mg / dl). This increase is highly significant ($P < 0.001$) in both groups.

Table 2:

	Control	Obese	Smokers
Mean	165	204	206
S. D.	32.6	28.90	31
		$P < .001$	$P < .001$

Legend

S. D. = Standard Deviation

Normal Values = Upto 190 mg / dl

While comparing the LDLC of obese and smokers, a non-significant ($P > 0.5$) value is obtained, showing that in this parameter, both groups have equal chances of MI and CHD.

Discussion

The importance of development of Ischemic Heart Disease with reference to lipid profile is very well established. Coronary heart disease is a major

health problem in the world than deaths from all forms of cancers(5). The association between serum lipids levels and the risk of CHD has been demonstrated repeatedly(7, 8).

In the present study "Effect on Lipoproteins in two Major Risk Factors for Myocardial Infarction i.e., Obesity and smokers", Lipoproteins in smokers and obese is evaluated and compared with healthy non-obese, non-smokers control subjects. We already know that the incidence of CHD increases in smokers and the effect have been seen at even very low levels of cigarette consumptions(9).

Also it is well known that CHD is greater in obese persons(10, 11, 12). Our result specially of HDL-C in obese are suggestive of greater risk factor for CHD. Obesity is associated with elevated blood pressure, blood lipid and glucose(13, 14, 15).

Estimation of HDL-C levels in both groups i.e., obese and smokers showed that levels of HDL-C are lower in both groups. These results are in accordance with those by Schrot(16). These workers have described that, although these HDL-C levels are not significantly lower as compared to control but the threat of development of atherosclerosis and CHD is increased.

Wilson and Lees(17) have reported that after almost 12% of weight reduction in obese subjects, HDL-C levels are significantly raised. Also same findings are presented by Friedman(18). Sterja(19) showed that a considerable weight loss (15 % of body weight) in grossly obese subjects was associated with a significant increase in serum HDL-C. Hulley(20) described inverse correlation between changes in body weight and changes in HDL-C levels. Gorden(21) and Goldbourt(22) in their findings have suggested a negative association between HDL-C concentration and indices of obesity. All of these researchers have emphasised on low levels of HDL-C in obese subjects and greater risk of developing atherosclerosis and CHD.

Lower level of HDL-C, in smokers 32.04 $\pm$ 4.40 mg / dl as compared to control levels 39.4 $\pm$ 5.0 mg / dl shows greater risk of CHD. The lower levels of HDL-C, in smokers were previously confirmed by various research workers. Peter(23) found out an inverse relationship between the number of cigarette smoked and serum HDL-C. Our results are further supported by Garrison(24) who in cross-sectional data studies showed, a decreased HDL-C with increasing cigarette

consumption. Peter(23), also showed that HDL-C was inversely related to cigarette smoking, relative weight, serum triglycerides levels and directly related to physical activity and alcohol consumption. All these studies confirmed low HDL-C levels in smokers thus increasing the risk of atherosclerosis and CHD.

Finally in support of HDL-C direct relationship towards CHD, the work of MRFIT(25) may be mentioned in which it is described that 1 mg/dl increment in HDL-C levels was associated with CHD risk decrement of 3 %.

The mean values of LDL-C levels in obese are 204 ± 28.9 mg / dl, in smokers 206 ± 31 mg / dl and in control 165 ± 32.6 mg / dl. This data clearly shows significantly increased serum LDL-C levels in obese and smokers as compared to controls. These results are in accordance with the observations of Davis(26) where they have suggested that in obese persons LDL-C levels are higher as compared with non-obese persons, suggesting that obese persons are at greater risk of atherosclerosis and CHD. In our study, it is quite evident that cholesterol levels are also higher with raised LDL-C levels. These findings are well supported by the work of Kesaneimi and Grandy (27) where they have observed that plasma cholesterol levels are correlated directly with LDL-C levels.

Also in smokers LDL-C levels are significantly raised i.e., 206 ± 31 mg / dl as compared to control 165 ± 32.6 mg / dl. These results can be justified by the findings of Clantle - Brown (28) where they have shown higher levels of LDL-C and lower levels of HDL-C. As a risk factor towards CHD, LDL-C is well documented by various research workers in the past. The National cholesterol Education Programme (29), identified low density lipoprotein (LDL) as the major atherogenic lipoproteins. (30) documented the benefit of lowering elevated plasma LDL-C levels and preventing coronary disease. All these researchers have shown increased risks of CHD with higher levels of LDL-C and their LDL data coincides with our LDL values in smokers and obese subjects, thus posing a great threat in development of atherosclerosis and CHD in these subjects as compared to control.

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HEPATITIS B VIRUS INFECTION IN PROSTITUTES AND HOMOSEXUALS

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Summary

A total of one hundred sera (fifty from prostitutes and fifty from homosexuals) were tested for the presence of HBsAg (Hepatitis B surface antigen), anti-HBs (antibody to hepatitis B surface antigen) and anti-HBc (antibody to hepatitis B core antigen) by ELISA technique. Twenty-three (46%) prostitutes were found to be seropositive (14% HBsAg positive, 24% anti-HBs Positive and 8% positive for anti-HBcAg alone). In homosexual group, 38 (76%) were seropositive for various markers (26% HBsAg positive, 44% anti-HBs positive and 6% positive for anti-HBc alone). Comparison between prostitutes and homosexuals revealed significantly higher hepatitis B Virus infection in homosexuals as shown by higher seropositivity in them.

Introduction

Apart from blood, hepatitis B virus (HBV) has been detected in a variety of body secretions and excretions including saliva, semen, colostrum, menstrual blood and vaginal fluid (1,2). Therefore in addition to transmission by percutaneous / parenteral exposure to blood and blood products (1,3), two other modes of transmission (sexual contact and vertical/perinatal transmission from mother to child) are also well established (4,5,6). Sexual transmission of HBV can occur both by heterosexual contact (4,7,8) and homosexual contact (9,10). However homosexuals are generally recognised as the group at greater risk of acquiring hepatitis B infection as compared to heterosexuals (11,12,13).

The present study was planned to assess the prevalence of HBV infection in prostitutes and homosexuals. For this purpose, the subjects were tested for the presence of three HBV seromarkers: HBsAg, anti HBs and anti HBc Ag. These markers singly or in combination indicate present or past exposure to HBV (2,14,15).

Materials and Methods

The study was conducted in Lahore. Fifty prostitutes ranging in age 21-40 years and residing in Shahi Mohallah, Lahore were included in the study by simple random sampling procedure. Although prostitution has been banned legally but singing and dancing are allowed. Therefore heterosexuality is still continuing under this umbrella. As regards homosexuality, nobody in our society has enough courage to accept that he is homosexual due to social and legal restraints. Eunuchs in our society are reputed for indulging in homosexual activities as passive partners. Therefore blood samples from 50 Eunuchs ranging in age 21-40 years were obtained.

In case of both groups, subjects with history of jaundice or blood transfusion were not included in the study. History of vaccination against hepatitis B and duration of sexual activities was not available. All the subjects were kept anonymous. Five millilitre of blood was drawn aseptically, sera were separated by centrifugation after clotting has occurred and stored in a sterile vial at -20 degree centigrade until tested. All the sera were tested by ELISA

technique (16) for the three HBV seromarkers. For this purpose kits manufactured by Flow Laboratories, Brussels, Belgium were used Chi-square test was applied.

Results

Out of 50 prostitutes tested, 7(14%) were found to be HBsAg positives, 12(24%) anti-HBs positives and 4(8%) were anti-HBc positive alone. Therefore 23(46%) of prostitutes showed evidence of present or past exposure to HBV. Against that out of 50 homosexuals, 13(26%) were HBsAg positives, 22(44%) anti-HBs positives and 3(6%) were anti-HBc positive alone. Therefore evidence of exposure to hepatitis B virus was seen in 38(76%) of homosexuals.

Comparison between prostitutes and homosexuals revealed no significant difference ($p > 0.05$) as regards presence of HBsAg and anti-HBs seromarkers in spite of much higher percentages in homosexuals. As regards anti-HBc, although it was seen to be slightly higher in prostitutes, yet the difference was again non-significant. However significant difference was observed ($p < 0.01$) between the two groups when seropositivity for all seromarkers was taken into account (Table 1). Therefore the present study indicates that homosexuals have a greater chance of acquiring HBV infection and transmitting it to their partners as compared to prostitutes.

Table 1: Categorized Distribution of Various HBV Seromarkers in Prostitutes and Homosexual

Group	HBsAg Positives		anti-HBs positives		anti-HBc Positive		Total Sero - positive	
	No.	%	No.	%	No.	%	No.	%
Prostitutes								
(n = 50)	7	14.00	12	24.00	4	8.00	23	46.00
Homosexuals								
(n = 50)	13	26.00	22	44.00	3	6.00	38	76.00
Statistical analysis	NS*		NS*		NS*		P < 0.01	

*NS - not significant ($P > 0.05$)

Discussion

Different studies have shown a correlation between seropositivity for HBV and history of other sexually transmitted diseases (4,8). Thus emphasizing that HBV infection is also a sexually transmitted disease. Transmission by this route is bi-directional. A male can transmit the virus to his counterpart. Similarly a female can transmit the virus to her counterpart (7). Various studies indicate that there is direct correlation between acquisition of HBV infection in heterosexual acts and the number of sexual partners (5,8). Studies have also revealed that prevalence of HBV infection in prostitutes tend to decrease with passage of time in the profession (13,17). In our general population, HBsAg positivity has been observed in upto 10.7% and seropositivity for all markers in upto 41% individuals (18,19). A surface antigenaemia of 14% and 46% seropositivity for all markers observed in prostitutes in the present study are, therefore, higher than those observed in our general population. The present study agrees with studies done on prostitutes by workers abroad which also show that prostitutes tend to have higher HBV infection as compared to general population (17,20).

In the present study, homosexuals have much higher prevalence of HBV seromarkers when compared to those in prostitutes. Seropositivity of 76% for all seromarkers in the present study is not much different from that of 61.5% (10) and 67.6% (12) observed in studies done on homosexuals abroad. These studies have revealed a strong relationship between seropositivity for HBV and both duration of regular homosexual activity and the frequency of sexual contact with non-steady partners.

In the present study, significant difference has been observed between homosexuals and prostitutes as regards seropositivity for all HBV seromarkers, where as no significant difference is observed regarding HBsAg and anti-HBs markers separately in spite of higher figures in homosexuals. This may be due to the reason that groups are small. Possible explanation which may be put forward for increased risk seen in homosexual acts in comparison with heterosexual acts is that anus is not meant for sex by nature. It is lined by columnar epithelium which is easily damaged. Moreover this area is rich in blood capillaries. Forceful thrusting of erect penis and fisting can traumatize rectal

mucose. Use of saliva as lubricant is another risk factor (10,11). The traumatized rectal mucosae may serve as portal of entry for HBV from infective semen and/or saliva. Eunuchs in our society tend to live in groups and are reputed for indulging in homosexual activities especially passive ano-genital intercourse. In this setting they may continue transmitting HBV to their mates. This leads to cumulation of HBV markers in these subjects.

Recommendation

On the basis of present study, it is recommended that people should avoid sex with prostitutes. At the same, efforts should be done to educate the prostitutes about hepatitis B disease, its modes of transmission, complications, measures to reduce transmission and benefits of getting oneself vaccinated against this disease. There is also a need for formulation of a policy for screening of prostitutes or so called dancing girls by the concerned authorities. Similarly eunuchs may be educated about the disease and encouraged to get vaccinated.

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NUTRITIONAL REHABILITATION THROUGH EDUCATION

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Summary

Protein-Energy Malnutrition is a leading cause of morbidity and mortality among children of developing countries. A study was conducted to show the effects of nutritional education on malnourished children. 105 moderate to severe malnourished children ranging in age from 3 months to 5 years were included in the study. Nutritional education provided to the mothers of malnourished children comprised of thorough clinical examination, health education, nutritional education, use of clean water, personal hygiene, immunisation and supplementary foods. Overall 72% children improved, 26% showed no improvement and 2% deteriorated.

Introduction

Proper nutrition is a basic requirement for health. It is of prime importance in the attainment of normal growth and development and in the maintenance of health, throughout life. Despite many advancements in the field of nutrition, malnutrition is widely prevalent in many parts of the world, especially in developing countries. It is one of the greatest international health problems of the day. Its association with infection, its complex links with fertility, family size, physical and mental growth and development and immunity mechanism of the body are certainly well known. There is a growing realization that adequate nutrition is a necessary step in the improvement in the quality of life.

Protein-Energy Malnutrition (PEM) is the most wide spread form of malnutrition. It occurs frequently among infants and young children between 1-3 years of age. The most serious forms of PEM are Marasmus and Kwashiorkor.

Malnutrition is man-made disease. It is a disease of human societies. It begins quite commonly in the womb and ends in the grave. The great advantage of looking at malnutrition as a problem in human ecology is that it allows for variety of approaches towards prevention. According to FAO

report, 15% of world's population is malnourished(1).

Food is a commodity and can be had for a price(2). The portion of income that a family uses for food may be regarded as a rough indication of its prosperity. That is, as total income goes up, a smaller and smaller percentage is devoted to food. The poorest families spend one third or more of their income on food. The point at which total income is less than three times the cost of the basic nutritional requirement of a family, may be viewed as the birth of poverty(3).

In Pakistan protein energy malnutrition (PEM) is leading cause of morbidity(4) and mortality among infants and preschool children. Malnutrition is multi-dimensional problem arising due to many cofactors like poverty, illiteracy, ignorance, intestinal worms, infection, customs and traditions(5). Big family size influences a lot on malnutrition(6). Beliefs about certain foods causing illness, are present and produce great hinderance in nutritional education e.g. ingestion of 'hot' food causes sore throat, cough and fever while 'cooling' food such as citrus fruit, cucumber and most green leafy vegetables produce abdominal colic, cold and diarrhoea(7).

It is said that the way to a child's stomach is through the mind of his mother. If the mother is

given sound, practical, nutritional service in a simple form, the child will thrive. "what I hear, I forget; what I see, I remember; what I do, I know(8). Children can be effectively rehabilitated at home by simple modification in the child's home diet without external food supplement and within the economic constraints of the family. This concept was given by Bengoa in 1964(9) and it is quite possible to correct the cause of Kwashiorkor by domiciliary management(10). If the mother is charged with the responsibility of managing her malnourished child by herself, under periodic and regular supervision, her child's nutrition will improve and in this study we gave simple nutritional education to the mothers of a group of malnourished children and studied the effects on these children's subsequent nutritional status.

The basic anthropometric measurements of value in assessing nutritional status are weight and height (or lengths for infants). Weight for age is a reliable index of nutritional status in the first year but thereafter becomes less useful. For the first two years, the Gomez classification is useful although where both Kwashiorkor and Marasmus are common, the Wellcome classification gives more information.

Gomez classification	Wellcome classification	
Retardation in weight for age	Retardation in weight for age	
10-25%		
I degree malnutrition	%	of standard
25-40%		
II degree malnutrition	80-60%	Below 60%
above 40%		
III degree malnutrition	without edema-Stunting	Marasmus
	with edema-Kwashiorkor	Marasmus Kwashiorkor

In this study Wellcome classification was used.

Materials and Methods

One hundred and five children, ranging from 3 months to 5 years in age were included in this study. All of them suffered from moderate to severe malnutrition (second and third degree malnutrition according to the weight-based classification(11).

A thorough dietary history was taken, followed by routine physical examination. Any concomitant illness and vitamin deficiency was handled adequately. Routine immunisation was checked and if incomplete it was completed. Vitamin A prophylaxis and iron supplement was given to all children. Nutrition education was given to the mother at first visit and then on each subsequent visits both individually and when possible in groups. Dietary faults and faults in food preparation were pointed out to mothers and locally available low-cost diet were advised for the children. Breast feeding was advocated and promoted. Proper care of feeding material was advocated. Bottles were generally discarded and cup and spoon were preferred. They were shown different charts and booklets illustrating states of health and disease. Demonstration were given to mothers with an idea to make them understand correct food handling, cooking and preserving food. They were allowed to ask as many questions about food as possible. Concept of 'Hot' and 'Cool' food(12) was made clear. They were advised to use potable water. They were instructed how to boil water and then strain through cloth. They were also strongly prohibited to use raw water. The mothers were advised to keep their children clean through bathing and washing their clothes. A 'road to health' card was provided to each mother on which child's health was recorded and mother was instructed to note any change in child's weight. In case of failure of weight gain, mother was asked for detailed discussion and child was also investigated. In case of detection of any disease, there was prompt treatment. The children were followed for 6 months. The improvement of child was defined as return of the child's weight to at least 80% of the

expected weight for his age. Deterioration was defined as a further increase in the percent deficit.

Results

The first indicator of PEM is under weight for age. The most practical method to detect this is to maintain growth chart or "Road to health" card.

One hundred and five children were included in this study as shown in Table-1. All came from an urban slum community. Out of these 60 children were below one year of age. After advocating health education 75% infants showed improvement. 25% remained the same. 20 were between, 1 and 2 years of age. Out of which 80% showed marked improvement while remaining 20% remained the same. The remaining 25 children belonged to 2 to 5 years age group and after advocating health education 60% showed improvement, 30% remained as such and remaining 10% got worsened. There was no death. On the whole 72% children improved, 26% showed no improvement and only 2% deteriorated.

Table 1: Effect of Education on Nutritional Rehabilitation

Age	Total Number initially	Improved	No Improvement	Deteriorated
3 months to One year	60	45 (75%)	15 (25%)	NIL
1 - 2 years	20	16 (80%)	4 (20%)	NIL
2 - 5 years	25	15 (60%)	8 (30%)	2 (10%)
Total	105	76 (72%)	27 (26%)	2 (2%)

Discussion

The preschool period benefitted most from many of the greatest triumphs of preventive medicine and public health. The dramatic decreases in deaths, illness, and disabilities in this group may be credited chiefly to the prevention of the acute communicable diseases of childhood(14).

Effective planning and management of health education can only be provided on the basis of an understanding of the prevailing health knowledge, beliefs and practice of a population(15).

Childhood diseases are thought to result from three classes of factors i.e. predisposing conditions, supernatural causes and physical causes. food and nutrition are one of the most important physical causes(16). Nutritional education can and should be an integral part of total school curriculum and be carefully planned as it has been shown that a comprehensive programme can have an important effect on the knowledge and the eating habits of school children that may influence the rest of the family(17). This programme can also work at high level like college(18).

The results shown in the table are so striking in respect of effect of adequate education of mothers on the children's health that it may be applied to correct any disability or disorder in the health of an individual.

Children are backbone of our future generation. Their health is highly desired as far as future development is concerned. In this study nutritional status of 72% moderate to severe malnourished children was brought to normal or near normal by educational method. Such approach is quite economical, easy to administer, easy to organize, requiring less staff and comprehensive in effects. There is no financial burden on parents of children. All these activities can be performed at any basic health unit or private clinic. Nutritional education requires very elementary knowledge of dietary requirement of the growing child and any person with a little extra training can be involved in this programme e.g. school teacher, public health worker, community health worker or even a student of high school. The programme is interest-based as the mothers are themselves involved. It leads to increase their interest in the form of extra care of child. Her confidence improves, her changed nutritional outlook helps to prevent a relapse in the child and her outlook towards the family diet is also changed. Nutrition through an improvement in his diet has the effect of a live demonstration for the whole community(19). It also indicates that if children are examined in time, there is immediate recovery, otherwise in our society children are brought too late for treatment due

to lack of knowledge on the part of the parents(20). Family's strict adherence to socio-cultural values, norms and expectations may not always support health related behaviours, especially in the area of nutrition(21).

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PREVALENCE OF SIGNIFICANT BACTERIURIA DURING THE LAST TRIMESTER OF PREGNANCY

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Summary

A total of fifty pregnant females with age between 21 to 40 years (27.52 ± 4.46) in their last trimester of pregnancy were studied. Out of these, 39 were symptomatic and 11 were asymptomatic for urinary tract infection (UTI). Out of all tested, fourteen (28%) females revealed significant bacteriuria. These comprised of 13 (26%) symptomatic females and one (2%) asymptomatic female, indicating that significant UTI may exist without producing any symptom. The bacterial agents isolated from females with significant bacteriuria were *E. coli* (21.43%), *Pseudomonas aeruginosa* (21.43%), *Staph. saprophyticus* (21.43%), *Staph. aureus* (14.28%), *Klebsiella pneumoniae* (7.14%), *Enterobacter cloacae* (7.14%) and *Citrobacter freundii* (7.14%). Among the females with significant bacteriuria, the highest UTI was seen in age group 26-30 years, low socio-economic group and in the 9th month of gestation.

Introduction

Urinary Tract Infection (UTI) is a general term referring to the presence of microorganisms in the urine. It is among the most common bacterial infections (1). The presence of bacteria in the urine is not necessarily indicative of infection as normal urine is commonly contaminated by the bacteria in the lower urethra and around the urethral meatus (2). It is generally assumed that detection by culture of 10^5 or more bacteria per millilitre of urine is indicative of UTI and is considered 'Significant Bacteriuria'. On the other hand, 10^4 organisms per millilitre or less are probably due to contamination and is considered 'Insignificant Bacteriuria' (3, 4). Although normal urinary tract is resistant to colonization by bacteria (3) yet during pregnancy, different anatomical, hormonal and mechanical changes may contribute to stasis and urinary tract infections (5). Such urinary tract infections are associated with increased prenatal mortality and more frequent pre-term deliveries (6, 7).

In the previous study done on pregnant females in Pakistan (8) maximum incidence of bacteriuria was also observed in the last trimester of pregnancy. The present work was planned to detect sig-

nificant bacteriuria in the third trimester of pregnancy and also to find out the association of bacteriuria with different factors like maternal age, gestational age, socio-economic group and symptoms.

Materials and Methods

Urine specimens from fifty pregnant females in the last trimester of pregnancy attending the obstetrical out-patients departments of Lahore general Hospital and Sir Ganga Ram hospital, Lahore were taken consecutively. The patients were asked about the age, number of preceding pregnancies, socio-economic group and past history of kidney problem, pain in the lumbar region or any symptoms pertaining to urinary system like frequency, burning micturation, fever etc. From each patient, a sample of mid-stream urine was obtained in a wide mouthed, sterile container. Bacterial count was done by using a calibrated wire loop of 3.26 millimeter internal diameter which could hold 0.004 millilitre of urine (9). At the same time, the urine was examined microscopically and cultured on blood agar and MacConkey's agar for the isolation of bacteria. After 24 hours of incubation, the

plates were examined and isolates were identified by cultural, morphological and relevant biochemical tests (10).

Results

Out of the 50 cases studied, 39 (78%) were symptomatic and 11 (22%) were asymptomatic. Out of 39 symptomatics, 13(33.3%) cases were found to have significant bacteriuria. Out of 11 asymptomatics, significant bacteriuria was found in only one (9.09%). Therefore in all, 14 females were found to have significant bacteriuria indicating presence of UTI in 28% (Table-1).

Table 1: Bacteriuria in Relation with Symptoms of Urinary Tract Infection in pregnant Females (n = 50).

	Bacteriuria Symptoms			
	Significance No.	Significance %	Insignificance No.	Insignificance %
Symptomatic (n = 39)	13	33.3	26	66.7
Asymptomatic (n = 11)	1	9.09	10	90.9

The age of the females ranged from 21-40 years (27.52 ± 4.46). Significant bacteriuria was found to be the highest (50%) in the age group 26-30 years, followed by that in 21-25 years (28.57%) and 31-35 years (21.43%). No patient with UTI was found in the age group 36-40 years. Similarly significant bacteriuria was seen to be higher in females in the 9th month of pregnancy (57.14%) as compared to those in 7th and 8th months of gestation (21.43%). As regards the socio-economic status, UTI was most commonly observed in low socioeconomic group (64.28%), followed by that in middle class group (28.57%). The infection was observed to be very low (7.14%) in higher group of socio-economic status (Table-2).

The microorganisms isolated from the 14 pregnant females with significant bacteriuria were *E. coli* (21.43%), *Pseudomonas aeruginosa* (21.43%), *Staph. saprophyticus* (21.43%), *Staph. aureus* (14.28%), *Klebsiella pneumoniae* (7.14%), *Enterobacter cloacae* (7.14%) and *Citrobacter freundii* (7.14%). In all, gram negative rods were isolated from 64.28% females with significant bacteriuria (Table-3).

Table 2: Significant Bacteriuria (n = 14) in relation with Maternal Age, Gestational Age and Socio-economic Group.

Factor	Group of Patients	Significant No.	Bacteriuria Percentage
Maternal Age (years)	21 - 25	4	28.57
	26 - 30	7	50
	31 - 35	3	21.43
	36 - 40	0	0.00
Gestational Age (Months)	7th	3	21.43
	8th	3	21.43
	9th	8	57.14
Socio-economic Group	High	1	7.1
	Middle	4	28.57
	Low	9	64.28

Table 3: Bacterial Pathogens Isolated from Pregnant Females with Significant Bacteriuria (n = 14).

Name of Organisms	No.	Percentage
<i>E. Coli</i>	3	21.43
<i>Pseudomonas aeruginosa</i>	3	21.43
<i>Staph. Saprophyticus</i>	3	21.43
<i>Staph. aureus</i>	2	14.28
<i>Klebsiella pneumoniae</i>	1	7.14
<i>Citrobacter freundii</i>	1	7.14
<i>Enterobacter cloacae</i>	1	7.14

Out of 36 cases with insignificant bacteriuria, most cases were in the age group 21-25 years (44.4%) and in the 9th month of pregnancy

(41.7%). Similarly majority of these (61.1%) belonged to low socioeconomic group.

Discussion

Over-all incidence of bacteriuria in the present study (28%) is much higher than 2.9% - 14.2% reported by other workers (11,12,13). The reason for such high incidence of bacteriuria in the present study may be the lack of health educations in our country. Many pregnant females do not visit antenatal clinics at all. Those who do so, do it irregularly. This keeps them ignorant about the complications of pregnancy in general and urinary tract infection during pregnancy in particular.

In the present study, the highest UTI was observed in age group 26-30, in 9th month of gestation and in low socio-economic group. The present study agrees with studies done at home and abroad regarding these factors (8,13,14).

Significant bacteriuria in 9.09% asymptomatic pregnant females in the present study is similar to results (2-10%) obtained by other workers (15-19). Symptomatic significant bacteriuria was observed in 33.3% females in the present study. While studying pregnant females in different trimesters of pregnancy, Amman (8) observed significant bacteriuria in 11% cases. This difference is possibly due to the fact that in the present study, females in the last trimester of pregnancy were studied only. In the study done by Amman (8) also, the maximum incidence of bacteriuria has been observed in the last trimester of pregnancy.

The present study showed that gram negative bacilli are the most common urinary pathogens. This correlates with the findings of other workers who have found that in 80% cases, *E.coli* is responsible for UTI (1,8,20). After *E.coli*, the second common urinary tract pathogen was found to be *Staph. saprophyticus* in the present study. The same finding was observed in another study done on pregnant females (21).

Conclusion

The present study reveals that majority of the females with significant bacteriuria belong to younger age (21-30 years), low socio-economic group and are in the last month of gestation. This study also points out that majority of pregnant females (78%) have symptoms of UTI, but on screening many of these were found to have

insignificant bacteriuria (66.7%). This employs that treatment for UTI should only be given after proper bacteriological evaluation of mid-stream urine of symptomatic pregnant females. Considering that even asymptomatic females may have significant bacteriuria, routine bacteriological screening of all pregnant females is also recommended. This will prove to be cost effective when cost and time spent on management of UTI and its complications are considered. Further in depth studies in this regard are also needed..

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COMMUNITY BASED PREVENTIVE HEALTH PROGRAMME WITH SPECIAL REFERENCE TO CHILD CARE AS RELATED TO SOCIO-ECONOMIC STATUS

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Introduction

From a global perspective, the most vulnerable parts of our society are mothers and children. Many of the health problems and health needs faced by mothers and children in "developing" countries today are similar to those faced by them in previous decades in "developed" countries.

Underlying these principles is the importance of recognizing some other essentials: the need to understand better what the people (the potential recipients of care) need and want in a way that they can most easily use services; the need for enlisting and stimulating the support of the people at the local community level, so that people will understand that the services are their; and the need to find ways to enlist, more effectively, the support of the political leaders, and budget authorities to provide the practical resources to enable us to bring about the needed care and services for those whom we serve. Infant mortality (the rate of babies dying before their first birthday per 1,000 live births) is one of the most valuable indicators of the status of development of a society of a country. It can tell us in a very direct way how well a society is meeting the needs of its people. As an indicator, it is closely related to the overall level of well-being in a country or region. It distinguishes clearly between a society of some sufficiency and society of stark deprivation. It reflects not only food, clean water, medical and health care, but also the actual availability of such basic resources to all segments of a population. Deprivation among the people of a particular region, class or ethnic group within a country will appear in infant mortality data. High infant mortality is associated with certain social

problems, environmental contamination, lack of education, poor health care, the disadvantaged position of women, etc. In searching out the explanation of infant deaths, two levels of analysis are needed: one to identify the immediate causes of death, and another to examine the social, economic, or environmental conditions that make infants vulnerable to these immediate causes. The immediate cause of a baby's death may be lack of food, a disease: a severe birth defect, extreme low birth weight, or an injury. But under-neath most deaths is likely to be a mosaic of low family income, lack of sanitation, around, high fertility or exposure to toxic substances. Many of these direct and indirect causes interact, so that it may be difficult to pinpoint one single factor alone which causes the death of an infant. Because infant mortality is so closely tied to broad social and economic conditions, the most decisive gains to be made in reduction of infant mortality involve improvements in sanitation, water supply, nutrition, access to medical and health care, fertility control, and education.

The practice of preventive medicine is very difficult and is even more difficult to describe it. The range of activities which contribute to the prevention of disease and promotion of health have two components, personal and environmental. In environmental measures we try to modify the physical and social environment in which an individual lives to reduce the risk of diseases. Personal preventive measures are those which are designed to change the individual actions by health education. The immunization, MCH, family planning services are other personal services. We are facing many problems in both the fields.

Table 1: The Principal Statistics of Pakistan

Health Status/ Health facilities	% and / Number	
Total population	1987	102, 238, 183
Infant mortality rate	1986	105.6 (at present it stated about 80.
Crude birth rate	1986	43.3/per 1000 person
Crude death rate	1986	10.1
Maternal mortality rate	1986	6.8/1000 live birth
Net rate of growth	1986	3.3%
Urban population		30.49%
Rural population		69.51%
Population upto 14 years of age		44.90% 37516634 Urban 10250182 Rural 27266452 23%
Literacy rate		
One primary health care facility		11230 persons
Basic Health Unit		3496
Rural Health Centre		492
Other Health outlet		6050
Per capita income per annum		7000 (Rs.)
One doctor for		2920 persons
Number of doctors (Urban)		28000
Number of doctors (Rural)		8000
Safe water supply		35% of Pop.
Sewerage facility		15% of Pop.

Source: Planning Commission of Pakistan
Pakistan Statistical Year Book 1988.

Reliable data on the incidence of disease is not available. Hospital statistics are used to give an indication of the pattern of morbidity.

It is to say that about 2/3rd of deaths in Pakistan result from preventable disease, at the same time about 75% of all illness fall in the same preventable category.

The impact of these facts may be better appreciated if we consider them in human terms. Two out of every three deaths are preventable and three out of every four people who are ill need not to be ill. Statistics indicate that Pakistan is lagging well behind other comparable countries.

Table 2: Major Causes of Deaths in Pakistan

Estimated deaths by cause of death	
Infection and preventable disease	63.8%
Malaria	10.4%
Obstetric problems (Labour complication congenital anomalies etc)	5%
T. B.	5%
Bacillary dysentery	5%
Other causes	13%

The above data clearly indicate that 71.8% deaths are due to diarrhoea: Malaria, Pertussis, diphtheria, tetanus, T.B. and Polio.

The first three of these result only from unhygienic practices, and the other are all preventable by immunization.

Morbidity and mortality statistics clearly indicate that the people of Pakistan are dying of common diseases like diarrhoea, parasites, childhood diseases, and problems associated with pregnancy, which can be prevented. But unfortunately strategies has not been adopted in our country, and further our expenditure on health sector is very low as depicted in the table that the budget spent on health and education in Pakistan is very low as compared even to the developing countries of the world.

Table 3: Central Government Expenditure on Education Health and Defence, As a Percentage of Total Government Expenditure 1972 and 1986

	EDUCATION		HEALTH		DEFENCE	
	1972	1986	1972	1986	1972	1986
Bangladesh	14.8	9.9	5.0	5.3	5.1	11.2
Kenya	21.9	19.7	7.9	6.4	6.0	8.7
Malawo	15.8	11.0	5.5	6.9	3.1	6.0
Pakistan	1.2	3.2	1.1	1.0	39.9	33.9
Sri Lanka	13.0	8.4	6.4	4.0	3.1	8.0
Tanzania	17.3	7.2	7.2	4.9	11.9	13.8
Uganda	15.3	15.0	5.3	2.4	23.1	26.3
Zaire	15.2	0.8	2.3	1.8	11.1	5.2

Socio-Economic Status:

The health of a community is intimately related to its economic status, and its social and political organization. The world to day is divided into rich and poor, developed and underdeveloped. There is little doubt that in many developed countries, it is the economic progress that has been a major factor in reducing morbidity, increasing life expectancy and improving the quality of life. Just as health and economic status are related, health is also related to the country's political system. The political system does exercise considerable influence over the health system, i.e. in the planning of health services, and allocation of health resources :

- (i) The hazards of poverty :- Like health, poverty is difficult to define. It is far more than a simple lack of money. It is rather a state that involves a person's total life and aspirations. Although poverty never appears on a death certificate, the statistical correlations between economic status and health are significant.

It is said that poverty leads to sickness and sickness to poverty by depriving man of his needs of adequate nutrition and shelter and by exposing him to the hazards of poor sanitary conditions. It is an established epidemiological finding that the prevalence and distribution of disease is strongly influenced by economic factors. In fact, most of the infections and nutritional deficiency diseases common in developing countries are really "diseases of poverty". Poverty predisposes to high maternal, child and infant mortality rates. Poverty also predisposes to crime, violence, depression, alcoholism and other forms of deviant behaviour. Ecological studies confirm the relationship between poverty and psychosomatic illness. It has been estimated that three categories of diseases, infections spreading through human excreta, airborne infections and malnutrition - account for 70-90 per cent of all deaths of children under age 5 in developing countries. These three categories of disease - to which we may add a fourth-one, uncontrolled reproduction - constitute what the World Bank has termed "the basic disease pattern of poverty".

Table 4: Relation between Selected Social and Economic Indicators and Health

	India (1982)	United States (1982)	Pakistan (1983)
Average per capita GNP (US \$)	260	13,160	8690
Infant mortality rate	120	11	80
Life expectancy at birth (years)	52	74	-
Literacy %	36	99	23%
Physical Quality of Life Index (POLI) (1970)	41	95	-
Doctor population ratio	1:400	1:600	1:2920

Source: 7th 5 years plan 1988 - 93 (Govt. of Pakistan)

- (ii) The hazards of affluences :- The other side of the coin is affluence. Ironically, it can also contribute to illness, as exemplified by the high rate of ischaemic heart disease and diabetes in the upper socio-economic groups. The major medical causes of death in the West today are cardiovascular diseases and cancer, which together account for two-third of all deaths.

It is thus clear that socio-economic and political factors play a leading role in shaping the health status of people. A permanent improvement in health is unlikely to be achieved without a corresponding improvement in the underlying social and economic conditions.

In our country many health problems are due to poor economic status. Poverty is an important cause of bad health, linked with illiteracy, ignorance, poor nutrition, unsafe water supply and improper disposal of sewage. This produces a summation of risk factors resulting in ill health. At the same time, diseases and conditions associated with rapid urbanization and rural to urban migration, are on the increase. The rapidly growing slums are becoming an increasing social threat to

communities. Social problems like drug addiction, over crowding, malnutrition, over population and child abuse are becoming issues of increasing concern in our society. All these problem need coordinated and multidimensional approach for their solution. Government has launched many programmes for health promotion. These health improvement activities are directed to control the communicable diseases, improvement of nutritional status, safe drinking water supply, improvement of hygienic and environmental sanitation, protection from narcotics and drug abuse and promotion of healthy life style through health education commencing from early childhood.

These activities aim at bringing the over all promotion of health by:

1. Giving the individual, the family, and the community responsibility for the promotion and maintenance of their own health and their near ones.
2. Community involvement in defining its needs and finding ways to solve them.
3. Maximal utilization of community resources.
4. Intersectoral collaboration.
5. Community education.

Our infant mortality rate is very high as compared to advanced countries. It demands urgent action. The health needs of the mother and young children need to be given priority and a community based preventive programme should be enhanced/increased.

Approximately 7 lacs children in Pakistan die each year from the combined effects of poor nutrition, diarrhoea, malaria, Pneumonia, measles, whooping cough and tetanus. It is a great national loss. Half to two third of these deaths could be prevented with relatively simple measures already available to us. Community education, immunization, ORS, growth monitoring, breast feeding, are the most important weapons, we have in the field of preventive medicine.

Expanded Programme of Immunization is in full swing. In the Punjab coverage of children against the six killer diseases is 85% but unfortunately our immunization coverage profile at National Level is not satisfactory. The coverage achieved so far at National level is 72% for T.B. 62% for Polio, 53% for Measles and 27% for Tetanus. There is a great need for redoubling our efforts to improve the

coverage of our most vulnerable group i.e., under one year of age.

Table 5: Causes of Child Deaths
Annual Death of Children Under 5

	World	Pakistan
Diarrhoea	5.5 million	313,400
Measles	2.2 million	35,510
Pertusis	1.6 million	-
Neonatal tetanus	1.2 million	109,490
T. B.		
Polio		
Pertusis		12,216
Diphtheria	5,000	14,570
Malaria	1.0 million	50,000
ARI	2.5 million	80,000
Other causes including accidents and congenital abnormalities	2.8 million	74,614

Source : WHO - UNICEF 1987

The Government has also realized the importance of child care programme for overall development of the country, and formulated the following objectives and targets :

- To reduce infant mortality from 80 to 60 per 1000 live birth.
- To protect all newborn neonatal tetanus by immunizing all females of 15-41 years with tetanus toxoid.

The community will be involved at all levels by creating Autonomous Board, Governing Bodies, Management Committees and Health committees.

- Protecting 20 million children below the age of two years against six major fatal diseases of childhood.
- Protecting 15 million expectant mothers 8 million females in child bearing period with tetanus toxoid.
- Protecting 10 million children against complication and mortality of diarrhoeal diseases through ORS.

Protecting about 5 million children from second and third degree malnutrition.

Organized community efforts are necessary to supplement governmental efforts specially in the field of child health. There is a need of partnership between the people and the government, to protect the future generation. But unfortunately the community based preventive programmes are mostly initiated only by the government. As such there are more involvement of the government and the lesser participation of the local communities. The process of decision making is also centralized. The local community is involved only in the implementation phase. Due to this reason we are unable to generate the level of local participation required for the success of the programme. In this regard it must be understood that the basic principle which infact constitutes the essence of community based preventive programme is volunteerism, without volunteerism no community based health programme will succeed.

Community based preventive programme mean much more than just providing hospitals, health centres and medicines but it means involvement of the local communities in the health system, their whole hearted participation to identify their health needs.

How To Make Community Based Programme A Success

The following steps are important for the the success of Community based health programme:

1. Identification of health needs of the community.
2. Fixing priorities.
3. Setting objective.
4. Constituting committees.
5. Implementation of the programme.

How to Convince Community for Participation

Local leaders and opinion makers play a crucial role in accepting or rejecting any programme. It is therefore, important to persuade and motivate them properly as they then are a valuable assets.

The following category of local leaders, extra ordinary gifted persons, have been identified who would be able to support and promote the suggested community based preventive programmes :

- (a) Religious leaders.
- (b) Political leaders.

- (c) Trade unions.
- (d) Health workers.
- (e) Editors of newspapers, magazines and journals.
- (f) Employers and the Business community.
- (g) Medical manpower and health services network. (gross route workers).
- (h) Women organizations.
- (i) Youth movements.
- (j) Community organization and traditional leaders, philanthropists.
- (k) Artists, writers, entertainers and poets.

Strategy to Improve Children Health

- Poly - immunization of children.
- Tetanus toxoid to all women.
- Health education campaign for healthy life style.
- Child spacing as a preventive measure to reduce infant mortality.
- To find ways of mobilizing all the available community resources.

Table 6: Hierarchy and Components of the Health Care Delivery System

Level of Hierarchy	Components of Health Care
Home	Individual and family self care
Community	Community self reliant activities in preventive and promotive care.
Basic Professional	Health Centres Health Clinics Maternity Centres etc.
First referral	District Hospitals and other referral units which can solve more serious solve.
Higher Referral	More advanced hospitals and other advanced referral Units.

Dr. Leimena: Asia Pacific Journal of Public Health 1983, Vol. 3 No. 4.

- Developing strategies to enhance immunization coverage in rural, remote and urban areas.
- Involving other important sectors (other than Health Sector).
- Lack of awareness is a major barrier in attaining high levels of acceptability of Health Services. It is, therefore, necessary to create awareness among the public.

Physical Infrastructure

At present, we have a sound physical infrastructure in the field of health. Through this network, health outlets, and available staff community based preventive health programme can be initiated.

As the processes of lobbying, advocacy and mediation are an integral part of health promotion, these processes would also be beneficial for us in our health programmes. It is therefore, suggested that the process of advocacy, lobbying, and mediation should be started to promote health of our children.

Lobbying here stands for attempting to influence policy directly through the intervention of powerful individuals or pressure groups. (MNAs, MPAs leaders, pirfaques) Advocacy is also the similar type

of activity by health staff. By using the world mediation we mean a kind of arbitration which seeks to resolve the conflicting interests in society when these threaten health policy implementation. Although it is not an easy job to utilize these three kinds of social encounter, but dedication and commitment will enable us to achieve higher status of health.

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CULTURAL INFLUENCES ON CHILD ABUSE IN PAKISTAN

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In November 1989, the UN General Assembly adopted the Convention on the Rights of the Child. In addition to setting standards for children's survival, health and education, the convention seeks to protect the millions of children who are exploited, abandoned or abused, where ever they may be.

We in Pakistan have 56.5 million under sixteen and 22.5 million under five children. They are living in an environment which has the worst demographic indicators. The crude death rate has fallen to 12 per thousand, where as the birth rate is still 46 per thousand, resulting in the alarming growth rate of 3.4% virtually a population explosion. The urbanized population is only 32% but the average annual growth of urban population is 5% which results in unplanned shanty towns and kacchi abadis, the worst thing for children.(1)

The economic situation for these children is equally depressing. The GNP per capita in 1988 was only 350 US dollars. Its annual growth from 1980 to 1989 has only been 3% while the rate of inflation has been 7% People living below poverty level were 32% in urban areas and 29% in rural areas. To add insult to injury only 1% of central government expenditure was allocated to health, 3% to education and 30% on defense(1).

These parameters clearly indicate that the majority of the parents of 56 million children live under severe socioeconomic stress. They produce large families for economic and old age security but end up in more economic problems.

These economic problems are likely to lead to the abuse of child labour and extreme stress can also result in physical abuse. Because it is seen that over 90% of abusing parents are neither psychotic nor criminal personalities. They tend to be lonely, unhappy, angry or under heavy stress(2).

It has been estimated that due to socioeconomic stress more than 100 million children in the world are engaged in employment often hazardous and in

contravention of international conventions which provide for their protection from economic exploitation and from performing work that interferes with their education and is harmful to their health and full development.(1)

In addition to economic parameters culture has a very strong influence on child health and child abuse. Some of the current cultural norms have a protective effect on child abuse. There are other in which incidence of child abuse is likely to be increased.

The beneficial cultural norms are as follows :

Stable Marriage: The majority of marriages in Pakistan are arranged with the belief that "marriages are made in heaven". the sanctity of marriage is still in vogue although the divorce rate is on the increase. children of broken families are more likely to undergo abuse like neglect, abandonment, sexual abuse and other. Education, woman's emancipation, social and scientific progress has had an adverse effect on the sanctity of marriage in the west. This is the price they have paid for progress. If we do not adhere to our culture we can have similar problems. As we look to the west for progress we must continue to value our culture, so that we don't pay the same price for progress.

Extended Family System: We have inherited an extended family system from our fore fathers. It is joint in most circumstances where the parents, children and grand children live in the same house. In other cases the parents and married children live in separate houses near by in the same village or city. In either circumstances there is lot of emotional social, and economic support for the inhabitants, especially those with young children. Unlike the nuclear families in the west the children are in the constant supervision of the elders [grand parents etc.]. Young mothers do not feel the stress of house work and loneliness. It is worth mentioning

again that the majority of parents inflicting physical abuse are those who are under emotional stress and are lonely or who have been abused themselves during childhood.

Extended and joint family systems are likely to have some problems of interaction among family members but the over all effect on child abuse remains to be protective. This tradition should be cherished and every effort should be made to maintain it. At present it is likely to decline due to constant migration from rural to urban areas. Due to neglect and lack of development in our villages people move to towns in search of better life, well paid jobs and education for children. But in reality they move from a traditional society to an urban slum with little or no amenities. Because of cash economy both the parents have to work and the children are left unsupervised.

This is a milieu where maximum damages can occur. The unattended child will go through all stages of neglect and ill health. If he survives he will very soon end up in an early earning hand, 'child labour'. This can only be prevented by consistent development of our rural areas and serious planning for immigration to the towns.

Child Bearing And Rearing Practices have a profound effect on child abuse. In our country most of the deliveries are conducted in the homes by traditional birth attendants. New born are kept in mother's bed [the natural incubator]. Breast feeding is the usual mode of feeding. The sanctity of "chilla" in which mother and baby are isolated is very strictly observed. All these factors facilitates the process of bonding which is best achieved in the house during early days after delivery.

It is well known that bonded mothers are less likely to physically abuse or abandon their children. In the urban areas [where 30% to 35% of our population lives] hospital deliveries are becoming more popular. But due to over load these hospitals can not provide privacy in early hours. Chances of early bonding are missed in the hospital setting. Supervised home deliveries by TBA's should be encouraged and hospital routines should be adjusted to facilitate early bonding.

Negative Influences of Culture on Child Abuse

In spite of all the positive influences of culture quoted above there are a few ingrained negative

influences which should be evaluated and minimized.

Discrimination against the Female Child: A female child in Pakistan is born with a disadvantage of being less welcome than a boy, because girls are seen as economic liabilities and a potential threat to family's honour. From the beginning girls are subjected to varying degrees of conscious or unconscious neglect, demonstrated by lower allotment of food within the family, and effort and money spent on their health and education.(3) Boys are considered old age security and likely to do more physical work, so they are fed well forgetting that girls must also be physically fit to bear healthy children for a stronger future generation. They are not trained and educated to become self reliant. Lack of education, professional or vocational skill leaves them unprepared to face later situations in which they may be forced to support themselves or their families. Such females in general find themselves in low paid jobs, vulnerable to all sorts of moral, physical and economic abuse.(4)

Neglect of female education is one of the major reasons of our low literacy level. Although the above has far reaching effects on the socio-economic progress of the nation it is so ingrained and deep rooted that in spite of having ministry for Women's Development or National Commission for Child Welfare and Development, very little research has been done in this field.

Child Labour: The abuse of child labour is common place here, due to repaid urbanization and increase socioeconomic stress there has been a sharp rise in child labour. It has been estimated that about two million children in Pakistan are working in carpet and brick industry. Besides this a large number of children are working in workshops, stores and domestic places. etc. In all around eight million children are subjected to unregulated child labour. Almost all are kept away from school and paid a very poor remuneration. Parents consider themselves very lucky if they can send their child to such a place. Enforcement of very strict labour laws can only save our children from this evil.

Beggary: In some cases where families are living below poverty level the children join their parents in begging or are made to beg alone. Most of the

handicapped children are made to beg instead of being given a vocational training. Beggary is accepted in our culture. We do not discourage a beggar. If some of us have the courage to refuse a beggar we feel guilty for the rest of the day.

Suggestions

In view of the above problems of child abuse the following suggestions are made for its prevention :

1. Various media should be used to increase its awareness among health personnel and public.
2. Research should be done to assess its real status, and on methods to minimize its effects.
3. Strict labour laws should be enforced to regulate child labour. Children living below poverty level need employment for their support, but it is the moral obligation of the employer to provide him adequate food, rest and education for optimum growth and development.
4. More child welfare organizations like schools for handicapped children, SOS village should be developed to curb child beggary.

5. Formation of welfare organizations [like Dast-e-Shafqat] which have legal support to take abused children in their custody and place them in better homes.
6. Serious efforts should be made for increasing literacy education and vocational training for girls.

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AIDS - A REAL PUBLIC HEALTH THREAT FOR PAKISTAN

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Summary

AIDS is a lethal disorder characterised by break down of body defences against diseases giving rise to skin cancers and a wide range of opportunistic infections. The disease is now seen all over the world. Largest number of cases are seen in U.S.A., France, U.K. and other European and African countries. In Asia, the most affected areas are Thailand, Singapore, Bangkok and India. In Pakistan the number of cases are on the increase. Most of these patients are concentrated in Karachi and N.W.F.P. mainly due to the influx of immigrants and visitors. It is high time to take effective measures now to check the spread of the disease and other parts of the country. The purpose of this paper is to highlight salient features of the disease and create a public awareness about the seriousness of the problem.

Introduction

AIDS is uniformly a deadly disease, now known to be caused by HIV(1) which is transmitted to human beings through various routes. The virus after replication in lymphoid system of the body destroys the body immune system in such a way that the patient falls victim to a wide variety of opportunistic microbial infections, including viruses, bacteria and fungi which almost always prove fatal in spite of all possible treatment modalities.

The HIV has been isolated from AIDS patients and those infected with virus and is cytotoxic in vitro to T-lymphocytes (1,2) leading to a decreased number of these cells which is a basic abnormality in these patients, thus destroying the cell mediated immunity.(3,4) Anti-bodies to HIV appear soon after acquiring the infection and are detectable in blood drawn from persons with AIDS and others who have become infected with the virus but remain in good health(5,6,7,8).

Routes of AIDS Transmission

Transmission of AIDS from one person to another can occur through a variety of methods, but the main routes are:

1. Sexual Contact:

- (a) *Homo-Sexual*: Sexual contact results in damage to rectal mucosa and its exposure to infected semen. Receptive and multiple

partnership are the most significant situations for the transmission of infection. (9,10,11).

- (b) *Hetero-Sexual*: Vaginal intercourse is also responsible for virus transmission. Currently AIDS is the principal hetero-sexual spreading disease in Africa and Asia. HIV and Hepatitis B virus are now known to enter the body through the epithelial lining of vagina(12,13).

2. *Blood Transfusion*: Transfusion of blood or blood products from donor's blood infected with HIV is important mode of transmission. Concentrated factor VIII used in haemophilia contributes as well. (14,15).
3. *Intravenous substance*: Intravenous drug abuse due to contamination with infected blood through sharing needles and syringes is very important source for the transmission of the virus.(16).
4. *Transplacental*: Transplacental and peri-natal transmission has also been responsible for the spread of the disease from infected mother to the infants.(17).

Clinical Features

The most common clinical features include cough, dyspnoea, diarrhoea, weight loss, fever, persistent lymphadenopathy, skin lesions, oral lesions, multiple opportunistic infections and malignancy of skin and lymphoid tissue. The

infections in AIDS patients are frequent, multiple and recurrent. The most important organism recovered is *Pneumocystis carinii* followed by *Candida albicans*, C.M.V., and *Mycobacterium* avian. Other organisms include a host of other bacteria, fungi and viruses such as *Toxoplasma*, *Cryptococcus*, *Mycobact*, tuberculosis, *Aspergillus*, herpes simplex and zoster.

Laboratory diagnosis

Serological testing for the presence of antibodies to HIV is the routine method used for the diagnosis of HIV infection. For this both ELISA and Western Blot techniques are available. In addition different opportunistic infections and neoplasms are diagnosed by staining, culture and histopathological examinations.(20)

Treatment & Management

Most patients with AIDS primarily die of opportunistic infections, so the aim is to use more effective antimicrobial agent to treat the infections as and when they occur under the guidance of laboratory testing. Neoplasms are to be treated by cytotoxic drugs or radio therapy which is really very difficult in an already immune deficient patient.

Prevention & Control

Wide public health measures are to be taken in relation to promiscuous sex habits. In this connection homo-sexuality, multiple partnership and sex with a person whose HIV status is not known are the most significant events to be avoided. 'Safe sex' is the slogan to be widely publicised & adopted. Screening of blood donors is to be done regularly and professional donors are discouraged. Reuse and sharing of syringes and needles for injections must be stopped. Social and public health aspects of the drug abuse is to be taken care of nationally and globally.

Current Status of Aids in Pakistan

In Pakistan, number of known AIDS patients and HIV positive cases are increasing gradually(23,24,25), however, in comparison with many other countries, Pakistan has a low prevalence of reported cases of HIV infection. To-date, 751 cases of HIV infection and 42 cases of AIDS have been reported (ref: personal communication with Dr. Zafar Iqbal Toor, National AIDS Programme). However, it is likely that reported cases constitute only the tip of the ice

berg. Under reporting due to misdiagnosis and inadequate surveillance methods may mean that the more accurate figure is 20,000 cases of HIV infection in Pakistan (ref: as above).

A lack of epidemiological data relating to HIV infection means that an accurate picture of where and when it is most widespread does not exist. Similarly there is no evidence of research into the behavioural patterns associated with transmission of HIV. Such research is crucial if we are to decide who to target, where and how. As in other parts of the world, education is the only effective weapon available to us in the battle against the spread of AIDS.

The epidemic of AIDS has, since its onset, been characterised by denial. AIDS has for many people what we might call an "otherness" that is it is something which strikes countries other than our own 'other' people with 'other' lifestyles in 'other' places. This denial of the real threat which AIDS poses is extremely dangerous, since if one denies the existence of an epidemic one is hardly likely to take action to prevent it spreading further.

AIDS knows no boundary of place, age, sex, race, class or religion. It will strike any person who is infected with HIV through means of contact with blood products, semen and vaginal secretions. Pakistan finds itself in a unique position: with a low prevalence of HIV infection, the epidemic can be stopped in its tracks. By creating awareness of the risks of infection and educating the population within the context of cultural and religious norms, Pakistan can avoid further cases of AIDS.

Faith as a Preventive Tool against Aids

Faith can be a major support in prevention of AIDS in our society. We, as Muslims, are firm believers and followers of Islamic teachings and ideology and to obey the decisions and orders of GOD provide essential bases for the religion.

Almighty Allah says in the Holy Book, Quran "Don't go near adultery, it is a great sin, is shameful and a path to evils"(26). Having sex with a person other than a regular, faithful partner (Husband / Wife) is strictly prohibited and rightly so if the diseases transmitted by promiscuous sex habits are to be avoided.

At an other place in Quran it is said that "Offering Prayers is to keep you away from the indecent and forbidden things and it is for remembrance of Allah who knows every thing which you do"(27). One of the forbidden things in Islam is misuse of sex, so it is not possible for a

strict believer to indulge in free sex. This message of Islam given centuries ago, seems to be the real answer to the problem of AIDS today. In the West "Avoid Free Sex" and "Have Safe Sex" are the slogans widely publicised now as a campaign against the spread of this deadly disease.

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M. A. Soofi, Emran Amir, Medcha Imran and Fakhar-ul-Islam: