

DESIGNING, VALIDATING AND PILOTING A NEW
YOUTH AND ADOLESCENT SEXUAL KNOWLEDGE
SCALE AMONG PRE-UNIVERSITY STUDENTS IN
KUANTAN

BY

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A dissertation submitted in fulfilment of the requirement for
the degree of Master of Medicine (Psychiatry)

Kulliyyah of Medicine
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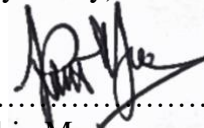
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ABSTRACT

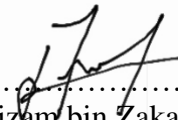
There is an increasing trend of premarital sexual experience and teenage pregnancies in Malaysia, coupled with a paucity of data regarding sexual practices amongst adolescents. Current available sexual knowledge scales that were reviewed were found unsuitable to be applied to the Malaysian population, due to a multitude of factors such as cultural and religious sensitivity; explicit nature and contents; targeting specific populations; non-comprehensiveness; and merely focused on attitudes and behavioral aspects of sexual knowledge. The objectives of this study are to develop a new scale and determine its reliability and validity among youths attending pre-universities in Kuantan. The development of this scale is divided into qualitative and quantitative stages. The qualitative stage involved extensive literature review of currently available and related scales and expert interviews (qualitative content validity) to identify the domains for sexual knowledge; item identification for each domain and language review. In the quantitative stage, the pretest of the pre-final version, and validation study were conducted among students from a single university in Kuantan. In this study, initial Exploratory Factor Analysis (EFA) revealed 11 factors with overall Cronbach alpha of 0.3, 95% CI (0.251,0.422) EFA was then repeated with two factors resulting in deletion of 19 items. Cronbach alpha significantly improved to 0.695, CI (0.548, 0.643), while the alpha for the two domains were 0.68, CI (0.637, 0.724) and 0.5, 95% CI (0.455,0.589). This study revealed a two-factor model with 12 items of the Youth and Adolescent Sexual Knowledge scale with acceptable psychometric properties. This scale is valid and reliable to measure sexual knowledge among youth and adolescents in Kuantan.

APPROVAL PAGE

I certify that I have supervised and read this study and that in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a thesis for the degree of Master of Medicine (Psychiatry).

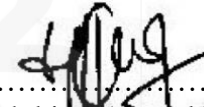


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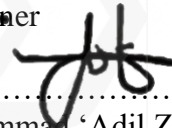


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DECLARATION

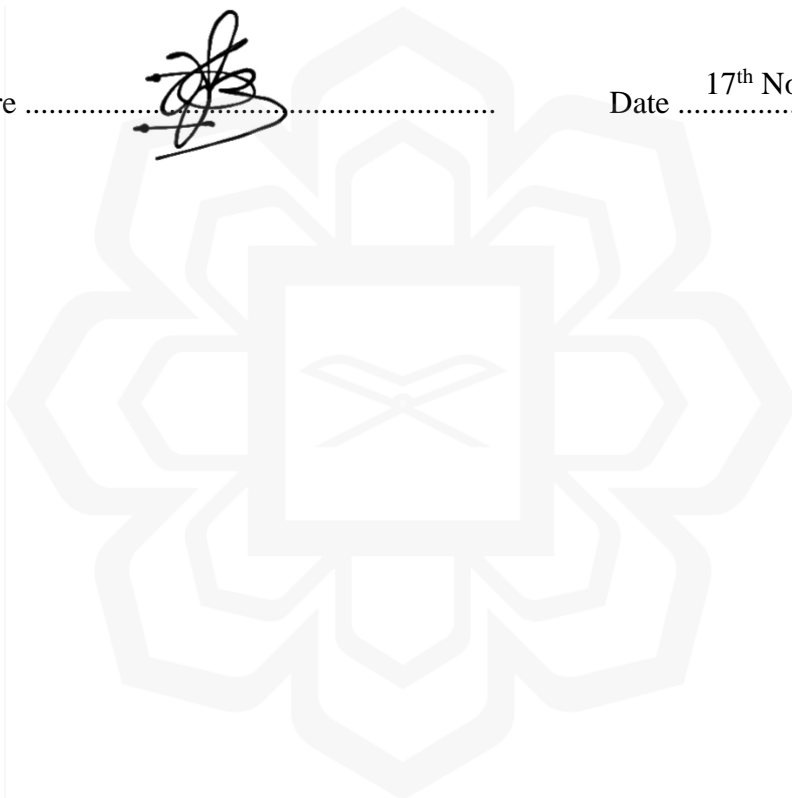
I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Hijaz bin Hj Ridzwan

Signature



Date 17th November 2021



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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

In adolescents and youth, sexual development is a normal part of growing up. Sexual curiosity frequently occurs among adolescents and youth (Low, 2006). Adequate support and care is needed during this transition period to adulthood. Lack of sexual knowledge leads to multiple negative outcomes, such as sexually transmitted infections, including HIV/AIDS; unplanned and teenage pregnancy which would leading to school drop-out; high risk of pregnancy complications; illegal abortion; child abandonment; and a high mortality rate of children born to teenage mothers (Meekers & Ahmed, 1997).

Adolescence and youth is a very crucial period in development, where there is a high risk of exposure towards sexual content. Without proper supervision, self-control, and adequate knowledge these may lead to unhealthy sexual practices. Studies have reported that youths exposed to sexual material online practiced a high-risk behaviour such as inappropriate sexting, pornography, as well as online sexual abuse (Fs, Khani, & Daud, 2021). There is also some evidence that lack of sexual education from parents is a risk factor for youths to become victims of sexual and physical abuse (Nilufer Kockturk, 2018). A study among adolescents in USA showed limited sexual education in school, and family based sexual education were identified as the risk factors to be involved in high risk homosexual activities (Arrington-Sanders et al., 2015).

Malaysia is a multiracial country where the majority of its population practices Islam (Malaysian Department of Statistics, 2011). It is a socially conservative country with respect to reproduction and sexuality (Wong, 2012a). Although moderate Muslims

form a majority, pre-marital sex and pregnancy outside wedlock are largely socially unacceptable in Malaysia. (Rizal et al., 2014).

However, there is an increasing trend of premarital sexual experience and unintended pregnancies in Malaysia which requires serious attention (Wong, 2012a). According to the Malaysian National Obstetric Registry (NOR), teenage pregnancy accounted for 5% of the total deliveries since 2010, of which 16% of the pregnant teenagers unmarried (Mohd Suan, Ismail, & Haliza, 2015). However, the real prevalence of premarital teenage pregnancy may be higher as a result of an increasing prevalence of adolescent premarital sexual activity, which is mostly unprotected (Rizal et al., 2014). Significant predictors for pre-marital sex were religion, race, lover, reading or watching porn, masturbation and bullying (Rizal et al., 2014). In 2015, there were reports of 18,000 teenage girls getting pregnant each year, out which, 25% of the cases were out of wedlock (Malaysian Ministry of Health Statistics, 2015). In an analysis on sex education in schools across Malaysia, 90% of the respondents established that sex education has not been taught in Malaysian schools (Talib, Mamat, Ibrahim, & Mohamad, 2012). This is reflected in the level of knowledge of adolescents in Malaysia, where 35% of Malaysian youth believe that having sex for the first time does cause pregnancy, while 20% believed that mosquitoes can transmit sexually transmitted diseases (Ministry of Health survey, 2015).

Sexual knowledge includes knowledge about reproduction, pregnancy, masturbation, abortion, fertility, contraceptive methods, as well as sexually transmitted illnesses (Yip et al., 2013). Talib and colleagues in his review of sexual education in Malaysia defined that sexual knowledge should include the physical development of a child to adolescence, the reproduction system, sexual intercourse and subsequent childbirth, pregnancy control, the aspect of dealing or judging of sexual advances from

men or women and also the widespread of sexually transmitted diseases and also illicit sex (Talib et al., 2012). UNESCO (2009) highlighted that there exists major misconceptions that sex education will potentially make adolescents more sexually active, and shifts the responsibility of sex education towards parents rather than schools. However, in a global effort on analyzing sexuality education on sexual behavior involving more than 40 countries revealed that 37% delayed their time of first intercourse while 63% remained unchanged (UNESCO, 2009). In Malaysia there is a lack of research conducted on sexual knowledge amongst youth. Based on a paper by Azizah and colleagues, 58.2% of teachers stated that information in the current text books is insufficient to fully cover important aspects of sexual knowledge (Jaafar & Siew Lee, 2009). These findings are very important as it is related to the sexual misbehavior among the youths and adolescents in Malaysia.

Good knowledge of sexual and reproductive health is critical among youth and adolescents. It empowers them to be able to understand and weigh the risks, responsibilities, outcomes, and consequences of sexual actions. A study conducted among 1695 female students at a public university in Malaysia also revealed low levels of sexual knowledge, with mean total score only 4.3 out of a total score of 10 (Wong, 2012b). Various unreliable sources of information about sexual and reproductive health may give incorrect facts to curious youths seeking sexual knowledge. A national survey found that 50% of adolescents had read pornographic materials and 44% had seen pornographic images from magazines or videos (LPPKN, 1994) whilst almost 65% of adolescents in Kelantan claimed that their main source of sexual information was friends (Wong, 2012).

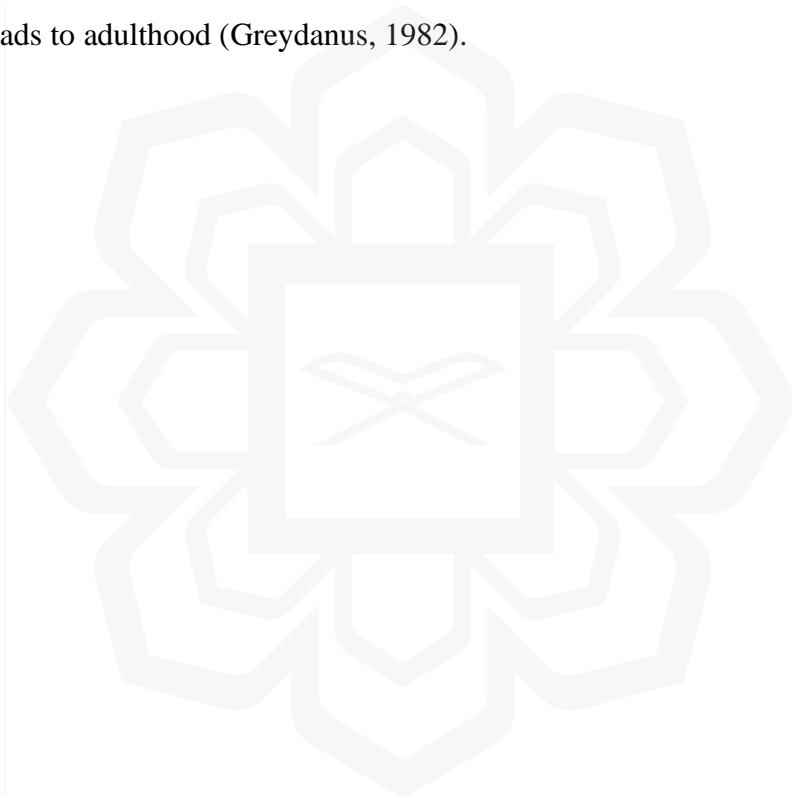
In a review of teenage pregnancy research in Malaysia (Azri, Suan, Ismail, Medicine, & Ghazali, 2015), a total of 19,000 births were recorded from 2009 to 2011,

of which 1.99% from these births were from unwanted pregnancies. The vast influence of mass media, socioeconomic development and modernisation, sexual attitudes and norms have been significantly evolving among adolescents in developing (Gao et al., 2012) and majority Muslim countries (Hanassab & Tidwell, 1993). A national household survey carried out in 1995 by the National Population and Family Development Board (NPFDB) of Malaysia found that about 1% (13 of 1379) of youths admitted that they had performed in sexual intercourse of which a majority were unprotected (WHO, 2005). Approximately 13% of 468 youths in Klang Valley were reported to have experienced premarital sexual intercourse, of which 72% of them did not use any contraception at first intercourse (Zulkifli, Low, & Yusof, 1995). Another larger scale study involving 4,500 secondary school students in Negeri Sembilan showed that 5.4% reported having had sexual intercourse. Emerging evidence indicates that there is an increasing rate of premarital sexual intercourse resulting in unintended pregnancy among unmarried youths which is reflected in the increased number of abandoned baby cases over the years (Wong, 2012).

Sexual and reproductive health among youth and adolescents has emerged as an important issue in Malaysia. Sexually transmitted diseases (STDs), unwanted pregnancies, and unsafe abortions are the main sexual and reproductive health issues facing adolescents today (Low, 2006). The Ministry of Health reports that sexually transmitted infection rates have doubled in the past decade with syphilis showing a significant increase of 2.99 infected per 100,000 people in 2011, to 6.5 in 2017.

1.2 WHAT IS ADOLESCENCE AND YOUTH?

The terms adolescence and youth are used interchangeably in the literature reviewed for this article. The World Health Organization (WHO) defines ‘Adolescents’ as individuals in the 10-19 years age group and ‘Youth’ as the 15-24 year age group. During this period, there is a significant shift towards physical, psychological and social maturity (Mturi & Hennink, 2005). It is a critical period in the development process where the individual leaves the dependency of childhood and enters a period of significant changes which leads to adulthood (Greydanus, 1982).



CHAPTER TWO

LITERATURE REVIEW

The current literature indicates that worldwide there are few almost similar scales available, however deemed not suitable to apply to Malaysia. The 24 Item abridged Miller-Fisk Sexual Knowledge Questionnaire (Gough, 2010), is found to be culturally inappropriate due to its explicit nature of the items. The questionnaire contained items on subjects such as contraception, and menstruation which was also similar to our scale. However, the author stated that the design of the questionnaire is mostly suitable for highly educated and intellectual women.

Another scale reviewed was the Sexual Knowledge and Attitude Questionnaire (SKAQ) which was developed as a means to gather information about sexual attitudes, knowledge, experience in a variety of sexual behaviours. This 106 item scale covers domains such as heterosexual relations, sexual myths, abortions, autoeroticism and masturbation (Miller & Lief, 1979). The explicit nature of the questions as well as the focus on the practice aspect of sexual behaviours such as coital techniques and positions, masturbation habits as well as homosexual tendencies is deemed unsuitable to be applied towards the youth age group in Malaysia.

A similar study involving college students was done by Dutt and colleagues which focused on exploring sexual knowledge, attitude and practices using a Hindi version of the Sexual Knowledge and Attitude Questionnaire (SKAQ-II), which found that youth have poor sexual knowledge, but have a liberal attitude towards sexuality and are more likely to indulge in sexual behaviours with others (Dutt & Manjula, 2017). The SKAQ-II questionnaire is a self-administered questionnaire constructed in simple Hindi language and assesses both knowledge and attitudes.

Sexual knowledge, attitudes and risky behaviours of students in Turkey (Gokengin, Yamazhan, & Ozkaya, 2003) were deemed unsuitable as the invalidated survey was produced to obtain baseline information about student knowledge of sexually transmitted diseases, as well as to help establish control and education programs in Turkey. Another invalidated sexual health knowledge questionnaire of students in Nova Scotia (Langille, Andreou, Beazley, & Delaney, 1998) was also deemed inappropriate as the study was done on a background to measure sexual health amongst adolescents, of whom more than 60% were already sexually active.

There were other several questionnaires that were found to measure sexual knowledge and attitudes, for instance the sexual knowledge and attitudes scale designed by Besharat and Ranjbar, which showed good validity and reliability. However the questionnaire was designed for married men and women who already have some sexual experience hence a higher level of sexual knowledge (Besharat & Ranjbar, 2013). Kajehei and colleagues also evaluated sexual and reproduction knowledge of pre-marital couples via a researcher made questionnaire. The questionnaire was based on materials presented in a one hour training session for pre-marriage couples and showed good reliability, but only proceeded to undergo content validity. The questionnaire does not cover all aspects of sexual knowledge and focused on the necessity of sexual health education classes among pre-marital couples (Khajehei, Ziyadlou, & Ghanizadeh, 2013).

Although there are some instruments that assesses constructs relating to sexual knowledge such as premarital sexuality (MacCorquodale & DeLamater, 1979), erotica (Green & Mosher, 1985) and sexual permissiveness (Reiss, 1964), the scales did not fully encompass the full extent of sexual knowledge within a single measure. For example, Reiss' sexual permissiveness scale included items relating to sexual behavior

such as kissing, petting and full sexual behavior, however did not include much items regarding sexual knowledge.

In a local setting, sexual knowledge scale that is deemed culturally appropriate for Malaysian population by Siti Nor and colleagues, consisted of six domains including function of sexual reproduction organs, puberty, pregnancy, contraception, sexually transmitted diseases and abortion (Siti et al., 2017) Whilst the items of this scale was not specified in the paper, the domains covered served as a guide to the aspects of sexual knowledge to be applied to the current scale proposed.

The Youth and Adolescent Scale differs from other sexual knowledge scales reviewed, as the domains explored focused on the knowledge aspect of sex, without exploring attitudes and practice aspects. Studies have shown that in general, Asians are more conservative when discussing or sharing regarding behaviours and practices regarding to sex, hence the decision to focus on knowledge alone (Kennedy & Gorzalka, 2002; Meston, Trapnell, Gorzalka, & Meston, 2014). To achieve this goal a localized, questionnaire that can comprehensively assess sexual knowledge among youth and adolescents is deemed necessary. Hence, the purpose of the present study is to develop and assess the psychometric properties of a newly developed questionnaire in order to measure sexual knowledge in youths and adolescents.

CONCEPTUAL FRAMEWORK

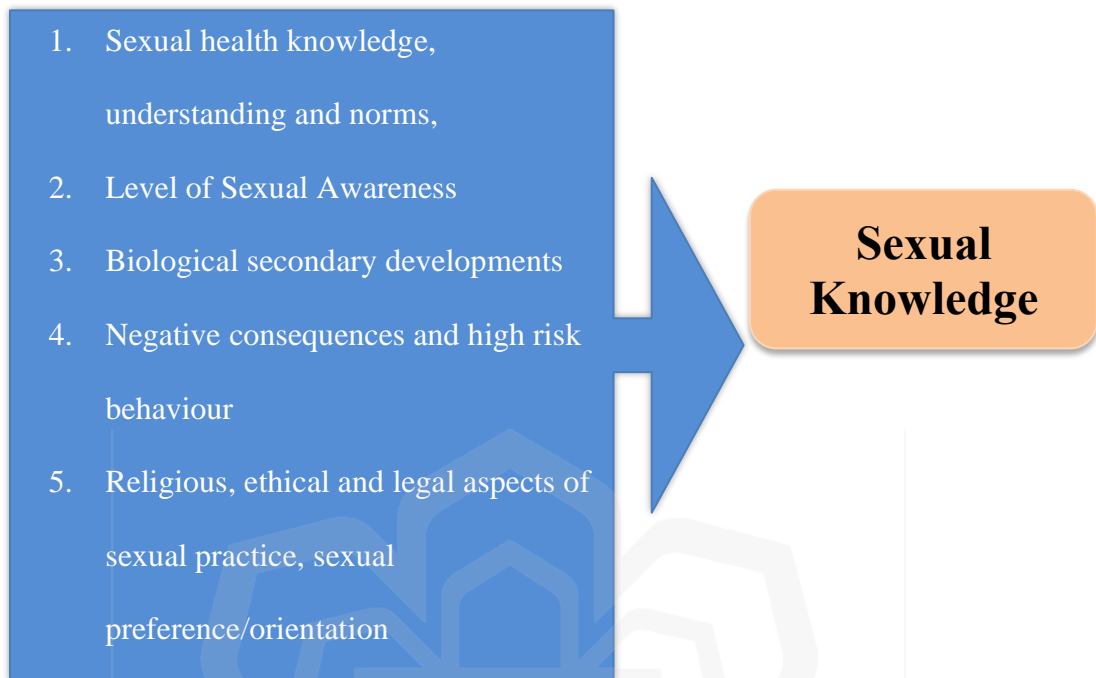


Figure 2.1 Conceptual Framework

2.1 RESEARCH QUESTIONS

1. What are the psychometric properties of the proposed scale in terms of reliability and validity?
2. What is the level of sexual knowledge of pre university students in Kuantan?
3. What is the reliability of the proposed scale?

2.2 STUDY OBJECTIVES

2.2.1 General Objectives

The aim of this study is to develop a new scale, measure the reliability, and validate the scale amongst pre university students in Kuantan.

2.2.2 Specific Objectives

- a. To develop a new scale that could measure the level of sexual knowledge of pre university students in Kuantan
- b. To determine the reliability of the scale by measuring the Cronbach's Alpha value.
- c. To determine the face validity, content validity and construct validity of the scale using Exploratory Factor Analysis.

2.3 HYPOTHESIS

1. The Youth and Adolescent Sexual Knowledge Scale is a valid and reliable tool to assess sexual knowledge among pre-university students in Kuantan.

CHAPTER THREE

METHODOLOGY

This study was conducted in two steps; in the first phase the items were generated, and the questionnaire developed. In the second phase the psychometric properties via reliability and validity of the questionnaire was assessed.

3.1 QUESTIONNAIRE DEVELOPMENT

A structured self-administered questionnaire was developed for this study to assess sexual knowledge. The initial stage of constructing the questionnaire involved:

- a) Reading and extensive literature search on related topic.
- b) Literature review of similar scales from other countries.
- c) Expert opinions from their related fields (Psychiatry with special interest in sexual health, Family Health Physician with special interest in adolescents and young adults, Clinical Psychologist).

Five domains were identified:

- a. Sexual health knowledge, understanding, and norms
- b. Level of sexual awareness
- c. Biological secondary developments
- d. Negative consequences and high-risk behavior
- e. Religious, ethical and legal aspects of sexual practice, sexual preference/orientation

The questionnaire was developed based on the information obtained above. The items in the questionnaire were close ended, true-false questions.

3.1.1 Content Validity

Content validity refers to the degree that the instrument covers the content that it is supposed to measure. Opinions from a group of experts were obtained for comments for item generation or item deletion in order to validate the contents of the questionnaire. The experts specialized in reproductive and sexual health, health education, family health and psychiatry. Content validity was done using qualitative techniques, where the traits of the items, grammar and allocation of the items were reviewed and edited based on expert opinions. The necessity of items were evaluated in a three-category Likert scale. Items deemed not relevant were removed from the scale. Problematic items were discussed, rephrased and reclassified into appropriate sub domains. The questionnaire was revised multiple times based on their suggestions and comments.

3.1.2 Pre-Test

Pre-test on the final version was done among 5 subjects who were also experts in their field. The objective of this was to look at any ambiguous terms and sentence structures of pre-final questionnaire. The pre-test is to ensure that the sentence in each item is well understood and non-ambiguous in nature. Detailed sentence review to find out whether the sentences and words used are jargon-free.

3.1.3 Pilot Test

Pilot testing was done involving 41 pre university students from IIUM, to ensure that items were easily understood for the population it was intended. The result of the pilot test was satisfactory, as all 31 items had score of more than 93% in terms of clarity and understanding as rated by the respondents, shown in Table 3.1:

Table 3.1 Results of Pilot Test

ITEM	GOOD CLARITY	POOR CLARITY	AVERAGE (%)
1	39	2	95.1
2	40	1	97.6
3	41	0	100
4	40	1	97.6
5	39	2	95.1
6	41	0	100
7	39	2	95.1
8	41	0	100
9	41	0	100
10	40	1	97.6
11	41	0	100
12	40	1	97.6
13	41	0	100
14	41	0	100
15	41	0	100
16	41	0	100
17	41	0	100
18	41	0	100
19	41	0	100
20	41	0	100
21	41	0	100
22	41	0	100
23	41	0	100
24	41	0	100
25	41	0	100
26	41	0	100
27	40	1	97.6
28	41	0	100
29	41	0	100
30	40	1	97.6

31	41	0	100
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3.1.4 Description of Final Questionnaire Used for the Study

The online questionnaire was divided into three sections which were:

- a) Consent page: respondents who do not consent to take the questionnaire were excluded from the study.
- b) Respondent demographic data.
- c) Youth and Adolescent Sexual Knowledge Scale.

The respondent demographic data consists of:

- a) Age
- b) Gender
- c) Race
- d) Household income

The questionnaire consists of a total of 31 questions, divided into 6 domains

1. Sexual health knowledge, understanding, and norms – 6 questions
2. Level of sexual awareness – 6 questions
3. Biological secondary developments – 5 questions
4. Negative consequences and high risk behavior – 9 questions
5. Religious, ethical and legal aspects of sexual practice, sexual preference/orientation – 5 questions