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From the Editor

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This is the second issue this year and we are looking forward to fulfilling our promise for ten issues this year. In addition the last issue of the year will be about development of family medicine in the region, therefore we would like to invite all authors from the region who are interested in writing about their country to submit their papers.

A paper from Kuwait attempts to identify risk factors of acute poisoning, and to demonstrate their spectrum in Jahra Health Region of Kuwait. A total of 678 patients admitted and coded as poisoning among children over 15 years were analysed. The authors concluded that there is a lack of appropriate supervision and health awareness in the community which is a significant contributory factor to the burden of acute poisoning in pediatric age groups.

A prospective study from Jordan looked at the role of chest X-ray in diagnosis of non-radio opaque foreign body inhalation in the tracheobroncheal tree. The authors believed that the history of foreign body aspiration, and clinical findings are a corner stone in diagnosis. Chest X-ray can help in diagnosis and localization the site of the foreign body, but does not affect the decision for performing bronchoscopy.

Al-Madani M studied the ocular manifestations and their frequency in patients with atopic dermatitis. The authors pinpointed that a variety of ocular conditions accompany atopic dermatitis. Some patients are rather asymptomatic, hence the importance of referring patients with atopic dermatitis to an ophthalmology clinic.

Helvaci MR, Akdemir C, Kaya H and Ozer C looked at dyslipedemia as an indicator of body weight. The study included 1068 cases. The authors concluded that the prevalence of excess weight and dyslipidemia increases by decades, particularly in the fourth decade, and this increase turns to a decrease in the eighth decade of life. The authors concluded that probably decreased physical and mental stresses after the age of 30 years and debility and comorbid disorders induced restrictions after the age of 70 years and may be the major causes for the changes.

Three papers in this issue dealt with women's issues. A paper from Turkey looked at the planning of the birthplace during the pregnancy period. A second paper looked at contraceptive use of married women, with particular focus on the extent to which socio-economic and demographic factors exert independent influence on contraceptive use. The result of the study supports the hypothesis that place of residence, women's education and watching of television are the most important significant factors which influence the use of contraception positively. A third paper from Bangladesh looked at how to identify risk factors for cessation of breast-feeding before six months in primiparous women. The authors stressed that identification of risk factors for early termination of breast-feeding is necessary before developing strategies to improve duration of nursing in first-time mothers.

Burden of Acute Poisoning Among Children in Kuwait Jahra Health Region 1992-2006

Key words: Poisoning, accidental, morbidity.

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ABSTRACT

Objective: To analyse acute poisoning in children, to identify risk factors and to demonstrate their spectrum in Jahra Health Region of Kuwait.

Methods: The hospital records of 678 patients, admitted and coded as poisoning, among children over 15 years were analysed. The risk factors were indentified. The spectrum of causative agents were compared with the previous studies in Kuwait and other parts of the world.

Results: Poisoning among children accounted for 1.33% (678) of all the pediatric admissions during our study period. Children aged one to three years accounted for 74.7% of all the poisoning admissions. Kerosene ingestion was still seen in 23.1%. 52.5% children were poisoned by drugs. Analgesics were implicated as the commonest medicinal causative agents. The majority of poisonings occurred accidently at homes. There was no mortality.

Conclusion: Lack of appropriate supervision and health awareness in the community are significant contributory factors to the burden of acute poisoning in pediatric age groups.

Introduction

Globally, poisoning in the pediatric age group still remains a common problem[1]. Despite the reduction in number of deaths due to poisoning, there are still significant number of potential exposures[2] More than one million exposures occurred in children less than six years of age during 1994 in the U.S., accounting for 54% of all exposures. In contrast, only 121,512 poison exposures were seen in children aged six to twelve years. In addition to morbidity and mortality associated with poisonings, these exposures involved significant use of health care resources. In America three percent of poisonings in children lead to admission to a critical care unit[3] While households with small children are often the focus of poison prevention education, it is estimated that one fifth of all poisonings occurred outside the home[1,2].

Previously introduced poison warning stickers in 1970 have failed to provide a deterrent effect in clinical trials[4]. Unit dose packing, such as strip or blister packs was introduced to decrease the risk of accidental poisoning in children less than six years. However, users do not always re-engage the closure in its protective position[5,6,7].

Improper storage of hazardous household products remains one of the leading causes for pediatric exposures universally. It has been noted that hyperactive, inquisitive, impulsive children and those exposed to recent stress are at greater risk[8, 9, 10]. It is estimated that nearly 30% of all children less than six years of age who experience an accidental ingestion will be involved in at least one or more episode before the age of six years[11]. Recently Woolf and colleagues have reported a recurrence rate of 3.7% within three months surveillance period[12,13]. Daycare centers and play groups for pre-school children are equally potential places for poisoning in children of nuclear families with working parents. However, there is little if any evidence, to support this belief. Recent stresses in the family, unstable families and recent change of residence have been implicated as the predisposing factors[14,15] for pediatric poisoning.

The nature of the causative agent implicated in poisoning varies with local beliefs, customs and current availability of drugs and chemicals[16-26]. Kerosene still remains a multipurpose household product commonly available in the majority of houses in the Gulf region. In Kuwait it is used more during outdoor picnics in spring.

The high risk age groups include ages between one and three years[16-26]. A fairly high incidence of passive poisoning was reported by Buffali et al in infants in their first year of life as a consequence of mistake by the mother or caretaker[24].

Our study shows a wide spectrum of agents, commonly ingested by the inappropriately supervised children of Kuwait.

Subjects and Methods

We reviewed the medical records of 678 children admitted with acute poisoning during a fifteen year period from January 1992 till December 2006. Medical analysis included (1) historical information, age, sex, nationality (2) physical examination and (3) chemical identification. The positive historical information confirmed witnessed exposure or observation of the child mouthing, playing and or spitting the toxic substance. Physical findings were considered significant whenever a child

presented with signs and symptoms suggestive of toxic product ingestion e.g. coloring of the tongue, repetitive cough, drowsiness and smell etc. The causative chemical agent in the blood was identified by florescent polarization technique in our hospital laboratory. Each medical record was reviewed by one author. 20% of the medical records were re-reviewed to confirm the data. The high risk factor like age was divided into 4 subgroups (a) less than one year (b) 1-3 years (c) 3-6 years (d) 6-12 years.

The causative agent was categorized as (a) household product (b) medicinal product (c) plant product. The type of poisoning was divided into accidental or non accidental.

Results

Of the total pediatric admissions during our study period, 678 admissions accounted for acute poisoning. 508 (74.7%) children were less than three years of age, while 627 (92.4%) children were under six years of age. Overall male predominance was noted (Table 1). Acute poisoning affected local children twice more commonly as compared to expatriate children.

Table 1. Hospitalization by age group and sex ratio (n = 678)

Age Group (%)	M : F
< 1year = 29 (4.2)	1 : 1
1-3 year = 508 (74.7)	5.4 : 3.6
3-6 year = 119 (17.5)	6.6 : 3.4
6-12 year = 22 (3.6)	4.6 : 5.4

Drugs accounted for 356 (52.5%) poisonings in this study (Table 2). Analgesics were the commonest drugs implicated followed by methylsalicylates. Miscellaneous drugs like oral contraceptives, eltroxin, mosegor antibiotics and antihypertensives were ingested by 140 (22.1%) children in this series. Eight children ingested iron accidently. We could not identify the drug in eight cases.

Table 2: Spectrum of various drug poisonings (n = 356)

Nature of Drugs	Number of cases (%)
Analgesics	48 (7.0)
Methyl Salicylates	40 (5.8)
Antihistaminics	33 (4.8)
Salbutamol	30 (4.2)
Tricyclic antidepressants	25 (3.6)
Anticholinergics	24 (3.5)
Iron tablets	8(1.1)
Unknown	8 (1.1)
Misc. (oral contraceptives, carbamezapine, eltroxin, antihypertensive, hypoglycemic)	140 (21.4)

The majority of these drugs were prescribed to the victim or other family members at home. They were dispensed from the ministry of health pharmacy or private pharmacies. Mostly these drugs were not stored in their original containers, and were kept at easily reachable levels in bed rooms/ handbags. At times, drugs were kept at high levels, but the child would climb up and eat the drugs. The child resistant containers were left half open in 50% of cases. The parents, grandparents or caretakers were responsible for this improper storage at home. Most of the poisonings occurred accidently at homes or in the gardens.

- Four school going children self medicated themselves with analgesics during examination.
- Two nine year old girls were prescribed Buscopan by their colleague in the class.
- One eight year old boy with paracetamol and another nine year old girl with Tegretol ingestion were considered parasuicidal poisoning.
- Two boys with kerosene ingestion and two girls with methyl salicylate ingestion did this after a minor argument at home.

Ingestion of harmful household products was seen in 322 (47.5%) children (Table 3). Petroleum distillates stored in large soft drink bottles accounted for 157 (23.1%) cases. Detergents were accidently ingested by 45 (6.6%) children in this study. None of the children developed chemical burns. No child was endoscoped.

Table 3: Spectrum of various household products implicated in poisonings (n = 322)

Nature of the household product	Number of cases (%)
Petroleum Distillates	157 (23.1)
Detergents	45 (6.6)
Rodenticides	33 (4.8)
Insecticides	20(2.9)
Antiseptics	8 (1.1)
Unknown	5 (0.7)
Misc. (shampoo, spray, dyes, oil, glue, henna, acetone, polish etc.)	51 (7.5)

Miscellaneous hazardous household products like acetone, shampoos, glue, oil and henna were implicated in 51 (7.5%) cases. We were unable to identify the causative household agent in five cases. All these hazardous products were said to be kept at low easily reachable levels in the kitchen or bathrooms in loose containers. Mainly children from migrant families were the victims of household poisonings.

Most of our cases left the hospital after 24 hours. Eight cases had significant morbidity needing close monitoring in the Pediatric Intensive Care Unit (a) for ingesting an extra dose of digoxin with bradycardia. He improved after digiband therapy; (b) the 2nd casewas a two year old girl who developed severe hypotension after ingesting an antihypertensive. She responded to normal saline infusion followed by ionotopes for 2 days (c) the 3rd case, a six year old known asthmatic boy ingested accidently about 120 ml of kerosene oil kept in a large Pepsi bottle. He developed marked respiratory distress within six hours of admission. His chest X-ray showed bilateral basal and parahilar infiltrates. He required 72 hours of intensive care with ventilatory support, bronchodilatation, methyl predinisolone, antibiotics and oxygen supplementation in PICU. Complete recovery occurred after seven days. (d) Four children from different families were affected with organophosphorus poisoning. The youngest was 5 days old, a breast fed neonate. He developed apnoeic attack with bradycardia. He was ventilated and given pralidoxime with atropine. The other four required close observation and monitoring. One of them, a three year boy was brought again after six months with the same organophosphorus poisoning. He responded to prolidoxime and atropine. (e) One child after psychotropic ingestion developed respiratory failure. He was given ventilatory support for 24 hours and discharged home after five days in good condition.

22 (3.6%) cases showed some evidence of non-accidental poisoning. They were school going children between ages of six and twelve years. Their history was suggestive of peer pressure, examination stress, minor arguments at home/school. Four cases were poisoned iatrogenically (a nine year old by his peer in the school, a six year old boy who took belladonna

mixture himself, and a mother who used methyl salicylate in two cases).

21 (3.1%) patients left for home against medical advice within the first four hours of hospitalization. All other patients were discharged home in good condition after receiving relevant information. A local hospital investigator was informed in all the cases.

Discussion

Globally, exposure to drugs and hazardous household products remains a common health problem. To our knowledge, this is the first long retrospective study, that, still shows a significant morbidity due to acute accidental poisoning in children in the same health region of Kuwait over a period of 15 years. A previous study in 1986 and 1996 showed an incidence of 3.7% and 1.5% respectively[25, 26]. There is some decline, but this is not a significant decline in the incidence of acute poisoning. However, the real incidence may be higher than reported here, for many, minor ingestions at home may not warrant a visit to the hospital.

The high risk factors identified in this study include a target age group. Typically the high risk age group remains between one and six years, the majority being under three years of age (74.7%). Highly energetic and inquisitive males are twice more commonly affected than females[1-9]. Children at these ages are reported to have a higher propensity to explore and gain self experience. However, they are unable to discriminate between the safe and unsafe products. These high risk age group children need strict supervision by the caring adults. Acute poisoning seen in 4.2% infants in our study shows not only sheer neglect but poor packaging of drugs like methyl salicylate which was commonly mistaken for the oral analgesics.

The nature of the causative agent has changed over years[1-16]. Easy availability of certain drugs has resulted in the majority of acute poisoning in this study. Analgesics and methylsalicylate ingestion has replaced psychotropic ingestion. These agents are freely dispensed by the pharmacies in Kuwait. Our previous study shows a drug poisoning profile starting with antidepressants, antihistaminics, antiepileptics and oral contraceptives[25, 26]. The present profile has reflected poor control on prescriptions, availability and packaging of analgesics, and antihistaminics. Cocktails of colourful attractive drugs were brought to the hospital by the parents not in their original containers.

The child resistant containers were left half open by the parents/caretakers as reported earlier by Mc Intire MS et al[7]. We observed an increasing number of asthma cases in the families with an increase in accidental salbutamol poisoning. However, there is no documented proof for the same.

Potentially toxic miscellaneous drugs, were ingested by a significantly large number (21.4%) in our study. Easy availability of a variety of oral contraceptives found in lady's handbags resulted in a large number of poisonings in this study. However, none of the children had developed any morbidity, thus raising the issue for questionable hospitalization. Potentially toxic iron ingestion was seen in eight cases from 1992 till 2000. Later no acute iron poisoning was seen in the last six years of our study. Many drug poisonings can lead to significant mortality & morbidity[21, 24]. We had no mortality and none of our children were scoped. This is not intended to relax our current state of poison prevention vigilance.

Among the causative household agents, kerosene oil still remains an easily available multipurpose household product. In this community, it is commonly stored in large soft drink bottles at homes. Its accidental ingestion, though declining, still remains high, 157 cases (23.1%). Different authors have reported various kerosene related morbidities in their studies[16-25] in the past . Our previous study showed a very large number (90) of cases (43.4%) of kerosene poisoning(26). With an increasing rate of asthma in children, kerosene ingestion may result in significant morbidity and mortality.

Detergent exposures have increased to 6.6% due to easy availability in the market. Rodenticide exposure can affect families and can be lethal[20] . Despite pesticide related significant morbidity in four children, they were discharged in good condition from our hospital. It is said that the most available rodenticides contain less anti coagulants. In Kuwait, with its construction boom, green revolution, improving fashion industry and modernisation, there is increased exposure to, rodenticides, insecticides, pesticides, shampoos, dyes, sprays, acetone, oils, henna and many different consumer items. The present study has shown a three fold increase in their exposure[25, 26]. As reported earlier mainly children from the migrant families are the victims of the exposures[14, 15, 25, 26].

Our study has indentified several high risk factors. It has shown us some decline in incidence. It also shows a wide spectrum of agents implicated in acute poisoning in Jahra Health Region of Kuwait.

There are some limitations to our study. Since this study involved a long period, spread over fifteen years, and there is constant movement of bedouins and migrant families in this health region, hence recurrence rate could not be identified. Secondly, we were unable to educate certain families as they left against medical advice soon after admission

Conclusion

Our study shows some decline in the incidence of acute poisoning among children. Further studies are needed from different health regions, to compare results and to raise our awareness to this significant health problem.

It is recommended that

1. All the physicians working in the well-being clinics should regularly discuss poison prevention with parents and the caretakers.
2. A national community health education programme for child safety and poison prevention should be conducted regularly through mass media.
3. Exclusively the drugs, chemicals and hazardous household products with appropriate warning labels and safety precautions should only be sold in the markets.

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27.

Does Chest X-Ray Finding Affect The Decision of Performing Bronchoscopy in A Case of Foreign Body Aspiration in Children?

Key words: foreign body, aspiration, childhood.

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ABSTRACT

Aim: Is to point out whether chest X-ray in cases of history of foreign body aspiration of non-radio opaque objects affect the decision of performing bronchoscopy or not.

Patients and Methods: This prospective study - the role of chest X-ray in diagnosis of non-radio opaque foreign body inhalation- in the tracheobroncheal tree, was carried out in the pediatric surgery unit at King Hussein Medical Center (KHMC), Amman, Jordan.

The patients were referred from different hospitals in Jordan to the pediatric surgery unit between 28/4/2004 and 17/10/2006, with a history of foreign body aspiration.

Upon admission patients were divided into groups according to the age and time from the incidence of foreign body aspiration, till admission to our hospital. Chest X-ray and complete blood count were performed in every patient.

Results: Out of 63 patients in this study, 38 (60%) were males and 25 (40%) were females. Age ranged between 8 months and 11 years with a mean of 27 months; 44 (70%) patients were under the age of 3 years.

Chest radiograph was normal in 22 (35%) patients. The most common abnormal finding was hyperinflation of the lung which was seen in 38 (60%) of patients. Atelectasis was seen in three patients, while consolidation was seen in one patient. One patient was found to have congenital diaphragmatic hernia.

Conclusion: We believe that with the history of foreign body aspiration, clinical findings are a corner stone in diagnosis. Chest X-ray can help in diagnosis and localization the site of the foreign body, but does not affect the decision of performing bronchscopy.

Introduction

A foreign body in the tracheobroncheal tree is usually encountered in the pediatric age group. In developing countries it is very common and it is a serious condition. Foreign body aspiration is the cause of death for more than 300 children per year in the United States[1,2,3,4].

Foreign body aspiration can cause sudden death in some cases or may lead to chronic lung problems, and these patients are frequently misdiagnosed and treated for pneumonia or asthma[5].

An adequate and prompt treatment is associated with very low mortality. Patients with an inhaled foreign body offer a diagnostic challenge to physicians.

Physicians generally adopt an attitude of urgency regarding the removal of aspirated foreign bodies, partly because aspiration has been blamed for a large number of deaths; however the current mortality rate from foreign body inhalation is between 0% and 1.8% according to various studies[3].

The aim of this study is to point out whether chest X-ray in case of history of foreign body aspiration of non-radio opaque objects affect the decision of performing bronchoscopy or not.

Patients and Methods

This prospective study; of the role of chest X-ray in diagnosis of non-radio opaque foreign body inhalation, in the tracheobroncheal tree was carried out in the pediatric surgery unit at King Hussein Medical Center (KHMC), Amman, Jordan.

King Hussein Medical Center is the largest hospital in Jordan with a capacity of 1000 beds; it contains all branches of surgery and medicine.

The patients, were referred from different hospitals in Jordan to the pediatric surgery unit between 28/4/2004 and 17/10/2006, with a history of foreign body aspiration. The mean age of the patients was 27 months with a range of eight months to 11years.

Upon admission patients were divided into groups according to the age and time from the incidence of foreign body aspiration till admission to our hospital.

ay and complete blood count were performed in every patient. The foreign body was removed under general anesthesia with controlled ventilation and with surface oxymetry after an adequate fasting interval in the operating room.

All foreign bodies were retrieved using a rigid bronchoscope, and this was performed by a pediatric surgeon. The chest X-ray was seen and reported by a senior radiologist.

Results

Out of 63 patients in this study, 38 (60%) males and 25 (40%) were females. Age ranged between 8 months and 11 years with a mean of 27 months; 44 (70%) patients were under the age of 3 years.

Chest radiograph was normal in 22 (35%) of patients. The most common abnormal finding was hyperinflation of the lung which was seen in 38 (60%) patients; 24(38%) patients had hyperinflation of the right lung, while

in 14(22%) patients had hyperinflation of the left lung. Atelectasis was seen in three patients, while consolidation was seen in one patient. One patient was found to have a congenital diaphragmatic hernia.

Table 1: Patients with normal chest X-ray on admission

Age group	Time from aspiration to admission			Bronchoscopy findings
	12 hours <	12-24 hours	> 24 hours	
1year <	-	1	1	Positive in 2
1-3 years	2	5	8	Positive in 13
3-5years	1	-	-	Positive in 1
5-7years	-	-	2	Positive in 2
7-9years	1	-	-	Positive in 1
9-11years		-	1	Positive in 0
Total	4	6	12	Positive in 19

The most common clinical finding was decreased air entry over the affected site. The type of aspirated foreign body is shown in Table 2.

Table 2. Type of foreign body extracted

Foreign body extracted	Number
Peanut	28(45%)
Melon seed	10(16%)
Sunflower seed	6(10%)
Food particles (apple, carrot, cucumber etc)	10(16%)
Almond	5(8%)
Plastic pen cover	3(5%)

Indirect radiological findings suggestive of foreign body aspiration were found in 41 (65%) patients, and indicated the site of the foreign body in 38 (60%) patients.

DISCUSSION

Foreign body inhalation is a life threatening condition in young children. It is more common in small children and infants; the anatomic relation of the larynx, shouting, playing, crying and playing while eating and sometimes lack of parental supervision contributes to this hazard[6].

Aspirated foreign body can lead to asphyxia, post-obstructive pneumonia, granuloma, bronchectasis, atelectasis, and chronic cough, when the foreign body was inhaled into the distal bronchial system without causing an acute obstruction. It may remain silent for a while depending on its nature, therefore early diagnosis and removal of the foreign body is recommended. Nevertheless risks of both flexible and rigid bronchoscopy are low.

Chest X-rays are frequently used in assessment of patients with respiratory complaints, and it is an important tool for diagnosis of foreign body inhalation especially when we are dealing with radio-opaque foreign bodies. In this study all patients had non radio opaque foreign bodies; so indirect signs of air trapping, atalectasis due to partial obstruction, consolidation and shift of the mediastenum can occur.

Radiological findings depend on the size, type, location and time from the incidence of inhalation till diagnosis.

Hyperinflation of the lung was seen in 38 (60%) of patients; 24 (38%) patients had hyperinflation of the right lung, while in 14 (22%) patients hyperinflation occurred in the left lung.

In this study normal chest X-ray was found in 22 (35%) patients, nevertheless 20 patients had positive bronchoscopy. These results are comparable with what had been published in the literature[6,7,11].

The majority of normal chest X-ray was seen in the second age group, and mostly when the inhalation time was more than 24 hours. This is due to the fact that 44 (70%) patients were under the age of 3 years and most of the foreign bodies were organic food materials in nature, and need time to swell and cause obstruction.

The predominance of non-radio opaque foreign body inhalation, recommends special attention to indirect radiological alteration. The hyperinflation was the commonest radiological sign in this study. It occurred in 60% of our patients; this result is comparable with that written in the literature.

The chest X-ray was able to reveal the indirect radiological findings suggestive of foreign body inhalation in 65%; moreover it was in 60% useful in indicating the site of foreign body before bronchoscopy was performed. Svedstrom et al; reported 67% positive chest X-ray in bronchoscopy with proven tracheobroncheal foreign body[8,9,10].

Other diagnostic modalities have been recommended, including ventilation-perfusion scans, and magnetic resonance imaging.

We did not use any of these in our patients, because we believe that the history of foreign body aspiration, and clinical findings are a corner stone in diagnosis. Chest X-ray can help in diagnosis and localization the site of the foreign body, but does not affect the decision for performing bronchoscopy.

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Dyslipidemia May Be An Indicator for Trend of Body Weight

Key words: Dyslipidemia, excess weight.

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ABSTRACT

Background: Prevalence of excess weight is increasing with a high cost on health worldwide.

Methods: The study was performed in the Internal Medicine Polyclinic on routine check up patients, and consecutive patients at and above the age of 20 years were studied to permit growth of height in youngers.

Results: The study included 1068 cases (628 females) totally. There were only 19 (1.7%) cases with underweight and 307 (28.7%) with normal weight, so 69.4% (742) of cases at and above the age of 20 years had excess weight. The prevalence of excess weight increased from 28.7% (52) in the third to 63.6% (100) in the fourth decades ($p<0.001$), and decreased from 87.0% (94) in the seventh to 78.5% (84) in the eighth decades ($p<0.05$). Similarly, prevalences of hyperbetalipoproteinemia, hypertriglyceridemia, and dyslipidemia showed similar patterns of tendency with the excess weight, by increasing in the fourth and decreasing in the eighth decades of life ($p<0.05$ in all).

Conclusion: Prevalence of excess weight and dyslipidemia are increasing by decades, particularly in the fourth decade, and this increase turns to a decrease in the eighth decade of life. So 30th and 70th years of age may be the breaking points of life, both for dyslipidemia and body weight, and dyslipidemia may be a pioneer sign for tendency of body weight. Probably decreased physical and mental stresses after the age of 30th years and debility and comorbid disorders induced restrictions after the age of 70th years may be the major causes for the changes.

Introduction

Excess weight is a disorder characterized by increased mass of adipose tissue, and its prevalence is increasing all over the world, but it is well recognized that it causes a high cost on physical health. Main physical consequences of excess weight are impaired glucose tolerance (IGT) or type 2 diabetes mellitus (DM), white coat hypertension (WCH) or hypertension (HT), dyslipidemia, and coronary heart disease (CHD)[1-3]. For example, persons with excess weight have a higher prevalence of elevated blood pressure (BP) than lean persons, and well-known complications of HT are left ventricular hypertrophy, CHD, heart failure, chronic renal failure, and stroke[4]. In addition to above, excess weight is accompanied by some other medical complications including fatty liver, cholesterol gallstones, sleep apnea, osteoarthritis, and polycystic ovary disease, and the majority of people with excess weight have a clustering of these risk factors. Furthermore, excess weight is highly correlated with dietary intake of increased calories and fat, both of which have been linked to several types of cancer including breast, colon, and prostate[5]. So the risk of death from all causes including cardiovascular diseases, cancers, or other diseases increases throughout the range of moderate and severe excess weight both for men and women in all age groups[6, 7]. On the other hand, atherogenic dyslipidemia is commonly seen in cases with excess weight, and it is characterized by increased levels of triglycerides (TG) and/or low density lipoprotein cholesterol (LDL-C), or a decreased level of high density lipoprotein cholesterol (HDL-C) in serum[1]. We tried to understand whether or not there is a close relationship between dyslipidemia and body weight.

Materials and Methods

The study was performed in the Internal Medicine Polyclinic of the Dumlupinar University on routine check up patients between August 2006 and March 2007. Consecutive patients at and above the age of 20 years were studied to permit growth of height in youngers. Their medical histories including smoking habit, dyslipidemia, and already used medications were learnt, and a routine check up procedure including TG, HDL-C, and LDL-C was performed. Current daily smokers at least for a period of last 12-month and cases with a history of at least five pack-years smoked, were accepted as smokers. Patients with devastating illnesses including type 1 DM, malignancies, acute or chronic renal failure, chronic liver diseases, hyper- or hypothyroidism, and heart failure were excluded to avoid their possible effects on weight. Body Mass Index (BMI) of each case was calculated by the measurements of the same physician instead of verbal expressions. Weight

in kilograms is divided by height in meters squared, and underweight is defined as a BMI of lower than 18.5, normal weight as 18.5-24.9, overweight as 25-29.9, and obesity as a BMI of 30.0 kg/m(2) or greater[1]. Additionally patients with dyslipidemia were detected, and we used the National Cholesterol Education Program Expert Panel's recommendations for defining dyslipidemic subgroups[1]. Dyslipidemia is diagnosed when LDL-C is 160 or higher and/or TG is 200 or higher and/or HDL-C is lower than 40 mg/dL. Eventually, patients with underweight, normal weight, overweight, obesity, hyperbetalipoproteinemia, hypertriglyceridemia, and dyslipidemia were detected in each decade, and prevalence was compared between the decades. Comparison of proportions was used as the method of statistical analysis.

Results

The study included 1068 cases (628 females and 440 males) totally. But due to the small number of cases in the ninth decade, 20 cases only, they were not included in the comparison. There were only 19 (1.7%) cases with underweight and 307 (28.7%) with normal weight, so as a very high prevalence 69.4% (742) of cases at and above the age of 20 years had excess weight. The prevalence of cases with normal weight was 64.6% (117 cases) in the third decade, and decreased gradually but significantly until the seventh decade of life (p<0.05 nearly in all steps). Then it increased from 12.9% (14 cases) of the seventh to 20.5% (22 cases) in the eighth decades of life (p<0.05) (Table 1). In other words, the prevalence of excess weight increased from 28.7% (52 cases) in the third to 63.6% (100 cases) in the fourth decade (p<0.001), and decreased from 87.0% (94 cases) in the seventh to 78.5% (84 cases) in the eighth decades of life (p<0.05). On the other hand, when we looked at the prevalence of hyperbetalipoproteinemia, hypertriglyceridemia, and dyslipidemia, all three health parameters showed similar patterns of tendency with the excess weight by increasing in the fourth and decreasing in the eighth decades of life significantly (p<0.05) in all (Table 2). So the 30th and 70th years were the breaking points for both lipid disorders and body weight.

Table 1: Characteristic features of the study cases

Variables	Third decade	p-value	Fourth decade	p-value	Fifth decade	p-value	Sixth decade	p-value	Seventh decade	p-value	Eighth decade
Number	181		157		246		249		108		107
Prevalence of smoking	11.0% (20)	p<0.001	32.4% (51)	ns*	28.8% (71)	ns	31.7% (79)	ns	23.1% (25)	ns	23.3% (25)
Prevalence of underweight	6.6% (12)	p<0.05	1.9% (3)	ns	0.4% (1)	ns	0.0% (0)	ns	0.0% (0)	ns	0.9% (1)
Prevalence of normal weight	64.6% (117)	p<0.001	34.3% (54)	P<0.001	21.1% (52)	ns	16.8% (43)	ns	12.9% (14)	P<0.05	20.5% (22)
Prevalence of overweight	24.3% (44)	p<0.001	42.0% (66)	ns	45.9% (113)	p<0.05	39.3% (98)	ns	46.2% (50)	ns	40.1% (43)
Prevalence of obesity	4.4% (8)	p<0.001	21.6% (34)	p<0.001	32.5% (80)	p<0.001	43.7% (109)	ns	40.7% (44)	ns	38.3% (41)

*Nonsignificant

Table 2: Associated disorders of the study cases

Variables	Third decade	p-value	Fourth decade	p-value	Fifth decade	p-value	Sixth decade	p-value	Seventh decade	p-value	Eighth decade
Number	181		157		246		249		108		107
Prevalence of excess weight	28.7% (52)	<0.001	63.6% (100)	<0.001	78.4% (193)	ns	83.1% (207)	ns	87.0% (94)	<0.05	78.5% (84)
Prevalence of hyper-betalipoproteinemia	1.6% (3)	<0.001	12.7% (20)	ns*	15.8% (39)	ns	19.6% (49)	ns	23.1% (25)	<0.05	14.0% (15)
Prevalence of hyper-triglyceridemia	5.5% (10)	<0.001	15.2% (24)	<0.05	20.3% (50)	<0.05	25.7% (64)	ns	24.0% (26)	<0.01	11.2% (12)
Prevalence of dyslip-idemia	6.6% (12)	<0.001	26.7% (42)	ns	31.7% (78)	<0.05	38.9% (97)	ns	39.8% (43)	<0.001	20.5% (22)

*Nonsignificant

DISCUSSION

Excess weight leads to both structural and functional abnormalities of many systems of body, and it is important in medical terms to specify the excess weight not only as one of the risk factors, but as 'obesity disease'. For example, individuals with excess weight will have an increased circulating blood volume as well as an increased volume of cardiac output, thought to be the result of increased oxygen demand of the extra body tissue. The prolonged increase in circulating blood volume can lead to myocardial hypertrophy and decreased compliance, in addition to the common comorbidity of HT. Similarly, the relationship between the excess weight and HT is also described under the heading of the metabolic syndrome, and clinical manifestations of the syndrome include abdominal obesity, dyslipidemia, HT, insulin resistance, and proinflammatory as well as prothrombotic states. In addition to the HT, the prevalence of high FPG, high serum total cholesterol, and low HDL-C, and their clustering were all raised with increases in BMI(8). Combination of these cardiovascular risk factors will eventually lead to an increase in left ventricular stroke with a higher risk of arrhythmias, cardiac failure, or even sudden cardiac death. So the above prospective cohort study showed that the BMI is one of the independent risk factors for stroke and CHD[8]. Similarly, the incidences of CHD and stroke, especially ischemic stroke, have increased with an elevated BMI in other studies[9]. Eventually, the risk of death from all causes increases with excess weight in all age groups[7]. On the other hand, dyslipidemia

comes with excess weight, HT, type 2 DM, CHD, and stroke-like health problems in front of us in future. Similarly, we observed that excess weight, hyperbetalipoproteinemia, hypertriglyceridemia, and dyslipidemia showed highly significant increases in prevalence during passage to the fourth decade of life ($p<0.001$ in all), and interestingly while the prevalence of excess weight was decreasing in the eighth decade significantly, the prevalence of hyperbetalipoproteinemia, hypertriglyceridemia, and dyslipidemia decreased, too ($p<0.05$ in all). So dyslipidemia may be a pioneer sign for tendency of body weight either to increase or decrease.

Some studies revealed that the increase in body weight by age has been found to be lower among smokers[10], and smoking in humans and nicotine administration in animals are associated with a decreased body weight[11]. In another study, there was a relationship between being overweight and nicotine dependence among men but not among women[12]. Whereas in our study, prevalence of smoking also increased in parallel to the increasing prevalence of excess weight in the fourth decade, and its prevalence was 11.0% and 32.4% in the third and fourth decades respectively ($p<0.001$). So both the smoking and excess weight showed a nearly three-fold increase in the fourth decade of life. Then it remained nearly constant in the rest of life and it changed between 32.4% and 23.1% nonsignificantly. Actually, smoking may be associated with post-cessation weight gain, but evidence suggests that the risk of weight gain is the highest during the first year after quitting and declines over the years[13]. This might be interpreted as a response to smoking cessation, whereas the long-term increase in BMI has been attributed to more stable characteristics such as gender[14]. Similarly, smoking females have not gained weight after cessation compared to never smoking women[15]. Actually, the apparent body weight increase after smoking cessation in males seems to be due to decreased weight during smoking plus a transient weight increase after quitting.

As a conclusion, although the already known consequences of excess weight and dyslipidemia on health, prevalence is increasing by decades particularly in the fourth decade, and this increase turns to a decrease in the eighth decade of life. So 30th and 70th years of age may be the breaking points of life both for dyslipidemia and body weight, and dyslipidemia may be a pioneer sign for tendency of body weight. Probably decreased physical and mental stresses after the age of 30 years and debility and comorbid disorders induced restrictions after the age of 70 years may be the major causes for the changes.

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Ocular Manifestations of Atopic Dermatitis

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Keywords: Atopic dermatitis, ocular involvement, blepharitis, and corneal involvement.

Introduction

Atopic dermatitis is a recurrent eczematous pruritic skin condition usually beginning in infancy[1]. Precise aetiology is unknown, but current theories center on a disordered immune response, especially an imbalance of cytokines, disordered regulation of IgE and T cell mediated hypersensitivity reactions and vascular responses.

Skin manifestations usually occur on the cheeks, hands, and extensor surfaces in children; antecubital and popliteal fossa in adults. Ocular involvement including cataract, keratoconjunctivitis, keratoconus, retinal detachment, herpes simplex keratitis, and ocular motility disturbances have been described[2-4].

In this study we aimed to evaluate the ocular features and their frequency in patients with atopic dermatitis.

Materials and methods

A prospective study conducted at King Hussein Medical Center during the period of January 2005 and January 2006. A total number of 64 patients diagnosed to have atopic dermatitis and being followed at the dermatology clinic were enrolled in the study. Patients were evaluated at the ophthalmology clinic. Ophthalmologic examination included Snellen's chart visual examination, anterior segment examination via slit lamp, prior and after staining with fluorescein, intraocular pressure measurement via Goldmann's applanation tonometry, posterior segment examination after mydriasis via indirect ophthalmoscope and Schirmer test.

Results

The mean age for patients was 11.6 years with 1.1:1 male to female ratio. Ocular involvement was evident in 30 patients (46.9%). 83.3% of patients had bilateral eye involvement. The commonest abnormality was blepharitis 40.6% followed by conjunctivitis 31.3%, corneal disease 15.6%, lens opacities 7.8%, and retinal involvement 1.6% (Table 1). Corneal involvement included superficial punctuate keratopathy, ulceration, opacities, pannus, and reactivation of herpes simplex keratitis. 25% of patients were asymptomatic, 14.1% had dry eyes and 6.3% had keratoconus.

Table 1. Ocular manifestations in patients with atopic dermatitis

Ocular manifestation	Number of patients	Percentage
Blepharitis	26	40.6
Conjunctivitis	20	31.3
Corneal pathology	10	15.6
Lens opacity	5	7.8
Retinal pathology	1	1.6

Discussion

Although there are a limited number of studies on the frequency of ocular complications in atopic dermatitis patients, they have been reported in 42.5% of patients[4]. Our results showed that 46.9% of atopic dermatitis patient had ocular involvement with the majority having bilateral eye involvement.

The commonest ocular manifestation we found was blepharitis. Atopic blepharitis is one of the major ocular complications of atopic dermatitis[4-5]. It has been pointed out that atopic patients have dry skin accompanied by barrier disruption and water deficiency [6].

Conjunctivitis may occur in isolation or may be accompanied by blepharitis or corneal involvement. Atopic blepharoconjunctivitis is a subgroup of patients with atopic dermatitis with chronic allergic conjunctivitis which do not show keratopathy[7-8]. Atopic keratoconjunctivitis is a severe chronic allergic conjunctival disease associated with atopic dermatitis and is often associated with corneal complications such as erosion and ulcers[9]. The cornea is frequently involved in a variety of ways including punctate epithelial keratitis, macroerosion, and plaques[10]. Ten of our patients had corneal pathology, the commonest being superficial punctuate keratopathy (4 patients), ulceration (2 patients), opacities (2 patients), pannus and reactivation of herpes simplex keratitis (1 patient each).

Keratoconus is also reported to accompany atopic dermatitis; 4 patients in our study had keratoconus.

Patients with atopic dermatitis frequently develop cataract and retinal detachment. Previous studies reported that the frequency of cataract in patients with atopic dermatitis was approximately 10-20% [4,11-12] while that of retinal detachment was 8%[12]. The figures we encountered were 7.8% for cataract and 1.6% for retinal detachment. All patients had straight forward surgeries. Cataract associated with atopic dermatitis may be of anterior or posterior subcapsular opacities, mixed or mature usually manifesting in adolescence. Five of our patients had cataract; 3 of them had anterior subcapsular variety and 2 had posterior subcapsular cataract. Retinal detachment is generally caused by breaks in the ciliary body or the retina near the ora serrata[13-14]. It had

been reported that breaks in the ciliary body developed because of traction resulting from contraction of the lens capsule following cataract surgery[15-16]. Only 1 patient in our study had retinal detachment that occurred four months after uneventful cataract surgery.

Nine patients (14.1%) had dry eyes. Dry eyes were diagnosed based on Schirmer test; wetting of less than 5 mm was considered abnormal[17]. All these patients were asymptomatic. The other 7 patients who were asymptomatic had blepharitis.

In conclusion, various ocular abnormalities accompany atopic dermatitis. Some patients are rather asymptomatic, hence the importance of referring patients with atopic dermatitis to an ophthalmology clinic.

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ABSTRACT

Introduction: The planning of the birthplace is considered as important as the pregnancy period. To be aware of the factors that have a strong effect on the preference of maternity hospitals plays an important role in this planning. The aim of this study is to define the socio-demographic traits, birth forms and the prenatal-antenatal care rates of women who preferred Zubeyde Hanim Maternity Hospital.

Methods: This study focuses on 500 pregnant women who applied to Zubeyde Hanim Maternity Hospital between July 2005-September 2005. The data has been obtained by the investigators who filled out survey forms, which were prepared by a research group, by way of face to face interview. For the statistical measurements SPSS 9.01 program was used.

Results: The average age of the study group was defined as 25.5 ± 5.2. 80.4% of women were from the town centre of Bursa, 18.4% were from small towns of Bursa and the other 1.2% were from other neighboring cities. When the women in the study group were examined according to their education, it became clear that 65.1% were primary school graduates, 22.2% high school graduates, 7% uneducated and 5.6% higher educated. Whilst 87.8% of women were housewives, just 12.2% were working ($p<0.001$). The birth form was in 58.4% normal spontaneous birth and in 41.6% caesarean operation. Although 56.3% of women who had a caesarean operation were primary school graduates, 60.7% of higher educated women preferred caesarean operation. It was observed that the caesarean operation rates, age of first birth and prenatal-antenatal care rates increased and the number of children decreased concerning the augmentation of the education level.

Discussion: Pregnancy and birth are periods during which women require a health centre most. Women's age, education level and socio-economic factors play an important role in preference of these health centres. The primary care physician is the most important person who can examine the socio-demographic traits and preferences of the woman and can assist with the planning of the consultations during the pregnancy period and birth.

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Key words: Maternity hospital, socio demographic, pregnancy.

Introduction

To contribute to personal, familial and public health, to protect and improve maternal health at all stages of life, to resolve problems related to women's health, maternal and children's health and also reproductive health are of important duties of family physicians in primary health care[1].

The problems experienced by the mother before or during pregnancy and existent risk factors affect the unborn baby. It is quite important for the unborn baby to become a healthy individual to detect the risk factors of the mother and the problems that arise before or during pregnancy which cause symptoms or not[2]. By consulting their physicians, mothers must find out whether they carry risk factors and if so they must learn how their pregnancy, labor and babies will be affected and what to pay attention to. This can be only possible if mothers comprehend the importance of prenatal and antenatal care. Several factors such as maternal age during pregnancy, occupation, inhabitation, socio-economic and educational status can play a role in this comprehension. Also these factors may be effective for determining the appropriate delivery method[3].

Therefore family physicians are responsible for determining every risk profile that can be experienced during pregnancy follow-up within their responsibility scope. Towards the determination of the risk factors during pregnancy, planning the place of labor is important. In light of this knowledge it can be observed that in our country some studies were performed about delivery methods, reasons for caesarean delivery and prenatal-antenatal care; also socio-demographic characteristics of pregnant women living in rural areas need to be investigated. Saka et al evaluated the socio-demographic characteristics and smoking status of pregnant women who gave birth at Diyarbakir Maternity Hospital, while Ozkaya wanted to exhibit the annual birth rates and caesarean delivery indications in Demirel University Obstetrics and Gynecology Clinic[4,5]. Bozkurt et al investigated the situation of receiving prenatal, natal and postnatal health care of married women aged 15-49 years who were admitted to primary health care centers

for any reason in Gaziantep, and also the factors affecting this situation[6]. However neither study could be found in literature that evaluates socio-demographic characteristics of pregnant women, delivery methods and prenatal-antenatal care status all together.

In this study defining the prenatal-antenatal care ratio and delivery methods of women who preferred Zubeyde Hanim Maternity Hospital, as well as socio-demographic features which affect these situations is our aim.

Materials and Methods

500 pregnant women were included in this study who admitted to Zubeyde Hanim Maternity Hospital in Bursa for delivery between June 2005 and September 2005. The study is based on questionnaire method. A questionnaire form including 23 questions related to socio-demographic features, as well as characteristics of previous labors, prenatal-antenatal follow-up and delivery methods was prepared by investigators. In the course of the study, the method in which the research assistant who works in the study group, interviewed the pregnant woman one by one was preferred; in this manner it was ensured that collecting data was more reliable. Analysis using descriptive statistics of data was performed using SPSS 9.01 computer software. Depending on characteristics of variables Pearson chi-square test and Fisher exact chi-square test were performed for categorical variables, while Kruskal-Wallis and Mann-Whitney U test of non-parametric tests were used to compare the groups for quantitative variables. Correlation analysis was performed to define the statistical significance of the relation between quantitative variables.

Results

The mean age of pregnant women admitted to Bursa Zubeyde Hanim Maternity Hospital was 25.5±5.23. Of the cases 80.4% resided in Bursa, 18.4 in boroughs and villages of Bursa and 1.2% resided in other cities. 87.8% of the women were housewives while 12.2% were working at various jobs. Mean age of first delivery was detected as 22.5±3.81, mean pregnancy duration was 38.9±1.94 weeks and monthly income was 715.17±584.71 YTL. If the distribution of the women in the study group according to their educational status is examined it could be seen that 65.1% of the women were primary school graduated, 22.2% were high school graduated, 5.6% were college graduated and 7.1% were illiterate (Table 1).

Table 1: General demographic features of the cases

Mean age	25.5±5.23
Mean first pregnancy age (years)	22.5±3.81
Mean duration of pregnancy (weeks)	38.9±1.94
Mean monthly income (YTL)	715.17±584.71
Inhabitation	
Bursa	80.4%
Boroughs and villages of Bursa	18.4%
Other cities	1.2%
Occupational groups	
Housewives	87.8%
Working women	12.2%
Educational status	
Illiterate	7.1%
Primary school graduated	65.1%
High school graduated	22.2%
College graduated	5.6%

56.2% of the cases gave birth to their first children; also 57.4% had no live children. During previous pregnancies 18.7% of participants had a history of abortion and/or curettage, 3.2% had a history of stillbirth and 1.4% had a history of giving birth to a baby with a congenital anomaly. Considering the type of labor 41.6% had a history of caesarean delivery while 58.4% had normal spontaneous vaginal delivery. 74.4% received prenatal-antenatal follow-up, whereas 25.6% hadn't received this care.

There was a statistically significant difference between cities where cases resided and the history of a previous stillbirth ($p<0.05$) and prenatal-antenatal follow-up ($p<0.05$). The ratio of previous stillbirth was 2.8% and for prenatal-antenatal follow-up it was 74.9% in cases who resided in Bursa or its boroughs and villages, whereas stillbirth ratio was 33.3% and prenatal-antenatal follow-up ratio was 20% in cases residing in other cities (Graph 1).

History of previous stillbirth and congenital anomaly with respect to the distribution of mean ages can be seen in Table 2. Statistically significant relations were found between ages of the cases and the history of stillbirth and the history of congenital anomaly ($p<0.05$).

Table 2: Distribution of the history of stillbirth and baby with a congenital anomaly in previous pregnancies with respect to mean ages

	History of stillbirth in previous pregnancies		History of giving birth to a baby with congenital anomaly	
Mean age of the cases	YES	NO	YES	NO
	29.43± 6.14	25.44± 5.15	30.0± 5.19	25.51± 5.21

Correlation analysis revealed positive correlation between maternal age and total number of deliveries, also between maternal age and the number of abortions and/or curettages ($r=0.597$, $p=0.00$ and $r=0.275$, $p=0.008$ respectively); whereas there was a negative correlation between first pregnancy age and total number of deliveries ($r=-0.210$, $p=0.00$).

There was statistical significance among educational status and number of deliveries ($p<0.001$), first pregnancy age ($p<0.001$), number of live children ($p<0.005$), history of previous stillbirths ($p<0.001$), delivery methods and prenatal-antenatal follow-up ($p<0.001$). The relation between educational status and mean number of deliveries, first pregnancy age and number of live children can be seen in Table 3.

Table 3: Distribution of total number of deliveries, first pregnancy age and number of live children with respect to educational status

Educational status	Total number of deliveries	First pregnancy age	Number of live children
Illiterate	2.25± 1.42	19.83± 3.94	1.08± 1.31
Primary school graduated	1.63± 0.81	21.98± 3.34	0.57± 0.74
High school graduated	1.43± 0.70	23.73± 3.68	0.40± 0.62
College graduated	1.35± 0.48	27.0± 4.58	0.35± 0.48

There was history of stillbirth in 20% of participants who were illiterate, 1.8% of those who were primary school graduated, 1.8% of those who were high school graduated and 3.5% of participants who were college graduated. 64.7% of cases who were illiterate, 28% of primary school graduates and 12.8% of high school graduates received no prenatal-antenatal follow-up care, whereas all college graduates received follow-up care. History of caesarean delivery existed in 48.6% of illiterates, 36% of

primary school graduates, 51.4% of high school graduates and 60.7% of college graduates.

There was statistical significance between occupation and prenatal-antenatal follow-up ($p<0.05$); while prenatal-antenatal follow-up ratio was 72.5% among housewives, it was 100% among working women.

Discussion

Defining the features that mother candidates possess is required to prevent medical or obstetrical complications that can occur during pregnancy. It is also very important to make a risk analysis, appropriate follow-up and delivery planning for mother and baby, together with the family.

In our study it was observed that cases who admitted to the maternity hospital from outside of Bursa had a higher stillbirth but lower prenatal-antenatal follow-up ratio during their previous pregnancies (33.3% and 20% respectively). But it is also possible that stillbirth ratio of these cases is higher because most participants in this study are from Bursa and its boroughs and villages, whereas the number of participants admitted from other cities was small and complication probability was higher in these cases because they didn't receive proper follow-up care.

Seven percent of the cases in our study were illiterate; whereas the ratio of illiterate pregnant women who gave birth at Diyarbakir Maternity Hospital between April 1997-May 1997 was 54.6% in the study of Saka et al in which socio-demographic features and smoking status of pregnant women was investigated[4]. Comparing to our study this ratio seems too high; this difference in educational status could have resulted from regional properties.

In the study of Ozkaya et al which investigated 1502 deliveries that took place at Suleyman Demirel University Obstetrics and Gynecology Clinic between years 1998-2002, the ratio of caesarean delivery was found to be 53.7% and normal vaginal delivery ratio was found to be 46.3%[5]. The results of this study seem to be similar to the results of our study. However in a study that examines 5128 deliveries carried out in Dicle University Medical Faculty Obstetrics and Gynecology Clinic between years 1995-1999 retrospectively the ratio of caesarean deliveries was 29.7%[7]; also in another retrospective study that investigated 32699 deliveries carried out in Kayseri Maternity Hospital between years 1998-2001, the ratio of caesarean deliveries was reported as 10.15%[8]. In the study which investigated the methods of deliveries performed during the last six years in SSK Ege Maternity Hospital, ratio of caesarean deliveries was reported as 19.24%, whereas vaginal delivery ratio was reported as 80.76%[9]. When we compare these results with our study it is seen that caesarean ratios are lower in these three studies. This could be due to the higher number of cases or because number of deliveries and delivery methods could be defined.

Mean ages of the cases who have a history of stillbirth or giving birth to a baby with a congenital anomaly seem to be higher than cases who didn't have such a history. This may be related to the fact that women who have such a history get pregnant at an earlier age and they have a higher number of pregnancies.

In the study performed by Bozkurt et al which evaluated receiving prenatal, natal and postnatal care regarding the status of 500 married women aged 15-49 years who admitted to primary health care centers in Gaziantep for any reason between March 1999-April 1999 and also the factors affecting this situation, it was found that 24.1% of the cases didn't receive any prenatal care during their last pregnancies and 10.2% of the cases gave birth to their children without help of any medical staff in their last pregnancies. This situation is thought to be due to living in rural areas, low educational status of woman and her spouse or lack of social security[6]. In the study performed at a maternity and children's hospital in Adelaide of South Australia in 2000 women participated in the study were of the same opinion that caesarean is an easy and appropriate method for delivery; but this situation was determined as independent from variables like age and educational status[10]. In our study three-quarters of the cases seem to have received prenatal-antenatal follow-up. As educational level rises mean number of deliveries and number of live children decreases but mean first pregnancy age increases; however as educational level decreases the ratio of prenatal-antenatal follow-up also decreases but history of stillbirth in previous pregnancies increases. 64.7% of illiterates received no prenatal-antenatal follow-up during their pregnancies and 20% of them was had a history of stillbirth. As educational level raised the ratio of caesarean deliveries also increased.

However caesarean delivery ratio of illiterate women was also high. Inadequate prenatal-antenatal follow-up and pregnancy complications which probably occurred due to this situation could be effective for the high caesarean ratio of illiterate women. Higher caesarean ratio in participants with higher educational level could be due to the increase in first pregnancy age or social indication for caesarean decided between patient and physician. When housewives and working women were compared according to prenatal-antenatal follow-up status, it was found that all of the working women had received prenatal-antenatal follow-up, whereas 72.5%of working women received such care. Low educational level of housewives could play a role in detecting this lower ratio of prenatal-antenatal follow-up.

In the study which investigated the demographical factors and factors that affect the fertility of 15-49 years aged married women in Malatya Yesilyurt, 20.5% of the cases were illiterate, 6% were literate, 58% were primary school graduated, 15.5% of cases were graduated from middle school or higher and mean first pregnancy age was 19.1±3.1. High delivery rate was evaluated in this study and it was observed that the number of live children negatively but first pregnancy age younger than 20 years and educational status of primary school graduate or lower positively affected this situation[11]. In our study, although mean first pregnancy age was higher than 20, number of deliveries was high in cases who had a low educational level. This result can be due to the

fact that education makes women conscious of contraceptive methods and so they accept them.

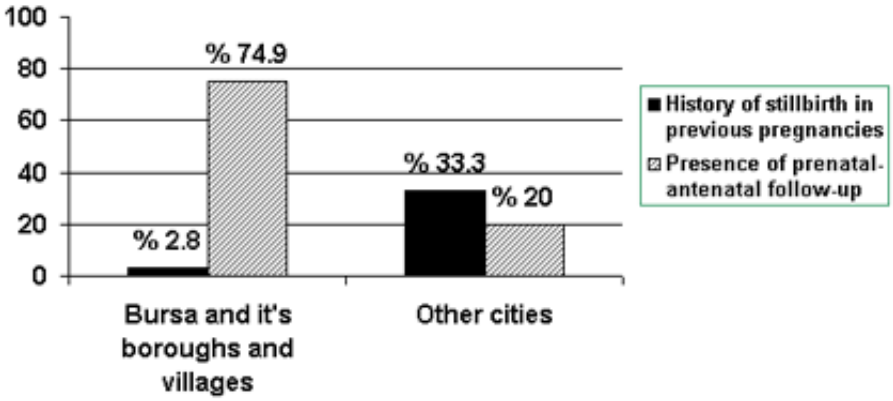
Mean ages of cases with caesarean delivery history being low can be attributed to the high proportion of cases being housewives, low educational level and inadequate prenatal-antenatal follow-up.

As a result, pregnancy and labor are periods in which women need health care centers most. Age, educational status and socio-economic factors are determinative for preferring these health care centers. In our study it was observed that inhabitation, occupational status and educational level are effective for receiving prenatal-antenatal care, additionally age of the mother, inhabitation and educational level affects the history of stillbirth during previous pregnancies and finally educational level influences the selection of delivery method.

The family physician is the most important person that can help women by organizing the required consultations in the pregnancy period and by planning the labor, after evaluating her socio-demographic features and choices fully.

Graph 1

Distribution of prenatal-antenatal follow-up and history of stillbirth in previous pregnancies according to habitation.



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Risk Factors for Early Termination of Breast-Feeding in First-time Mothers

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ABSTRACT

Objective: To identify risk factors for cessation of breast-feeding before six months in primiparous women.

Subjects and Methods: Mother-infant pairs of primiparous women were recruited for a period of one year, with infants between the ages of 6-24 months, visiting outpatient clinics of a teaching hospital for routine check-up and mild illnesses. Information related to infant feeding patterns was recorded on a structured questionnaire. Data was analyzed by SPSS software. Analysis of Variance, was used for comparison of means and a p-value of <0.05 considered significant.

Results: 400 mother-infant pairs were enrolled. At 6 months of age 68.8% of babies were predominantly breast-feeding, 14% on partial breast-feeding, and 17.3% were bottle-fed. Fifty-four percent of mothers, who stopped breastfeeding by 6 months, did so in the first 3 months. Salient risk factors identified for premature termination of breast feeding were: cesarean delivery, infant's low birth weight, neonatal hospitalization for >3 days, and infant hospitalization between 1 and 6 months of age, (p-values= 0.001, 0.002, 0.03 and 0.001, respectively).

Insufficient milk secretion was stated as the most common reason for premature cessation of breast-feeding.

Conclusion: Identification of risk factors for early termination of breast-feeding is necessary before developing strategies to improve duration of nursing in first-time mothers.

Introduction

Breast-feeding has been widely accepted as the optimal method of nutrition for young infants. Apart from psychological, economical, and nutritional benefits, there is conclusive evidence that breastfeeding confers significant protection against morbidity and mortality associated with infectious diseases in the first year of life[1-4]. Literature search reveals that although the majority of mothers start breast feeding, a large percentage discontinue during the early months[2, 5-10]. Several factors are associated with early cessation of breast-feeding and differ in different parts of the world. Numerous studies have researched this issue in multiparous mothers, mothers of twins, and of low-birth weight infants, however relatively few reports have focused on feeding patterns in primiparous women[7-12]. First time mothers need extra support since it has been shown that a successful breast-feeding experience with the first child inclines the mother to repeat that experience with later off-spring[9,13,14]. In view of the above reasons we have limited our study to risk-factors involved with early termination of breast-feeding in mothers rearing their first infants in the capital city of a Middle-Eastern country. We did not find a similar report from this region of the world in our literature search.

Methods

Mother-infant pairs were recruited for this study from all infants brought to the outpatient clinics of a teaching hospital for vaccination, routine checkups and minor childhood ailments during the study period of one year. Criteria for enrollment were specified as follows: all women were first-time mothers, all infants were between the ages of 6 to twenty-four months, and were normal with no congenital anomalies or chronic diseases that would interfere with breast-feeding. A structured questionnaire was utilized by trained personnel to collect and document relevant data about the social and economic demographics together with information about feeding patterns and relatable peri- and postnatal factors.

WHO classification was used to define the method of feeding: Predominant breastfeeding was defined as an infant being fed breast milk along with some other non-milk fluids, for example water or "sugar water", but not animal milk or infant formula. Infants who were offered both breast milk and animal milk or infant formula were labeled as "partially breastfed", when no breast milk was given the infant was "bottle fed". Subjects were classified into 3 groups; group 1 comprised mothers in whom predominant breast-feeding was maintained at least for the first six months of life; in group 2 infants had started partial breastfeeding, receiving both breast and bottle milk during the same period, and in group 3 breast-feeding was discontinued before the end of 6 months. Particulars of the study subjects were documented; we utilized SPSS software for analysis and comparison of variables between the three groups. Analysis of variance, (ANOVA), was done for comparison of means and a p-value <0.05 was considered significant.

Results

Data was documented from a total of 400 mother-infant pairs, who satisfied the criteria for inclusion in the study. Four mothers had delivered twins, the rest were singletons. 315 mothers were housewives and 85, (about 27%), were working mothers.

Mean age of infants was 15.2 months. At 6 months of age 68.8% were on predominant breast-feeding, (group1), 14% on partial breast-feeding, (group2), and 17.3% were being bottle-fed (group 3). Out of the 69 mothers who discontinued breastfeeding before 6 months, 38, (54%), had done so before their infants were 3 months old. Out of the other 31, 11 discontinued at 3 months, 9 at four months and another 11 at 5 months of age. Specifics of mothers and babies in the three groups are compared in Table1. In addition, 7 mothers discontinued breast feeding at 6 months, 2 at 7 months and another 7 at 9 months with 1 mother stopping at 10 months, so 86 mothers, i.e. 21.5% of our sample of 400 primiparas, had stopped breast-feeding before their infants were one year old. All infants who were bottle-fed before 6 months,

were given formula and none was started on pasteurized cows' milk before the age of 6 months. Out of the 124 infants for whom formula was introduced during the first 6 months, it was started at birth in 45, (36%), (Fig.1).

DISCUSSION

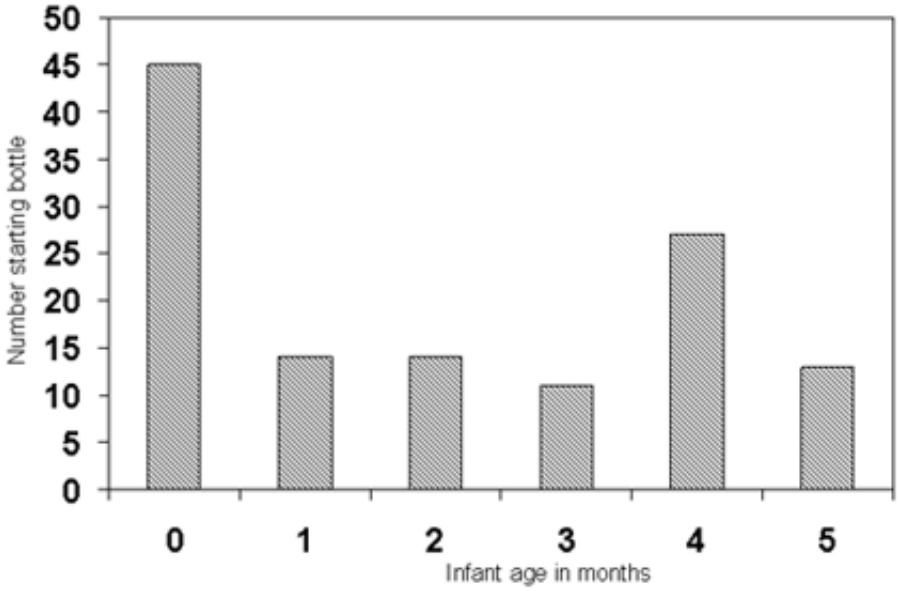
First-time mothers make-up a unique group needing special continuous support with infant care[15]. Recent studies show that the improved rates of breastfeeding are a result of the intervention of health professionals during the perinatal period, and, women having their first child benefit most from educational activities aimed at promoting breastfeeding[16].

In this study we have attempted

Table 1: Comparison of variables in three groups of infants [with predominant breast-feeding (1), partial breast-feeding (2), and bottle-feeding (3), at 6 months

No	Variable	Group 1 No = 275	Group 2 No = 56	Group 3 No = 69	p-value
1	Birth wt <2.5 kg.(%)	3.6	16.1	13	0.002
2	Cesarean Delivery (%)	55.6	83.9	62.3	0.001
3	Male sex (%)	50.5	57.1	58	0.4
4	Neonatal hospitalization, positive (%)	18.9	26.8	27.5	0.1
5	Neonatal hospitalization for>3days	8.4	10.7	17.4	BTWgrps1&3= 0.03
6	Infant hospitalization between 1-6 m.	3.6	12.5	27.5	0.001
7	Father smoker (%)	23.2	20	30.3	0.3
8	Mother's age, yrs. mean(SD)	25.18±4.26	26.11±4.73	24.54±5.7	0.16
9	Working mother (%)	20	37.5	13	0.03
10	Mother's education, yrs. mean(SD)	11.81±4	11.75±4.5	10.99±3.5	0.3
11	Father's education, yrs. mean(SD)	11.91±4	11.91±4.2	11.22±3.9	0.43
12	Child care attendance (%) Total=395	1.8	5.4	3	0.3

Fig 1. Formula introducing age



Reasons stated for early discontinuation of breast-feeding are given in Table 2.

Table 2: Reasons for early discontinuation of breast-feeding, (no = 69)

No	Reasons for breast-feeding termination	No	%
1	Insufficient milk	33	47.8
2	Baby hospitalization	13	18.8
3	Baby rejection	7	10.1
4	Mothers job	7	10.1
5	Maternal illness	2	2.9
6	Twins	4	5.8
7	Reason not clear	3	4.3

to assess current breastfeeding practices in primiparous mothers using standardized breastfeeding indicators developed by the World Health Organization and to detect the impact of risk factors for discontinuation of breastfeeding. Knowledge of predictive factors would identify mothers who need particular attention of healthcare personnel.

Since giving water or "sugar water" to the infants to alleviate presumed thirst or relieve "abdominal colic" is the norm in this part of world, almost all infants in our study had received these fluids in addition to breast milk; thus, exclusive breast feeding, as defined by The World Health Organization, i.e. an infant being fed only breast milk and nothing else, not even water, with the exception of vitamin supplements and prescribed medicines, was not relevant in our subjects[17]. Furthermore, it has been shown that indicators based on maternal recall for exclusive breast feeding may be inadequate and even misleading; studies conducted rigorously report many infants who are predominantly breastfed have been classified as exclusively breastfed during demographic surveys[18, 19]. Therefore, we have used the term "predominant" breast feeding, which is the recommended WHO terminology for such infants, although some babies classified as being predominantly breast-fed may have been exclusively breast-fed.

Our rates for predominant breast-feeding at 6 months of age are higher than several comparable surveys[2,5,20,21].

In our study, there was no significant difference in mothers' age or level of education between the three groups with different modes of feeding, which is in contrast to some reports[5,8,10,22,23]. Although Lathouwer et al reported that there were no differences between the group whose babies were born by caesarean section and those who had vaginal deliveries, in our subjects a significantly higher percentage of mothers with caesarean sections, as compared to normal deliveries, discontinued breast-feeding before 6 months (p= 0.001)[9]. Other factors negatively associated with prolonged duration of breast-feeding were infant's low birth weight and neonatal hospitalization for more than 3 days (p= 0.002, and 0.03, respectively). Hospitalization of the newborn for 3 days or less did not result in early cessation of breast-feeding. Infant hospitalization after the neonatal period had an adverse effect on continuation of breast-feeding beyond 6 months (p= 0,001). We did not find any reports about the association of neonatal or early infant hospitalization with duration of breast feeding in first-time mothers. In our subjects, all mothers were non-smokers and fathers' smoking habits or level of education had no effect on his spouse's feedingbehavior.

We have scrutinized mothers' main reasons for stopping breast-feeding, (Table 2). Almost 50% of the mothers who ceased breast-feeding their infants did so because they thought that their milk was not enough to satisfy the baby, so they would either supplement or even replace it with formula. This fact has been recorded by other observers as well, although in one study it was noticed that most commonly, women did not breastfeed because they "preferred to bottle feed"[12,24].

Infant hospitalization was quoted as the second most common reason for termination of breast feeding in our study, emphasizing the need for breast-feeding support from trained hospital staff. Although mothers' employment was cited as the reason for breast-feeding discontinuation in about 10% of cases, comparison between the three groups revealed an interesting pattern which was unlike other studies[10]. Working mothers tended to have a higher rate of feeding their babies with both bottle and breast, as compared to the other two groups, (p= 0.03). Reason for this discrepancy needs to be explored. Most probably this group of mothers would have breast-fed their infants if they did not have to go to work. While Taylor et al report "Physical or medical problem" in 14.9% of women who did not breastfeed and 26.9% of women who had stopped breastfeeding, making it the second most common reason for not breastfeeding, in our study only 2 mothers, named maternal illness as the cause for discontinuing to nurse their babies[12].

Out of the mothers who stopped nursing before 6 months, more than half discontinued breast-feeding before their off-spring were 3 months old, emphasizing the necessity for support during early months of infant rearing to help the first time mother acquire expertise and confidence with breast-feeding.

Figure 1 illustrates, that most women who started the bottle in young infants did so either shortly after birth, or around 4 months of age. These findings underscore the need for intervention at two critical periods, immediate postnatal, and again when the infant has grown and the mother feels that breast milk may not be enough to satisfy the baby.

In our study, caesarean section, low birth weight, neonatal hospitalization for more than 3 days, infant hospitalization between 1 and 6 months of age, and perceived insufficient milk secretion were identified as leading risk factors for premature termination of breast feeding. In addition, early postnatal weeks were critical, since the highest percentage of first time mothers who introduced the formula or who stopped to breastfeed, did so during this period.

Findings in this study reveal some similarities with reports from other parts of the world in patterns of infant feeding, and also unveil some important differences in associated factors, and in reasons for early discontinuation of breast feeding. These results reiterate the fact that interventions that seek to increase breastfeeding should focus on women who are at high risk of early discontinuation and provide educational support within the framework of local customs.

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Contraceptive Use among Married Women in Chuadanga District, Bangladesh

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ABSTRACT

This study examines the use of contraception among married women of reproductive age in Chuadanga District, Bangladesh in 2005, with particular focus on the extent to which socio-economic and demographic factors exert independent influence on contraceptive use. The result of the study supports the hypothesis that place of residence, women's education and television watching are the most important significant factors which influence the use of contraception positively. Among the demographic and socioeconomic factors, women's age, the religion of the respondent, husband's education and couple's occupation were not found to have any significant net effect on use of contraception.

Introduction

Family planning has been considered an effective way to improve the health of mother and child and enables a couple to decide freely and responsibly the number and spacing of their children. An expert Committee, defined and described family planning as follows: Family planning refers to practices that help individuals or couples to attain certain objectives: to avoid unwanted births, to bring about wanted births, to regulate the intervals between pregnancies, to control the time at which births occur in relation to the ages of the parent, and also to determine the number of children in the family (Park, 1997, WHO, 1971).

Bangladesh is a country of 1, 47,570 square kilometers and around 140 million people with the highest population density (839 per sq. km.) in the world (US, 2004). The practice of contraception is increased gradually over the last two decades in Bangladesh. With a population of 147.3 million in 2006, Bangladesh is the seventh most populous country in the world and will continue to grow by 2.0 percent annually during 2000-2010 (US Census Bureau, 2005).

The total fertility rate (TFR) has decreased from about 6.3 in the mid-1970s (MOHPC, 1978:73) to 3.3 in 1999-2000 and then to 3.0 in 2004 (BDHS, 2004). The contraceptive prevalence rate (CPR) was 8 percent in 1975, 40 percent in 1991, and 53.8 percent in 2000 and rose to 58.1 percent in 2004 (BDHS, 2005). Demographers have attributed this change in TFR to a decline in marital fertility and the success of the family planning programme rather than rising age at marriage (Huq and Cleland, 1990).

In 1976 the Government of Bangladesh identified population as the country's number one problem. Two years later, important measures were taken to strengthen the family planning programme. The invention of grassroots-level female family planning workers, i.e., family welfare assistants (FWAs) and establishment of health care centers in 1978 caused a dramatic shift in the CPR. Health care centers provided basic reproductive health services such as IUD insertion and injectable contraceptives and FWA providing free contraceptive pills, condoms etc.

Bangladesh has managed to achieve a steep decline in fertility

in spite of its unremarkable socio-economic development in the past decade. The researchers have found that decline in the TFR due to increased use of contraception, which in turn has been credited to strong and successful family planning programme in the country (Kamal and et al, 1996).

Ullah, S.M et al (1993), found a persistent, strong relationship between women's education and contraceptive use but education makes less difference to contraceptive use where family planning programmes are strong. Schuler, R.. S. et. al. (2006) proposes a framework which indicates the relationships between family planning use and multiple domains of women's lives, in a context where external factors can affect both (see Figure 1).

The starting point of the framework is women's experiences with family planning. This includes contraceptive use and non-use, childbearing and pregnancy, family planning programs and other reproductive health services. Under this rubric, researchers asked women about their perceptions of method availability and variety, method efficacy, quality of services, and decisions to start or stop contraceptive use.

The main purpose of this study is to assess the quality of service provision, particularly as it was related to access for removal of the implants. The specific objectives are as follows:

To examine the differentials of contraceptive practice among married women by different demographic and socio-economic characteristics;

To investigate the factors influencing female participation in family planning.

Data and Methodology

The data used for the analysis is the results of the study of the causes of differentials of family planning participation among married women. The study was conducted in the district Chuadanga. It was conducted in two Thanas of one district in Bangladesh (Alamdanga and Chuadanga sodar Thana of Chuadanga district). Two Thana were selected purposively in this district. Afterward, two unions were chosen purposively in each selected Thana, one with the highest rate of female family panning participation (high union) and one with the lowest female family planning participation (low union). Data collection was carried out using a structured questionnaire. Besides, data collection was conducted through in-depth interviews and focus group discussions. Purposive sampling wasdone to select 500 study subjects, with households taken as the unit of sampling. The type of information collected in the study using a structured questionnaire involves information about a respondent's background characteristics (demographic, social and economic), knowledge, attitude and practice of family planning, family planning methods availability and family planning activities in study location.

To examine the differentials of factors influencing female participation in family planning using cross tabulation. A binary logistic regression model was used to investigate the factors influencing married women's participation in family planning. There are 8 demographic and socio-economic factors analyzed as independent variables in the model: the female's age, residence, couple education and occupation, religion and role of mass media.

Now the expression $\prod_i$ is given by

$\prod$i= E (Y_i= 1/ X_{11}= 0, X_{12}= x_{12}, X_{21}= 0, X_{22}= x_{22}, X_{23}= x_{23}, X_{31}=0, X_{32}= x_{32}, X_{41}= 0, X_{42}=x_{42}, X_{43}= X_{43}, X_{51}= 0, X_{52}=X_{52}, X_{53}=X_{53}, X_{61}= 0, X_{62}=x_{62}, X_{63}= X_{63}, X_{71}= 0, X_{72}= X_{72}, X_{73}= X_{73}, X_{81} = 0, X_{82}= X_{82})

(Here the value of the variables corresponding to the reference category is considered as "0"). That is,

$$\prod i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1)}}$$

And

$$1 - \prod i = \frac{e^{-(\beta_0 + \beta_1 X_1)}}{1 + e^{-(\beta_0 + \beta_1 X_1)}}$$

Therefore, $$\frac{\prod_i}{1 - \prod_i} = e^{-(\beta_0 + \beta_1 X_1)}$$

$$\text{Log}_e \left(\frac{\prod_i}{1 - \prod_i} \right) = \beta_0 + \beta_1 X_{11} + \beta_2 X_{12} + \beta_3 X_{21} + \beta_4 X_{22} + \beta_5 X_{23} + \beta_6 X_{31} + \beta_7 X_{32} + \beta_8 X_{41} \beta_9 X_{42} + \beta_{10} X_{43} + \beta_{11} X_{51} + \beta_{12} X_{52} + \beta_{13} X_{53} + \beta_{14} X_{61} + \beta_{15} X_{62} + \beta_{16} X_{63} + \beta_{17} X_{71} + \beta_{18} X_{72} + \beta_{19} X_{73} + \beta_{20} X_{81} + \beta_{21} X_{82} \ldots\ldots$$

Then from the equation, the model is

$$\text{Log}_e \left(\frac{\prod_i}{1 - \prod_i} \right) = \beta_0 + \beta_2 X_{12} + \beta_4 X_{22} + \beta_5 X_{23} + \beta_7 X_{32} + \beta_9 X_{42} + \beta_{10} X_{43} + \beta_{12} X_{52} + \beta_{15} X_{62} + \beta_{16} X_{63} + \beta_{18} X_{72} + \beta_{19} X_{73} + \beta_{21} X_{82} \ldots\ldots$$

Where, p= probability that a female was currently practicing or practiced female contraceptive method or the probability of Y= 1, and i is the parameter estimate for the intercept and independent variables.

Results and Discussion

Pattern and Differentials of Female Participation in Family Planning

The percentage of women based on the female FP participation status and the socio-economic and demographic factors is displayed in Table 2. The analyses results of the study shows that women with 34.5% in rural areas and 65.5% in urban areas practicing family planning (FP). Thus participation of FP is higher in urban area than in rural areas.

Table 2 observed that women with age <20 and 30+ yrs were practicing a lower percentage (i.e. 17.8% and 28.4% respectively) of FP than younger (20-30 years) women (53.8%). The table also shows that Muslim women are practicing a higher percentage (89.8%) of FP than Non-Muslim women (10.2%). As this study found, it can be seen that women with secondary and higher education have 48.5% and illiterate women have lower

percentage (27.3%) of practicing FP.

Husbands with a higher education are more willing to practice a male FP. The results of this study shows that 22.3% for husbands who were illiterate, 16.3% for husbands with primary education and 61.4% for husbands with secondary and higher education were practicing FP method.

Table 2 show that couples who are engaged in service professions use a higher percent (90.2% female and 46.2% male) of contraception practice than other occupational categories. Women who watch TV practice contraception 57.8% and the rest do not watch TV. This Table 2 also indicates that 73.8% of the married women use a contraceptive method oral pill, 0.80% use IUD, 11.8% of married women applied a contraceptive method injection and 13.7% follow a natural process. Here the maximum number of women use the oral pill and the lowest, use IUD.

Factors Influencing Contraception Practice among Married Women

The results of the binary logistic regression analysis are presented in Table 3 in the form of parameter estimates, p-value for assessing the significance of the independent variables and the odds ratio. The analyzed result found that, only 3 independent variables out of 8 independent socioeconomic and demographic variables are statistically significant at 1%, 5% and 10% level. These significant predictors are type of residence, female education, and watching of television. The other 5 independent variables are statistically insignificant on practice contraceptive method.

From the results of the logistic regression analysis, it appears that place of residence is the most important factor affecting the use of contraception among married women. Large and statistically significant differences in contraceptive use, by place of residence, are observed despite having controlled for other variables. Table 3 shows that type of residence has a significant effect on use of contraceptive method at a 5% level. Women who live in urban area are more likely to use it 1.073 more times than those who live in rural areas. So women who live in urban areas are more likely to have access to these services than those who live in rural areas.

The results of the study found that women's age affects the risk of ever or currently practicing female contraception. Females with age 30+ years are less likely to use FP 0.536 times than those age <20 years. Thus the older the female, the lower the probability of being a user or non user of a female contraceptive method. Belief can affect the acceptance of modern practice including birth control practice. Those who believe that FP is against religious values might be less likely to practice FP. The result shows that Non-Muslim women are more likely to use 1.048 times contraceptive method than Muslim women.

The estimated binary logistic regression model is given by

$$\text{Log}_e\left(\frac{\prod_i}{1-\prod_i}\right) 1.897 + 0.070X_{12} - 0.578X_{22} - 0.624X_{23} + 0.047X_{32} + 0.055X_{42} + 0.613X_{43} - 0.179X_{52} + 0.886X_{53} + 0.055X_{2} - 0.9766X_{63} -0.306X_{72} - 0.352X_{73} + 1.043X_{82}$$

The results shown in Table 3 indicate that women's education significantly affects use of contraceptive at a 5% level. The risk of contraception practice among married women for primary and secondary and higher levels have 1.057 and 1.846 times higher than the illiterate women. The results of the analysis show that the women whose husband was secondary and higher educated have used contraception 2.425 times more than illiterate husbands. Educated women also may desire fewer children than their less educated counterparts because of the incompatibility between formal sector employment and child care (Choe and Tsuya, 1991).

It was hypothesized that a couple's occupation influences female FP practice (Samosir, B.O and et. al, 2005). The result of this study shows that women who engaged in a service profession have 1.056 times higher risk than who those who engaged in household. Similarly for husbands those who are engaged in agriculture have 0.736 times lower risk than those engaged in a service profession.

Mass media is an important factor that has influence on acceptance of FP method. Table 3 indicates that watching of television has a significant affect on practicing female FP method. Women who watch television have used contraception 2.852 times more than those who do not watch television.

Conclusion and Policy Implications

The result of this study found that contraceptive use among married women is higher (65.5%) in urban areas than in rural areas (34.5%). Women with secondary and higher education practice contraception at a higher percent (48.5%) than other lower educated women. Contraception use among secondary and higher educated women is 1.846 times higher than the rest of the educational category. In women who engaged in a service profession the use of contraception practice is higher than those who are engaged in the household. Mass media is an important factor which can significantly influence use of contraception. Those who watch TV use FP 2.852 times more than those who don't watch this. So contraceptive practice differentials among married women are mostly type of residence, age, religion, education, occupation and watching of television.

The study contains a number of implications for policy purposes that could be useful in devising ways to increase the contraceptive prevalence rate among women and thus bring lower fertility in Bangladesh. The policies are as follows:

Provide free contraceptive materials and to increase the frequency of visits by family welfare assistants among married women, particularly in rural areas.

Provide education to and create more employment opportunities for women to increase their social status;

Create awareness among married women about the negative health, social and economic consequence of early marriage, early pregnancy and large family size. This could be done through mass media,

special information, education and communication (IEC) campaigns, regular home visits by family welfare visitors and family welfare assistants.

Provide women with information on the availability of contraceptive methods and their use-effectiveness.

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Table 1. LISTOF DEPENDENT AND INDEPENDENT VARIABLES

Variables		Category
Dependent variable		
Contraception user		1= Contraception use 0= Otherwise
Independent Variables		
Place of residence	X_{1j}	x11= rural x12= urban
Female age	X_{2j}	x21= less 20 years x22= 20-30 x23= 30 yrs and more
Religion	X_{3j}	x31= Muslim x32= Non-Muslim
Female education	X_{4j}	x41= illiterate x42= primary x43= secondary and above
Husband education	X_{5j}	x51= illiterate x52= primary x53= secondary and above
Female occupation	X_{6j}	x61= household x62= service x63= others
Husband occupation	X_{7j}	x71= service x72= farmer x73= others
Watch T.V	X_{8j}	x81= no x82 = yes

Table2. PERCENTAGE OF MARRIED WOMEN USING CONTRACEPTION BY SOIO-DEMOGRAPHIC CHARACTERISTICS, CHUADANGA DISTRICT, BANGLADESH, 2005

Variables	Contraceptive practice
	Percentage
Type of residence	
Rural	34.5
Urban	65.5
Female age	
<20 years	17.8
20-30	53.8
30+	28.4
Religion	
Muslim	89.8
Non-Muslim	10.2
Female education	
Illiterate	27.3
Primary	24.2
Secondary and above	48.5
Husband education	
Illiterate	22.3
Primary	16.3
Secondary and above	61.4
Female occupation	
Household	8.7
Service	90.2
Others	1.1
Husband occupation	
Service	46.2
Farmer	33.0
Others	20.8
Watch T.V	
No	24.2
Yes	75.8
Type of method	
Oral pill	73.8
IUD	0.8
Injection	11.8
Natural	13.7

Figure 1. CONCEPTUAL FRAMEWORK OF FAMILY PLANNING PRACTICES