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Full Length Research Paper

Epidemiology of homosexuality among male Egyptian youth

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Homosexuality is the commonest psychosexual disorder, however few data present upon in Egypt. This study aimed to determine the epidemiology of homosexuality in male youth populations in Upper Egypt, and associated sexually transmitted diseases (STDs). Methods: a sample of 1,500 Egyptian 18-35 years old men attending for medical examination in Qena University Hospital (QUH) outpatient department between March 2013 and March 2014 were randomly selected; prevalence of homosexuality and associated sexually transmitted diseases were studied. Results: A low rate of marriage with subsequent late age of marriage among the study group has been found, mainly due to economic causes. On contrary to the expected, only 36 (2.4%) young adults gave history of illegal sex behavior, only one of whom admitted to have homosexual activity, compared to the remaining individuals who were all heterosexuals. In parallel to such reduced illegal sexual behavior, human immune deficiency virus (HIV) /acquire immunodeficiency disease (AIDS), syphilis and gonorrhoea, all were absent among the studied population. Conclusions: Homosexuality is unlikely among male Egyptian youth. Islamic moral code and Coptic Christianity which forbid adultery render homosexuality, and extramarital sex, less likely as a public health problem. In turn, an essential route for spread of the STDs in general and HIV/AIDS in particular is largely diminished.

Keywords: homosexuality, young adults, risks, Egypt

INTRODUCTION

Homosexuality is the commonest psychosexual disorder known and is defined as a state of erotic thoughts, feelings and sexual behavior towards a person of the same sex with absent or weak heterosexual arousal. (UNAIDS 2008). Homosexuality is more common in males than females; the

prevalence is difficult to estimate, however, globally it is roughly about 1-5% of males of different social classes. As early as 148, Kinsey and collaborates (Kinsey et al., 1984), in their early groundbreaking empirical studies of sexual behavior among American adults reported that up to 10% of the males in their studied population and 2-6% of the females (depending on marital status) are engaged in homosexual behavior; those subjects had been more or less exclusively homosexual in their behavior for at least

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three years between the ages of 16 and 55. Homosexuality may start early in childhood and persist throughout adult age. Importantly, established homosexuality should not be considered before the age of 25 years since many individuals pass through the homosexual phase during their adolescence. (Savin-Williams 1998).

Etiological and risk factors: There are many theories and factors trying to explain the syndrome of homosexuality: a) Genetic theory (constitutional factors), (Chen et al., 2002) where, homosexuality is determined either by heredity and tendencies are observed in multiple members of the same family especially twins, or when many homosexual men having feminine physique, gesture and interest. b) Psychosocial factors: (Gonsiorek 1982; Andrews et al., 1988). Although some psychologists hold negative personal attitudes toward homosexuality, empirical evidence and professional norms do not support the idea that homosexuality is a form of mental illness or is inherently linked to psychopathology. However, the foregoing should not be construed as an argument that sexual minority individuals are free from mental illness and psychological distress. Indeed, given the stresses created by sexual stigma and prejudice, it would be surprising if some of them did not manifest psychological problems. (Meyer 2003). The data from some studies suggest that although most sexual minority individuals are well adjusted, non-heterosexuals may be at somewhat heightened risk for depression, anxiety, and related problems, compared to exclusive heterosexuals. (Mays and Cochran 2001). Unfortunately, because of the way they were originally designed, most of these studies do not yield information about whether and to what extent such risks might be greater for various subgroups within the sexual minority population, e.g., individuals who identify as lesbian, gay, or bisexual vs. those who do not; bisexuals vs. lesbians, and gay men, including men who have sex with men (MSM). All surveys are likely to underestimate the actual prevalence of homosexuality because, fearing discrimination and stigma, many gay respondents are reluctant to tell a stranger (even anonymously) that they are homosexual. Recognizing this limitation, most research with probability samples suggests that at least 3-6% of the US adult male population is homosexual, with somewhat fewer females (Lever et al., 1992).

In a review of published studies comparing homosexual and heterosexual samples on psychological tests, (Gonsiorek 1982), found that, although some differences have been observed in test results between homosexuals and heterosexuals, both groups consistently score within the normal range. Gonsiorek concluded that "Homosexuality in and of itself is unrelated to psychological disturbance or maladjustment. Homosexuals as a group are not more psychologically disturbed on account of their homosexuality." (Gonsiorek 1982; Gonsiorek 1991). Confronted with overwhelming empirical evidence and

changing cultural views of homosexuality, psychiatrists and psychologists radically altered their views, beginning in the 1970s. In 1973, the weight of empirical data, coupled with changing social norms and the development of a politically active gay community in USA led the Board of Directors of the American Psychiatric Association (ASA) to remove *homosexuality* from the Diagnostic and Statistical Manual of Mental Disorders (DSM). Subsequently, a new diagnosis, *ego-dystonic homosexuality*, was created for the DSM's third edition in 1980. Ego dystonic homosexuality was indicated by: (i) a persistent lack of heterosexual arousal, which the patient experienced as interfering with initiation or maintenance of wanted heterosexual relationships, and (ii) persistent distress from a sustained pattern of unwanted homosexual arousal. This new diagnostic category, however, was criticized by mental health professionals on numerous grounds. It was viewed by many as a political compromise to appease psychoanalysts who still considered homosexuality a pathology. Others questioned the appropriateness of having a separate diagnosis that described the content of an individual's dysphoria. They argued that the psychological problems related to ego-dystonic homosexuality could be treated as well by other general diagnostic categories, and that the existence of the diagnosis perpetuated antigay stigma. Moreover, widespread prejudice against homosexuality meant that many people who are homosexual go through an initial phase in which their homosexuality could be considered ego dystonic. According to the ASA, fears and misunderstandings about homosexuality are widespread, and present daunting challenges to the development and maintenance of a positive self-image in gay, lesbian and bisexual persons and often to their families as well. In 1986, the diagnosis was removed entirely from the DSM. (The only vestige of ego dystonic homosexuality in the revised DSM-III occurred under *Sexual Disorders Not Otherwise Specified*, which included persistent and marked distress about one's sexual orientation ASA, 1987). In practice, psychological drivers to homosexuality, if any, may take one of the following mechanisms: i) Fixation: the attraction to the same sex may spring from the intimate relationship between them especially at puberty. ii) Regression: failure in heterosexual relations may regress towards the same sex. iii) Repression: a child may become sexually excited by his sister or mother; this forbidden desire is repressed, not only for the sister but for other women as well, thus his thoughts may be directed to homosexuality. iv) Environmental factors: boarding schools, prisons and military camps are examples of situations where homosexuality may be initiated. Furthermore, society acceptance may have a positive role in initiating homosexuality.

c) Hormonal theory: This theory has a great controversy and may not be widely accepted,⁽³⁾ for, whether the

individual's hormonal profile plays a role in the sexual orientation and or gender identity in adulthood as compared to its role in gender identity is controversial. However, prenatal factors that affect the interaction of these hormones on the developing brain can influence later sex-typed behavior in children (Garcia-Falgueras and Swaab 2010). While experimental studies in non-human mammals could prove the relationship between hormonal makeup and sex-type behavior, similar effects in human neurobehavioral development is debatable between scholars. On the other hand, some evidence on the influence of prenatal androgen exposure upon childhood sex-typed behavior has been provided. (Hines 2010). Although congenital adrenal hyperplasia (CAH) (a genetic disease that results in exposure to high levels of androgens beginning early in gestation and where girls are born with masculinized genitalia) seems to be a type of natural experiment for hormonal-sexual differentiation, the relationship is confounded by the social responses to masculinized genitalia and factors related to the disease itself. (Berenbaum and Beltz 2011). As a result, hormones alone cannot be considered as the sole determinant of sexual orientation and differentiation of the brain. (Further search for other determinants of such relationship has led to the implication of genetic determinants, e.g., the SRY and ZRY genes (Ngun, et al., 2010).

Male homosexuality as hypermasculine: The association between sexual orientation and traits that are determined in utero has been postulated. For instance, it has been found that the auditory systems in the brain (a trait influenced by prenatal hormones) differ in those of differing orientations; likewise the suprachiasmatic nucleus is larger in homosexual men than in heterosexual men (Swaab et al., 1994) Gay men have also been shown to have higher levels of circulating androgens (Brodie et al., 1974), and larger penises, (Bogaert and Hershberger 1999) on average, than hetero men.

Major health problems linked to homosexuality: The major medical problems are mainly confined to male homosexuality. First, sexually transmitted diseases (STDs): homosexuals constitute the first and the main high risk group of STDs; where more than 80% of AIDS, about 75% of syphilis and 55% of gonorrhoea cases are homosexuals. Homosexuals are at ten times increased risk of developing hepatitis B than the heterosexual (Gonsiorek 1982). Second, anal diseases e.g., anorectal trauma, proctitis and anal warts (Lega 1994). Third, psychological problems e.g., poor self esteem (Andrews et al., 1988).

Sexually transmitted diseases (STDs): They are group of infectious diseases that are transmitted predominantly by sexual contact. More than 20 STDs have now been identified and some of them are no longer restricted to genital tract e.g., hepatitis B virus (HBV) infection; others affect mainly the genital system e.g. gonorrhoea. STDs continue to constitute a major public health problem

throughout the world especially in countries where there is a social acceptance of sexual promiscuity e.g., UK and USA. (Gonsiorek 1982). In essence, STDs affect both men and women of all background and economic levels. Young adults are at particular risk of STDs, nearly two thirds of all STDs occur in people younger than 25 years of age. This is due to decreasing age of sexual maturity and increasing age of marriage that clearly observed in the recent few decades with more expansion of pre-marital sex activities and STDs (Lega 1994). Homosexuals and prostitutes are the most vulnerable group to develop and transmit STDs. Tourists, seafarers and migrants play important role in transmission of STDs across many areas, worldwide. (Gerbase et al., 1996). Commonly, STDs are classified according to the causative organisms into bacterial, viral, fungal, protozoal and ectoparasites. Most common and important STDs all over the worldwide include HIV/AIDS, syphilis and gonorrhoea (Rothenberg et al., 1996). The combat of STDs should be through several integrated lines including: sexual health education, discouragement of sexual promiscuity, promotion of religious and moral factors; screening of risk groups and early management of cases, in addition to prevention of other routes of transmission, such as blood-borne and parenteral routes in HIV infection (Wasserheit and Aral 1996).

a) HIV/AIDS: Among STDs, the following diseases HIV/AIDS is most terrible and that has quickly occupied the attention of politicians, public health workers and the public because of its fatal outcome and lack of any specific therapy or prophylactic vaccine. In particular, AIDS is a late clinical syndrome caused by infection with the HIV which invades and destroys T4 lymphocytes resulting in disturbance of the host immune functions with very high susceptibility to many life-threatening diseases, including opportunistic infections as well as malignancy (Choi and Coates 1994). Sexual contact either homosexual or heterosexual is the main route of HIV transmission, e.g., with predominant homosexuality as the essential risk factor in the USA and many European countries, thus young adult males are more risky there (84% of HIV infected individuals are men). (Gay, bisexual, and other MSM represent approximately 2% of the US population, and MSM aged 13-24 years account for 72% of new HIV infections among all persons aged 13 to 24, and 30% of new infections among all MSM. Ultimately, by 2010, an estimated 489,121 (56%) persons living with an HIV diagnosis in the US were MSM.

(Nadal 2014). In the Arab East area, parenteral transmission has the main role in HIV transmission through transfusion of infected blood or blood products, in addition to intravenous (IV) drug dependants which comprise a high risk group. Materno-fetal transmission of HIV/AIDS, another documented non-sexual route of transmission of HIV infection (CDC 1997; WHO 2003), is found in the Arab East societies.

Nondisclosure of serostatus

In a 2006, (Duru et al., 2006) studied the behaviors of a representative sample of HIV-positive homosexuals, heterosexual men, and women. Surprisingly, 60% of homosexual men failed to report their serostatus to all partners, compared to 34% of heterosexual men, and 27% of women. More overwhelmingly is the breakdown of nondisclosure according to clinical stage of the disease. Thirty-seven percent of those asymptomatic with HIV failed to disclose their status to every partner. Forty-six percent of those symptomatic with HIV failed to disclose their status to every partner. And a staggering 51% with full-blown AIDS diagnosis failed to disclose their status. Nondisclosure is largely attributed to the fear of rejection. While quite legitimate, the act of nondisclosure says something about the hedonistic predisposition of the offenders. They are more concerned about their acceptance in bed, than the life, health, and safety of the people whom they knowingly place at risk. They hold in low esteem the unsuspecting individual, denying them the right to make a decision for themselves. It is part of the objectification of the other inherent in sexual promiscuity. In recent years, many HIV positive gay men have been quoted as saying that the prospective partner needs to take responsibility for the potential risks associated with sex; an action that then absolves the HIV-positive partner from the need to disclose. As rationalizations go, there is a large kernel of truth at the core of this one, but not enough to assuage moral and epidemiological culpability in this ongoing, slow-motion train wreck. No, the truth of the matter is that fifty-six percent of all HIV cases in this country are concentrated in a group representing two-percent of the population. That's not because of persecution from without, but a suicidal impulse from within.

b) Gonorrhoea: The World Health Organization (WHO) reported that more than 200 million new cases of gonorrhoea develop every year, worldwide. In males, the disease may be self limited or extend to posterior urethra producing a chronic case of epididymitis and prostatitis. (Mayaud et al., 1995; Mehta et al., 2001). In countries where homosexuality is quite acceptable and often receives a strong support and "understanding" from some society groups, gonorrhoea is on the rise and mostly infects MSM. One excuse to such trend is the tendency for inadequate testing among people stymied by homophobia and limited access to health care, and probably due to embarrassment of homosexual men to see their primary care doctors (Nadal 2014). The issue is that with most of men populations who have STDs, including gonorrhoea from having sex with another man often feel that they are highly stigmatized to the degree that they would rather not get tested for their STD to avoid discrimination. That said, there is an understandable stigma surrounding gay and

bisexual men whose community has become the engine of disease in those countries where STDs are concerned. The frequency of gonorrhoea among homosexuals and MSM is higher than among other populations because they are higher risk of unprotected often do their best to minimize the probability of being stigmatized by the society, e.g., avoiding being in situations where their sex behavior could be predicted. For instance, they might opt not to get involved in health education activities dealing with safe sex or participate in STD- prevention activities, probably not to be perceived as being overzealous about safe sex and STDs, a risk that is now well known to be mostly threatening to homosexual and bisexual populations, and hence their image would be jeopardized due to their "abnormal" sexual behavior.

c) Syphilis: Syphilis is the third sexually-transmitted disease which remains an important STD, worldwide. The causative organism is *Treponema pallidum* spirochete that is transmitted mainly through sexual intercourse, kissing and occasionally by blood transfusion and transplacental (congenital syphilis). (Marutti et al., 1997). The initial lesion of syphilis is its characteristic chancre that commonly occurs on penis, vagina and lips. (Syphilis if untreated, may continue to more advanced stages including; generalized eruption and eventually serious involvement of the heart and central nervous system). Partial post-infection immunity may follow syphilis infection which diminishes the re-infection (Hutchinson et al., 1991). Same as with gonorrhoea and HIV/AIDS, the increase in the rate of syphilis among gay and bisexual men is being documented in societies where homosexual behavior preference is quite adorable by many social and political groups, regardless the prevailing social, moral, health, and religious values that prohibit such behavior. For instance, in a report on STDs issued by the US government said syphilis, a disease that was almost eliminated as a public health threat less than 10 years ago, is on the rise, with cases increasing each year since 2000 (Winn 2009). The CDC also stated that their data suggests that approximately 64% of all adult primary and secondary syphilis cases in 2004 were among MSM. (Balon 2015). More recently, it has been reported that MSM accounts for 75% of primary and secondary syphilis cases in the US in 2012. (CDC 2014).

The rejection of homosexuality, adultery and promiscuity has its deep roots in the Egyptian and Islamic society. Not only moral code of ethics of Islamic and Coptic faiths condemns those practices but at the legal level they have been banned and often punishable. The social and ethical attitude toward homosexuality becomes stricter in confined, moral-value driven; and less liberal societies, such as the Arabic rural and tribal societies, including the Nile Delta and Upper (southern) Egypt communities. Likewise, refusal of "illegitimate" sexual relationships including homosexuality buggery, and subjectivity of perpetrators to

severe punitive actions is manifest in controlled communities and official settings such as the military. For instance, in 1824, severe actions were taken against draftee soldiers in the mighty army of Muhammad Ali Pasha [1769-1849, Wali (delegated Ottoman Empire governor) of Egypt, 1805-1849], incidents of buggery between soldiers fighting overseas in Muhammad Ali's campaigns started to be reported by their commanding officers to higher authority. The military code of conduct at the time did not have any specific tort or law statue for buggery; only adultery was commonly punishable by 80 whips on the back, according to public Islamic Sharia (Islamic law). The same punishment for buggery and incidental sexual abuse of boys of the occupied territories by Muhammad the Ali's troops was authorized by the Pasha. (In the Ottoman's military code, buggery was punishable by severer actions such as castration). Interestingly, the main concern of the Egyptian military health authority headed by Antoine Clot (a French physician and senior physician to Muhammad Ali's military service corps) was foster effective prevention and control measures to combat the transmission and spread of syphilis between military troops and military academy cadets that are greatly facilitated by illegal and unhealthy sexual relationships. Doctor Clot conducted a strict follow up and isolation with contact measures of suspected syphilis patients. He also established a systematic surveillance system to prevent syphilis and STDs transmission among soldiers and importantly to control the cost of treatment of evolving syphilitic and STDs cases and hence save the military budget a tremendous amount of money needed to support Muhammad Ali's warfare plan (Fahmy 1997).

Prevention and control of STDs among homosexual groups: Many public and preventive health agencies and organizations are working hard to teat for the detrimental health consequences of homosexuality meanwhile not condemning or pushing for any type of legal control upon homosexuality. The CDC calls upon anyone who chose to be sexually active to realize that they are at risk for STDs and urges them to follow certain health advices to protect their health, including understanding the mode of spread of STDs; the need of all gays, bisexual and other MSM people to get vaccinated against HAV and HBV infections. The human papillomavirus (HPV) vaccine is also recommended for men up to age 26. (33) The CDC also recommends those groups to get tested regularly for STDs, and to also "be safer", e.g., exchange talk "honestly" about STD before having sex, use a condom correctly, not to mix alcohol and/or recreational drugs with sex, and limit the number of partners.

METHODS

The study was conducted at the outpatient setting of QUH. The hospital is a leading teaching health institution located in Southern Egypt district and is a member of Qena Medical Center (QMC) network. The hospital receives referrals from the affiliated health institutions in the three southern governorates: Qena, Luxor and Red Sea. A total of 1,500 men 18-35 year-old men were selected between March 2012 and March 2013, using systematic random sampling technique. The sample frame included outpatient appointment individuals, pre-employment check up, referrals, or subjects attending for preventive services, such as screening or regular follow up and household or work contacts of infectious-disease patients. Subjects were first informed that their consent to participate in the study is considered a permission to access their medical records, as necessary, by these investigators. Un-insured persons or those on private plans were offered a free consultation and follow up for their current complaints, if any. Refusal to give a permission to access own medical information was considered an apology to participate, and hence an exclusion from the study. Further approval from the institutional review board (IRB) of QMC has been granted. Selected participants were informed of the study's aim, assuring them of the confidentiality of their personal information, and that only grouped data would be displayed for research purpose. Verbal acceptance to be among the study group was considered an informed consent to take part in this research. Nonetheless, participants were informed that their participation is voluntary, and that they could opt to withdraw from the study at anytime and that such withdrawal cannot affect the healthcare benefits they are entitled to. The study sample was selected as to represent the relative population pattern of the three participating governorates, according to 2012 population census, as follows: Qena: 2,801,110, Luxor: 1,064,026, Red Sea: 321,079 populations). (CAPMS 2012).

Three main approaches were adopted to collect the study data: a validated predesigned questionnaire, a standardized clinical interview, including medical record review, and laboratory work. The questionnaire consists of 92 items in five scales: a) Demographic and socioeconomic criteria, including occupational history, residence, crowding index, marital status, education, and income. Particularly marital status was assessed in detail. The educational and income levels were measured as per Fahmy and El-Sherbini "socio-economic scoring system of Egyptian population" (Fahmy and El-Sherbini 1983). For instance, subjects could be either with a lower educational level (less than nine years of essential education, including

those who finished preparatory school, and those who can read and write or only completed primary school, as well as illiterate people; all referred to as \leq K-9), or those with more than nine-year education, including completing secondary school or equivalent and university education or above; all referred to as $>$ K-9. b) Lifestyle scale includes leisure time spending pattern, hobbies, and special habits, such as alcohol intake or substance abuse. Items on substance abuse were structured and phased in the context of “drug dependence” as per the WHO definition (UNAIDS/WHO 2004). Included in the questionnaires, too, was a list of drugs and substances as per the International Classification of Diseases – Version 10 (ICD-10) of dependence producing drugs, (Siegel et al., 2000), including alcohol, opioids, cannabinoids (hashish or Bango), sedatives or hypnotics, cocaine, other stimulants, hallucinogens, volatile solvents and multiple drugs. Examples of trade names of each drug group popular in the Egyptian drug addiction black market for Egyptian drug consumers were provided (Zaytoun et al., 2015). (Often, the term “addict” or “drug addict” might be used in lieu of the term “drug dependent” because the word “addiction” or often “narcotics addiction” is the exact word commonly used by most Egyptians to describe drug abuse habitual states we tend to identify in this research). c) Health status scale which includes each participant’s perception of own health standard, chronic morbidity, endocrinal symptoms, and HBV or HCV infections (HBV infection would be defined and diagnosed in this study based on the referenced serological and molecular criteria for chronic HBV infection diagnosis, CDC, 2014). (Those with previous history of HBV infection who had come to complete clearance of HBV load were not considered as having hepatitis disease). Likewise, HCV infection would be defined and diagnosed as per the referenced serological and molecular criteria for chronic HCV infection. (Those with history of HCV infection whose blood was cleared from HCV load were not labeled as having chronic HCV disease). d) Risk factors of homosexuality, including the following: i) Puberty and sexual organs development history, disclosure of gender identity and gender conformity/ nonconformity during childhood years, history of attraction to same sex-bodied persons during childhood and after puberty, and disclosure of sexual orientation. ii) Religious beliefs and commitment to predominant religious and societal values pertinent to sexual relationship. iii) Psychosocial factors, including failure in heterosexual relations, tendency to sexual excitation by sister or mother which turned into a repressive feeling for womankind to the degree that homosexuality could be a refuge, living in confined place for a long time, e.g., boarding schools, prisons, military camps, and living in a society where homosexuality is not prohibited. e) Sexual behavior: i) heterosexuality, ii) homosexuality, iii) illegal sexual behavior, which is close to the term “adultery” in the

English-language literature, which according to the Egyptian society’s tradition as well as the predominant religious doctrine whether Islam or Christianity means any form of sexual activity out of the frame of marriage with a partner whether or not of the same sex; in which case it applies to single persons, too.

A pilot administration had first been conducted; test-retest reliability calculated to assess the temporal stability of the utilized questionnaire items. Reliability alpha ranging between 0.83 and 0.92 was recorded. Upon completion of the questionnaire, each participant was invited to a clinical interview, medical record examined, history about STDs, e.g., urethral discharge, chancre, family history of similar complaints and problems, and then a clinical examination was carried out, including full medical history, vital signs, full systemic examination, and psychological assessment. Participants’ medical records were reviewed thoroughly, including previous medical history, health status incidences, clinical findings, chronic diseases status, and laboratory profiles. The clinical interview data were compared with medical record findings, and an ultimate evaluation of the previous and current health status labeling for each participant was reached as being described in this study. The collected data were tabulated and analyzed using the Statistical Package for Social Science (SPSS) version 20. Frequency statistics, e.g., to describe interval- or ratio- scale data, such as age would be calculated using mean and standard deviation, considering normality distribution. Categorical variables were expressed in count and percentage.–The social and demographic characteristics would be identified and displayed to describe the socioeconomic status of the study group. Should there is a need to measure the relationship between categorical risk factors, e.g., those relevant to demographic and socioeconomic status or unfavorable behaviors, such as drug dependence, and their role in shaping the sexual behavior of the study population, Chi-square test (or Fisher’s exact tests, where appropriate), would be used. Our alpha error (α) to tolerate type-I error was 0.05, and results with p -value less than alpha would be considered significant.

RESULTS

Out of 1,500 young adult men studied, the great majority of (98.2%) subjects were single and only 27 (1.8%) were married (Table 1). As regards the occupation, 50.6% of the study population was recent graduates, while manual working was recorded among 45% and those without job were 4.4%. Overall, about two thirds (66.4%) of the studied population belongs to middle social class, 27.6% belong to middle class, and only 6% belong to the high socioeconomic class (Table 1). As regards the level of education, 1,047 (69.8%) received $>$ K-9 education (264=

Table 1: Socio-demographic characteristics of the studied group (n=1500)

Status	Category	Number	%
Marital status	Single	1473	98.2
	Married	27	1.8
Occupation	Recent graduate	759	50.6
	Manual work	675	45.0
	No job	66	4.4
Socio-economic status	Low	996	66.4
	Middle	414	27.6
	High	90	6.0
Education	>K-9	1047	69.8
	≤K-9	453	30.2

Table 2: Sexual behavior of the study group

Status	Category	Number	%
Sexuality partnership	Heterosexual	1499	99.93
	Homosexual	1	0.07
Sexual behavior	Illegal sexual behavior	35	2.33
	No illegal sexual behavior	1465	97.67

17.6%) university graduates, 783=52.2% secondary school or equivalent), while 453 (30.2%) had ≤K-9 education [162= 10.8% completed preparatory school (K-9), 159= 10.6% can read and write or completed primary school (K-6), 132= 8.8% illiterate] (Table 1).

As little as 35 (2.3%) of the young adults gave history of illegal sex behavior (in the form of adultery, meaning sexual relationship out of the frame of marriage, even if single). Only one subject (0.07%) admitted to have homosexual activity, and whom he was married. The majority (1463/1,500 = 97.6%) included individuals who are heterosexuals. The frequencies of HIV, syphilis and gonorrhea were nil among the studied group.

DISCUSSION

Only 27 (1.8%) participants were married that reflected low rate of marriage with subsequent late age of marriage which could be attributed mainly to economic causes. In essence, sexual relations begin in adolescence and young adulthood and particularly if not exercised in the presence of a degree of commitment to some health and hygienic precautions it makes people, especially the young at the highest risk for acquiring STDs. The exact reasons for such risk youngsters are exposed to include the following: they

may be more likely to engage in unprotected intercourse, they may be more likely to have multiple (sequential or concurrent) sexual partners rather than a single, long-term relationship; and they may select partners at higher risk (Butt and Nandwani 2001). The term 'men who have sex with men' does describe a behavior rather than a group. According to this definition the term includes "self-identified gay, bisexual, or heterosexual men, many of whom may not consider themselves gay or bisexual (UNAIDS 2008).

In the Egyptian case where the rate of marriage among young men so low with subsequent late age of marriage, contrary to the expected, only 12 young adults gave (2.4%) history of illegal sex behaviors, and only one of them admitted to have homosexual activity. Subsequently, the rate of homosexuality among our Egyptian youth is as low as being negligible (0.07%), e.g., compared to what has been found elsewhere, including the societies that embrace Western values and way of living. For instance, Villarroel et al. (2006) in the USA (Villarroel et al., 2006), found that 1.5-1.6% of 744 Baltimore adults ages 18 to 45 surveyed population was homosexual. The exceptionally higher rates reported in the pioneer early writings of Kinsey and collaborates during the late 1940s and early 1950s that are up to 10% of the male – and 6% of the female American populations are homosexual (Kinsey et al., 1984; Kinsey et al., 1953), have been criticized by concerned

commentators. First, the time difference between Kinsey's work and recent studies is wide. More importantly, Kinsey and colleagues did not categorize their participants according to sexual orientation; instead, they chose to emphasize sexual behavior and fantasy. In addition, because Kinsey et al., did not collect data from a probability sample, valid inferences could not comfortably be made from them to the larger population. Alternatively, the lower rates of homosexuality could perhaps be attributed to under-reporting of all homosexuality incidents, since some homosexuals do not tend to disclose their ambiguous sexual orientation fearing discrimination and stigma (Villarroel et al., 2006). For instance, many gay respondents may be reluctant to tell strangers of their sexual intention, even to anonymous parties. In parallel, the low rate of homosexuality in our study population could be partly explained by the same moral social limitation that keeps homosexual individuals from disclosing their true sexual activity partner preference even in research settings. On the other hand, and also as early as 1951, Ford and Beach (Ford and Beach 1951), tended to argue against the prevailing negative view of homosexuality and indicated that homosexual behavior was also widespread among various nonhuman species and in a large number of human societies. They reported that homosexual behavior of some sort was considered normal and socially acceptable for at least some individuals in 64% of the 76 societies in their sample; in the remaining societies, adult homosexual activity was reported to be totally absent, rare, or carried on only in secrecy. As with Kinsey, whether this proportion applies to all human societies cannot be known because a non-probability sample was used. However, the findings of Ford and Beach (Ford and Beach 1951) *demonstrate* that homosexual behavior is not uncommon and is not always condemned.

Regardless the debate about whether homosexuality is a personal choice and a human right that should be protected by civil law or an illegitimate behavior that should be firmly confronted by the society, e.g., because it poses threat to the society's norms, values, health and wellbeing, both parties admit that homosexuality has a direct negative implication upon the public's health in terms of transmission of STDs, the some of which are as fatal as HIV/AIDS. The party who is in favor of accepting homosexuals as normal and fully respected members of the society argues that STDs among homosexuals may well be controlled by offering them the due healthcare and regular check up, including safe sex education and protective vaccinations, without discrimination or humility. The opponent party though argues against the effectiveness of these actions in stopping STDs transmission, e.g., inquiring how could a drunk homosexual partner make a sound decision and applying safe sex precautions, e.g., use condom properly, before commencing the prospective sexual relation?. And even if

a condom was used properly, how about other sexual routes for STD transmission, such as oral sex and uncontrolled - or unhealthy sexual actions which can barely be prevented under the influence of alcohol or narcotic drugs where mental alertness and a conscious state are jeopardized? Eventually, the incidence of STDs, especially in association with young adult male homosexuality as a predominant mode of transmission are on the rise in the western and industrial societies, e.g., whereas MSM 13-24 years of age account up 72% of new HIV infections in all persons of this age category and 30% of new infections among all MSM (Nadal 2014). Reports however indicate that the incidence of STDs in the Arab East is lower than that in western societies (Setayesh et al., 2013), even among the Arabs living in such societies, mostly due to low-risk sexual behavior that is well associated with low rate of homosexuality (Chemtob and Srouf 2005). This work also supported the low tendency for homosexuality and adultery among Egyptian men population. This situation is also supported by the fact that HIV, the most serious STD transmission is mostly through parenteral route, not the sexual in Egypt and the entire Arab East region (Nadal 2014).

The New York Time's note that "not all men who sleep with men in Egypt use the term 'gay,' much less identify themselves as such." (Azimi 2006). This latter category is particularly relevant in the case of Egypt where it has been noted that the concepts of gay identity have only emerged relatively recently. Highlighting the lack of awareness of the concept of 'gayness', an organization such as Human Rights Watch (HRW) cites the case of Hussein, a young man from a desperately poor background, illiterate though gifted and creative, who told HRW how he came to be on the "Queen Boat, and a friend "told me that there is this disco which is a 'gay disco.' I didn't know what 'gay' meant. He told me what it meant, and because I thought I was 'gay,' I went," Hussein said. Another complexity is that some men who engage in sexual conduct with their own gender may also be married to the opposite sex while trying to keep the homosexual relationship secret from their spouse. While this phenomenon is not unique to Egypt, the social pressure to conform to heterosexual norms seems to lead to more such situations in Egypt. See for example the cases whereas in September 2006, at least one entrapment case occurred in Cairo; a young man was lured via a chat site and badly beaten and subject to electroshock on his genitals by the same office of the public morality squad that had conducted Internet-based entrapments (Azimi 2006). It is also noted that male-male sexual encounters may be encouraged by a lack of opportunity for heterosexual encounters, though such encounters are not necessarily considered by participants as signifying homosexuality.

The issue of societal attitudes towards sexual minorities, and in particular attitudes towards those who engage in

male-male sex, is complex. It is frequently noted that heterosexual male relationships in Egypt are, relative to some Western cultures, more physically intimate. Men might hold hands, embrace and even kiss during greetings, in some situations sexual activity between men does not lead to the perception of homosexuality or bisexuality. (49) Efforts to summarize a society's attitude towards a particular group are bound to be problematic. It should be noted that there are a few more positive accounts of life for homosexuals in Egypt. One doctor, who counsels homosexuals, also notes that his patients generally manage to lead "normal quiet lives, despite society's negative views about being gay." (Ammon 2004-06). Similarly, cases have been reported of gay men living in relative safety. One American gay traveler visiting Egypt interviewed an Egyptian gay man who claims to have never suffered any "incident of exposure or harassment regarding his sexuality." The traveler-author further states that "physical gay bashing is virtually unheard of except when in police custody." (Stack 2007). However, the opposite view is expressed by a gay interviewee in the independent 'Daily News Egypt', who claims that homophobic violence and petty mugging are common. (Maged 2008). However, the opposite view is expressed by a gay interviewee in the independent Daily News Egypt, who claims that homophobic violence and petty mugging are common (Mazen 2006).

The media, while speaking with multiple voices, has helped entrench certain perceptions in regards to homosexuality. The Daily News Egypt also quoted various views on the best "cure" (marriage or therapy), the potential for sex education to "alter homosexual behavior at an earlier age," and also that "homosexuality is not necessarily a sexual disorder but could just be a whim." (Mazen 2006). Another article from 2006 in the same paper notes that homosexuality is still seen by many as a disease. Various papers have been noted to have demonized and indeed identified those charged with debauchery or other related crimes (SDLSEM 2008). Several Egyptian films have been made and released in Egypt to depict same-sex sexual relations. Based on the 'Yacoubian Building' novel, a popular film with the same title was produced in 2006, which it is about a gay newspaper editor. One parliamentarian introduced a bill to have some scenes censored, which was signed by around one quarter of the parliament, but failed to achieve its goal. However the film was successfully screened despite the censoring attempt. (Two more films have been released thereafter depicting encounters between two women, which similarly resulted in conservative backlash, but were also allowed to screen and achieved popularity at the box office).

Perhaps, as a result of a reduced illegal sexual behavior in male Egyptian youth and also the extremely low rate of homosexuality, HIV, syphilis and gonorrhoea were

completely absent in this critical subset of the Egyptian population. This finding matches a survey carried by Ghazzawi et al., in 1997 who didn't find any HIV1 or HIV2 reports among 1,029 studied Alexandrian residents. In support of these findings, too, Lenton (1997), reports that Egypt is classified as HIV low-prevalence country and the prevalence in adults was less than 0.1%. The relatively low prevalence of STDs and the rarity of HIV among the Egyptian populations have often been attributed to the adherence to Islamic moral code and Coptic Christianity which forbid adultery, extramarital sex and homosexuality. Should such practices be abandoned, an essential route for transmission of STDs in general and HIV/AIDS in particular is abolished. In Egypt, too, the same conservative social norms that make gays so fearful also make it hard to preach HIV/AIDS prevention methods (EFGFHT 2005). In such a predominantly Muslim culture, both homosexuality and sex outside marriage are considered sinful, so any discussion of safe sex among unmarried partners or gays could amount to condoning forbidden behavior.

While homosexuality is perceived is often perceived in the Western literature as a separate entity, which in turn encompasses well-circumscribed social, behavioral, attitudinal, and civil right, as well as health-related dimensions, it is largely envisioned by the Egyptian society from a mere religious (and social norms)- angle. Both the public opinion and legal system in Egypt perceive homosexuality within the broader frame of illegitimate sexual relationships, which includes adultery, buggery, and promiscuous sexual relations. The concept of gay lesbian, bisexual and transgender (LGBT) would hardly be understood or tolerated in Egypt in the near future, perhaps due to the predominant religious Islamic and Coptic preaching that prohibits such "sinful" sexual orientation. The formal judiciary system, which by the constitution endorses Islamic Sharia as a main source of legislation, also denies any form of sexual relationship outside the frame of marriage, and perpetrators are subject to punitive actions. Even among liberalists who glorify human rights and freedom of choice, many tend to reject the claim that homosexuality is a free choice and has no implications in the societal stability and well being. In the West, too homosexuality is as low as 1.5-1.6%, i.e., only double the frequency found in this work. This difference may well be explained by the lack of conflict between religious beliefs and the socio-legal system, since under the absolutely secular regime, church and state are totally separated. Even in the Western societies, many people "morally" and probably "religiously" do deny homosexuality and do not consider it a personal free choice. However in the West, a state of balance has been established through the enlighten and modernization phase of the modern Western civilization between the residual thoughts that glorify those religious values derived from the original Christian

preaching which stands against illegitimate sexual relationships, including homosexuality, and the thoughts which do not put too much focus on others' "personal" sexual and social attitude. Given all those religious, societal, legal, and moral constraints controlling the Egyptian society's movement, homosexuality is of a little worry in the Egyptian society. Fortunately, the scarcity of homosexuality among Egyptian people paves the way for a behavioral environment that limits the spread of STDs, which are highly linked to unhealthy sexual behavior and pretty much of which is encountered by the homosexuality groups. In future research, it will be important to compare different sexual minority groups in order to understand how so many individuals tolerate the stresses imposed by sexual prejudice, and to identify effective strategies for treating those with psychological problems.

REFERENCE

- Ammon R (2004-06). "Gay Egypt 2004-06", GlobalGayz.com, March 2004 updated March 2008, CX228516.
- Andrews H, Keighley MR, Allan RN (1988). Incidence of STDs among homosexuals presenting with anal problems. *Gut* 1988; 2: 332-5.
- Azimi N (2006). "Prisoners of Sex", the New York Times, 3 December 2006, CX166241.
- Balon G (2015). "We are seeing 'epidemic of syphilis' among gay men". April 23, 2015. <http://cnsnews.com/news/article/penny-starr/cdc-official-we-re-seeing-epidemic-syphilis-among-gay-men>
- Berenbaum S, Beltz AM (2011). "Sexual differentiation of human behavior: Effects of prenatal and pubertal organizational hormones". *Frontiers in Endocrinology* 2011; 32(2): 183-200.
- Bogaert AF, Hershberger S (1999). "The relation between sexual orientation and penile size" *Arch Sex Behav* 1999; 28(3): 213-21.
- Brodie HK, Gartrell N, Doering C, Rhue T (1974). "Plasma testosterone levels in heterosexual and homosexual men". *Am J Psychiatry* 1974; 131(1): 82-3.
- Butt AM, Nandwani R (2001). Sexually transmitted diseases in HIV-1-infected patients. *Lancet* 2001; 12: 1533-9.
- Centers for Disease Control and Prevention (CDC) (2014). Gay and Bisexual Men's Health. Sexually Transmitted Diseases. July 2, 2014. <http://www.cdc.gov/msmhealth/STD.htm>
- Centers for Diseases Control and Prevention (CDC) (1997). Trends in AIDS incidence, prevalence and death. *MMWR* 1997; 46: 165-73.
- Central Agency for Public Mobilization and Statistics (CAPMS) (2012). Arab Republic of Egypt. <http://www.sis.gov.eg/En/Templates/Articles/tmpArticles.aspx?ArtID=9#.VTX-RCGqkko>
- Chemtob D, Srouf SF (2005). Epidemiology of HIV infection among Israeli Arabs *Public Health*. 2005; 119, 138-143.
- Chen SY, Gibson S, Katz MH, Dilley JW, Kellogg TA, Mc Farland W (2002). Continuing increases in sexual risk behavior and STDs among homosexuals. *Am J Pub Hlth* 2002; 92(9): 1387-9.
- Choi K, Coates TJ (1994). Prevention of HIV infection. *AIDS* 1994; 8: 1372-89.
- Duru OK, Collins RL, Ciccarone DH, Morton SC, Stall RS, Beckman R, Miu A, Kanouse DE (2006). Correlates of sex without serostatus disclosure among a national probability sample of HIV patients. *AIDS Behav*. 2006; 10(5): 495-507.
- "Egypt's fearful gays shy from HIV testing" (2005). *Pittsburgh Post-Gazette, USA*, 14 March 2005, CX221971. <http://www.post-gazette.com/news/world/2005/03/14/Egypt-s-fearful-gays-shy-from-HIV-testing/stories/200503140121>
- "Scholars decry lesbian scene in Egyptian movie" (2008). *AlArabiya.net*, 10 January 2008, CX228372.
- Fahmy Kh (1997). *All the Psha's Men*. Muhammad Ali, His Army and Making Modern Egypt. Cambridge, Cambridge University Press. 1997. p. 222-4
- Fahmy SI, El-Sherbini AF (1983). Determining simple parameters for social classification for health research. *Bull High Inst Public Health* 1983; 8(5): 95-107.
- Ford CS and Beach FA (1951). *Patterns of Sexual Behavior*. New York: Harper, 1951. ISBN 978-0061319136.
- Garcia-Falgueras A, Swaab DF (2010). Sexual hormones and the brain: an essential alliance for sexual identity and sexual orientation. *Endocr Dev*. 2010;17: 22-35.
- Gerbase AC, Rowley JT, Mertens TE (1996). Global epidemiology of sexually transmitted diseases. *Lancet* 1998; 351: 3-6.
- Ghazzawi E, El Sherbini I, Renquanathan E, Gamil F, Rocchi G, Quniti I, (1997). Absence of HIV1 and HIV2 in different population from Alexandria, Egypt. *Eur J Epidemiol* 1997; 11: 711-2.
- Gonsiorek JC (1982). Mental health and homosexuality. *Am Behav Sci* 1982; 25: 367-74.
- Gonsiorek JC (1982). Results of psychological testing on homosexual populations. In Paul JD, Weinrich JC, Gonsiorek JC, Hotvedt ME. (Eds.), *Homosexuality: Social, psychological, and biological issues*. Beverly Hills, CA: Sage. 1982. p. 71-80.
- Gonsiorek JC (1991). The empirical basis for the demise of the illness model of homosexuality. In: *Homosexuality: Research Implications for Public Policy*. (Eds). Gonsiorek, J; Weinrich JD. Beverly Hills, CA. Sage, 1991. p. 115-136.
- Hines M (2010). "Sex-related variation in human behavior and the brain." *Trends in Cognitive Sciences* 2010; 14(10): 448-56. <http://www.prb.org/Publications/Articles/2013/hiv-aids-in-middle-east.aspx>
- Hutchinson CM, Rompalo AM, Reichart MT, Hook EW (1991). Characteristics of patients with syphilis attending Baltimore STDs clinics. *Arc Int Med* 1991; 15: 511-6.
- Joint United Nations Program on HIV and AIDS (UNAIDS/WHO) (2004). *Epidemiological Fact Sheet - 2004 Update*. http://data.unaids.org/publications/fact-sheets01/egypt_en.pdf.
- Joint United Nations Programme on HIV/ Acquired Immune Deficiency Syndrome (UNAIDS) (2008). "Men who have sex with men".2008, CX211251.
- Kinsey A, Pomeroy W, Martin C, Gebhard P (1953). *Sexual Behavior in the Human Female*, Philadelphia: Saunders. 1953. ISBN 978-0-253-33411-4
- Kinsey AC, Pomeroy WB, Martin CE (1984). *Sexual behavior in the human male*. Philadelphia: W. B. Saunders, 1948, pp. 804
- Lega M (1994). Epidemiology, control of sexually transmitted diseases. *Sex Transm Dis* 1994; 21: 45-50.
- Lenton C (1997). Will Egypt escape the AIDS epidemic? *Lancet* 1997; 349: 1005-7.
- Lever J, Kanouse DE, Roger WH, Carson S, Hertz R (1992). Behavioral patterns and sexual identity of bisexual males. 1992. *Journal of sex research*. 29; 141-67
- Maged A (2008). "Honey, I'm homosexual". *Daily News Egypt*, 4 December 2008, CX215821.
- Marutti S, Hawang LY, Ross ML, Raffel J, Hollin L (1997). The epidemiology of early syphilis in Houston, Texas. *Sex Trans Dis* 1997; 24: 475-80.
- Mayaud P, Grosskurth H, Changalucha J. Risk assessment and other screening options for gonorrhoea infection. *Bull WHO* 1995; 73: 621-30.
- Mays VM, Cochran SD (2001). Mental Health Correlates of Perceived Discrimination Among Lesbian, Gay, and Bisexual Adults in the United States. *Am J Public Health*. 2001; 91(11): 1869-1876.
- Mazen M (2006). "Psychologist claims to have 'cure' for homosexuality", *Daily News Egypt*, September, 2006 CX228549.
- Mehta SD, Rothman RE, Kelen GD, Quinin TC, Zenilman JM (2001). Clinical aspects of diagnosis of gonorrhoea. *Clin Infect Dis* 2001; 32(4): 655-60.

- Meyer IL (2003). Prejudice, Social Stress, and Mental Health in Lesbian, Gay, and Bisexual Populations: Conceptual Issues and Research Evidence. *Psychol Bull.* 2003; 129(5): 674–697.
- Nadal GM (2014). Homosexuality. Why HIV, syphilis, and gonorrhea are rising among homosexuals Jan 10, 2014. <https://www.lifesitenews.com/blogs/why-hiv-syphilis-and-gonorrhea-are-rising-among-homosexuals>.
- Nadal GM (2014). Homosexuality. Why HIV, syphilis, and gonorrhea are rising among homosexuals Jan 10, 2014. <https://www.lifesitenews.com/blogs/why-hiv-syphilis-and-gonorrhea-are-rising-among-homosexuals>.
- Ngun, TC, Ghahramani N, Sanchez FJ, Bocklandt S, Vilain E (2010). "The genetics of sex differences in brain and behavior". *Frontiers in Neuroendocrinology* 2010; 32(2): 227-46.
- Rothenberg RG, Potterat J, Woodhouse DE (1996). Personal risk taking and the spread of STDs. *J Infect Dis* 1996; 174(2): 144-9.
- Savin-Williams RC (1998). The theoretical perspectives accounting for adolescent homosexuality. *J Adolesc Hlth Care* 1988; 9: 95-104.
- Setayesh H, Roudi-Fahimi F, El Feki S, Ashford L (2013). HIV in the Middle East: Low Prevalence but Not Low Risk. *Population Reference Bureau*
- Siegel M, Mowery PD, Strauss WJ (2000). Trends in adult cigarette smoking in California compared with the rest of the United States, 1978-1994. *Am J Pub Heal*; 2000; 90:372-9.
- Stack L (2007). "For gay Egyptians, life online is the only choice". *Daily News Egypt*, 18 May 2007, CX227767.
- Swaab DF, Zhou JN, Ehlhart T, Hofman MA (1994). "Development of vasoactive intestinal polypeptide neurons in the human suprachiasmatic nucleus in relation to birth and sex". *Brain Res. Dev* 1994; 79(2): 249-59.
- United States Agency for International Development (USAID) (2008). "Health Profile: Egypt". March 2008. https://en.wikipedia.org/wiki/HIV/AIDS_in_Egypt
- Villaruel MA, Turner CF, Eggleston E, Al-Tayyib A, Rogers SM, Roman AM, Cooley PC, Gordek H (2006). Same-gender sex in the US: Impact of T-ACASI on prevalence estimates. *Public Opinion Quarterly.* 2006; 70(2):166-96.
- Wasserheit JN, Aral SO (1996). The dynamic topology of the sexually transmitted disease epidemics: implications for prevention strategies. *J Infect Dis* 1996; 174: 201-13.
- Winn P (2009). Homosexual Men Account for 65 Percent of Syphilis Cases, CDC Study Finds. January 14, 2009. <http://cnsnews.com/news/article/homosexual-men-account-65-percent-syphilis-cases-cdc-study-finds>
- World Health Organization(WHO) (2000). Global AIDS epidemic shows no sign of abating; highest number of HIV infections and deaths ever. Geneva: WHO, 2003. p.14-8.
- Zaytoun S, Afifi RM, Aisenbsy A, Ayoub H (2015). Patterns and Distribution of drug dependence and associated risk factors among male youth in Upper Egypt. *European Journal of Scientific Research.* 2015; 131(2); 2015; 190-197.