

ความรู้ เจตคติ และปัจจัยที่มีผลต่อพฤติกรรมกำป้องกันโรคเอดส์ ในนักศึกษาคณะบริหารจัดการ  
และชีวเทคโนโลยี มหาวิทยาลัยสารสนเทศ วิศวกรรมศาสตร์ และวิทยาการจัดการ บำไลชิตานเมือง

โกวยตา ประเทศปากีสถาน



นายเช มูรีต

## สถาบันวิทยบริการ จุฬาลงกรณ์มหาวิทยาลัย

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธาณสุขศาสตรมหาบัณฑิต

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KNOWLEDGE, ATTITUDE, AND ITS INFLUENCE ON PREVENTIVE BEHAVIOUR  
TOWARDS HIV/AIDS AMONG THE BACHELORS OF BUSINESS ADMINISTRATION  
AND BIO-TECHNOLOGY STUDENTS OF BALOCHISTAN UNIVERSITY OF  
INFORMATION TECHNOLOGY, ENGINEERING AND MANAGEMENT  
SCIENCES, QUETTA, PAKISTAN



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สถาบันวิทยบริการ  
จุฬาลงกรณ์มหาวิทยาลัย

A Thesis Submitted in Partial Fulfillment of the Requirements

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College of Public Health Sciences

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Thesis Title: KNOWLEDGE, ATTITUDE, AND ITS INFLUENCE ON PREVENTIVE  
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เซ มูรีด: ความรู้ เจตคติ และปัจจัยที่มีผลต่อพฤติกรรมการป้องกันโรคเอดส์ ในนักศึกษา คณะบริหารจัดการและชีวเทคโนโลยี มหาวิทยาลัยสารสนเทศ วิศวกรรมศาสตร์ และ วิทยาการจัดการ บาลอชิตานเมืองโกวยตา ประเทศปากีสถาน (KNOWLEDGE, ATTITUDE, AND ITS INFLUENCE ON PREVENTIVE BEHAVIOUR TOWARDS HIV/AIDS AMONG THE BACHELORS OF BUSINESS ADMINISTRATION AND BIO-TECHNOLOGY STUDENTS OF BALOCHISTAN UNIVERSITY OF INFORMATION TECHNOLOGY, ENGINEERING AND MANAGEMENT SCIENCES, QUETTA, PAKISTAN), อาจารย์ที่ปรึกษา: รองศาสตราจารย์ นายแพทย์ปริดา ทศน ประดิษฐ์, 70 หน้า

การศึกษาค้นคว้าครั้งนี้เพื่อหาระดับความรู้ เจตคติ และผลที่มีต่อพฤติกรรมการป้องกันเชื้อเอช ไอ วี/เอดส์ ในนิสิตคณะบริหารจัดการและคณะชีวเทคโนโลยี มหาวิทยาลัยสารสนเทศ วิศวกรรมศาสตร์ และวิทยาการจัดการ เมืองโกวยตา ประเทศปากีสถาน โดยเก็บข้อมูลจากแบบสอบถาม กับนิสิตจำนวน 304 คน ในเดือนกุมภาพันธ์ 2552 พบว่าอายุของนิสิตที่ตอบแบบสอบถาม อยู่ระหว่าง 18 ถึง 27 ปี จำนวน 2 ใน 3 ของผู้ตอบแบบสอบถามเป็นเพศชาย จำนวน 232 คน เรียนในคณะบริหารจัดการ และจำนวน 72 คน เรียนในคณะชีวเทคโนโลยี นิสิตส่วนใหญ่อาศัยอยู่กับครอบครัว และมีค่าใช้จ่ายรายเดือน 2,000 ถึง 5,000 รูปี (25-50 เหรียญสหรัฐ) ผลการวิจัย พบว่า มีนิสิตร้อยละ 3.9 หรือ 12 คน มีความรู้ในระดับสูง ร้อยละ 43 หรือ 131 คน มีความรู้ในระดับปานกลาง ส่วนที่เหลือมีความรู้ในเรื่อง เอช ไอ วี / เอดส์ ระดับต่ำ ในเรื่องเจตคติ พบว่า ร้อยละ 48.7 ของผู้ตอบมีเจตคติที่เป็นกลาง ร้อยละ 10.9 มีเจตคติในด้านบวก ขณะที่ ร้อยละ 40.5 มีเจตคติในด้านลบ ร้อยละ 53.3 และ ร้อยละ 32.6 ของนิสิตมีพฤติกรรมการป้องกัน อยู่ในระดับปานกลาง และระดับสูง ตามลำดับ มีเพียงร้อยละ 14.1 เท่านั้นที่มีพฤติกรรมการป้องกัน

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SHEH MUREED: KNOWLEDGE, ATTITUDE, AND ITS INFLUENCE ON PREVENTIVE BEHAVIOUR TOWARDS HIV/AIDS AMONG THE BACHELORS OF BUSINESS ADMINISTRATION AND BIO-TECHNOLOGY STUDENTS OF BALOCHISTAN UNIVERSITY OF INFORMATION TECHNOLOGY, ENGINEERING AND MANAGEMENT SCIENCES, QUETTA, PAKISTAN. ADVISOR: ASSOC. PROF. PRIDA TASANAPRADIT, 70 pp

This study was conducted to identify the level of knowledge, attitude, and its influence on preventive behavior among the students of BBA and Bio-TEC BUITMS Quetta, Pakistan. The data was collected using a structured questionnaire to 304 students in February 2009 and analyzed by SPSS V16. The age of students was between 18 to 27 years of age. Around two thirds of them were males. There were 232 students in BBA and 72 from Bio-TEC. Majority of students lived with their family and the average monthly allowance was 2000 to 5000 rupee (US\$25-50US\$). The results indicated that only 3.9% or 12 students had high knowledge 43% or 131 had moderate knowledge and rest had low knowledge towards HIV/AIDS. The results attitude showed that there were 48.7% of respondents who had "neutral attitude", 10.9% of them had "positive attitude", while 40.5% had "negative attitude. In respect to preventive behavior 53.3 of the students have moderate level of practice 32.6 of students had high level, and only 14.1% of the students had very low level of the practice.

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## LIST OF ABBREVIATIONS

HIV	Human Immunodeficiency Virus
AIDS	Acquired Immunodeficiency syndrome
WB	World Bank
BUITMS	Balochistan university of Information Technology and Management Sciences.
BBA	Bachelor of Business Administration
Bio –Tec	Bio technology
IDU	Injecting Drug Users
MSM	Man who have Sex with Man
STI	Sexually Transmitted Infections
STD	Sexually Transmitted Disease
NP	Non parametric test

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# CHAPTER I

## INTRODUCTION

### 1.1 Background and significance of the problem

Decades after the global recognition of HIV/AIDS, the world is witness to the enormous and multiplying consequences of the epidemic. AIDS now kills more people worldwide than any other infectious disease. Most of these deaths occur in young adults, who make up the economic backbone of their countries, and upon whom development depends. The epidemic is not only destroying millions of lives but is also compromising the social, economic and political development of nations. In its consequences, the HIV/AIDS epidemic increases rural poverty and seriously undermines human capacity to ensure food security and nutrition, manage natural resources, and sustain the livelihoods of large numbers of people. The scale of the HIV/AIDS threat is unprecedented, and outstrips the worst-case scenario predictions of only a decade ago (United Nations, 2001).

### 1.2 State of the Epidemic

**Worldwide Statistics** - As of December 2007, 33 million people were estimated to be living with HIV/AIDS, and more than 35 million had died since the beginning of the epidemic (UNAIDS, 2007; AIDS Epidemic Update, 2007). Of the 33 million, 22.5 million were living in sub-Saharan Africa alone, where the adult prevalence rate is 5.0 percent; the prevalence in sub-Saharan Africa appears to have stabilized mainly due to a slowing in the incidence and increasing number of infected people accessing treatment. More than half of those living with HIV/AIDS are women. It is estimated that 15 million children have been orphaned by the premature

death of both parents due to AIDS, placing enormous responsibilities on communities, and 2.5 million children are living with HIV/AIDS. In terms of the recent growth of the epidemic, an estimated 2.5 million people became newly infected with HIV in 2007, including 420,000 children, many of whom became infected by perinatal transmission (UNAIDS, 2007 ; AIDS Epidemic Update, 2007)

### **Pakistan**

According to UNAIDS estimates, about 96,000 people were living with HIV in Pakistan at the end of 2007. Officially reported cases are, however, much lower. As in many countries, underreporting is due mainly to the social stigma attached to HIV, limited surveillance and voluntary counseling and testing systems, and the lack of knowledge among the general population and health practitioners. Although overall HIV prevalence is low in Pakistan, there is growing evidence of local concentrated epidemics among IDUs in major cities across the country. The combination of high levels of risk behavior and limited knowledge about HIV among injecting drug users and sex workers could lead to the rapid spread of HIV (The World Bank, 2008). With an HIV prevalence rate of 0.1 percent, Pakistan faces a concentrated epidemic among some key populations, and the country is at high risk for an HIV/AIDS epidemic (US AIDS, 2008).

<b>HIV and AIDS Estimates</b>	
<b>Total Population*</b>	165 million (mid-2007)
<b>Estimated Population Living with HIV/AIDS**</b>	85,000 [46,000-210,000] (end 2005)
<b>Adult HIV Prevalence**</b>	0.1% [0.1-0.2](end 2005)
<b>HIV Prevalence in Most-At-Risk Populations***</b>	IDUs: 26% (Karachi), 12% (Sargodha), 9.5% (Faisalabad), 24% (Quetta), 8% (Larkana) (mid 2005) Sex Workers: 2% (Karachi), <1% (Lahore & Rawalpindi)
<b>Percentage of HIV-Infected People Receiving Antiretroviral Therapy****</b>	<1% (end 2006)

\*US Census Bureau \*\*UNAIDS \*\*\*WHO/UNAIDS/UNICEF Towards Universal Access, April 2007

**Figure 1 Different statistics in different years and different places of Pakistan.**

While HIV prevalence appears to be low in Pakistan at present, the presence of a number of vulnerabilities and risky patterns of behavior suggests the need for urgent, action to curtail the emergence of a widespread epidemic. Many of the factors that contribute to the spread of HIV are inextricably linked to social structures and conditions that shape individual abilities to control exposure to risk of infection (United Nations, 2001).

Pakistan's large population of people under the age of 25 is also vulnerable to HIV, for the same reasons that youth the world over are vulnerable. Curiosity about sex and drugs, negative peer pressure, and economic frustration might all lead young people to engage in behaviors which could lead to HIV infection.

Injecting drug users (IDUs) are at a high risk of HIV infection because they often engage in unsafe practices such as the sharing of needles and syringes. Although smoking and inhalation are still the most common forms of drug abuse in Pakistan, injecting drug use is thought to be increasing, especially in Pakistan's urban areas. In addition, evidence from one small-scale study conducted in Lahore suggests that IDUs engage in very high rates of needle and syringe sharing, participate in unprotected sexual activity (often with sex workers), and have very little to no understanding about HIV/AIDS prevention (US AIDS, 2008).

Pakistan is a moderate Islamic country with the majority of Muslim and other ethnicities groups living together with the freedom to practice their religion and observe other cultural practices. Like many Islamic societies, issues dealing with sex and sexually transmitted infections (STIs) are seen as taboo and sensitive, and therefore are not discussed openly. Despite the domination of conservative and traditional values in Pakistan, adolescents date and many engage in unsafe sexual intercourse. The incidence of adolescents engaging in sexual intercourse also increases with age. What is more alarming is that most sexual encounters are unsafe, with no protection against STI and unwanted pregnancy. There is no doubt that young people are at greater risk of acquiring STIs, particularly HIV/AIDS, than other age groups.

### **1.3 World Bank Pakistan report on HIV/AIDS**

According to report of the World Bank 2008 following issues and challenges should be given priority in Pakistan.



### ***Vulnerable and High-risk Groups***

- Expand knowledge, access, and coverage of vulnerable populations-particularly in large cities-to a package of high impact services, through combined efforts of the government and NGOs.
- Implement harm-reduction initiatives for IDUs and safe sex practices for sex workers.
- Make effective and affordable STD services available for high-risk groups and the general population.

### **General Awareness and Behavioral Change**

Undertake behavioral change communications with the following behavioral objectives:

- (i) use of condoms with non-regular sexual partners;
- (ii) use of STI treatment services when symptoms are present and knowledge of the link between STIs and HIV;
- (iii) use of sterile syringes for all injections;
- (iv) reduction in the number of injections received;
- (v) voluntary blood donation (particularly among the age group 18 to 30)
- (vi) use of blood for transfusion only if it has been screened for HIV
- (vii) Display of tolerant and caring behaviors towards people living with HIV and members of vulnerable populations.

### **Blood and Blood Product Safety**

- (i) Ensure mandatory screening of blood and blood products in the public and private sectors for all major blood-borne infections.
- (ii) Conduct education campaigns to promote voluntary blood donation.

- (iii) Develop Quality Assurance Systems for public and private blood banks to ensure that all blood is properly screened for HIV and Hepatitis B.

### **Surveillance and Research**

- (i) Strengthen and expand the surveillance and monitoring system.
- (ii) Implement a second-generation HIV surveillance that tracks sero-prevalence and changes in HIV-related behaviors, including the spread of STIs and HIV, sexual attitudes and behaviors, and healthcare-seeking behaviors related to STIs.

### **Building Management Capacity**

- (i) Continue to build management capacity within provincial programs and local NGOs to ensure evidence-based program implementation.
- (ii) Identify gaps in existing programs and continue phased expansion of interventions (The World Bank, 2008)

Considering above mentioned facts and figures including low literacy rate, poverty and taboo related to sexual behavior in Pakistan, efforts are yet to be carried out in the behavioral and general awareness among youth. The proposed study will assess knowledge, attitude and preventive behaviors towards HIV/AIDS among the students of Bachelors of Business Administration (BBA) and Bio-technology and informatics (Bio-Tec) in Balochistan University of Information Technology, Engineering and Management Sciences (BUIEMS).

## **1.4 Research question of the study**

What was the level of knowledge, attitude and its influence on preventive behavior towards HIV/AIDS among students of BUIEMS?

## **1.5 Objectives of the study**

### *Primary objectives:*

1. To assess the level of knowledge, and attitude on HIV/AIDS among the undergraduate students of BUITMS.
2. To describe the preventive behavior towards HIV/AIDS among the undergraduate students of BUITMS.
3. To examine the association between knowledge, attitude and its influence on preventive behavior towards HIV/AIDS.

### *Secondary objectives:*

1. To determine the source of HIV/AIDS information being received by those students.

## **1.6 Purpose of the study**

As the youths are the high risk of vulnerable groups for the transmission of HIV/AIDS. Purpose of this study was to assess the knowledge attitude and preventive behavior among one of the contemporary University of province of Balochistan.

## **1.7 Benefits of the study**

- The result of the study will be useful in increasing the perception about the importance of the disease among the students, who are not fully aware about it.
- The study will be useful for the health official and the policy makers to make policies for youth concerning preventive measures of HIV/AIDS.

## 1.8 Brief description of the study area



**Figure 2 Study area**

The establishment of the Balochistan University of Information Technology and Management Sciences (BUIITMS) was announced in March 2001, as a step towards the implementation of the Government of Pakistan's National IT Policy and the Action Plan 2000. This being the first Public Sector University of its kind in the country with five faculties including Information and communication technology (ICT), engineering, arts and basic sciences, management sciences and bio-technology. The Federal Ministry of Science & Technology required the government of Balochistan to urgently provide a building to house the proposed institution. The Government of Balochistan complied by allocating Primary Education Directorate (PED) building near Jinnah Town.

The university became functional in September, 2002, while the academic activities took off on the October 14, 2002, and graduate programs in the disciplines of Computer Science, Computer Engineering and Business Administration with an intake of 90 students were initiated. However, within a short span of 16 months, the student enrolment rose to more than 900, while the university ensured the provision of top class instruction, sophisticated laboratory equipment and highly qualified faculty. BUITMS also took lead in introducing doctoral programs in Management, Economics, Biotechnology and Mathematics. (BUIITMS, 2008)

The university consists of three campuses City campus (also called Jinnah campus), Takatu Campus, and Chiltan campus which is still underconstruction. The students who are currently enrolled in BUIITMS belong to different part, ethnicity, culutre within the provinnce of Balochitsan. Balochitsan is the most biggest province by area size in Pakistan and population of only 8 million, it has borders with Afganistan and Iran. The Quetta city is the capital of the provience where the University is located.

### **1.9 Operational Definitions**

**HIV/AIDS preventive behavior** refers to behaviors of the person aiming to prevent or avoid HIV infection.

**Knowledge about HIV/AIDS** refers to the understanding about HIV/AIDS e.g. symptoms, signs, diagnosis, practice of preventive measures and some available treatment.

**Attitude toward HIV/AIDS** refers to the degree of positive or negative feeling and expectations toward HIV/AIDS.

**Source of information on HIV/AIDS** refers to the information received by the student in any form from person or media.

### 1.10 Conceptual framework

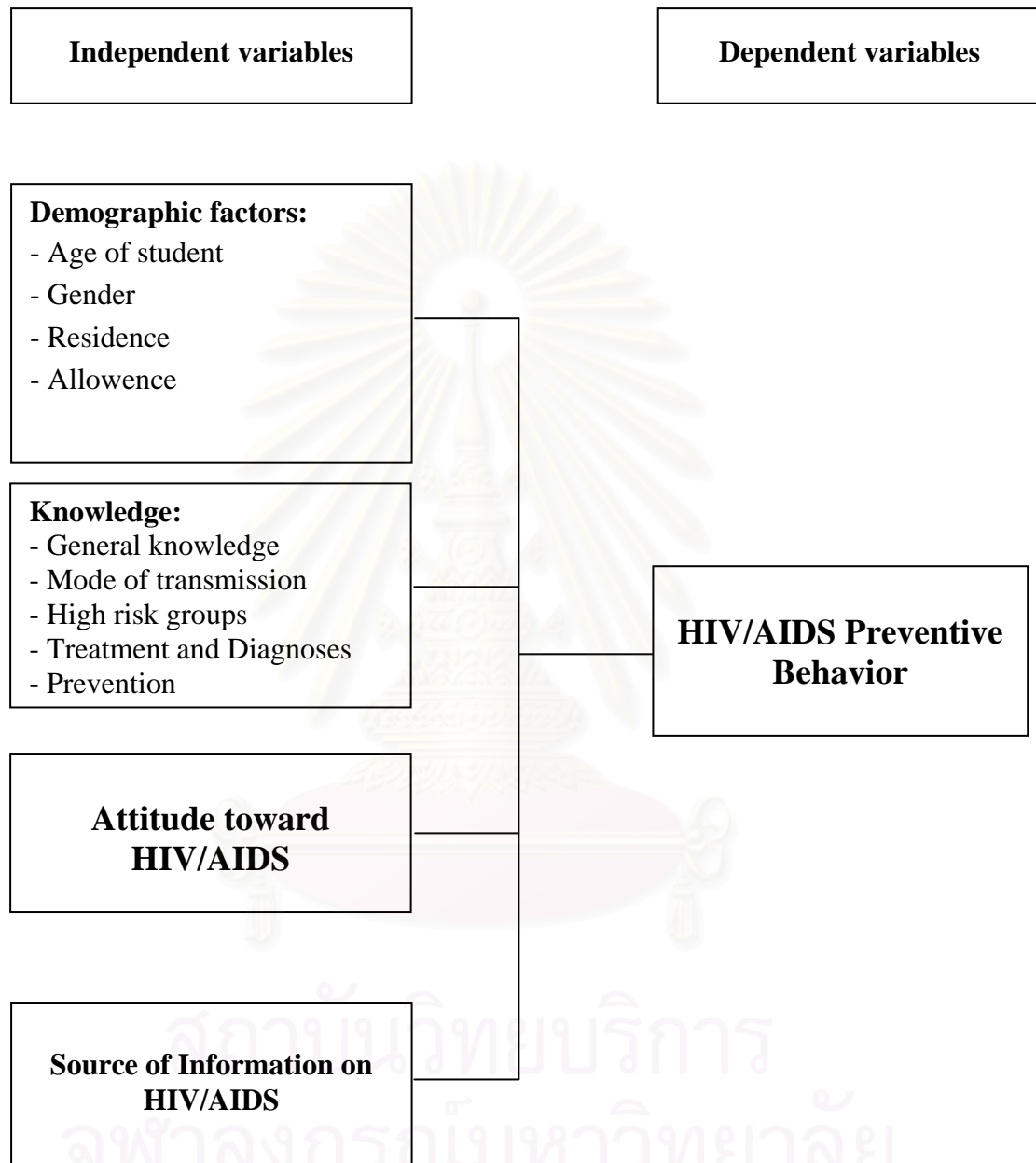


Figure 3 Conceptual framework

## CHAPTER II

### LITERATURE REVIEW

AIDS is a retroviral disease caused by the human immunodeficiency virus (HIV) and is characterized by profound immunosuppression leading to opportunistic infections, secondary neoplasms, and neurologic manifestations (Kumar, Abbas, & Fausto, 2004).

#### 2.1 Historical perspective of HIV/AIDS

HIV is thought to have originated in non-human primates in sub-Saharan Africa and transferred to humans early in the 20th century. The first paper recognizing a pattern of opportunistic infections was published on 4 June 1981 (CDC, 1996).

Two species of HIV infect humans: HIV-1 and HIV-2. Both species of the virus are believed to have originated in West-Central Africa and jumped species (zoonosis) from a non-human primate to humans. HIV-1 is thought to have originated in southern Cameroon after jumping from wild chimpanzees (*Pan troglodytes troglodytes*) to humans during the twentieth century (Gao F et al., 1999 ).

#### 2.2 Modes of transmission of HIV/AIDS:

Transmission of HIV occurs under conditions that facilitate the exchange of blood or body fluids that contain the virus or virus-infected cells. Thus, the three major routes are sexual contact, parenteral inoculation, and passage of the virus from infected mothers to their newborns.

2.2.1. **Sexual transmission** is clearly the predominant mode of infection worldwide, accounting for greater than 75% of all cases of HIV transmission. Homosexual or

bisexual males still constitute the largest group of infected individuals (approximately 14% also inject drugs), accounting for 46% of reported cases overall and 56% of infected men. However, transmission of AIDS in this category continues to decline, with less than 50% of new cases attributable to male homosexual contacts (Rachel A. Royce, Arlene Seña, Willard Cates, & Cohen, 1997).

2.2.2. **Recipients of blood** and blood components (but not hemophiliacs) who received transfusions of HIV-infected whole blood or components (e.g., platelets, plasma) account for 1% of patients Hemophiliacs, especially those who received large amounts of factor VIII or IX concentrates before 1985, make up less than 1% of all cases (Goodnough, Shander, & Brecher, 2003 ).

2.2.3. **Parenteral Transmission** Parenteral transmission of HIV is well documented in three different groups: intravenous drug abusers (the largest group), hemophiliacs receiving factor VIII or IX concentrates, and random recipients of blood transfusion. Among intravenous drug abusers, transmission occurs through shared needles, syringes, or other paraphernalia contaminated with HIV-containing blood. This group occupies a pivotal position in the AIDS epidemic because it represents the principal link in the transmission of HIV to other adult populations through heterosexual activity (Kumar et al., 2004).

2.2.4. **Mother-to-Infant Transmission** as noted earlier, mother-to-infant (vertical transmission) is the major cause of pediatric AIDS. Three routes are involved: in utero, by transplacental spread; intrapartum, during delivery; and via ingestion of HIV-contaminated breast milk. Of these, the transplacental and intrapartum routes account for most cases. Vertical transmission rates worldwide vary from 25% to 35%, with a 15% to 25% rate reported in the United States; higher rates of infection occur



with high maternal viral load and/or the presence of chorioamnionitis, presumably by increasing placental accumulation of inflammatory cells (Mofenson & McIntyre, 2000).

### **2.3 Natural History of HIV Infection:**

The course of HIV infection can best be understood in terms of interplay between HIV and the immune system. Three phases reflecting the dynamics of virus-host interaction can be recognized: (1) an early, acute phase; (2) middle, chronic phase; and (3) a final, crisis phase.

**The acute phase** represents the initial response of an immunocompetent subject to HIV infection. Clinically, this is typically a self-limited illness that develops in 50% to 70% of subjects 3 to 6 weeks after infection. It is characterized by nonspecific symptoms including sore throat, myalgia, fever, rash, and sometimes aseptic meningitis. This phase is also characterized by high levels of virus production, viremia, and widespread seeding of the peripheral lymphoid tissues, typically with a reduction in CD4<sup>+</sup> T cells. Soon, however, a virus-specific immune response develops, evidenced by seroconversion (usually within 3 to 17 weeks of exposure) and by the development of virus-specific CD8<sup>+</sup> cytotoxic T cells. As viremia abates, CD4<sup>+</sup> T cells return to nearly normal numbers. However, the reduction in plasma virus does not signal the end of viral replication, which continues within tissue macrophages and CD4<sup>+</sup> T cells (Kahn J O. & Walker, 1998).

**The middle, chronic phase** represents a stage of relative containment of the virus. The immune system is largely intact at this point, but there is continued HIV replication lasting for several years. Patients either are asymptomatic or develop

persistent lymphadenopathy, and many patients have "minor" opportunistic infections such as thrush (*Candida*) or herpes zoster. The decline of CD4+ cells in the peripheral blood is modest. After an extended and variable period, host defense begins to wane, the number of CD4+ cells begins to decline, and the proportion of the surviving CD4+ cells infected with HIV increases (Kumar et al., 2004).

**The final, crisis phase** is characterized by a catastrophic breakdown of host defenses, a marked increase in viremia, and clinical disease. Typically, patients present with fever of more than 1 month's duration, fatigue, weight loss, and diarrhea. After a variable interval, patients develop serious opportunistic infections, secondary neoplasms, and/or neurologic manifestations (so-called *AIDS*-defining conditions), and the patient is said to have developed full-blown AIDS (Kumar et al., 2004).

## **2.4 Diagnosis of HIV/AIDS**

HIV tests are used to detect the presence of the human immunodeficiency virus in serum, saliva, or urine. Such tests may detect HIV antibodies, antigens, or RNA. If antibodies are detected by an initial test based on the ELISA method, then a second test using the Western blot procedure determines the size of the antigens in the test kit binding to the antibodies. The combination of these two methods is highly accurate (Armstrong & Taege, 2007).

**2.4.1. Clinical Features.** They range from a mild acute illness to severe disease. The typical patient with AIDS presents with fever, weight loss, diarrhea, generalized lymphadenopathy, multiple opportunistic infections, neurologic disease, and (in many cases) secondary neoplasms (CDC, 1992).

Opportunistic infections account for approximately 80% of deaths in patients with AIDS. Their spectrum is constantly changing, as a result of improvements in prophylaxis and the increasing life span of HIV-infected individuals. Pneumonia caused by the opportunistic fungus *Pneumocystis carinii* (representing reactivation of a previous latent infection) is the presenting feature in many cases, although its incidence is declining. Thanks to effective prophylactic regimens. Approximately 12% of patients present with an opportunistic infection other than *P. carinii* pneumonia. Among the most common are recurrent mucosal candidiasis, disseminated cytomegalovirus infection (particularly enteritis and retinitis), severe ulcerating oral and perianal herpes simplex, and disseminated infection with *M. tuberculosis* and atypical mycobacteria (*Mycobacterium avium-intracellulare*) (Furrer & Fux, 2002). The AIDS epidemic has caused a resurgence of active tuberculosis. Although in most cases it represents reactivation, the frequency of new infections is also increasing. Whereas *M. tuberculosis* manifests itself early in the course of AIDS, infections with atypical mycobacteria are seen late in the course of HIV disease. Toxoplasmosis is the most common secondary infection of the central nervous system. Cryptococcal meningitis is also quite frequent. Persistent diarrhea, so common in patients with AIDS, is often caused by *Cryptosporidium* or *Isospora belli* infections, but bacterial pathogens such as *Salmonella* species and *Shigella* species may also be involved. Because of depressed humoral immunity, AIDS patients are susceptible to infections with *S. pneumoniae* and *H. influenzae* (Kovacs & H, 2000).

Patients with AIDS have a high incidence of certain tumors, particularly Kaposi sarcoma, non-Hodgkin lymphomas, and cervical cancer in women. The basis of the increased risk of malignancy is multifactorial: profound defects in T-cell immunity,

dysregulated B-cell and monocyte functions, and multiple infections with known (e.g., human herpesvirus type 8, EBV, human papillomavirus) and unknown viruses (Boshoff & Weiss, 2002).

## **2.5 Treatment**

Current treatment for HIV infection consists of highly active antiretroviral therapy, or HAART (Kumar et al., 2004).

Statistics show that for five patients affected by AIDS, one is in his 20s (Smith, McGraw, Crawford, Costa, & McKinlay, 1993). Given the long incubation period of HIV, it is clear that many older adolescents and young adults with AIDS were infected as younger teenagers (Brooks-Gunn & Furstenberg, 1990). There are several factors that contribute to the higher risk of HIV infection among young people e.g. first sexual experiences, the higher proportion of sexually transmitted diseases, addiction that begins usually at this age, and soon. On the other hand, there is a chance to establish protective health-behavior patterns in young people, which might endure into adulthood (Sechrist, 1997).

### **Past studies**

On the other hand, there is a chance to establish protective health-behavior patterns in young people, which might endure into adulthood. Studies have shown that more than 90% of the students had received satisfactory education on HIV/AIDS (Tuchinda, Chotpitayasunondh, & Teeraaratkul, 1998). The source of knowledge ranged from television, teachers, pamphlets, newspapers, radio, health care workers, and friends and from their parents. Students were quite knowledgeable about transmission of HIV through semen, blood, and vaginal fluid (Baggaley, 1997).

Reports from other provinces of Pakistan regarding knowledge of students showed that 85% had awareness about HIV/AIDS (Anjum, 2005),(S. J. Khan, Anjum, Q., Khan, N.U., Nabi, F.G 2005).

In a country like Pakistan where male is the dominant gender in the society, females are in a conservative state. A study conducted to assess the knowledge for HIV among the university students reveals satisfactory and the source of the knowledge was television among 90% students (Anjum, 2005). Knowledge on existence of AIDS in Pakistan was expressed by 698 (95.2%) males and 273 (76.9%) females, in, while only 189 (25.7%) males and 76 (21.4%) females knew its cause. Knowledge of the different modes of transmission was good, however 59%, 48%, 68% and 43% males; 28%, 45%, 59% and 35% females believed that it could be transmitted through mouth kissing, casual contact and mosquito bite (Raza, Afifi, Choudhry, & Khan, 1998).

In one of the urbanized city of Pakistan, Lahore female college students Ninety-five percent students had heard about HIV/ AIDS and its presence in Pakistan, 61.7% students knew that HIV/AIDS is caused by germs and 91.2% knew about its transmissibility. Over 70% of students knew that HIV can be transmitted through sexual contact, infected blood transfusion, and re-use of infected injection needles. Moreover, only 19.2% mentioned ear/nose piercing with infected needles while 46.8% mentioned breast feeding as sources of transmission of HIV/AIDS. Regarding prevention of AIDS, 61.0% mentioned avoiding promiscuous sex, 49.3% knew use of condoms and 60.2% were aware that AIDS can be prevented by avoiding homosexuality. Sixty-eight percent and 70.2% students respectively held the view that avoiding used needles for injections in hospitals and laboratories for screening blood

or blood products can prevent AIDS, while 78.2% and 55.8% respectively knew that there is no cure or vaccine available for AIDS (Farid, 2003).

Another study conducted in the North West Frontier Province (NWFP) revealed that, there is a satisfactory awareness among the medical students entering into the profession. However an acceptable difference was recorded among clinical, preclinical and non-clinical students regarding their knowledge and attitude about HIV and AIDS (Hamzullah Khan., 2008).

Adolescents in rural areas of Pakistan have much more less knowledge a study conclude that rural adolescents of Sindh need more knowledge regarding STIs including HIV/AIDS (Raheel, 2007).

A study conducted in Turkey showed that about 95.2% of the students were aware of the causative agent for AIDS. Awareness about the causative agent was significantly higher among the school groups ( $p < 0.001$ ). 98.0% of the high school students and 98.2% of the university students and 98.5% of the medical school students knew that AIDS was a communicable (infectious) disease. More than 88% could correctly mention that HIV infection can be detected by testing blood. They were fully aware that HIV is transmitted through unprotected sexual intercourse (87.1%), transfusion of blood and blood components (95.7%), sharing unsterile needles with injected persons (84.5%), from infected mothers to their babies (76.8%). Regarding feelings of students toward an infected person sixty three percent of the students would be compassionate to an infected person and 32.5% of them felt hatred towards him or her. Five percent of students would felt apathetic towards HIV positive people (Selcuk Koksali., 2005).

In of the neighbor countries, Iran, near Balochistan with same religion and culture the knowledge among adolescent the best sources of HIV/AIDS information were television (84%) and school teachers (66%), while parents (27%) and school books (15%) were least informative. Most students knew that heterosexual intercourse (90%) and shared intravenous needles (94%) can cause HIV infection. Only 53% were aware that condoms protect against infection through sexual intercourse (Yazdi, 2006 ).

A study conducted at Zimbabwe University found marked gender differences in university students for HIV prevention knowledge, attitudes and practices(Paul E. Terry., Marvelous Mhloyi., Tsitsi B. Masvaure., & Adlis, 2006).



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## **CHAPTER III**

### **RESEARCH METHODOLOGY**

#### **3.1 Research design:**

This was a quantitative cross-sectional descriptive study

#### **3.2 Study population**

The populations for the proposed study were the bachelor students of BBA and Bio-Tec students at Jinnah Campus, Balochistan University of Information Technology and Management Sciences, Quetta, Pakistan.

The reason why the Bachelors students were chosen is because this age group in a country like Pakistan is still to some extent a little immature and yet to experience the real world. They still have a lot of curiosity and during this age they tend to experiment a lot and are just shattering their shells of adolescence and entering a professional college. This study will help to get a clear picture of the youth in Balochistan as to how they acquire their information regarding the AIDS epidemic and whether it is one of their concerns while indulging in pre-marital/casual or same partner sex.

The two faculties BBA and Bio-Tec were put in the high risk group because the Management students were considered as the bolder and outgoing groups who would be the think tanks of the industry and their reasoning and information access points would provide us larger points to focus. This group is more socially active and more likely to be more open and curious about such relationships and in turn being more prone to the infection. The Bio Technology students are more into the details of



the methods and studies of general medical epidemics and their scientific workings henceforth they could also provide a more in-depth view of what they perceive of the AIDS problem and how they go about it in their lives.

Considering the above mentioned facts about the management group and Bio-Tec, these profession were more related to the social services and health respectively, were preferred on other faculties of the university. As stated earlier Chiltan campus is under construction and non-functioning.

### 3.2.1 Inclusion criteria:

- Students who were currently studying in BBA and Bio-TEC at BUITMS
- Students who were aged 18 or above studying in BBA and Bio-Tec.

### 3.2.1 Exclusion criteria:

- Absent during the period of study.
- Students who did not want to participate.

### 3.3 Sample size calculation

Taro Yamane formula was used to calculate the sample size

$$n = \frac{N}{1 + N(e)^2}$$

Where

n: Sample Size

N: Total Population (763) of the study (BBA & Bio-Tec)

e: Level of Precision (0.05)

Therefore:

$$n = \frac{763}{1 + 763(0.05)^2} = 262$$

With estimate 10% may not participate or might fill the questionnaire incorrectly, so sample size of 300 seems to be sufficient to represent the study population ratio. The reason to chose this formula; is due to the availably of the exact number of total population.

### **3.4 Sampling technique**

The duration of the degree is composed of 4 years and divided in to 8 semesters and 16 classes. Simple Random technique was used from each year students of first semester to 8<sup>th</sup> semester, among 16 classes at Jinnah campus. Using multi-stage simple random technique for sampling two classes was selected from each year of the selected subjects (we were sure that two classes from each semester will cover total number of 300 students).

### **3.5 Research Instruments**

A pretest self administered questionnaire was used from the non-studied faculty of ICT in Takatu campus. The questionnaire was developed from reviewing past studies and guidelines from the respected advisor and professors of the College of Public Health Sciences Chulalongkorn University. Reliability of the questionnaire was assessed after a pre test exercise of 30 questionnaire in the non studied population.

### 3.6 Research measurements

Research measurements include

- General demography's of the subject
- Knowledge of the subjects about HIV/AIDS

There were 39 questions in this part and we asked to know about the knowledge of HIV/AIDS which included general information, prevention, mode of transmission etc. A correct answer was given 1 score and 0 score for wrong answer. Using Blooms criteria (Fahim, 2006) the scores varied from 0-32 points and was classified into 3 levels as follows:

High level (80-100%)	32-39 scores
Moderate level (60-79%)	25-31 scores
Low levels (Less than 60%)	00-24 scores

- Attitude of the subjects towards HIV/AIDS

This part included the attitude of the people towards HIV/AIDS. There were 16 statements which include positive and negative statements. The rating scale was measured as:

Positive Statement		Negative Statement	
Choice	Scores	Choice	Scores
Agree	2	Agree	0
Not sure	1	Not sure	1
Disagree	0	Disagree	2

The scores varied from 0 to 32 and all individual answers were summed up for total scores and calculated for means. Using Blooms criteria the scores were classified into 3 levels (Positive Attitude, Neutral Attitude, and Negative Attitude).

Positive Attitude	26-32 scores
Neutral Attitude	20-25 scores
Negative Attitude	00-19 score

- Preventive behavior of the subjects for HIV/AIDS

There were 15 questions for preventive behavior towards HIV/AIDS. The respondents were allowed for each question to choose from 5 scales; always, often sometimes, never and no or skip the question. From question 1-4 there is no option for skip so the maximum score is 0-3. For rest of the question they were given score 0-4.

Always	4
No	3
Often	2
Sometimes	1
Never	0

The scores varied from 0 to 54 and all individual answers were summed up for total scores and calculated for means. Using Blooms criteria the scores were classified into 3 levels (high, moderate and low practice).

High practice (80-100%)	44-54 scores
Moderate practice (60-79%)	33-43 scores
Low practice (Less than 60%)	00-32 scores

### **3.7 Data collection**

After getting approval for the proposed study from Chulalongkorn University. The researcher proceeded for the permission from the BUITMS Quetta, Pakistan to conduct the survey. Later on with the help of the two selected trained research assistants, at least with graduate qualification in any field, trained by the researcher, the questionnaire was taken to the respondents. The data was collected from February and March 2009.

Before conducting the survey an informed consent was provided with each questionnaire to the participants of the study. Furthermore each participant was informed that there was no direct benefit in participating in this study. But his/her contribution would be as asset in determining the factors knowledge, attitude and preventive behavior towards HIV/AIDS which will help the policy makers to take appropriate measure.

### **3.8 Analysis**

#### **3.8.1. Data entry and editing**

- The completed questionnaire was reviewed and checked for inconsistencies. Then the data was entered to the computer by using SPSS v16.

#### **3.8.2. Statistical technique**

- Demographic characteristics, knowledge, attitude, preventive measures were summarized by using descriptive statistics by number, percentage and mean with standard deviation.

- Pearson Chi-square and Spearman's correlation test will be applied for association between Social demographic knowledge, attitude, towards preventive behavior. The significance level will be P value  $< 0.05$

### **3.9 Ethical Considerations**

According to the declaration of the World Medical Association in Geneva, the right of the respondent must always be respected. Therefore, every precaution was taken to respect the privacy of the subjects and to minimize the impact of the subject's physical, mental integrity and on the personality of the subject. The respondent was adequately informed for the objectives, methods and benefits of the study prior to the questionnaires distribution and informed consent was taken. They were informed that they were free to abstain from participation in the study. They are free to withdraw any time and there is no incentive. The name of the respondent was not included in the questionnaire. After collecting the data, the confidentiality of the data was ensured by every cost.

### **3.10 Limitations**

- The findings may not be able to be generalized for all the three campuses.
- The target population was restricted to BBA and BIO-TEC because of the limitation of time and resources.
- Due to the demographic factor the ratio of male and female is not equal. Male have more ratio than female. The reason is most people don't allow their female members to continue studies after high school.
- Some of subjects might have been bias while filling the questionnaire due to social and cultural influences. As in the society matter related to sexual behavior

and sexual diseases like HIV/AIDS are not discussed openly. To minimize this bias the researcher insured the confidentiality and not asking the name.



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## **CHAPTER IV**

### **RESEARCH RESULTS**

This chapter provides a detailed description of the results obtained from the analysis of the survey. The variables are described as simple percentages, means, and standard deviations as appropriateness depends on the nature of the variables. It starts with the demographic data followed by the responses for each section of the questionnaire. The level of knowledge, attitude, and practice score were then presented followed by the results of Chi-square test used as appropriate whether there is any association between socio demographic, knowledge, attitude characteristics and practice scores.

#### **4.1. Socio - Demographic Information**

This study was conducted at Jinnah campus, Balochistan University of Information Technology and Management Sciences (BUIITMS) Quetta, Pakistan. Three hundred and four participants (n=304) were consented to complete the questionnaires. There were 232 students of BBA and 72 of Bio-Tec. The majority of the participants were male (66.1%). The age ranged from 18 to 27 years. The average age of the participants was 20 years with a standard deviation of 1.5. Table 1 also shows that the majority of the respondents were unmarried (98.4%) and majority lived with their families and (12%) lived with their friends. Most of the female respondents (50%) were 19 year old, 70.4% and 70.5% of male students were 20 and 21 years old respectively. Most of the students were getting less than 2000 Pakistani rupees (800 Baht) monthly allowance, 52.7% males and 47.3% female. Majority of the students who were getting a monthly allowance between 2000 (800 Baht) to 5000(2000 Bath) or more than 5000 were males (81.5%) and female (83.0%) respectively.



**Table 1 Distribution of the respondents by socio-demographic characteristics**

<b>Characteristics</b>	<b>Number (n=304)</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	201	66.1
Female	103	33.9
<b>Age (years)</b>		
18	51	16.8
19	72	23.7
20	71	23.4
21	61	20.1
≥ 22	49	16.0
<b>Mean ± SD = 20 ± 1.5 Range = 18 – 27</b>		
<b>Marital status</b>		
Single	299	98.4
Other (divorced/engaged)	5	1.6
<b>Stay with</b>		
Family	252	82.9
Friends	39	12.8
Relatives	6	2.0
Stay by myself	4	1.3
Other	3	1.0
<b>Allowance</b>		
	<b>Male</b>	<b>Female</b>
< 2000	87 (52.7)	78 (47.3)
2000-5000	75 (81.5)	17 (18.5)
> 5000	39 (83.0)	8 (17.0)

2000 Rupee = 800 Baht 5000 = 2000 Baht

#### 4.2. Source of information regarding HIV/AIDS

In the survey students were asked about the source where from they are getting information about HIV/AIDS. Most common sources for information in our country, like internet, television, news papers, radio, books and community as these sources were included in the questionnaire. Subjects were allowed to select more than one source to get information ever. Television was the most common source (93.4%) respondents got information followed by internet (80.3%) and news paper (78.9%). Only (55.6%) ever got information from their teacher/instructors and even smaller number (41.4%) ever got information from their parents. Majority of the respondents (70.4%) never got information from their Girlfriend/Boyfriend table 2.

**Table 2 Number and percentages of the respondents for Source of information**

Source of information about HIV/ AIDS	Frequency			
	Ever		Never	
	n	%	n	%
1. TV	284	93.4	20	6.6
2. Internet	244	80.3	60	19.7
3. Newspaper	240	78.8	64	21.1
4. Magazines	237	78.0	67	22.0
5. Text books	231	76.0	73	24.0
6. Friends	225	74.0	79	26.0
7. Posters	191	62.8	113	37.2
8. Health providers	185	60.9	119	39.1
9. Teacher/Instructor	172	55.6	132	43.4
10. Relatives	130	42.8	174	57.2
11. Parents	126	41.4	178	58.6
12. Radio	111	36.5	193	63.5
13. Girlfriends/Boyfriend	90	29.6	214	70.4

### 4.3. Knowledge about HIV/AIDS

All the students were asked about knowledge on HIV/AIDS. There were 28 positive and 11 negative statements. The statements were divided in yes, no or don't know. By using the criteria the score of knowledge high (32-39 scores), Moderate (25-31), low (0-24). Table 3 shows that (53.0%) of the respondents have low level of knowledge, (43.1%) have moderate level and only (3.9%) have high level of knowledge. The reliability test results for the questionnaire for knowledge was  $\alpha=.714$ .

**Table 3 Distribution of level of knowledge about HIV/AIDS**

<b>Knowledge level</b>	<b>Number (n=304)</b>	<b>Percentage (%)</b>
High (32-39 scores)	12	3.9
Moderate (25-31 score)	131	43.1
Low (0-24 score)	161	53.0

Table 4 shows the percent distribution of knowledge concerning HIV/AIDS. About 99.0% knew that AIDS can be transmitted by having sex with infected person, 88.2% knew that first a person gets infected with HIV infects and later AIDS develops, 80.3% students knew that AIDS is a fatal disease. About 97.4% knew that AIDS can be transmitted by transfusion of blood and its components, 96.7% knew that AIDS can be transmitted by sharing needles and 86.6% knew that Individuals are at higher risk for contracting HIV infection include needle sharing drug users. Only 53.9% answered that AIDS can be cured and 42.8 thought that vaccine is available for AIDS prevention. About 89% thought that HIV can be transmitted by shaking hands and only 29.6% believed that best way to prevent HIV is having no sexual

intercourse. Regarding diagnosis 64.5% knew that AIDS can be diagnosed by blood and 39.6% thought that it can be diagnosed by urine.

**Table 4 General information towards HIV/AIDS**

Items	Number (n=304)	Percentage (%)
1. AIDS is a fatal disease.	244	80.3
2. AIDS is a communicable disease.	190	62.5
3. HIV infection will decrease your Immunity	240	78.9
4. AIDS is caused by virus named HIV. First you get infected with HIV virus and then AIDS develops	268	88.2
5. HIV/AIDS can be prevented.	209	68.8
6. HIV/AIDS can be cured. *	164	53.9
7. Currently, vaccine for AIDS prevention is available. *	130	42.8
8. TB is the most common disease in AIDS patient.	73	24.0
9. A healthy looking man can be infected with AIDS	221	72.7
10. AIDS can be transmitted by having sexual intercourse with HIV/AIDS infected person.	301	<b>99.0</b>
11. AIDS can be transmitted by transfusion of blood and blood component.	296	<b>97.4</b>
12. AIDS can be transmitted by sharing syringes /needle with infected person.	294	96.7
13. AIDS can be transmitted by tattoo making.	157	51.6
14. AIDS can be transmitted by sharing toilet with infected people. *	146	48.0
15. AIDS can be transmitted by kissing with infected person. *	143	47.0
16. AIDS can be transmitted from mother to child.	199	65.5
17. AIDS can be transmitted by mosquito. *	176	57.9
18. AIDS can be transmitted by sharing food with infected person. *	230	75.7
19. AIDS can be transmitted by sneezing or coughing. *	195	64.1
20. AIDS can be transmitted by handshakes. *	272	89.5

21. AIDS can be transmitted by dysentery.	107	35.2
22. Individuals at higher risk for contracting HIV infection include needle sharing drug users.	264	86.8
23. Individuals at higher risk for contracting HIV infection include bisexual and heterosexual.	227	74.7
24. Individuals at higher risk for contracting HIV infection include who have multi partners in sex.	250	82.2
25. Individual at higher risk for contracting HIV infection include people who buy sexual services.	191	62.8
26. Is Antiviral therapy the most commonly used for HIV/AIDS?	60	19.7
27. AIDS is diagnosed by blood.	196	64.5
28. AIDS is diagnosed by urine.	93	30.6
29. You ever want to be tested for HIV.	122	40.1
30. AIDS can be prevented by using condom correctly while every time having sex.	215	70.7
31. AIDS can be prevented by having only one sex partner who has no other partners.	220	72.4
32. If a mother is infected with the AIDS, is there any way to avoid transmission to the baby.	82	27.0
33. AIDS can be prevented by having no sex before appropriate time. *	68	22.4
34. AIDS can be prevented by not buying sexual services.	200	65.8
35. AIDS can be prevented by not sharing needles, blades with other persons.	273	89.8
36. The best way to prevent HIV is having no sexual intercourse. *	90	29.6
37. Religious belief and practice can prevent HIV/AIDS transmission. *	35	11.5
38. AIDS can be prevented by scanning blood before transfusion.	217	71.4
39. AIDS can be prevented by investing in health sector.	177	58.2

\* Negative statement

#### 4.4. Attitude towards HIV/AIDS

Participants answered a total of 16 questions with the total score of 32. There were 9 positive statements and 7 negative statements. The distribution of attitude levels on HIV/AIDS of respondents is shown in table 5, there were 48.7% of respondents who had “neutral attitude”, 10.8% of them had “positive attitude”, while 40.5% had “negative attitude”. The average attitude score for all respondents were 20.2 (SD=4.2) out of a possible 32 points. The reliability test results for the questionnaire for attitude was  $\alpha = .504$

**Table 5 Distribution of attitude towards HIV/AIDS**

<b>Level of attitude</b>	<b>Number (n=304)</b>	<b>Percentage (%)</b>
Positive (26-32 scores)	33	10.8
Neutral (20-25 scores)	148	48.7
Negative (00-19 scores)	123	40.5

Table 6 shows the number and percentage distribution of attitude of students toward HIV/AIDS. The attitude was rated of three categories which were agreed, neutral, and disagree. Regarding the statement tacking care of a infected family member 79.9% of the respondents agreed, while 49.3% people disagreed on avoiding being friends with someone who they know have AIDS, 63.5% respondents disagreed that AIDS is a disease of bad people. Regarding condom use only 34.9% respondents agreed that it's not important to wear condom while having sex with a trusted person. On statements for sexual workers and AIDS 40.1% agreed that sex workers or homosexual deserve to have HIV/AIDS and 57.9% of the student disagreed on feeling hearted towards HIV/AIDS infected people.

**Table 6 Percentages of attitudes towards HIV/AIDS**

Attitude	Agree	Neutral	Disagree
	(%)	(%)	(%)
P A member of family became sick with the AIDS virus; I would be willing to care for him or her in house hold.	79.9	15.1	4.9
P A female teacher has AIDS virus but not sick, he or she should be allowed to continue teaching in school.	67.1	16.1	16.8
P It is moral obligation that AIDS patients should be treated in the same, equal, ethical and practical manner as other patients.	75.7	13.5	10.9
P I have HIV/AIDS will you tell someone.	61.5	21.7	16.8
P Unmarried women's should be able to buy condoms.	40.8	31.2	28.0
P I would attend a doctor who I know is treating AIDS patients.	64.8	23.7	11.5
P Feel compassion towards HIV/AIDS people.	35.2	46.7	18.1
P Feel apathy towards HIV/AIDS patients.	48.4	33.9	17.8
P I think I can get AIDS.	10.2	26.6	63.2
N A shop keeper or food seller has AIDS virus, I would no buy vegetables from them.	32.9	22.7	44.4
N Member of my family gets infected with the AIDS virus; I would want it to remain a secret.	31.9	28.9	39.1
N AIDS is a disease for bad people only.	17.1	19.4	63.5
N I would avoid being friends with someone who I know has AIDS.	23.0	27.6	49.3
N sex workers or homosexual deserve to have HIV/AIDS.	40.1	33.9	26.0
N It's not important to wear condom while having sex with a trusted person.	34.9	23.0	42.1
N Feel hatred towards HIV/AIDS infected people.	21.4	20.7	57.9

N= Negative Attitude

P= Positive Attitude

#### 4.5. Preventive behavior

The preventive behavior is divided in to two parts. First part is about the level of perception towards preventive behavior and second part followed by preventive sexual behavior towards HIV/AIDS. Four statements are considered to be significant enough to represent the sexual preventive behaviors; have sex with lover and use condom, sex with Stanger and use condom, sex with IV drug user use condom and go to brothels and use condoms. The reliability test for the questionnaire regarding preventive behaviors was  $\alpha = 0.883$

#### General perception towards Preventive Behavior

Table 7 shows that majority 53.3% of the students have moderate level of practice 32.6 % of students had high level, and only 14.1% of the students had very low level of the practice.

**Table 7 Distribution of perception towards preventive behavior on HIV/AIDS**

Level of Practice	Number (n=304)	Percentage (%)
High (36-45 scores)	99	32.6
Moderate (27-35 scores)	162	53.3
Low (00-26 scores)	43	14.1

The preventive behavior statements were divided in to four parts always, often, some times and never. Students were also allowed to say no and skip the questions if they don't like to answer. According to table 10 on statement for use on intravenous necrotic drugs and share needle 92.8% of the students skip the question and 84.5% of the students had no sex with heterosexual or used condoms, 86.8% had no sex with



their lover and never used condoms and 86.5% of students never went to brothels. Ninety one students never shared tooth brush with others and 83.2% never shared blades/scissors together with some else with out cleaning it. 86.5% of the responders had no Sexual relationship with someone who is I/V drug user or use condom.



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**Table 8 Percentage distribution of students' preventive behavior towards HIV/AIDS**

Question	Always N (%)	Often N (%)	Some Times N (%)	Never N(%)	No* N(%)
1. Share tooth brush with others.	5 (1.6)	3(1.1)	19(6.2)	277(91.1)	
2. Share Blades/Scissor together with someone else without cleaning it.	12(3.9)	9(3.0)	30(9.9)	253(83.2)	
3. Had contact with others blood or secretions.	9(3.00)	7(2.3)	31(10.2)	257(84.5)	
4. Have sexual intercourse do you use condom to prevent STDs.	39.1	9.2	8.6	43.1	
5. Had skin piercing or tattoo making with a new needle.	6(2.0)	4(1.3)	7(2.3)	30(9.9)	257(84.5)
6. Use any Intravenous Narcotic drugs and use condom.	6(2.0)	3(1.0)	4(1.2)	9(3.0)	282(92.8)
7. Had sexual intercourse with heterosexual and used condom.	4(1.3)	4(1.3)	7(2.3)	32(10.6)	257(84.5)
8. Had sexual intercourse with bisexual and use condom.	2(0.7)	4(1.3)	9(3.0)	25(8.2)	264(86.8)
9. Have sex with your lover and use condom.	4(1.4)	5(1.6)	15(4.9)	35(11.5)	245(80.6)
10. Sex with friends and use condom.	6(2.1)	2(0.7)	8(2.6)	33(10.9)	255(83.9)
11. Sex with a stranger and use condom.	5(1.7)	4(1.3)	8(2.6)	29(9.5)	258(84.9)
12. Gone to Brothels and use condom.	4(1.3)	2(0.7)	7(2.3)	28(9.2)	263(86.5)
13. Had blood transfusion.	9(3.0)	7(2.3)	16(4.9)	32(10.5)	241(79.3)
14. Sexual relationship with someone who is I/V drug user and use condom.	8(2.6)	1(0.3)	4(1.3)	29(9.5)	262(86.3)
15. When you get drunk do you have sex and use condom?	3(1.0)	4(1.3)	9(3.0)	31(10.2)	257(84.5)

\* No = Skip to the next question

#### 4.6.1 Preventive behaviors towards sexual activities.

Regarding preventive behaviors towards HIV/AIDS, 19.4% of the students had sex with lover most of those 64.4% had low score and none of the students had high level of the practice table 9.

**Table 9 Students of have sex with lovers**

<b>Level of Practice</b>	<b>Number (n=59)</b>	<b>Percentage (%)</b>
High (44-56 scores)	0	0
Moderate (34-43 scores)	21	35.6
Low (00-33 scores)	38	64.4

About 15% of the students had sex with the strangers 78.3% had low score and 15.2% had moderate and 6.5% had high level of practice with strangers table 10.

**Table 10 Students who have sex with strangers**

<b>Level of Practice</b>	<b>Number (n=46)</b>	<b>Percentage (%)</b>
High (44-56 scores)	3	6.5
Moderate (34-43 scores)	7	15.2
Low (00-33 scores)	36	78.3

Though it's very hard to find brothels in Quetta city but 13.4% of the students visited brothels and 75.6% had low score, with moderate score 24.4% and unfortunately none of the students had high level of the practice table 11.

**Table 11 Students who go to brothels**

<b>Level of Practice</b>	<b>Number (n=41)</b>	<b>Percentage (%)</b>
High (44-56 scores)	0	0
Moderate (34-43 scores)	10	24.4
Low (00-33 scores)	31	75.6

Table 12 shows that students who had sex with IV drug user most of them 76.2% had low level of practice. Only 4.8% of the students had high level of practice

**Table 12 Students who have sex with IV drug user**

<b>Level of Practice</b>	<b>Number (n=42)</b>	<b>Percentage (%)</b>
High (44-56 scores)	2	4.8
Moderate (34-43 scores)	8	19.0
Low (00-33 scores)	32	76.2



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#### 4.6. Association among Knowledge and preventive behaviors

Concerning the correlation between knowledge and sexual preventive behaviors among students using spearman's rho correlation none of the sexual behaviors like sex with lover, sex with strangers, IV drug user and sex in brothel were associated significantly Table 13.

**Table 13 Correlations between lover, sex and brothels and Knowledge**

Variables	Attitude	
	Spearman's rho	<i>p-value</i>
Sex with lover	.152	.249
Sex with stranger	-.002	.987
Brothel	.184	.249
IV drug user	.189	.230

\*. Correlation is significant at the 0.05 level (2-tailed).

#### 4.7. Association among attitude levels and preventive behaviors

Regarding association between attitude levels and sexual preventive behaviors sex with lover showed significant association positively among students and no significant correlation was seen for sex with strangers, IV drug user and sex in brothels.

**Table 14 Correlations between lover, sex and brothels and Knowledge**

Variables	Attitude	
	Spearman's rho	<i>p-value</i>
Sex with lover	.256	.050*
Sex with stranger	.163	.274
Brothel	.175	.249
IV drug user	.062	.698

\*. Correlation is significant at the 0.05 level (2-tailed).

#### 4.8. Association between socio-demographic and students who sex with lover

Table 15 shows the association of the between general demographics and students who had sex with lover, gender and age group were associated significantly with (p value = 0.041 and 0.019 respectively).

**Table 15 Association between socio-demographic and students who sex with lover**

Characteristics	Preventive behavior			$\chi^2$	p-value
	Poor No. (%)	Fair No. (%)	Good No. (%)		
<b>Gender</b>				NP	0.041*
Male	30(58.8)	21(41.2)			
Female	8(100)	0(0)			
<b>Age group</b>				5.497	0.019*
18-20	28(75.7)	9(24.3)			
21 – 27	10(45.5)	12(54.5)			
<b>Faculty</b>				NP	0.470
BBA	30(61.2)	19(38.8)			
Bio-TEC	8(80.0)	2(20.0)			
<b>Residence</b>				.701	0.402
With Family	23(60.5)	15(39.5)			
Other	15(71.4)	6(28.6)			
<b>Current address (NPAR)</b>				NP	0.314
Own house	4(66.7)	2(33.3)			
Family house	14(51.9)	13(48.1)			
Rent apartment	11(73.3)	4(26.7)			
Other	9(81.8)	2(18.2)			
<b>Source of monthly allowance</b>				NP	0.646
From parents	34(63.0)	20(37.0)			
Other	4(80.0)	1(20.0)			

\* Statistically significant association at 0.05 levels NP (Non Parametric test)

#### 4.9. Association between socio-demographic and students who sex with stranger

Table 16 shows that no association significant association was found among students who had sex with strangers.

**Table 16 Association between socio-demographic and students who sex with stranger**

**NPAR for all variables: use p-value of fisher-exact**

Characteristics	Preventive behavior			<i>p-value</i>
	Poor No. (%)	Fair No. (%)	Good No. (%)	
<b>Gender</b>				0.718
Male	30(75.0)	7(17.5)	3(7.5)	
Female	6(100)	0(0)	0(0)	
<b>Age group</b>				0.139
18-20	26(86.7)	3(10.0)	1(3.3)	
21 – 27	10(62.5)	4(25.0)	2(12.5)	
<b>Faculty</b>				0.347
BBA	29(76.3)	7(18.4)	2(5.3)	
Bio-TEC	7(87.5)	0(0)	1(12.5)	
<b>Residence</b>				0.853
With Family	24(80.0)	4(13.3)	2(6.7)	
Other	12(75.0)	3(18.8)	1(6.2)	
<b>Current address</b>				0.989
Own house	5(100)	0(0)	0(0)	
Family house	14(73.7)	3(15.8)	2(10.5)	
Rent apartment	11(73.3)	3(20.0)	1(6.7)	
Other	6(85.7)	1(14.3)	0	
<b>Source of monthly allowance</b>				1.000
From parents	32(78.0)	6(14.6)	3(7.4)	
Other	4(80.0)	1(20.0)	0(0)	

\* Statistically significant association at 0.05 levels



#### 4.10. Association between socio-demographic and students who go to brothels

Table 17 Shows that no association significant association was found among students who ever went to brothels for sex.

**Table 17 Association between socio-demographic and students who go to brothels**

Characteristics	Preventive behavior			<i>p-value</i>
	Poor No. (%)	Fair No. (%)	Good No. (%)	
<b>Gender</b>				0.660
Male	25(73.5)	9(26.5)		
Female	6(85.7)	1(14.3)		
<b>Age group</b>				0.413
18-20	24(80)	6(20)		
21 – 27	7(63.6)	4(36.4)		
<b>Faculty</b>				0.556
BBA	27(73.0)	10(27.0)		
Bio-TEC	4(100)	0(0)		
<b>Residence</b>				0.700
With Family	22(73.3)	8(26.7)		
Other	9(81.8)	2(18.2)		
<b>Current address</b>				0.069
Own house	5(100)	0(0)		
Family house	15(65.2)	8(34.8)		
Rent apartment	8(100)	0(0)		
Other	3(60)	2(40)		
<b>Source of monthly allowance</b>				1.000
From parents	28(75.7)	9(24.3)		
Other	3(75.0)	1(25.0)		

\* Statistically significant association at 0.05 levels

#### 4.11. Association between socio-demographic and IV drug user

Table 18 Shows that no significant association was found among students who have sex with IV drug user.

**Table 18 Association between socio-demographic and sex with IV drug user**

Characteristics	Preventive behavior			<i>p-value</i>
	Poor No. (%)	Fair No. (%)	Good No. (%)	
<b>Gender</b>				0.660
Male	25(75.7)	6(18.2)	2(6.1)	
Female	7(77.8)	2(22.2)	0(0)	
<b>Age group</b>				.059
18-20	25(83.3)	3(10.0)	2(6.7)	
21 – 27	7(58.3)	5(41.7)	0(0)	
<b>Faculty</b>				.662
BBA	27(73.0)	8(21.6)	2(5.4)	
Bio-TEC	5(100)	0(0)	0(0)	
<b>Residence</b>				.470
With Family	22(78.6)	4(14.3)	2(7.1)	
Other	10(71.4)	4(28.6)	0(0)	
<b>Current address</b>				463
Own house	4(100.0)	0(.0)	0(0)	
Family house	15(75.0)	3(15.0)	2(10.0)	
Rent apartment	8(88.9)	1(11.1)	0(0)	
Other	5(55.6)	(44.4)	0(0)	
<b>Source of monthly allowance</b>				.645
From parents	28(73.6)	8(21.1)	2(5.3)	
Other	4(100.0)	0(0)	0(0)	

\* Statistically significant association at 0.05 levels

## **CHAPTER V**

### **DISSCUSSION**

The study was aimed to asses the level of knowledge, attitude, examine the association and its influence on preventive behavior among students of Jinnah campus BUTIM towards HIV/AIDS. The discussion is based on the findings collected from 304 students at Quetta, Pakistan.

#### **5.1 Socio - demographic**

Quetta is the capital of Balochistan province with a population of nearly 1.5 million and many ethnic groups. It is the only urbanized city where people come from other parts of province for jobs. Education facilities are good as compare to other cities of the province and institutes in the provide education for the youth from all over the province. Compare to capital city of other provinces Quetta is still considered less developed. Quetta is filled with immigrants from Afghanistan and they are a big part of the population

In Pakistan students join the university after 14 years of secondary and higher secondary education almost at age of 18 years. In this study the 18 to 27 years and the mean age was  $20 \pm 1$  year. Literacy rate in Pakistan is dominated by male and male female ratio was 2:1. In 2007 a study conducted in Pakistan (Peshawar city) the mean age for the students of different departments was  $22 \pm 1$  years and the male female ratio was 2:1(Humzullah, 2007). Most of the students lived with their parents at their own house this may be due to the reason that the Jinnah campus has no hostel accommodation facility.

Majority of the students had monthly allowance between PKR 2000 to 5000 (us\$ 25 to 63) per month which seems to be low and the reason for this it might be due to that students have less expenses because most of them living at their homes with their parents.

## **5.2 Source of information regarding HIV/AIDS**

In the study main source of information was television 93.4%, followed by internet 80.3%, news paper, magazines and friends. In a study conducted previously in our neighboring country television and radio were the main sources of information followed by news paper and magazines (Anahita, 2004). Even though most of the students were getting information regarding HIV/ AIDS from the television but still they had low level of knowledge for HIV/ AIDS. The reason for this might be that in Pakistan television is not providing enough knowledge for HIV/ AIDS.

Teachers/instructors were the source of information only for 55.6% of the students and 41.4% of the respondents got some information. These figures indicate that media is the main source of information for the adolescents in our communities.

## **5.3 Knowledge about HIV/AIDS**

In present study the students revealed a variable lack of knowledge about HIV/AIDS among students, about 51.4% of the students had low level of the knowledge. On basic information statements like AIDS is fatal disease only 80.3% of the students gave correct answer, and only 62.5% of the students agreed that AIDS is communicable disease. These are very are basic question and the answers scores should have been about 95% to 100% on both these questions. A study from Karachi

among students regarding AIDS, 90% knew that it is transmitted sexually (S. J. Khan, Anjum, Q., Nabi, F.G., 2005). Sixty eight percent knew that AIDS can be prevented and only 54% of the students knew that AIDS can be cured. Regarding transmission 99% and 96% students respectively viewed that AIDS can be transmitted by having sexual intercourse with HIV/AIDS infected person and can be transmitted by sharing syringes/needle with infected person. And 97.4% of those knew that aids can be transmitted by transfusion of blood and blood component. In general students have relatively high level of knowledge for transmission. While most students 75.7% had misconceptions that AIDS can be transmitted by sharing food with infected person and 89% of the students thought that AIDS can be transmitted by handshakes. This again shows the lack of knowledge and misconception in this community about HIV/AIDS and the affects on the people who are living with HIV/AIDS. The previous studies from Peshawar university students also revealed 68% and 70.2% knowledge respectively for sharing needle and transfusion of blood products (Humzullah, 2007).

Regarding prevention as it was estimated that in our community most of the students don't use condoms. This can be due to two reasons either they are not sexually active or the youth has low knowledge that AIDS can be prevented by using condoms. Only 70% of the students knew that AIDS can be prevented by using condom correctly every time of having sex. Seventy one thought that AIDS can be prevented by scanning blood before transfusion which is still not so high but one can accept this knowledge score because probably most of them might not have blood transfusion in their lifetime. As religion has a big influence in our community, when students were asked if religious beliefs can prevent HIV/AIDS only 11% agreed. This means that they understand that religion might not always affect practices.

From this it could be learnt that there were still a lot of deficiency in the knowledge of HIV/AIDS among the university students because of misconception, lack of understanding, open discussions and no source of information for the youth in our community by health workers, instructors in education system and parents at their homes.

#### **5.4 Attitudes towards HIV/AIDS**

As a young child matures, he or she developed new cognitive skills that influence how an attitude is formed and one particularly important cognitive development is an understanding of the intent to persuade. In this way, the person become harder to persuade and they develop their attitudes that are linked to knowledge of both supporting and opposing arguments. Therefore, those who had higher level of knowledge about HIV/AIDS and universal precaution will naturally favor have high level of intention to practice universal precaution towards HIV/AIDS.

Regarding attitude of students towards HIV infected people 79.9% were willing to live with infected person in their family and 67.1% of the respondents were agreed to be taught by infected person but not sick with AIDS, and 75.7% thought it was moral obligation that AIDS patients should be treated in the same, equal, ethical and practical manner as other patients. Only 40.1% students agreed that sex workers or homosexual deserved to have HIV/AIDS. On the other hand only 21.4% felt hatred for HIV/AIDS people.

In general this study shows that some of the students had neutral attitudes and on few statements they had positive attitudes. Results from other study from the west also had mixed pattern of attitude, most of the students had positive attitudes. There

were such positive opinions expressed as 'those who have HIV/ AIDS have equal rights to get cured as the others'. The students also estimated that they had changed their attitudes towards greater understanding because of the increasing number of HIV/AIDS cases and claimed that the high cost for AIDS treatment is unfair towards the patients. To a small number of people, HIV/AIDS was considered a punishment by God (5, 8% male and 6, 6% female students). Thirty one percent (54) of the students said that they don't feel any sympathy towards HIV/AIDS patients and it wouldn't be nice to meet HIV-infected or AIDS patients. Twenty-six per cent (45) of the students (more often male than female students) considered it unpleasant to touch a HIV/AIDS person. The most negative attitudes were felt towards homosexuality and users of intravenous drugs, especially by male students (Kaijaleena, 1999)

### **5.5 Preventive behavior towards HIV/AIDS**

Concerning the result of perception towards preventive behaviors of the respondents on HIV/AIDS, 91.1% of the students never shared tooth brush with others, 83.2% never shared razors/scissors together with some one else and 84.5% never contacted blood and secretions. This preventive behavior seems to be due to the reason that most of the students were living with their parents and had basic knowledge how disease can spread by sharing toothbrush etc.

As in the community sexual activities, alcohol drinking, brothels and tattoo making are strictly prohibited it was found in this study that majority of the students never had sex or faced such risk factors in their lives. In response to different statements 86.8% of students said they never had sexual intercourse. The 92.8% of the

students denied that they ever taken drugs or I/V drugs. Eighty four percent of students never drink, did sex nor used condoms.

Regarding condom use there are many misconceptions in the society and not frequently used or openly discussed. For these reasons youth don't use condom frequently or have less knowledge.

Regarding sexual behavior with lover, strangers and brothels raising significant concern about HIV/AIDS among adolescents and young adults all over the world because young persons who engage in unprotected sexual intercourse or use injection drugs are at high risk for human immunodeficiency virus (HIV) infection (Mahat, 2008). Worldwide HIV is primarily transmitted heterosexually. Although risk factors vary within and across populations. In many regions of the world, men who have sex with men, injection drug users, and sex workers account for significant proportions of infections.

In this study small number of students had sex with IV drug users and among these most of the students had low level of preventive behaviors for the sex. The reason might be related level of knowledge. This shows that drug users always practice unsafe sex and drug use is linked with unsafe sexual activity.

Young people are at high risk of contracting HIV because once they become sexually active they often have several, usually consecutive, short-term sexual relationships and do not consistently use condoms. Furthermore, young people often have insufficient information and understanding about HIV/AIDS. They may not be aware of their vulnerability to it or how best to prevent it. They also often lack access to the means to protect themselves (WHO., 2004). On the other hand, social and cultural barriers, attitudes and practices seem to be the major determinants of adolescents' risky behavior.



The findings of the study showed that majority of the students had low level of practice for sexual preventive behaviors and use of condoms with lovers, sex with strangers, IV drug user and in brothels. There are many factors that might be influencing the use of condoms. There are indications that among Pakistanis, in general condoms are seldom used because of socio-cultural factors including low literacy, less awareness, low level of knowledge about sexually transmitted diseases, unavailability of the condoms, high stigma related to sex and more importantly male resistance to condom use. Concerning the results of the study with low level of sexual preventive behaviors among university students of BUITMS also confirm that youth in Pakistan are at high risk of getting infected HIV/AIDS.

#### **5.6 Association between the general demographics and preventive behavior**

Results of the study revealed that age (p-value = 0.041) and gender (p-value = 0.019) were statically associated with preventive behavior in regard to students who have sex with lover. The reason for this might be that females have more social cultural restriction and it is unusual to find female dating. It's a known fact when a person ages he gains more exposure which helps in better understanding of things which leads to better preventive behaviors. There were no more association in regards to general demographics and preventive behavior

#### **5.7 Association among Knowledge and preventive behaviors**

As it is universally accepted that knowledge doesn't always leads to good preventive behaviors (Mesquita, 1996) findings of this study are the same, no significant correlations was seen among students regarding knowledge and preventive behaviors.

### 5.8 Association among attitude and preventive behaviors

In Muslim society like Pakistan where sex is like a taboo for youth or one cannot find brothels frequently. This study showed no significant association between attitude and preventive sexual behaviors for sex with stranger and sex in brothels. However attitude and preventive behaviors with lovers were associated significantly this may be due many reasons, e.g. getting sexually transmitted diseases and to avoid pregnancy.



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## CHAPTER VI

### CONCLUSIONS AND RECOMMENDATIONS

#### 6.1. Conclusion

Preventive behavior towards HIV/AIDS is a result of interactions of multiple factors. General characteristics, knowledge, attitudes and source of information had been identified to influence preventive behaviors especially in youth. This cross-sectional study attempted to investigate the factors associated with preventive behaviors of the BBA and Bio-Tec students towards HIV/AIDS.

Data was collected during February 2009 at BUTIMS Quetta Pakistan. Statistics were used in this study were number, percentage, mean, standard deviation, and chi square test with significant level at ( $p$  value $<0.05$ ). The sample consisted of 304 university students aged between 18 to 27 years old, consisted of 201 males and 103 females. Seventy six percent were from BBA and 24% were from Bio-tech. about most (55%) them were getting  $<2000$  PKR (800 Baht) monthly allowances. 98.4% of the students were unmarried, 82% were living with their family. Television was the most common source of information for HIV/ AIDS (93.4%) followed by internet (80.3%) and news paper (78.9%). Level of the knowledge for HIV/AIDS among most of the students was low (43.1%) have moderate level and only (3.9%) have high level of knowledge. The distribution of attitude levels on HIV/AIDS of respondents were 48.7% of respondents who had “neutral attitude”, 10.9% of them had “positive attitude”, while (40.5%) had “negative attitude”. Majority of the students (53.3%) have moderate level of practice (32.6 %) of students had high level, and only (14.1%) of the students had very low level of the practice. Regarding preventive behaviors towards HIV/AIDS, (19.4%) of the students had sex with lover most of those (64.4%)

had low score and none of the students had high level of the practice. About 15% of the students had sex with the strangers 78.3% had low score and 15.2% had moderate and 6.5% had high level of practice with strangers. Thirteen percent of the students visited brothels and 75.6% had low score, with moderate score 24.4% and none of the students had high level of the practice. Students who had sex with IV drug user most of them 76.2% had low level of practice. Only 4.8% of the students had high level of practice. Regarding association between attitude levels and sexual preventive behaviors sex with lover showed significant association positively among students and no significant correlation was seen for sex with strangers, IV drug user and sex in brothels. The association between general demographics and students who had sex with lover, gender and age group were associated significantly with (p value = 0.041 and 0.019 respectively).

## **6.2. Recommendations**

Based on the findings of this study, the following recommendations should be considered.

1. Health education and promotion programs emphasizing on prevention from HIV/AIDS should be conducted in universities with collaboration between ministry of public health, ministry of education, and if possible NGOs.
2. Majority of the students are receiving information from TV, new papers, and magazines. It is recommended that, they should add in the programs with more knowledge information for students.
3. IEC (information, education, communication) materials such as pamphlets and posters should also be distributed to all the universities to increase the knowledge.

4. As the results showed that students were not getting enough information from the teachers/instructors. They must be trained about HIV/AIDS to teach their students regarding the consequences and prevention from HIV/AIDS.
5. This study has presented a better point of view, general understating on how youth students understand and feel about HIV/AIDS. The result will give a base line data to ministry of public health and ministry of education for decision to add HIV/AIDS informative classes as part of their syllabus. It will give a clue on how school students behave to prevent themselves from HIV/AIDS.
6. The parents are also advised to share their knowledge about HIV/AIDS with their children and always frankly discuss their problems with them.
7. As in our educational institutes don't have any health promotion programs, it is recommended that health promoter programs/ instructors should be arranged for promoting health in our youth.

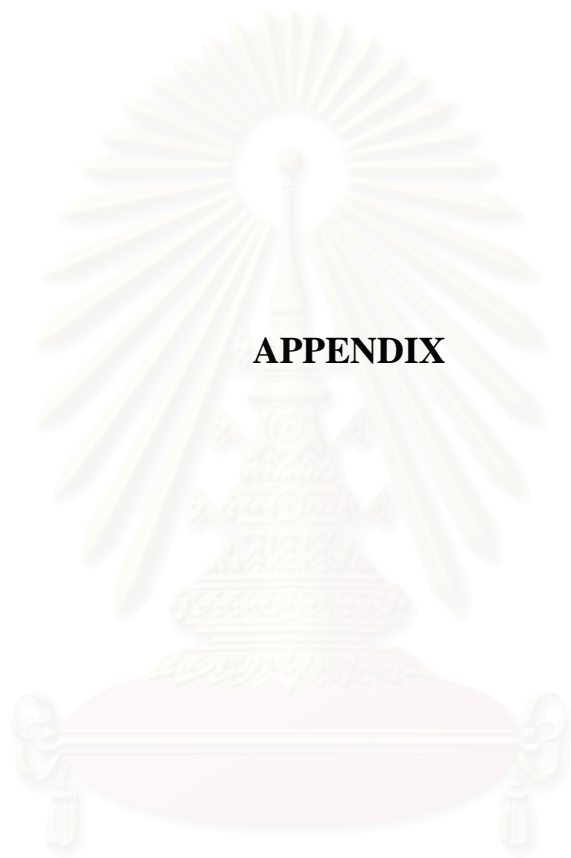
#### **Recommendations for further studies**

1. Future studies should be carried among students and teachers by using the qualitative approach such as group discussion and in depth interviews in order to get the detail information regarding student's attitude, knowledge and preventive behavior, peer as well as social influences that might affect risk behavior related to HIV/AIDS information.
2. There should be more studies conducted to compare factors related to HIV/AIDS preventive behaviors among students in different universities.
3. HIV/AIDS prevention programs should be conducted in students and their effectiveness, barriers, and impact should be evaluated. This information is essential for planning programs and research on HIV/AIDS prevention in future.

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**APPENDIX**

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**APPENDIX A**

**Informed Consent Form**

Sample no.....

**“Knowledge, Attitude and Preventive behavior towards HIV/AIDS among the students of Balochistan University of Information Technology and Management Sciences Quetta, Pakistan”**

**Responsible person(s) and institute:**

Mr. Sheh Mureed

Masters of Public Health

College of Public health sciences,

Chulalongkorn University Bangkok 10400, Thailand

Date of consent.../...../...

I (Mr. /Mrs. /Ms.) .....

Home address .....

Contact No .....

I have read and understood all statements in the **informed consent form**. I have also been explained the objectives and methods of the study, as well as possible risk and benefits that may happen to myself upon the participation in the study. I understand that the information the information will be kept confidential and my name will no be disclosed in any case. I shall be given a copy of the **signed informed consent form**.

I have the right to withdraw from the project at any time without any adverse effects upon myself.

Signature..... (Respondent) (Informant) .....

Signature..... (Researcher) (Mr. Sheh Mureed)

## APPENIDX B

### TO ASSES KNOWLEDGE, ATTITUDE AND THERE INFLUENCE ON PREVENTIVE BEHAVIOUR TOWARDS HIV/AIDS AMONG BBA AND BIO-TEC STUDENTS OF BUITMS UNIVERSITY QUETTA DIST, PAKISTAN

Questionnaire consists of 4 parts

1. General characteristics
2. Knowledge about HIV/AIDS
3. Attitude towards HIV/AIDS
4. Preventive behavior towards HIV/AIDS

#### Part 1: General Characteristics

1.1 Age ..... Years

1.2 Sex :

- 1 Male     2 Female

1.3 Marital status:

1. Single    2. Married                       3. Divorced                       4. Other (Specify) \_\_\_\_\_

1.4 With whom do you stay?

1. With Family                       2. Friends                       3. Spouse                       4. Relatives
5. Stay by myself                       6. Other (Specify) \_\_\_\_\_

1.5 At present where do you reside?

1. My own house    2. Parent house                       3. Rent apartment
4. University dormitory (Hostel)    5. Other (specify) \_\_\_\_\_

1.6 Your monthly allowance? \_\_\_\_\_ Rs. / Month

1.7 From whom do you get your allowance?

1. My parents                       2. My spouse                       3. My relatives                       4. Loan for study
5. Scholarship                       6. Other (specify) \_\_\_\_\_

1.8 Any other source of income? (Specify) \_\_\_\_\_

1.9 Source of HIV/AIDS information.

Please check (√) in appropriate blank box about your frequency and source of getting information

Source of information about HIV/ AIDS	Frequency		
	Often	Sometimes	Never
◆ Newspaper			
◆ TV			
◆ Radio			
◆ Posters			
◆ Teachers/Instructor			
◆ Friends			
◆ Books			
◆ Girlfriend/ Boyfriend			
◆ Parents			
◆ Relatives			
◆ Health Providers			
◆ Internet			
◆ Magazines			

### Part 2: Knowledge about HIV/AIDS

For each statement, please tick (√) YES, NO, or DON'T KNOW

#### General information Towards HIV/AIDS

No	Question and statements	YES	NO	DON'T KNOW
1.	AIDS is a fatal disease.			
2.	AIDS is a communicable disease.			
3.	HIV infection will decrease your Immunity?			
4.	AIDS is caused by virus named HIV. First you get infected with HIV virus and then AIDS develops?			
5.	HIV/AIDS can be prevented.			

6.	HIV/AIDS can be cured.			
7.	Currently, vaccine for AIDS prevention is available.			
8.	TB is the most common disease in AIDS patient.			
9.	Can a health looking man be infected with AIDS?			

### Modes of Transmission of HIV/AIDS

No	Question and statements	YES	NO	DON'T KNOW
10.	AIDS can be transmitted by having sexual intercourse with HIV/AIDS infected person.			
11.	AIDS can be transmitted by transfusion of blood and blood component.			
12.	AIDS can be transmitted by sharing syringes /needle with infected person.			
13.	AIDS can be transmitted by tattoo making.			
14.	AIDS can be transmitted by sharing toilet with infected people.			
15.	AIDS can be transmitted by kissing with infected person.			
16.	AIDS can be transmitted from mother to child.			
17.	AIDS can be transmitted by mosquito.			
18.	AIDS can be transmitted by sharing food with infected person			
19.	AIDS can be transmitted by sneezing or coughing.			
20.	AIDS can be transmitted by handshakes			
21.	AIDS can be transmitted by desintery.			

### High Risk groups for HIV/AIDS

No.	Question and statements	YES	NO	DON'T KNOW
22.	Individuals at higher risk for contracting HIV infection include needle sharing drug users.			

23.	Individuals at higher risk for contracting HIV infection include bisexual and heterosexual.			
24.	Individuals at higher risk for contracting HIV infection include who have multi partners in sex.			
25.	Individual at higher risk for contracting HIV infection include people who buy sexual services.			

### Treatment and diagnosis for HIV/AIDS

No.	Question and Statements	YES	NO	DON'T KNOW
26.	Is Antiviral therapy the most commonly used for HIV/AIDS?			
27.	Can AIDS be Diagnosed by blood?			
28.	Can AIDS be Diagnosed by urine?			
29.	Would you ever want to be tested for HIV?			

### Prevention for HIV/AIDS

No.	Question and Statements	YES	NO	DON'T KNOW
30.	AIDS can be prevented by using condom correctly while every time having sex.			
31.	AIDS can be prevented by having only one sex partner who has no other partners?			
32.	If a mother is infected with the AIDS, is there any way to avoid transmission to the baby?			
33.	AIDS can be prevented by having no sex before appropriate time.			
34.	AIDS can be prevented by not buying sexual services.			
35.	AIDS can be prevented by not sharing needles, blades with other persons.			
36.	The best way to prevent HIV is having no sexual intercourse.			
37.	Religious belief and practice can prevent HIV/AIDS transmission			

38.	AIDS can be prevented by scanning blood before transfusion.			
39.	Can AIDS be prevented by investing in health sector?			



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### Part: 3 Attitudes towards HIV/AIDS

For each statement, please check (✓) in any one that applies to you the most YES, NO or NOT SURE.

No.	Question and Statements	YES	NO	NOT SURE
1.	If a member of my family became sick with the AIDS virus, would you be willing to care for him or her in your house hold.			
2.	If a female teacher has the AIDS virus but is not sick, should she be allowed to continue teaching in school.			
3.	If I knew that a shop keeper or food seller had the AIDS virus I would not buy vegetables from them			
4.	If a member of your family got infected with the AIDS virus, would you want it to remain a secret?			
5.	I think AIDS is a disease for bad people only.			
6.	I would avoid being friends with someone who I know has AIDS.			
7.	I will attend a doctor who I know is treating AIDS patients.			
8.	I think it is moral obligation that AIDS patients should be treated in the same, equal, ethical and practical manner as other patients			
9.	If I have HIV/AIDS would tell someone.			
10.	I think unmarried women's should be able to buy condoms.			
11.	I think sex workers or homosexual deserve to have HIV/AIDS?			
12.	Do you think it's not important to wear condom while having sex with a trusted person?			
13.	Do you feel hatred towards HIV/AIDS infected people?			
14.	Do you feel compassion towards HIV/AIDS people?			
15.	Do you feel apathy towards HIV/AIDS patients?			
16.	Do you think you can get AIDS?			

### Part 4: Preventive Behavior towards HIV/AIDS

For each statement please check in any one blank space (✓) for ALWAYS, OFTEN, SOMETIMES, or NEVER for during past six months.

NO	Questions	Always	Often	Sometimes	Never
1.	Do you share tooth brush with others?				
2.	Have you ever share Blades/Scissor together with someone else without cleaning it?				
3.	Have you ever had contact with others blood or secretions?				
4.	When you have sexual intercourse do you use condom to prevent STDs?				
5.	Have you ever had your skin piercing or tattoo making? - If no, Skip to next question - If yes, Was a new needle used?				
6.	Have you ever use any Intravenous Narcotic drugs? - If no, Skip to next question - If yes, you ever share needles with others.				
7.	Have you ever had sexual intercourse with heterosexual? - If no, skip to next question. - If yes, do you use condoms?				
8.	Have you ever had sexual intercourse with bisexual? - If no, Skip to the next question - If yes, Do you use condom?				
9.	Do you have sex with your lover? If no, Skip to next question If yes, how often do you use condom?				
10.	Do you have sex with your friend? If no. skip to the next question. If yes, how often do you use condom				
11.	Do you have sex with a stranger? If no, skip to the next question If yes, how often you use condom				
12.	You ever gone to Brothels? - If no, Skip to the next question - If yes, do you carry and use condom?				



13.	Did you ever have blood transfusion? - If don't know skip to next question - If, yes was it screened for HIV/AIDS?				
14.	You avoid having sexual relationship with someone who is a IV drug? - If yes, Skip to next question - If no, do you use condom while having sex?				
15.	When you get drunk do you have sex? - If no, skip - If yes, do you always use condom?				

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## APPENDIX C

### Time Frame

Project procedure	Oct 08	Nov 08	Dec 08	Jan 09	Feb 09	Mar 09	April 09	May 09
1.Literture revive								
2.Writing thesis proposal								
3.Submission Proposal Exam								
4.Proposal Exam								
5.Ethical consideration								
6. Pre test Questionnaire								
7.Data collection								
8.Data analysis								
9.Thesis and Article writing								
10. Thesis exam								
11.Submission for article publication								
12.Submission of thesis								

## APPENIDX D

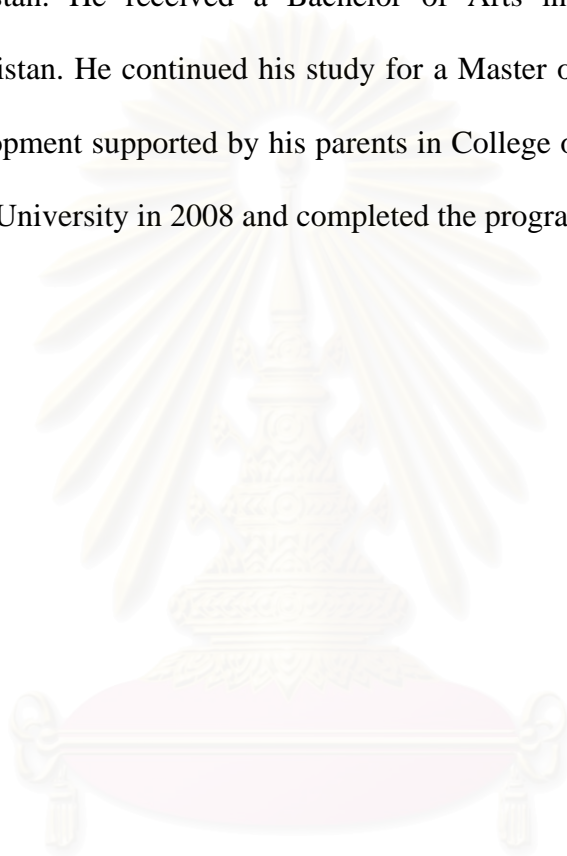
**Budget**  
In baht

<b><u>Expenditure</u></b>	<b><u>Cost</u></b>
Traveling	30,000
Research assistants	10,000
Stationary	10,000
Miscellaneous charges	10,000
<b>Total</b>	<b>60,000</b>

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## BIOGRAPHY

Mr. Sheh Mureed was born on the 30 November, 1985, in Balochistan province, Pakistan. He received a Bachelor of Arts in 2008 from Balochistan University, Pakistan. He continued his study for a Master of Public Health in Health Systems Development supported by his parents in College of Public Health Sciences, Chulalongkorn University in 2008 and completed the program in 2009.



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