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QUALITY OF CARE PROVIDED TO ADOLESCENTS AGED 10 UPTO 19 YEARS IN KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA

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DECLARATION
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I, the undersigned declare that this thesis is my original work. It has not been presented to any other university, college or institution for the purpose of academic credit.

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TABLE OF CONTENTS

DECLARATION.....	ii
ACKNOWLEDGEMENT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF TABLES.....	vi
LIST OF FIGURES.....	vii
LIST OF ABBREVIATIONS.....	viii
ABSTRACT.....	ix
1. INTRODUCTION.....	1
1.1 Background and Assumptions.....	1
1.2 Basic Concepts of Quality.....	3
1.3 Definition of Adolescent.....	5
1.4 Barriers for Health Care Providers towards Provision of Quality Adolescent Health Care.....	6
1.5 Barriers for Individual Adolescents to Receive Health Care.....	8
1.6 Adolescent Package of Care, MOH Kenya.....	9
1.7 Global Standards for Quality Health-Care Services for Adolescents.....	10
1.8 Quality Health Assurance (QHA).....	11
LITERATURE REVIEW.....	11
1.9 Validity of Self Reported Receipt of Health Care Services by Adolescents.....	11
1.10 Adolescents Perceptions of Health Care.....	12
1.11 Public Health System Integration of Adolescent Friendly Services.....	13
1.12 Strategies to Provide Adolescent Health Care Services.....	14
1.13 Using a Standards-Driven Approach to enhance Quality Health Care Services for Adolescents.....	14
1.14 The Emergency Department(ED) as the Point of Care for Adolescents.....	17
1.15 County Referral Health Facility Readiness in Providing Friendly Services for Adolescents in Kenya.....	18
2. PROBLEM STATEMENT.....	18
3. STUDY JUSTIFICATION.....	19
4. RESEARCH QUESTIONS.....	19
5. STUDY OBJECTIVES.....	20
5.1 Primary Objective.....	20
5.2 Secondary Objectives.....	20

6. METHODOLOGY	20
6.1 Study Design	20
6.2 Study Area.....	21
6.3 Study Population.....	21
6.3.1 Inclusion Criteria	21
6.3.2 Exclusion Criteria	22
6.3.3 Sample Size Estimation	22
6.3.4 Sampling Technique	22
6.3.5 Quantitative Data Collection	23
6.4 Data Analysis	23
6.5 Ethical Consideration.....	24
7. RESULTS.....	25
8. QUALITATIVE ANALYSIS RESULTS.....	34
8.1 Focus Group Discussion with Adolescents.....	34
8.2 Theme 1: Perception of health needs being met at KNH Adolescent Clinic	34
8.3 Theme 2: Barriers that are likely to hinder access to adolescent health services..	36

LIST OF TABLES

Table 1: Global Standards for Quality Health-Care Services for Adolescents -WHO 2015	10
Table 2: Characteristics of adolescents enrolled into the study	25
Table 3: Awareness of other services offered by the facility.....	26
Table 4: What the adolescents liked.....	27
Table 5: Characteristics of Health Care Providers	27
Table 6: Services offered by Health Care Providers	29
Table 7: Training offered to Health Care Providers on Adolescent Care.....	30
Table 8: Scoring as per WHO Criterion	31
Table 9: Bivariate analysis.....	33
Table 10: Multivariate analysis	34

LIST OF FIGURES

Figure 1: Roles and Responsibilities in Quality Improvement – Quality of Care.
World Health Organization 2006. 4

Figure 2: Conceptual framework of adolescent health 6

Figure 3: Pie chart displaying the cadre of HCPs included in the study 28

Figure 4: Bar Chart on performance per standard as per the WHO standards of quality
care to Adolescents, 2015 32

LIST OF ABBREVIATIONS

UON	University of Nairobi
KNH	Kenyatta National Hospital
WHO	World Health Organization.
HCP	Health Care Providers
HIV	Human immunodeficiency virus
STD	Sexually transmitted disease
APOC	Adolescent package of Care
AYFS	Adolescent and Youth Friendly Services
MOH	Ministry Of Health, Nairobi
FGM	Female Genital Mutilation
KNBS	Kenya Bureau of Statistics
QHA	Quality Health Assurance
SDG	Sustainable Development Goals
SRH	Sexual and Reproductive Health
FGD	Focus Group Discussions

ABSTRACT

Background: A health care system that seeks to improve the quality of care across all population groups must ensure that it provides health care that is; Effective, Accessible, Acceptable, Equitable and Safe. In developing countries, adolescent health care remains a gray area and in Kenya, adolescents make up 24% of the total population. This study explored the nature of Adolescent Health Care, in both the inpatient and outpatient settings at Kenyatta National Hospital, the largest referral hospital in Kenya. This study was conducted at KNH Filter Clinic including Pediatric filter clinics for ages 10-12 years, walk in clinic for age >12 years as well as specialty clinics and adolescents admitted inpatient.

Goal: To describe the quality of care provided by Health Care Providers attending to patients aged between 10 and 19 years seeking care at Kenyatta National Hospital.

Study design: A mix- method research design was used combining quantitative and qualitative approaches. A descriptive cross-sectional survey was conducted together with focus group discussions involving adolescents and health care professionals.

Primary Objective: To describe and compare the quality of care provided to adolescents [aged 10 to 19 years] both in the inpatient and outpatient clinics in Kenyatta National Hospital against the WHO Global Standards for Quality Health-Care Services for Adolescents [2015].

Secondary Objectives: To identify gaps faced by the Hospital and Health Care Providers in providing for the needs of adolescents and to determine the barriers and challenges faced by Adolescents receiving health care in Kenyatta National Hospital.

Methodology: All study participants were provided consent before participating in the study. For an adolescent who was less than 18 years of age to participate in the study, a consent was sought from the parent/guardian of the adolescent. Data was collected using structured interviewer based questionnaires. These included 1) Adolescent client exit interview tool, 2) Health facility manager interview tool and 3) Health-care provider tool.

We collected data on social-demographic characteristics and quality of health care aspects using a scored quality of care tool. Eight standards of Quality Care, centered around adolescent health care, were measured which included: Adolescents' health literacy, Community support, Appropriate package of services, Health Care Provider Competencies, Facility characteristics, Equity and non-discrimination, Data and quality improvement and Adolescents' participation.

Results: Adolescents who were more likely to report acceptable quality of service were older ($p<0.0001$), coming for a repeat visit ($p=0.03$), those who saw the signboard ($p<0.0001$), those who were supported using the facility by guardians ($p=0.026$) as well as those who got the services they came for ($p=0.033$). Older age (OR 1.5, $p<0.0001$) and accompaniment by parents/guardians (OR 0.5, $p=0.006$) were independently

associated with acceptable quality of care. There was very limited training on adolescent care reported by the Health Care Providers (21.7%). Overall, 73.9% of the Health Care Providers were not aware of Adolescent Care SOPs and guidelines. According to the WHO Criteria, 69% of the services offered did not meet the quality threshold. Assessing the quality of services as per the 8 WHO standards of quality health care in adolescents, the services offered need some improvement with respect to Standard 5 and 6, needs major improvement for the rest of the standards except Standard 8 which does not meet the quality care standards.

Conclusion: KNH performed overall poorly in meeting the WHO standards of quality health care in adolescents. It can be concluded that the quality of care provided to adolescents at Kenyatta National Hospital requires significant improvement despite the adolescents' overall good perception.

Recommendation: Active adolescent involvement is needed in the planning, monitoring and evaluation of their health services. There is need to train health-care providers in order that they can be competent in providing effective health services to adolescents. Adolescents health rights and knowledge practices is vital as part of health-care provision by health care providers. An adolescent client database to follow up patients after their visits, as well as allow for the health facility to collect, analyse and use data on service utilization and quality of care to support quality improvement is required. The Facility requires more visual information e.g signs-boards, and posters on services provided as well as operational times. The accompaniment by a guardian or parent needs to be discussed as part of the overall visitation guidance by the health care provider.

1. INTRODUCTION

1.1 Background and Assumptions

With the rapid advancement of technology and the field of medical science, the system of health care delivery has fallen back in the means to provide consistently high quality of care to all. [1] Thus, despite a larger scope in our scientific knowledge and technology together with having the resources and tools of providing quality health care, numerous gaps still remain in quality of care delivery which certain populations and individuals rightly expect.

Lack of prioritized financial investment, delivery of fragmented health services all contribute to the lack of accomplishment of the Sustainable Development Goals (SDG's) in low income nations. In every nation, there are opportunities identified to improve significantly the quality and performance of the Adolescent Quality of Health Care. [2] The Sustainable Development Goals (SDGs) provide the basis Kenya needs towards realization of Adolescent and Youth Friendly Services (AYFS) over the next 15 years. The SDGs agenda places the adolescents and youth at the epicenter of development as envisaged in goals 3, 4 and 5. SDG 3.8 looks to attain universal health coverage, which includes access to both safe and effective as well as affordable vaccines and essential medicines for all, financial risk protection and most importantly the access to quality health-care services. These goals focus on good health and well-being; quality education and gender equality respectively. In addition, the updated Global strategy for women, children and adolescent health (2016-2030) whose 3 main objectives are to survive, thrive and transform, does recognize adolescents' right to health, education, well-being and their full and equal participation in the society [2]

The Kenya Population and Housing Census (KPHC) 2009 showed that twenty four percent of Kenya's population represent adolescents (approximately 9.2 million individuals). This populace experiences some of the poorest reproductive health outcomes in Kenya. [2] This can be attributed to early sexual debut, risky sexual behaviors like unprotected sex and multiple sexual partners, sexual and gender supported violence, poverty, and harmful retrogressive cultural practices. Moreover, adolescents lack comprehensive and correct information on their sexuality largely because of the embarrassment, silence and disapproval of open discussion of sexual matters by adults, including parents, teachers and most importantly primary health care

providers (HCP). Consequently, many opt to avoid health seeking behaviour and if they attempt, they don't receive the required quality of services either due to the judgmental nature of health care providers, concerns around privacy and confidentiality, or low capacities of the health care system. [2]

A report by the Kenya Service Provision Assessment Survey (KASP, 2010), states that sever percent of all health care institutes provide youth-friendly services. The limited coverage of AYFS can be attributed to: limited number of trained service providers on adolescents and youth friendly service provision, shortage of health personnel, inadequate infrastructure for provision of AYFS, and limited resources to support the establishment of adolescents and youth friendly facilities. [3]

According to Nicole Schaffer, Global Health Journal 2016, Adolescent Health Care is a gray area especially for adolescents in low income countries. Therefore questions concerning where an adolescent can seek health care as well as who they can trust to share their personal and health issues with are genuine concerns for individuals who feel lost within a health care system that insufficiently caters for their health care needs. [4].

A report by the New Global Standards for Quality Health-care Services for Adolescents (NGSQHSA), 2015 mentions that many behaviors beginning in the adolescent period have a lifelong impact on these individuals. Present health care systems don't do justice to adolescent health care. There is limited access to critical prevention and care services especially for adolescents who suffer from poor nutrition, substance abuse, mental health issues, intentional injuries and chronic illnesses. According to Nai, if there are preparations for paving ways to quality health care standards there will be a reduction in variability in quality and this will defend adolescents rights. [6]

Preventive counseling and screening for behavioral and other health risks are the centerpiece of Adolescent Preventive Services Guidelines set forth by the American Academy of Pediatrics. Adolescents often do not receive recommended these preventive services.

The Constitution of Kenya (2010) recognizes adolescent health care needs in its 43rd article which mentions that all individuals have a right to the highest achievable health standard. The National Adolescent Sexual and Reproductive Health Policy (2015) policy provides a framework to enhance the SRH status of adolescents in Kenya towards realization of their full potential in national development. Policies and guidelines such as APOC, 2015 by the MOH exist in assisting HCPs in working closely with community members, support groups and schools in enhancing care of adolescents in communities and within school/institutions so that behaviors such as transactional sexual activities for sanitary needs are prevented for example by the provision of sanitary towels through school health care systems.

1.2 Basic Concepts of Quality

The concepts of quality are broadened into six dimensions for which a health care system should achieve or improve. These areas require that the system of health care be :

1. **Effective:** Delivery of health care in a manner where desired outcomes are achieved.
2. **Accessible:** Health Care delivery should be located appropriately, with consideration to individual availability and the resources and skills should be available and appropriate to the needs of the individual.
3. **Acceptable:** The care should be based on the clients preferences and aspirations and should take into account cultural practices of the community the individual hails from.
4. **Equitable:** The health care provided should not be biased stemming from the clients ethnicity, tribe, gender or socioeconomic status.
5. **Safe:** Health care delivery should consider the harms and risk to the client and should try to minimize any safety errors.

Parties involved in Quality Health Care Improvement

In order to harmonize delivery of quality care, a health care system must define the parties and processes of organizing and delivering that quality of care. The three main entities are identified in providing health care as indicated in Fig.1 below are as follows:



Figure 1: Roles and Responsibilities in Quality Improvement – Quality of Care. World Health Organization 2006.

Health Care Service Provider: The core responsibility that health care provides can be individually, as a team or an organization. The main role is to ensure the highest of standards in meeting the needs of an individual service user, their families and communities.

Community members are the co-producers of health. They play a large role in identifying their preferences and needs in health care. They manage their health needs with support and advice from HCPs.

Policy and Strategy development are key in engaging the entire health system with lead responsibilities usually resting at national or county/regional levels. The decision makers at this key level are responsible for developing strategies in improving quality. It is prudent to understand the relationship that the above three systems have since decision makers require HCPs and communities equally in the view of developing and implementing new strategies. The HCP requires working within set policies of quality service provision as well as understanding the user needs and their high expectations in providing high quality service delivery. The community therefore plays a big part in influencing quality of services by providing their expectations to the HCPs and Policy developer.

1.3 Definition of Adolescent

Adolescents, according to the WHO, are individuals in the age group of 10–19 years. Adolescence is a phase where an individual in their second decade of life undergoes major bodily and psycho-social changes. As per the Kenya Bureau of Statistics (KNBS, 2010) adolescents aged 10 -19 years make up 30 percent of Kenya's population (almost 12 million adolescents in Kenya).

A third of our country's population represents a wealthy resource for the future. Adolescents face life's delicate balance between positive nurturing and a destruction of life, health and career. It is therefore prudent to conduct a study on adolescent health care. Health care and well-being of adolescents begins with the interactions and experiences that Health Care Centers provide.

Adolescents undergo tremendous emotional, physical as well as psycho-social changes which tend to have acute and well as chronic connotations for individuals. There is elevated sensitivity to peers and this usually influences directly or indirectly the experimentation or use of illegal substances. Adolescents therefore require health services that cater to their immediate and specific developmental life stage. [9]

One example of disorders that appears during the second decade of an adolescents' life are mental health issues which have direct causality to self-harm and higher rates of suicide, as a leading cause of death in this cadre of young adults. [10] Adolescents are vulnerable to early and unintended pregnancy, unsafe abortions, female genital mutilations (FGM), early child marriages, malnutrition, sexual abuse and sexually transmitted infections. Therefore, access to quality health care services is mandatory despite the local challenges the health care system faces.

Structural health determinants such as the nations wealth, social inequities, education and health care access, impact health seeking habits and outcomes during adolescence. [11]. Evidence shows that globally, substance abuse, violence and many mental health disorders account for majority of disease and disability in individuals between the ages of 10-24 years.[12]

Sawyer et al defined a framework to improve understanding of adolescent development and health needs [Figure 2]. [9]

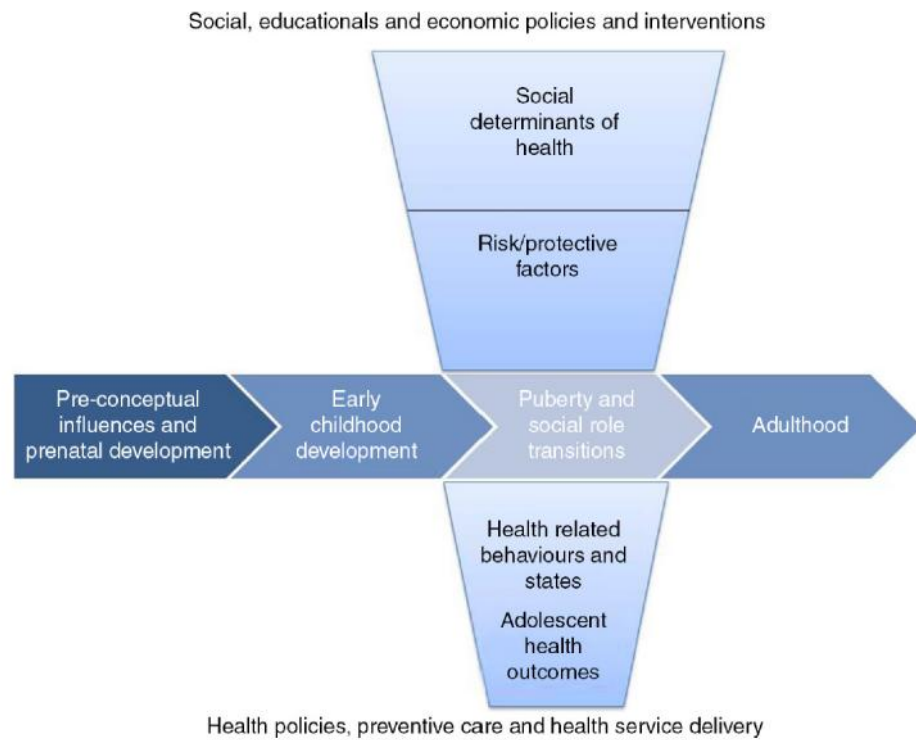


Figure 2: Conceptual framework of adolescent health

The horizontal axis describes the time line from pre-conception to early childhood all the way to adulthood. The vertical axis as shown above entails the social health determinants and the way by which they influence health care outcomes. Policies for Adolescent health, function along the vertical axis, and they ought to be made using the life course perspective of an adolescent. [9]

1.4 Barriers for Health Care Providers towards Provision of Quality Adolescent Health Care

According to a survey carried out by American Academy of Pediatricians Periodic Survey of Fellows 1999 nearly six out of ten (57%) Pediatricians identified lack of training in Gynecologic and Obstetric Care as one of many challenges in the provision of quality health care to adolescents.

When asked to identify barriers to providing poor quality care in their practice, 51% related it to infrequency of Adolescent visits and lack of adequate reimbursement for

the time taken to provide care for adolescents (46%). It was noted that 28% of Pediatricians were in keeping that adolescents and their parents' perceptions of pediatricians as 'BABY DOCTORS' is a barrier.

Also 25% of pediatricians had difficulty in effective communication with adolescents, discomfort with issues of confidentiality and discussing sensitive issues with adolescents (28%) as barriers to quality care in their practice. Therefore, Health Care Providers (HCP) may be deficient in the skills, competence to manage individual psycho-social and health needs . An American study of HCPs revealed that matters regarding sexual placement, gender identity or sexual attraction were not normally discussed by a majority of respondents during the capture of history from a sexually active adolescent. Most of the respondents reported not being competent with the necessary skills to tackle aspects regarding sexual attitude with adolescents [13]. This unsupported occurrence with HCPs influenced adolescents to seek health care from other non-conventional services. [14]

A Ugandan Study by Mandira et al. aiming in exploring perceptions and practices of HCP's in regards to contraceptive counseling to youth, concluded that although policies exist, HCPs were not equipped sufficiently in engaging provision of sufficient counseling in regards to use of contraceptives by young people. HCPs remain tied up between their own negative constructs of social norms and their realistic approach to address the needs of youth for example; those seeking post abortion care. [15].

A similar Qualitative study done in Kenya by Pamela Godia et al. Looking at 8 health centers; five located in Nairobi and three in Kirinyaga, Meru and Laikipia. They investigated the experiences and the perceptions of HCPs in rendering Sexual Reproductive Health [SRH] services. After 19 in depth interviews with two focused group discussions it was found that most HCPs identified youth friendly service (YFS) concepts. They however lacked knowledge of the guidelines and national policies in place. HCPs felt they lacked the much needed complacency in providing SRH services to youth. HCPs felt conservative when providing services for contraception to youth. HCPs instigated that they felt torn between their own values such as culture and religion to their desire to accept the youths rights to entree and acquiring SRH services. [15b].

1.5 Barriers for Individual Adolescents to Receive Health Care

Adolescents go through several obstacles in the health care systems both in high and middle low income countries as seen from evidence. Studies reveal that adolescents services are highly ‘fragmented’, ‘poorly coordinated’ and irregular in quality (WHO, 2014). In a qualitative study by Sylvia [17]:

1.5 a) Health Literacy - Adolescents lack access to guided information which would otherwise promote and maintain their good health. Low uptake of HIV services is related highly to poor knowledge in sexually transmitted diseases, risky behaviors and perception . [16]

1.5 b) Adolescents may abstain from primary health care due to the fear of being stigmatized or discriminated. They perceive that HCPs will impose moral values as well as disrespect them. They also fear experiencing the lack of privacy and confidentiality. Adolescents with intrinsic stigma are less trusting and go through more social alienation and are therefore unwilling to trust adults for assistance in decision making. [16]

1.5 c) Health care services focus more on clinical services and ignore or overlook preventative services. Mental well-being issues are real and adolescents who have experienced abuse, violence may have a low threshold for health seeking behaviour[17]

1.5 d) Attitudes and social values of Adolescents’ peers and parents highly influence health service seeking behavior. Access to care is also directly related to the legal status of adolescents as minority. This therefore makes parental permission a requisite to accessing procedures, screening and treatment options. This is worse for minors who don’t stay with parents or who refrain from disclosure of their behavior. In some areas, health care providers are obliged to legally report under aged sexual habits or other prohibited actions compromising provision of adequate care and disclosure for risky behaviors. [18]

1.5 e) Adolescents also face barriers of being unable to afford care if seeking high quality services. They do not have available cash at hand and may have different interests and less priority over their limited time. Flexible appointments and appropriate

operating hours such as outside of school hours are significant in service accessibility. [19]

1.5 f) Transport to the facility as well as inadequate or inaccessible location is a significant barrier to seeking health care by adolescents. [20]

1.6 Adolescent Package of Care, MOH Kenya

In 2014, the Ministry of Health(MOH) designed Kenya's first package of care for Adolescents. The Adolescent Package of Care (APOC)'s main goal was sensitizing and guiding HCPs on the fundamentals of Adolescent Care. This APOC would therefore embolden HCPs in providing comprehensive preventive, promotive care and treatment services for adolescents, irrespective of their HIV status, attending the health care facilities.

The APOC contains information on the stages of development in adolescents as well as contains focused guidelines on clinical examination mental health care needs, adolescent nutrition and SRH issues. The MOH at national level, oversees and facilitates, implementation of APOC guidelines at to support availability of adequate capacity in terms of equipment and commodities, to develop/review the standardized training materials for provision of adolescent and youth friendly services, to finance, regulate and co-ordinate AYFS training, information sharing & service delivery, to disseminate policies, guidelines and standard operating procedures (SOPs) for provision of AYFS, to develop information, education, and communication(IEC) materials for adolescents and youth SRH, to mobilize and allocate resources for provision of adolescent and youth friendly services, to play an oversight role on AYFS provided and supported by stakeholders such as development and implementing partners and to coordinate and disseminate research and innovation findings related to adolescent friendly services.

The Ministry of Health shall collaborate closely with the Ministry of Education, Science and Technology Kenya (MoEST) for in-school adolescents who form the largest proportion of adolescents. MoEST has a role in overseeing the strengthening of the school health programme, integration of the comprehensive sexuality and life skills education in the education curriculum, build linkages with the MOH for school based

health talks and service provision, ensuring provision of the adolescent and youth friendly services within the institutions as well as create linkages and referrals as appropriate.

1.7 Global Standards for Quality Health-Care Services for Adolescents

The WHO provides an implementation plan whose primary intention is to enhance adolescent quality of care both in public health care facilities as well as private and non-governmental organizations (NGOs). Its role is to engage health care planners and assist policy makers in forming structures and services that envision the protection, promotion and improvement of the adolescents' health and well-being. [21] The WHO analyzed many studies across different countries and summarized the needs into eight world-wide standards as shown in the table below:

Table 1: Global Standards for Quality Health-Care Services for Adolescents - WHO 2015

Health Literacy	Standard 1. The health facility has measures in place to ensure adolescents are knowledgeable about personal health as well as information on time and location of obtaining health services.
Community support	Standard 2. The health facility has systems which ascertain that parents, guardians and both community members and community organizations appreciate the essence of provision, support and utilization of services by adolescents.
Appropriate package of services	Standard 3. Provision of information, diagnostic treatment and care services and counseling that is satisfactory to the individual by the health care facility as well as via referral connections and outreach.
Providers' competencies	Standard 4. Technical competence is exhibited both by the HCPs as well as support staff to respect, protect and fulfill adolescents' rights. This rights are to privacy and confidentiality, right to information, respect, non-discrimination and nonjudgmental attitude.
Characteristics of the Facility	Standard 5. The Health institute ensures operating hours are appropriate and that the environment is clean and welcoming. For effective provision of services, the health facility ensures it has all of the right supplies and equipment, medicines and technology.
Non discrimination and Equity	Standard 6. Quality services are provided to all adolescents irrespective of their age, sex, marital status, ability to pay, education level and other characteristics.
Data and quality improvement	Standard 7. Staff at the health facility are encouraged to have continuous audits for improvement of quality services
Adolescents' participation	Standard 8. Individuals take part in the decisions regarding their care and the services they need.

1.8 Quality Health Assurance (QHA)

Quality assurance (QA) is the means of observing the quality of health care by identifying gaps and challenges, and instituting change to solve any issues. QHA follows established standards and its activities and approaches include:

- A health systems supervisory checklist which inspects existence of supplies and equipment, audits the Health Management Information System (HMIS) accounts and other process indicators.
- A health care provision supervisory checklist which centers on client consultation including assessment and treatment.
- Departmental mortality audits: - These are comprehensive dissections on records of each client's death from an established committee to review this purpose.
- Medical records Audits: - which appraise medical records

In Kenya, according to the Kenya Service Provision Assessment Survey (KASP, 2010), only twenty seven percent of health institutes document any QHA processes within hospitals (65 percent) and VCT facilities (76 percent) -the most probable to document QHA activities. QHA is also important in the monitoring of Adolescent Provision of Care, ensuring that it achieves high standards so that achieving the SDG's is a feasible opportunity.

LITERATURE REVIEW

1.9 Validity of Self Reported Receipt of Health Care Services by Adolescents

A study was carried out (Jonathan Lein et al. 1999) to demonstrate how feasible interviewing adolescents was, about the nature and content of preventive health services they received, as well as to assess the validity of their self reported recall.

This study analyzed adolescents' credibility of self-reported recall of the preventive health services content. The study did a comparison to audio taped records and chart reviews of their meetings in order to know that recommended services had been delivered. The study revealed that majority of adolescents studied ninety four percent recalled a preventive health care visit, ninety-three percent remembered the health care site and finally eighty four percent identified the HCP they had visited. Self-report thus by adolescents was highly specific as well as sensitive at the periods of two weeks and

six months for 24 of 34 screening and counseling items. Hence it goes without saying that self-report of health care by adolescents' is a legitimate way of defining information regarding preventive health care service delivery.

1.10 Adolescents Perceptions of Health Care

Over the past decade, WHO has developed an adolescence friendly health care framework to cater for the needs of this group of individuals. It focused initially on SRH care services (WHO 2002, 2009). Adolescent friendly health services address five areas: accessibility, equity, effectiveness, acceptability and appropriateness (WHO 2009). A systematic review on the adolescent friendliness of health care services from a youths perspective sought to find major issues behind the experiences held by adolescents health care and seek the indicators of youth friendliness. The study ran across variable levels of health setups. The study concluded that whilst only four different constructs were found in literature to explore youths perceptions on adolescent-friendly health care , there was evident overlap of key domains across these five constructs. [7]

The domains were broadened into the following six:

- a) **Accessibility:** Referring to site and service affordability.

- b) **Attitude of Staff :** Staff and HCPs have qualities of honesty ,trustworthiness and respect. Trust is a prerequisite for adolescents to open up to and discuss sensitive issues surrounding their lives.

- c) **Communication:** Adolescents have high expectations from HCPs for example, should show good listening skills as well as someone who communicates the clear and right amount of unambiguous information.

- d) **Medical competency:** Adolescents expect HCPs to have the ability to provide comprehensive care with precise medical knowledge.

- e) **Age-appropriate environments:** Adolescents expect a clean, private environment with the shortest of waiting times. The site should be welcoming with recent information. Game rooms and other interactive activities should be in place to reduce

boredom whilst waiting to be seen. In regards to appointments, timings should be more flexible to minimize absenteeism in school .

f) **Health care involvement:** Youth perceive their need for empowerment in decision making about their individualized health care.

The principles behind these domains embrace patient-centered care, which entails suitable information provision to patients, coordination of health care, respect by HCPs, improved communication with patients, involvement in care decision by the individual patient and finally the ability to listen to patient needs by HCPs . [8]

1.11 Public Health System Integration of Adolescent Friendly Services

In 2001 during a WHO global consultation, an agreement was made, to constitute unique and comprehensive concepts to draw in, serve, and keep young customers. They would put emphasis on aspects like greater emphasis on promotional and preventative health services, health care information as well as psycho-social support. [22]

One example of a strategy to promote health-care-seeking behavior of adolescents is by providing adolescent friendly health services and this has a positive influence on adolescents' health indicators. "Adolescent Friendly Health Services" pertains to establishments that look to improve access to existing bodies of health care by making them more desirable to the needs of adolescents. [23-25]

A study by Mehra et al. to understand the integration of adolescent friendly services in the Indian health care system was conducted in various regions of India. The study analysed the impact of improving awareness and utilization of adolescent services in select rural Indian districts between January 2008 to December 2010.

Due to various cultural and social barriers this has been a challenge in India and with the support of the foreign affairs Ministry of Finland, a plan of "integrating adolescent-friendly health services into the public health system in rural India", was established, with the main objective to increase adolescents service utility, conformable with the goals placed by the Indian health ministries towards the Millennium Development Goals. [26]

The study undertaken was a cross sectional one tasked to measure the level of satisfaction and use of adolescent-friendly services. Data was obtained using quantitative questionnaires which were close ended supported by the WHO tool on adolescent-friendly health services. [27]The study revealed that there were many barriers adolescents faced in a social-cultural surrounding where terms like “sex” are thought to be “taboo” . This influenced utilization of the adolescent-friendly health service system. [26]

The study concluded that although majority of adolescents were content with the provision of health care services at adolescent-friendly health sites, there remained significant barriers to health care seeking behaviors. The study was well incorporated within the public health system and a scaling up of services is being done in the districts, under partnership by a public–private firm [26]

1.12 Strategies to Provide Adolescent Health Care Services

The Ethiopian government established the National Adolescent and Youth Reproductive Health Strategy (NAYRHS) , a ten year strategy to meet the youth’s needs. This fruitful initiatives however realized that utilization of services by the youth remained low. A community based cross sectional quantitative study supplemented with qualitative inquiry between January to February 2011 by Motuma et al was conducted in Harar town to identify YFS utilization levels and other associated factors among the youth.[27] The study used a population of 845 participants, 64percent were noted to be utilizing youth friendly services a moderate number and it was concluded that obtaining information in regards to youth related services from alternative sources such as friends, HCPs as well as schools updated their ideas about services and enhanced service utilization. It was thought after the study that efforts were needed by health facilities to create environments more conducive for the youth through training of the HCPs especially those placed in government institutions as well as improving strategies on service awareness among the youth to enhance service utilization. [28-31]

1.13 Using a Standards-Driven Approach to enhance Quality Health Care Services for Adolescents

A standard refers to an outlined quality level in the delivery of services necessary to meet the beneficiaries intended desires [30, 31] and therefore in our context, health

services that are : safe, acceptable, equitable, accessible, appropriate, effective as well as efficient. [32]

The WHO developed eight standards for ultimately enhancing adolescent health care service quality globally through a four-stage process. This involved (1) Conducting assessment needs; (2) Processing the standards using criteria; (3) Consultations by experts; and (4) Checking the utility of these established adolescent health care standards. Important to note is that the standards have no particular focus on a specific domain for example SRH and Mental health. These standards which can be adopted according to a nations needs to enhance at all health care levels including both primary and secondary care, up to tertiary level of care.[33] In 2013, M. Nair et al conducted a meta-analysis as well as two online global surveys. The first studied primary HCPs and the second included adolescents to examine the facilitators and barriers by adolescent. [33]

The online surveys, the first focusing on all primary HCPs globally gathered data on barriers and facilitators improving the quality of health care services for adolescents.[34] A second online survey involved participants from 12–19 years using online surveys. The main objective was to obtain perspectives on the health issues affecting adolescents. Focus was on (1) adolescents' health priorities; (2) adolescents' knowledge of health and its influences; (3) Opinions about how adolescents' health could be improved and (4) barriers to health facility and services use.

A systematic exploration of thirteen systematic reviews using 245 studies where a study design and sample size ranged through all tier of income countries. Analysis of these reviews revealed that barriers and facilitators existed to improving quality of health care for adolescents. This was in relation to personal satisfaction, communication with providers and health service regulations and standards.

A prominent issue in accessing care was equity affecting communities which were of minority level [35], and thus accessibility to health care services was seen to be a major requirement adolescents. Hence to improve access, it was seen that the main facilitator was to ensure schools and communities had these services readily available. [35–37]

Some of the short falls for health care service utilization were linked to the health care delivery process. This revealed issues such as demeaning, judgmental, inconsiderate, and disrespectful attitudes of HCPs. This molded adolescents' perception and elevated uncertainty in regards to the health care quality provided to them. [35, 36]

Interventions that enhanced confidentiality, trust in providers as well as a support system from HCPs were key. The facilitators therefore included :enhanced interpersonal discussions and communications, use of role models to better bring out the ideas, incessant communication with providers and cultural sensitivity. [35,36] Another means to enhance satisfaction was by relaying information support systems via text messages or by mass media. Language remained a key barrier however to providing information especially within minority populations. [38-41]

Feedback from 735 respondents from the health providers' online survey targeting eighty-one WHO representing countries, confirmed meta-review findings that in respondents' opinion needed improvement. Overall 69% of HCPs responded that they required more guidance and protocols especially in four priority areas namely mental health (34%), sexual/reproductive health (28%), substance misuse (28%)and domestic/school violence (26%) to provide better services.

The following five themes emerged following the consultations:

- i. There is a big demand for knowledge in regards to health care among adolescents.
- ii. Adolescents appreciate health and are knowledgeable of its importance, are aware of main health issues afflicting them and require to be empowered in making decisions in regards to individual health care needs.
- iii. Adolescents reported that a crucial determinant of their well-being was family.
- iv. Adolescents asked for more services besides SRH for example mental health services.
- v. Costs and nearness to health care sites confounded the use of health care services by adolescents.

This vast process resolved in establishing eight global standards with 79 criteria for defining the services and quality of implementation to achieve the desired standards of adolescent care. Globally, HCPs can utilize these standards in determining internal

quality performance or extrinsic accreditation processes [30,43]. Countries are moving to a standard motivated approach [42,43-47]. Quality improvement is a process which is both dynamic and continuous . Global standards envision as a “living document” that improves as services continuously attempt to reach anticipated standards of health care. [48]

1.14 The Emergency Department(ED) as the Point of Care for Adolescents

To determine the area of first contact of adolescents with primary HCPs and to seek out the associated factors with the use of ED as the primary site of health care among adolescents brought Karen M.et al to do a national multivariate analysis study with a study population of 6,748 school going adolescents between the 5th and 12th grade.Participants were asked "Where do you usually go to get medical care?" Adolescents whose choice was the ED were thereafter grouped as having the ED as a common source of health provision and this was compared to those who sought other areas of care. [49]

The results showed that an overall 4.6% of the participants relayed that the emergency department was their primary source of health care. In multivariate models, factors associated with the use of the ED showed that adolescents with financial restriction, without health insurance as well as low levels of parent knowledge were most predictive to use the ED as their only source of care. Adolescents with rural origins showed to be more likely to solely utilize the ED (6.6%) versus urban origins (4.4%) adolescents ($P<.001$). Adolescents behaviour characteristics also influenced use of the ED for example participants with higher depression score or with a history of physical/sexual abuse or undergoing risky behaviors were most likely to use the ED. [49]

It was concluded therein that Adolescents from vulnerable populations where more likely to use the ED as their usual source of care [50] and that there was poor preventive or counselling services for adolescents using the ED. Therefore creating referral systems to other vital services bridges the health care gap providing more to the needs of at risk adolescents seeking health care from just the EDs. [51,52]

1.15 County Referral Health Facility Readiness in Providing Friendly Services for Adolescents in Kenya

The Kenyan government combined with partners to address adolescent health care challenges and developed the Adolescent Package of Care (APOC) in 2013. Pacific Akinyi conducted a cross sectional quantitative and qualitative study to explore barriers to implementation of these services within a county hospital. The study , conducted between May 2014 and June 2014, used questionnaires to audit 348 health care providers as well as 472 adolescents at Mama Lucy Kibaki Hospital . The study concluded that sex, age, educational level and awareness of offered friendly health services were associated significantly with utilization of services[p<0.05]. It was also noted that unfavorable working hours, long waiting time and insufficient funds negatively influenced use of services by adolescents. [53]

In conclusion, the study found that health service utilization amongst adolescents was low and this was largely due to both lack of awareness of AFHS as well as unfriendliness of the HCPs at health facilities. The study recommended an increase in the number of AFHS and measures placed to ensure that APOC is implemented together with proper assessment decisions in place by the Kenyan government.[53]

2. PROBLEM STATEMENT

Kenyatta National Hospital is the largest public tertiary hospital in the East African region. According to its mission statement, the hospital seeks to optimize patient experience through innovative, evidence based specialized health care. Being a tertiary hospital, KNH has a large role in setting the stage for excellence in quality when it comes to adolescent health care. The hospital provides various outpatient services to adolescents at the outpatient clinics including the Youth Center, Gender Based Violence Centre and the Comprehensive Care Centre.

In regards to inpatient care, KNH lacks a specific designated ward for primarily admitting adolescent patients as well as specialist care providers competent in trained skills of adolescent health care. Logistics to which site an adolescent should visit for receiving appropriate health care remain arbitrary to individuals, caregivers and health care providers. Furthermore many health care providers offering services to adolescents report not being confident or having accurate skills and knowledge to initiate aid for

this subset of population. This therefore affects the mission of the hospital to provide the optimum care to a subset of their patients. In response to this problem, our study investigated the quality of care provided to adolescent both inpatient and outpatient and compared it to the standards as set by the WHO in its global standards of quality for Adolescent Health Care 2015.

3. STUDY JUSTIFICATION

The SDG number 3 emphasizes on the achievement of universal health coverage as well as access to quality essential health care services. It is because of this that there is need to assess the quality of care received by adolescents in KNH. With the advent of the WHO guidelines in 2015 that promote adolescent health care, it is important to evaluate how well KNH as a Tertiary Health Facility performs in terms of providing quality adolescent health care.

Studies on quality of health care are very few however those on a targeted group in pediatrics, like adolescents are not present. This vulnerable group deserves to be highlighted, and more studies on adolescents, not only with HIV, need to be conducted. This study will not only help improve both infrastructure and capacity in the hospital, it will create and improve policies on management of this subset of pediatric population. The study aims to highlight barriers faced by health care providers in providing optimal care to adolescent and hence improve core competencies and development for primary care providers.

4. RESEARCH QUESTIONS

The study seeks to answer the following research questions:

- 4.1. What is the quality of care received by adolescents who attend health care services both inpatient and outpatient in Kenyatta National Hospital?
- 4.2. What are the barriers to providing quality adolescent care at the Kenyatta National Hospital?
- 4.3. What are the barriers faced by HCPs in providing quality care for adolescents at the Kenyatta National Hospital?

5. STUDY OBJECTIVES

5.1 Primary Objective

To describe the quality of care provided to adolescent patients aged 10 to 19 years both in the inpatient and outpatient clinics at Kenyatta National Hospital and compare it to the WHO Global Standards of Quality Health-Care Services for Adolescents, 2015

5.2 Secondary Objectives

5.2. a) To identify the challenges faced by health care workers at Kenyatta National Hospital in providing quality care to adolescents patients.

5.2. b) To determine barriers and challenges faced by adolescents while receiving health care at Kenyatta National Hospital.

6. METHODOLOGY

6.1 Study Design

A mix- method research design was used in which quantitative and qualitative approaches were combined. A descriptive cross-sectional survey was conducted together with focus group discussions the main focus being on adolescents and their health care professionals.

Independent Variables: Adolescent Demographic Factors such as age, sex, level of education, employment status of the parent, type of school and awareness about existence of youth friendly services.

Dependent Variables: Quality measures for example:

1) Facility Measures ,for example:

- Policy in place for Patient Confidentiality
- Privacy in health services
- Waiting time
- Time allocated per client
- Cleanliness of environment
- Cost of care

Qualitative Data Collection

To explore the barriers and challenges faced by Adolescents and their Health Care Providers in giving and receiving Quality Health Care in Kenyatta National Hospital, focus group discussions (FGDs) were conducted for the adolescents. The key issues which come on the topic of quality of care for adolescents were audio recorded, transcribed and analyzed.

Study duration: March 2018– May 2018

6.2 Study Area

The study was conducted at all pediatric and adult wards and outpatient clinics at Kenyatta National Hospital, Nairobi. KNH is the oldest and largest public, tertiary and referral hospital for the Ministry of Health. It is a teaching hospital for the University of Nairobi, College of Health Sciences. It is located in the area to the immediate west of Upper Hill in Nairobi, the capital and the largest city of Kenya. The route of entry of majority of adolescents include the Pediatric Filter Clinic (PFC) seeing patients aged up to 12 years and the Walk in Clinic which is the entry point for adolescents aged more than 12yrs. We also focused on specialist clinics which receive a large adolescent populace such as the Youth Centre, Comprehensive Care Center, Gynecology ,Gastroenterology, Endocrinology, Hematology, Dermatology and the Medical Outpatient clinics. Adolescents with a criterion for admission are admitted in both the adult and the pediatric ward. The cut of age is at 12 years; after which they qualify to be admitted in an adult ward.

6.3 Study Population

6.3.1 Inclusion Criteria

- Adolescents of age 10-19 years attending the KNH filter/ Specialist clinics
- Health care professionals in direct contact with adolescent above, posted directly or indirectly in the KNH clinic
- Participants with a written Informed consent for study participation obtained from parent or guardian and assent from the adolescent partaking in the study.

6.3.2 Exclusion Criteria

- Participants who declined to give informed assent or consent
- Adolescents with mental handicaps. e.g. Autistic, Special Needs, Cerebral Palsy
- Adolescents who were incapable to participate due to severe illness and poor state of mind
- Adolescents who were accompanying a participant and not seeking Health Care

6.3.3 Sample Size Estimation

The sample size was obtained by virtue of the following formula below (Reference: Fleiss, Statistical Methods for Rates and Proportions, formulas 3.18 &3.19)

$$n = \frac{z_{\alpha/2}^2 p(1 - p)}{e^2}$$

where,

$z_{\alpha/2}$ = critical value of the Normal Distribution at 95% confidence = 1.96

p = estimated proportion of adolescents receiving adolescent friendly services at KNH = 50%

e = margin of error = 0.05

n = Sample size = 385

Adjusting for the non-response rate which is 10%, the required sample size was 420

6.3.4 Sampling Technique

All eligible adolescents, who gave consent for participation were recruited into the study. Recruitment of participants was conducted exclusively during clinic days. The outpatient's clinic attends to an average of 10 adolescents on each clinic day.

Average patients seen per clinic day - 10

Total number of clinics in a week - 8

Total number of attendees on average/week $10 \times 8=80$

Total number of attendees per month will be $80 \times 4=320$

Duration of study will be 3 months (March 2018- May2018)

Total number of attendee $320 \times 3 = 960$

Total number of attendees divided by sample size will give 3 as the width of the interval. i.e. $960/385= 2.5$

Every 2nd attendee on the registration form fitting the inclusion criteria was included in the study making an enrollment of 10 patients per clinic.

6.3.5 Quantitative Data Collection

Data was collected by use of questionnaires after obtaining informed consent from the health care providers, the parents of adolescents aged below 18 years and the participating adolescents meeting the inclusion criteria by the principle investigator and research assistants. The questionnaires included an adolescent client exit interview tool, a form for parent(s)/guardian(s) accompanying participants of age below 18 years, assent form for the adolescent client, a health facility manager interview tool with an included consent form for the health facility manager, and observation tool and checklist for facility inventory, and a health care provider consent form with questionnaires.

Collected information included age, occupation, marital status, education levels, information on the health care provided during the visit of the patient as well as the experience of the care obtained. Eight standards of Quality Care were measured centered around provision of health care to adolescents. The questionnaires were filled in a confidential location within the various outpatient clinics. Five research assistants (clinical officers) were trained on recruitment procedures and filling procedures.

Three data collection instruments were used for assessing the list of adolescent-friendly characteristics from the WHO Global standards for quality health-care services for adolescents: Volume 3: Tools to conduct quality and coverage measurement surveys to collect data about compliance with the global standards 2015. These included:

- Adolescent client tool
- Health-care provider tool
- Health facility manager tool

6.4 Data Analysis

Data was analyzed using Stata v.13.0 from Stata cooperation, USA. Qualitative data was audio recorded during the focus group discussions sessions, transcribed and

analyzed using in vivo. The analysis report was prepared to answer the objectives of the study.

To describe the quality of care, scores calculated from the quality of care tool derived from the WHO Global Standards for Quality Health Services for Adolescents, 2015 were categorized as follows

- 10% or less  Not Meeting Standards
- 10%-40%  Needs major Improvement
- 40%-80%  Needs some Improvement
- 80% or more  Meets Standards

Bi-variate analysis was carried out to correlated scores with socio-demographic characteristics, reproductive history, and other variables. During this process, comparisons between means were done using t-tests/ANOVA while chi-squared tests were used to compare propositions. During multivariate analysis, we determined independent factors associated with receiving adolescent friendly services while adjusted for con-founders and effect modifiers. This was achieved using binary stepwise backward logistic regression.

6.5 Ethical Consideration

Ethical clearance was sought and obtained from Kenyatta National Hospital/University of Nairobi, Ethics and Research Committee, College of Health Sciences. The participants and accompanying parents/guardians were explained to about the research, its purpose, confidentiality and safety. Interviews were done in a manner that observed privacy and the data collected remained confidential.

Permission to conduct the study was sought from various authorities including, the University of Nairobi Faculty of Pediatrics and Child health, the Training and Research Committee of KNH Hospital and the Outpatient heads of Pediatric and Adult Walk-in/Filter Clinic.

7. RESULTS

PART 1: STUDY POPULATION

Four hundred and thirty-two adolescents were enrolled into the study. Table 1 below outlines the characteristics of these respondents. The average age for these study participants was 16 years and 55% of them were male. Less than half 193 (44%) of the participants were coming for the first time and two thirds 287 (67%) reported noticing a signboard in a language they understand that mentions the facility working time. Three quarters 320 (74.6%) of the respondents came accompanied most of whom by parents/guardians 227 (53%). Among those who came accompanied, 255 (70%) indicated they had privacy with the health-care provider. Almost all 378 (88%) of the respondents indicated that their parents/family had supported their use of this facility and only 10 (2.4%) reported not receiving the services they came for. Two thirds 285 (67%) indicated that during their visit to this facility, they were informed of other facilities available here and 311 (73%) reported being aware of the services offered here. Almost three quarters of them indicated they knew where they would seek services not available at this facility 303 (71%). Two thirds 286 (67%) saw adolescent information materials and almost three quarters 263 (72%) of them liked what they saw.

Table 2: Characteristics of adolescents enrolled into the study

	n	%
Age: Mean [Std Deviation]in years		16 [3]
Gender	Male	193 45%
	Female	236 55%
Frequency of visit to facility	First	190 44.2
	Repeat	240 55.8
Noticed any signboard in a language they understand that mentions the operating hours of the facility	287	67.1
Accompaniment	I came alone	109 25.4
	Parent/Guardian	227 52.9
	Sibling	37 8.6
	Spouse	18 4.2
	Friend	29 6.8
	Other	9 2.1
Alone time with the HCP if accompanied	255	69.7
Guardian (parent/spouse/ in-laws/other) supported health facility use	378	87.7
Got the services they came for	415	97.6
Informed about other services within the health facility	285	66.6
Aware of other Services offered	311	73.3
Knows where to obtain services that are not found in this facility	303	70.8
Saw educational material in the waiting area	286	66.5
Liked the informational materials?	263	72.3

Table 3 below outlines the other services that the adolescents knew were being offered at this facility. The most commonly reported services were; HIV (70%), Nutrition (60%), Injuries (51%), Malaria (50%) and Diarrhea (50%). The least common services reported were those related to reproductive health.

Table 3: Awareness of other services offered by the facility

Services provided to adolescents in this facility	n	%
HIV	228	69.5
Nutrition	197	60.1
Injuries	168	51.2
Malaria	167	50.9
Diarrhea	164	50.0
Fever	152	46.3
Tuberculosis	151	46.0
Violence	149	45.4
STIs	142	43.3
Condoms	139	42.4
Substance use	120	36.6
Safe delivery	108	32.9
Immunization	106	32.3
Anemia	104	31.7
Physical and pubertal development	99	30.2
Mental health	96	29.3
Antenatal care	91	27.7
Dermatological	91	27.7
Menstrual hygiene/ problems	90	27.4
Injectables	90	27.4
Post-partum care	85	25.9
Oral contraceptive pills	78	23.8
Emergency contraception	78	23.8
Safe	78	23.8
Implants	77	23.5
IUD	72	22.0
Post- termination of pregnancy care	70	21.3
Other	31	9.5

Table 4: What the adolescents liked

	n	%
Working hours that are convenient	395	93.4
Comfortable seating in the waiting area	361	84.7
Curtains in doors ring the examination	360	83.9
A reasonably short waiting time	285	66.6
Drinking water available	232	54.7

What impressed the adolescents most were the working hours 395 (93%), comfortable seating area 361 (85%) and curtains during examination 360 (84%). In terms of cleanliness, adolescents reported the following; 407 (96%) surroundings, 423 (99%) consultation areas and 343 (81%) felt that toilets were functional.

One hundred and fifty (35%) of the adolescents reported seeing the display of their rights and 275 (64%) indicated that they already knew what their rights were. The most commonly mentioned rights were respect for privacy 245 (85%), respect 231 (80%), protection from assault 205 (71%), confidentiality 192 (66%) and non-discrimination 181 (63%).

Table 5: Characteristics of Health Care Providers

	Mean	Standard Deviation	Median	Minimum	Maximum
Age (years)	31	2	31	26	35
Duration working at facility (years)	2	1	2	1	5

We enrolled 23 health care providers with a mean age of 31 years and had been working for an average of 2 years most of whom (74%) were medical residents. Only 26% of the health care providers reported having discussed their roles with the facility managers.

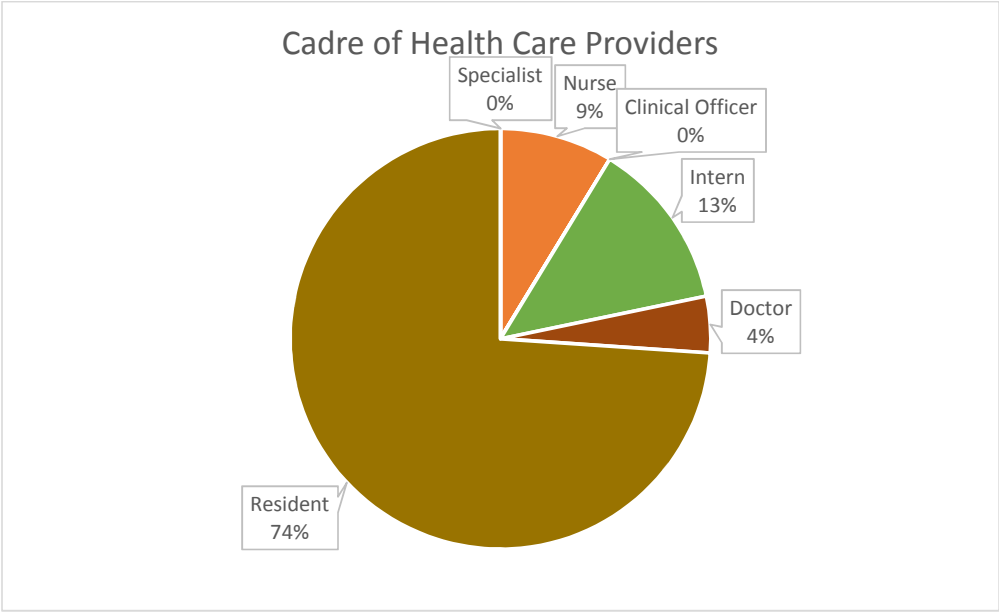


Figure 3: Pie chart displaying the cadre of HCPs included in the study

PART 2: QUALITY OF ADOLESCENT CARE

Table 6: Services offered by Health Care Providers

Services provided to adolescents	Percentage%			
	Information	Counseling	Clinical Management	None of the above
Normal growth and pubertal development	30.4	39.1	34.8	47.8
Pubertal delay	34.8	34.8	47.8	47.8
Precocious puberty	36.4	36.4	45.5	45.5
Mental health and mental health problems	56.5	43.5	47.8	21.7
Nutrition, including anaemia	69.6	56.5	78.3	4.3
Physical activity	60.9	47.8	39.1	13
Adolescent-specific immunization	26.1	13	17.4	65.2
Menstrual hygiene and health	52.2	43.5	43.5	34.8
Family planning and contraception	56.5	34.8	34.8	39.1
Safe abortion and post-abortion care	36.4	31.8	27.3	54.5
ANC and PNC	47.8	43.5	43.5	43.5
Reproductive tract infections/ sexually transmitted infections	69.6	60.9	65.2	21.7
HIV	82.6	78.3	73.9	4.3
Sexual violence	47.8	56.5	56.5	30.4
Family violence	26.1	39.1	39.1	47.8
Bullying and school violence	39.1	34.8	26.1	47.8
Substance use and substance use disorders	59.1	59.1	40.9	27.3
Injuries	56.5	60.9	69.6	17.4
Skin problems	69.6	52.2	78.3	13
Chronic conditions and disabilities	65.2	69.6	82.6	8.7
Endemic diseases	65.2	56.5	69.6	17.4
Common issues faced by adolescents (fatigue, abdominal pain, diarrhoea, headache)	57.1	66.7	76.2	14.3

Health Care Providers reported providing a variety of services to adolescents with the most common services reported being nutrition (95.7%), HIV (95.7%) and other chronic conditions (91.3%). The least common services were adolescent specific immunization (34.8%) and abortal care (45.5%).

Table 7: Training offered to Health Care Providers on Adolescent Care

Adolescent health care training	%
Communication skills in discussing issues	8.7
Communication skills in communicating with adult visitors/community members	8.7
Knowledge of policies in regards to privacy and confidentiality	17.4
Adolescent patient clinical case management	8.7
Understanding of the adolescents rights	13.0
Understanding of policies/procedures to check free or affordable service provision	8.7
Use of data collection, analysis and for quality improvement	17.4
None of the above	78.3

There was very limited training on adolescent care reported by the Health Care Providers (21.7%) with the most common training reported being on policies and procedures for affordable service provision (17.4%), and on privacy and confidentiality (17.4%). Overall, 73.9% of the Health Care Providers were not aware of Adolescent Care SOPs and guidelines. Health Care Providers reported existence of measures to protect the privacy and confidentiality of adolescents as follows; Unauthorized disclosure (85%), Security of Records (80%), Privacy during consultation/examination (70%).

Assessing the quality of adolescent care based on WHO Criterion 1, 2, 6, 8 and 9, the rating was highest on Criterion 8 (70.4%) and lowest in Criterion 9 (59.1%). Overall, the score was 65.1% and only 30.8% of the respondents indicated that the services meet the required standard.

Table 8: Scoring as per WHO Criterion

		Mean score	Not upto standards	Requires major improvement	Requires some improvement	Standards are met
Criterion 1	n	66.4%	145	0	0	287
	%		33.6	.0	.0	66.4
Criterion 2	n	63.5%	131	0	53	248
	%		30.3	.0	12.3	57.4
Criterion 6	n	66.0%	74	78	62	218
	%		17.1	18.1	14.4	50.5
Criterion 8	n	70.4%	13	94	95	230
	%		3.0	21.8	22.0	53.2
Criterion 9	n	59.1%	30	107	132	163
	%		6.9	24.8	30.6	37.7
Overall categorization	n	65.1%	13	75	209	132
	%		3.0	17.5	48.7	30.8

Criterion 1: A signboard is present in the health facility that comments on operating hours

Criterion 2: Up-to-date information material for adolescents found in waiting area.

Criterion 6: HCPs render age appropriate counselling and health education to adolescents

Criterion 8: Adolescents have knowledgeable about their own health.

Criterion 9: Awareness by adolescents about what where and when health services are provided

According to the WHO Criteria, 69% of the services offered do not meet the quality threshold.

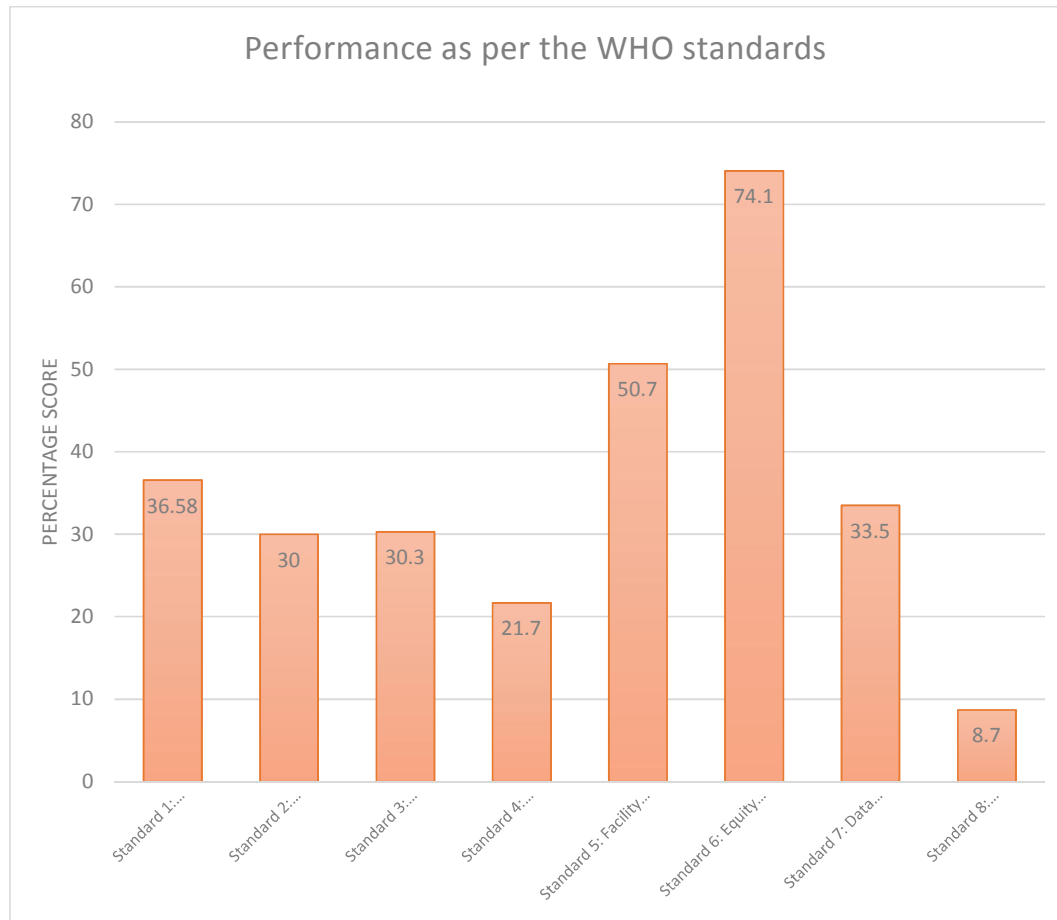


Figure 4: Bar Chart on performance per standard as per the WHO standards of quality care to Adolescents, 2015

Assessing the quality of services as per the 8 WHO standards, the services offered need some improvement with respect to Standard 5 and 6, needs major improvement for the rest of the standards except Standard 8 which does not meet the Standards.

PART 3: INFERENTIAL ANALYSIS

Table 9: Bivariate analysis

	N	Mean age	Std. Deviation			p-value
Does not meet quality threshold	299	14.98	3.278			<0.0001
Meets quality threshold	131	17.64	1.641			
		Quality of adolescent care				
		Does not meet quality threshold	Meets quality threshold			p-value
		N = 299	%	N = 131	%	
Gender	Male	142	47.7	51	38.9	0.095
	Female	156	52.3	80	61.1	
Frequency of visit to facility	First	142	47.7	48	36.4	0.030
	Repeat	156	52.3	84	63.6	
Noticed any signboard in a language they understand that mentions the operating hours of the facility	Yes	155	52.4	132	100.0	<0.0001
	No	141	47.6	0	.0	
Guardian (parent/spouse/ in-laws/other) supported health facility use	Yes	254	84.9	124	93.9	0.026
	No	12	4.0	1	.8	
	Don't know	33	11.0	7	5.3	
Got the services they came for	Yes	284	96.6	131	100.0	0.033
	No	10	3.4	0	.0	

Adolescents who were more likely to report acceptable quality of service were; older ($p<0.0001$), coming for a repeat visit ($p=0.03$), those who saw the signboard ($p<0.0001$), those who were supported using the facility by guardians ($p=0.02$) and those who got the services they came for ($p=0.03$)

Table 10: Multivariate analysis

	Coefficient	S.E. of coefficient	p-value	OR	95% C.I.f or OR	
					Lower	Upper
Age	.378	.051	.000	1.459	1.320	1.613
Accompanied by parent/guardian	-.623	.228	.006	.536	.343	.839

Older age (OR 1.5, $p < 0.0001$) and accompaniment by parents/guardians (OR 0.5, $p = 0.006$) were independently associated with acceptable quality of care.

8. Qualitative Analysis Results

8.1 Focus Group Discussion with Adolescents

We ran a 52 minutes single Focus Group Discussion at the KNH Adolescent Clinic (located on the ground floor of the Tower Block) for a group of 5 adolescents, 3 of which were males. The age range was 15-19 years (median 16 and mean 16.6). Majority of the youths (3) were re-visits (2nd to 4th visits). Data was audio-recorded, transcribed and analyzed based on emerging themes and presented as a descriptive narrative for the identified themes. Permission was received officially from both the head of youth clinic as well as the head of co-operate affairs in Kenyatta Hospital.

8.2 Theme 1: Perception of health needs being met at KNH Adolescent Clinic

There were two main health needs identified as important to the adolescents: [1] curative health needs and [2] psychological health needs.

Adolescents described curative health needs as a need to get a correct prescription, and receive the prescribed drugs in the hospital pharmacies for the illness they have. They described psychological health needs as counseling services offered for individual ‘adolescent-specific issues’ by a qualified person. One adolescent said “*at times as youths, we make mistakes very much, so... we need counselling*” For them, both curative and psychological health needs at the clinic are being offered to optimum.

Overall comments on the adolescents' perception of services at KNH adolescent clinic.

1. Staff working at adolescent clinic, KNH

The adolescents expressed that their interaction with staff members, particularly clinical staff members, has been a good experience because they (staff members): -

- Make it easy for adolescents to communicate/express freely
- Offer a non-judgemental attitude to them
- Provide optimum privacy to them individually

Adolescents raised the Qualities of Service Providers that adolescent clinic should have. They described 5 important qualities of staff members (both clinical and non-clinical) that are important to them

- i. Offer a non-judgmental attitude towards adolescents. They describe this as not being judged, and accepting them as they are.
- ii. Ability to maintain confidentiality of all matters and not to disclose without their consent. Adolescents wished that disclosure should not be made to others, including parents, without their consent
- iii. Approachable staff members. They reported that they are happy if they meet a staff member '*... and also, when you are free to say what you want to say...*' and hence promote a sense of valuing what they have to say.
- iv. Clinically competent staff members. One said '*...the counselor should be experienced enough to know when to ask and dig deeper in some issues and when not to...*'
- v. Clinical staff should strive to learn how to effectively communicate with adolescents, and not to rely on getting information from other sources such as parents. One adolescent said '*...we are the ones who have come to the hospital, so why keep saying that you come with a parent? It should not be a must for a parent to be asked to be coming to the hospitals together with us...*'

2. Health facility characteristics that optimize adolescent health care

In regard to facilities, they thought that it is well set apart from the rest of the patients and that it offered privacy to them. Adolescents highlighted 4 main priority characteristics for an adolescent health service delivery point:

- i. Environmentally clean place
- ii. A site which allows one to receive health services in a private setting, without anyone seeing or hearing the conversation
- iii. A place where all services being offered are under one roof. One adolescent mentioned, *'like here, you don't expect a doctor to tell you to go and buy medicine from outside...'*
- iv. Should have competent staff members who understand the needs of adolescents

3. Nature and description of health service being offered,

In regard to services, they thought that overall, services were respectful, confidential and of high quality. One adolescent said of the counselors, *'... We believe the counselors don't disclose information we share with them. Private enough means me and the doctor alone, without others including the parent...'*

8.3 Theme 2: Barriers that are likely to hinder access to adolescent health services

Adolescents thought that, whilst Kenyatta National Hospital has a highly rated adolescent clinic, they spotted the following as barriers, which have been encountered and are a hindrance to their accessing quality adolescent health care.

1. Perceived negative attitude of non-clinical staff

All adolescents thought that, while the clinical staff have an appropriate attitude towards them, they singled out the need for non-clinical staff to cultivate a more positive attitude towards them. One adolescent said, *'... for me, for the first time, that receptionist had an attitude like, he was judging... I score him as very bad...he was rude to me by telling me 'go and sit down' when I came in and told him that I was to come yesterday but I was not able to... that was very bad'*

2. Perceived demand from clinical staff for adolescents to conform to certain behavior

While adolescents agreed that they have numerous challenges, as said by one of them, *'...at times as youths, we make mistakes very much...'* they were not satisfied with the how they were required to change and conform to certain behaviors *'...the way I have*

been spoken to (here in the hospital), I can see that there are things I cannot change, like being told I should stop being social, and going out (kutembeatembea) because I was told, 'to stop going out when I am at home' ... I think they don't understand me, and that is something I am not going to stop...' one other said, '...and should not try to change me, they should let me change myself'

3. Perceived rules that require presence of parents to be constantly accompany adolescents to the clinic

Adolescents felt that the hospital's demand to have parents accompany them on each visit seemed patronizing. ... *'let them not include other people, including colleagues, family, parents...'* For others, they recommended that the hospital staff should have more trust in them, as mentioned by one *'...for your personal life, serious matters, secrets, they should keep off, and should not force me to reveal such issues... It should not be a must for a parent to be asked to be coming to the hospitals together with us. One, they (parents) are adults, and they have their things/issues/work to attend to and they (hospital) even waste the parents' time.... It is not right. Come with the parents the first time, the second time they don't have to...'* another was very concerned at how parents may disclose information that the adolescent doesn't wish to have it disclosed. About parents, another adolescent said *'...parents sometimes disclose the things that you don't want to say... so perhaps when you come, you need not to have the parent say things on your behalf. If it happens, you should not be there...like for me, the things mum said are the things I didn't want to say... but because she is my mum, I didn't have a choice...'*

4. Varying the clinical staff member who sees the adolescents on different visits

Study respondents recommended that they are happy when they are seen by the same clinical staff members on each repeat visit. They mentioned that this makes it easier for them to freely express themselves as they already have established a working relationship with that one person, as opposed to seeing different clinical staff on each visit.

5. Poor management of appointments

All adolescents were concerned that their appointment times are not respected. To them, it was not a sign of respect for one to book them e. g at 7am and yet they are delayed

till 9am. One adolescent said ‘...if they are delaying you, let them book you another appointment, but should tell me early enough’ and another said ‘.... time management, I came at 6am and left here at 5pm...’

10. DISCUSSION

According to the results, there is room for improvement within all standards. Adolescents involvement in decisions regarding their own care is the standard which the hospital failed to meet the WHO standards of Quality Health Care to Adolescents. According to the WHO Criteria, 69% of the services offered to adolescents in Kenyatta National Hospital did not meet the quality threshold. This is in keeping with WHO 2015 findings globally in 25 countries which formed the basis of the standards.

Health Care Providers reported very limited training on adolescent care (21.7%) with the most common training reported being on policies and procedures for affordable service provision (17.4%), and on privacy and confidentiality (17.4%). Over 70% of the Health Care Providers were not aware of Adolescent Care SOPs and Guidelines.

This could be due to lack of this information at the level of the health institute and the need for ongoing workshops and dissemination of information between health care providers. These results matched the WHO 2014 guidelines on Health for the world’s adolescents, as well as with findings from a study conducted in Swaziland, where 45 out of 56 HCPs reported not having guidance for YFS in their health institutes, while nine HCPs reported obtaining these guidelines but never using them [60]. HCPs should be involved in the processes of developing service delivery guidelines. This gives HCPs a sense of ownership and knowledge of the materials. HCP training has been identified by WHO as one of the important interventions for enhancing access to SRH services by young people [61]. The results in this study showed that HCPs mostly lack the knowledge and skills to provide comprehensive SRH services to the youth. HCPs without training end up using their own parental skills as well as scarce knowledge by their work experience in different clinical stations.

In terms of patient characteristics three quarters of the respondents came accompanied mostly by parents/guardians 227 (53%). Adolescents who were more likely to report acceptable quality of service were; older ($p < 0.0001$), coming for a repeat visit ($p = 0.03$),

those who saw the signboard ($p < 0.0001$), those whose usage of services was supported by parents/guardians ($p = 0.026$) and those who got the services they came for ($p = 0.033$). This would suggest that being a younger adolescent or being the index visit would hinder one to obtain the quality health services they sought.

Older age (OR 1.5, $p < 0.0001$) and accompaniment by parents/guardians (OR 0.5, $p = 0.006$) were independently associated with acceptable quality of care. This would reflect on the need to put emphasis on providing better care for younger individuals.

The study found that a majority of the respondents were not aware of health care services provided within the facility including outreach and referral services. This findings confirms the assertion that majority of adolescent health care services are not comprehensively packaged (WHO, 2014; WHO, 2015).

In terms of assessing and analyzing the qualitative data via focused group discussions, observations by adolescents attending the Kenyatta National Hospital revealed the presence of highly rated adolescent clinics, of which the following findings were encountered and were either an advantage or hindrance to their accessing quality adolescent health care. This was in keeping with a study by Anaba 2017, who assessed adolescents' perceptions of health care quality in Ghana's health care facilities.[62]

This was also found to be satisfactory in our health facility. Adolescents' perceptions were significantly influenced by the following components: age, accompaniment by parent and facility characteristics. That notwithstanding, some adolescents encounter challenges (i.e. poor appointment setup and demands to be accompanied at all times) when accessing health care in the outpatient clinics. This is in keeping with a study done by Judith *et al.* (2003) in their comparative study of four countries also found inconvenient operating hours, inconvenient location of the adolescent corner and fear on the parts of adolescents as challenges to accessing care (Sogarwal *et al.*, 2013; Samargia *et al.*, 2006). In Zimbabwe, Erulkar *et al.* (2005), found the lack of parental support, long waiting time and financial barriers as challenges hindering adolescents from accessing care. Lim *et al* (2012) also found negative provider attitude, difficulty in making an appointment, lack of privacy and long waiting hours as the key challenges faced by adolescents when accessing care (Kennedy *et al.*, 2013). [62]

NEGATIVE FINDINGS:

- I. All adolescents were concerned that their appointment times are not respected.
- II. Adolescents felt that the hospital's demand to have parents accompany them on each visit seemed patronizing

POSITIVE FINDINGS:

- i. Respondents reported perceived happiness when seen by the same clinical staff members on each repeat visit.
- ii. The adolescents expressed that their interaction with staff members, particularly clinical staff members overall was a good experience
- iii. Overall thoughts about services sought in KNH were respectful, confidential and of high quality.

In South Africa, Geary *et al.* (2014) found respondents making similar suggestions. To help make operating hour more convenient for adolescents, respondents suggested that the clinics should operate on weekends and public holidays. Sendrowitz (2003), argued that since many adolescents are in school, adolescent clinics ought to operate at times that are more convenient for adolescents, such as late afternoon, weekends and during public holidays. Recommendations were also made regarding the publicity of the corners and its promotion. Samargia *et al.* (2006) also suggested that adolescent health care should also run on outreach basis to help capture adolescents who might not feel comfortable to visit the clinic. [62]

Looking at some of the eight standards that are key to achieve target quality satisfaction:

1. **Adolescent health literacy**- This is a property of structural quality linking adolescents' knowledgeable about their health to the knowledge of where to access health care services. A sign board in an understandable language mentioning operating hours of the facility as well as indicating where a facility is located and the type of services provided is an important indicator of health literacy. Our study revealed that two thirds of adolescents noticed the sign board and it affected their overall perception of quality ($p < 0.0001$). Adolescents can improve their health literacy through access to health information from books, flyers and information packs (Esantsi *et al.*, 2015). More than two thirds of adolescents who were mostly in the outpatient clinics reported seeing educational information in the waiting area. Almost 75 percent were happy with the

informational material they received. This is similar to Sogarwal *et al.* (2013) study where a majority of adolescents noted educational materials in adolescent clinics for them to read. We however performed overall poorly in the standard reaching only 36 percent and thus requiring major improvement to improve adolescent health literacy through more signboards and educational material.

2. Facility Characteristic -According to WHO, the health facility serving adolescents ought to have convenient operating hours, a welcoming and clean environment as well as maintaining privacy and confidentiality. Since most adolescents are mostly in school, they require health facilities with convenient operating hours where they can easily make appointment. Evidence suggests that health care processes can be overwhelming for an adolescent. Operating hours that are convenient together with good flexible appointments are important for adolescents' access to services (Ambresin A-E *et al.*, 2012). Cleanliness and Privacy as mentioned before also enhance use of facilities by adolescents. In our focus group discussion it was repeatedly reported by adolescents that their appointment times were not respected and wished for better appointment system. Being accompanied by a guardian might have facilitated some to have better appointment schedules than presenting unaccompanied. Overall the adolescents reported to be happy with the operational hours, comfortable seating area, and curtains during examination as well as the cleanliness of the surroundings, consultation areas and washroom facilities. The Facility scored fifty percent overall and thus will need some improvement.

3. Adolescent Participation - Adolescents have significant knowledge about their health as well as their health needs. If adolescent views regarding their health care are taken for granted or ignored, this may lead treatment discontinuation and loss to follow-up. Our study revealed that the worst performance which was less than ten percent was in Adolescent participation and did not meet the WHO global standards for adolescent health care. The facility should therefore support and promote adolescent involvement in all aspects of care by developing and implementing policies and procedures to enable an informed choice. Adolescent reported that the hospital's demand to have parents accompany them on each visit seemed patronizing and made them feel they are incapable of making any decisions in their care. They recommended that the hospital

staff should have more trust in them. In order to participate in a meaningful way, adolescents should be empowered and trained to do so effectively.

11. STUDY STRENGTHS AND LIMITATIONS

The major strengths was that our study was conducted in a high volume facility with a large cross-section of inpatient and outpatient adolescents from various backgrounds making the results reliable. The tools used were adopted from the WHO Global standards for quality health-care services for adolescents, 2015 and the study can be validated within international standards and criteria. The study however did not incorporate the entire WHO set of tools for assessing the quality of services offered to adolescents due to limited capacity and lack of both time and resources. The data collection was limited to the adolescent exit interview tool and the Health Care Provider tool. The study did not account for external factors such as the level of education and socioeconomic status that both serve as potential confounders.

12. CONCLUSIONS

The objectives of the study were to describe the quality of care provided to adolescent patients at Kenyatta National Hospital, compare it to the WHO Global Standards of Quality Health-Care Services for Adolescents, 2015, to identify challenges faced by HCPs at KNH in providing quality care to adolescents patients and to determine barriers and challenges faced by adolescents during their care. The study found that more than half of the services offered to adolescents in Kenyatta National Hospital did not meet the quality threshold and majority of the standards need improvement. One of the quality standards number 8(Adolescents' participation) did not meet the WHO Standards. There is limited training on adolescent care reported by the HCPs. Adolescents' perceptions of health care quality were also found to be satisfactory in our health facility and majority of the respondents perceived health providers and services as friendly, respectful, confidential, non-judgmental and non-discriminatory. Adolescents' perceptions were influenced significantly by the following factors: age, accompaniment by parent and facility characteristics.

It can be concluded that the quality of care provided to adolescents at Kenyatta National Hospital requires significant improvement despite their overall good perception. As a tertiary health care facility, KNH will need to look at different strategies to improve on

majority of the standards and improve service provision to its adolescent clients both inpatient and outpatient. Universal health coverage for adolescents will require renewed attention to HCP training. As countries like Ghana and Bangladesh adapt these WHO Global standards, it is expected that these 8 WHO standards of quality health care to adolescents will be adapted by our country at both a national and county level through the MOH, Kenya.

13. RECOMMENDATIONS

1. The Facility requires more visual information e.g signboards, and posters on services provided as well as operational times. At the same time health-care providers require to inform adolescents on other services provided in the facility and increase awareness of diseases affecting adolescents, provide screening services and prevention strategies in order for adolescents to stay healthy. An appropriate and user friendly appointment system would benefit adolescents if met with strict timings by the facility.
2. The facility would benefit from creating policies and guidelines using the 2015,WHO global standards as a blueprint.
3. There is need to train health-care providers in order that they can be competent in providing effective health services to adolescents. Training programs need to be moved from an acute and episodic care model to a chronic and preventive care model.
4. Both HCPs as well as support staff require knowledge about adolescents health rights. They require to conduct health care with respect as well as to protect and fulfill adolescents' rights to information, privacy, confidentiality, non-discrimination, non-judgmental attitude and respect.
5. The health facility would benefit from a adolescent client database in order to follow up patients after their visits.

14. DISSEMINATION PLAN

The dissertation report will be submitted at University of Nairobi College of Health Sciences in partial fulfillment of the award of the Degree of Masters of Medicine in Pediatrics and Child Health.

One copy of the dissertation will be available to Department of Pediatrics and Child Health and one copy solely to the University of Nairobi College of Health Sciences Library. The report will also be used to prepare manuscript for publication in peer review journal and for presentation in International conferences.

The overall findings will be worked up for publishing in an Adolescent Journal and feedback on the data as well as quality feedback will be relayed to the Management of Kenyatta National Hospital as well as the Head of Department of both Pediatrics and Internal Medicine in the hope that relevant gaps of quality can be raised and resolved by the Hospital and thereafter to other primary hospital Nationwide.

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16. APPENDICES

Appendix I: Consent Forms

Consent Information Form for parent(s)/guardian(s) accompanying adolescents less than 18 years of age

Dear Parent/Guardian,

- My name is Dr.Imran Bhaudin Khares, a Pediatric Resident at Kenyatta National Hospital undertaking a Masters Degree in Pediatrics and Child Health, in the School of Medicine , Department of Pediatrics and Child Health, University of Nairobi, Kenya.
- Permission has been granted to undertake this study by the Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UoN ERC Protocol No. _____)
- I am conducting a study on the Quality of Care received by Adolescents aged 12 up to 19 years in Kenyatta National Hospital. Your son's/daughter's/ward's are being requested to participate in the study because your son's/daughter's/ward's meets the inclusion criteria.
- I am interested in your son's/daughter's/ward's opinions, and I would like to talk to him/her about his/her experience using this health facility. For this I would like to ask him/her a few questions.

PURPOSE

- The results of the study will help us get important information that may help in formulating policy at National level to provide high standards of care to Adolescents both at County and National Level.

PROCEDURE

- This interview will take about 20–25 minutes. I will not write down his/her name, and all the information he/she provides will be kept strictly confidential and not be shared with anyone else. His/her participation in this survey totally depends on you and him/her.
- I will go through a series of open ended questions from which I will look forward to your son's/daughter's/ward's honest reply.
- If you wish you may refuse to give us permission to interview your son/daughter/ward. If you decide your son/daughter/ward should not participate, it will not affect his/her access to services at this health facility in any way.

- The research study does not offer you or your child any financial benefit. However, you will be provided with any health information that you request. Your participation in the study is voluntary and there are no consequences in case you decline participation.

ARE THERE ANY RISKS, HARMS DISCOMFORTS ASSOCIATED WITH THIS STUDY?

- There are no foreseeable risks or benefits to you or your son's/daughter's/ward's for participating in this study. There is no cost or payment to you or your son's/daughter's/ward's. If you have questions while taking part, please stop me and ask.
- We will do our best to keep your son's/daughter's/ward's information confidential but we cannot guarantee absolute anonymity. We will link the respondents answers to them initially by providing them with a unique code number to identify them in a password-protected computer database and we will keep all of our paper records in a locked file cabinet, however this link will be removed later in order to protect you and your son's/daughter's/ward's privacy.
- If you have questions about this research study you may contact Dr.Imran Bhaudin Khares at Mobile No. +254 724 216 940 in the event of a research related injury. If you feel as if you or your son's/daughter's/ward's were not treated well during this study, or have questions concerning you or your son's/daughter's/ward's rights as a research participant call The Secretary/Chairperson KNH-UoN ERC on Tel. No. 2726300 Ext 44102.
- Your son's/daughter's/ward's participation in this research is voluntary, and you will not be penalized or lose benefits if you refuse to participate or decide to stop. You have the right to refuse the interview or any questions asked during the interview.

May I continue?

Do you have any questions?

May we begin?

The parent/guardian has given permission

Yes.....1

No.....2

CONSENT FORM (STATEMENT OF CONSENT)

Participant's statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I Mrs. / Miss. _____, agree to the above and All my questions were answered. I have understood the purpose of the study and conditions of participation and agree to give consent to be included in this study as explained to me by _____.

Signature/thumb impression/verbal consent of the parent/guardian:

DATE: ____ ____ / ____ ____ / ____ ____ ____ ____

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: _____ **Date:** _____

Signature _____

Role in the study: _____ [i.e. study staff who explained informed consent form.] For more information, contact _____

at _____ from

_____ to _____

Witness Printed Name (If witness is necessary, a witness is a person mutually acceptable to both the researcher and participant)

Name _____ **Contact information** _____

Signature /Thumb stamp: _____ **Date;** _____

Signature of Interviewer: _____

WHAT IF YOU HAVE QUESTIONS IN FUTURE?

- If you have further questions or require further information or clarification about participating in this study, please call or send a text message to Dr Imran Bhaudin Khares Department of Pediatrics and Child Health, University of Nairobi College of Health Sciences, Nairobi; Mobile No. 0724216940
- For more information about your rights as a research participant you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email uonknh_erc@uonbi.ac.ke.
- The study staff will pay you back for your charges to these numbers if the call is for study-related communication.

WHAT ARE YOUR OTHER CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

PARTICIPANT INFORMATION AND CONSENT FORM FOR THE ADOLESCENT PARTICIPANT AGED 18 YEARS -19 YEARS FOR ENROLLMENT IN THE STUDY

Title of Study: QUALITY OF CARE PROVIDED TO ADOLESCENTS AGED 10 UPTO 19 YEARS IN KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA

Principal Investigator\and institutional affiliation: Dr.Imran Bhaudin Khares

Introduction

Dear Respondent,

- My name is Dr.Imran Bhaudin Khares, a Pediatric Resident at Kenyatta National Hospital undertaking a Masters Degree in Pediatrics and Child Health, in the School of Medicine, Department of Pediatrics and Child Health, University of Nairobi, Kenya.
- I am conducting a study on the Quality of Care received by Adolescents aged 12 up to 19 years in Kenyatta National Hospital. You are being requested to participate in the study because you meet the inclusion criteria.

- Permission has been granted to undertake this study by the Kenyatta National Hospital -University of Nairobi Ethics and Research Committee (KNH-UoN ERC Protocol No. _____)
- I would like to tell you about a study being conducted by the above researcher. The purpose of this consent form is to give you the information you will need to help you decide whether or not to be a participant in the study.
- Feel free to ask any questions about the purpose of the research, what happens if you participate in the study, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear.
- When we have answered all your questions to your satisfaction, you may decide to be in the study or not. This process is called 'informed consent'. Once you understand and agree to be in the study, I will request you to sign your name on this form.
- You should understand the general principles which apply to all participants in a medical research:
 - i. Your decision to participate is entirely voluntary
 - ii. You may withdraw from the study at any time without necessarily giving a reason for your withdrawal
 - iii. Refusal to participate in the research will not affect the services you are entitled to in this health facility or other facilities. We will give you a copy of this form for your records.

May I continue? YES / NO

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee protocol No. _____

WHAT IS THIS STUDY ABOUT?

- The researcher listed above is carrying out interviews on individuals who are between the age groups of 10-19 year attending the outpatient clinics or are inpatients in Kenyatta National Hospital.
- The purpose of the interview is to find out your experience of using this health facility. For this I would like to ask you a few questions.

- Participants in this research study will be asked questions about your reason for coming to seek health care and your experiences in regards to provision of health care during your hospital stay in Kenyatta National Hospital.
- There will be approximately 400 participants in this study randomly chosen. We are asking for your consent to consider participating in this study
- Your participation in this survey totally depends on you (and your parent/guardian, if relevant).
- If you choose not to participate, it will not affect your access to services at this health facility in any way.

WHAT WILL HAPPEN IF YOU DECIDE TO BE IN THIS RESEARCH STUDY?

If you agree to participate in this study, the following things will happen:

- You will be interviewed by a trained interviewer in a private area where you feel comfortable answering questions. The interview will last approximately 20-25 minutes. I will not write down your name and all the information you provide will be kept strictly confidential and not be shared with anyone else.
- The interview will cover topics such as knowledge of your condition after encountering health care workers as well as enquiring about your experience of the health care facility you visited.
- We will ask for a telephone number where we can contact you if necessary. If you agree to provide your contact information, it will be used only by people working for this study and will never be shared with others. The reasons why we may need to contact you include: To obtain any ideas on making your health visits better suited for your individual needs, to plan focused group discussions on how we can improve the overall care you require. _____

ARE THERE ANY RISKS, HARMS DISCOMFORTS ASSOCIATED WITH THIS STUDY?

- Medical research has the potential to introduce psychological, social, emotional and physical risks. Effort should always be put in place to minimize the risks. One potential risk of being in the study is loss of privacy.
- We will keep everything you tell us as confidential as possible. We will use a code number to identify you in a password-protected computer database and will keep all of our paper records in a locked file cabinet. However, no system of protecting your confidentiality can be absolutely secure, so it is still possible that someone could find out you were in this study and could find out information about you.
- Also, answering questions in the interview may be uncomfortable for you. If there are any questions you do not want to answer, you can skip them. You have the right to refuse the interview or any questions asked during the interview.

PURPOSE

- The results of the study will help us get important information that may help in formulating policy at National level to provide high standards of care to Adolescents both at County and National Level.

ARE THERE ANY BENEFITS BEING IN THIS STUDY?

- The research study does not offer you any financial benefit. However, you will be provided with any health information that you request

WILL BEING IN THIS STUDY COST YOU ANYTHING?

- No, The research study will not cost you anything.

WHAT IF YOU HAVE QUESTIONS IN FUTURE?

- If you have further questions or require further information or clarification about participating in this study, please call or send a text message to Dr Imran Bhaudin Khares Department of Pediatrics and Child Health, University of Nairobi College of Health Sciences, Nairobi; Mobile No. 0724216940
- For more information about your rights as a research participant you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email uonknh_erc@uonbi.ac.ke.

- The study staff will pay you back for your charges to these numbers if the call is for study-related communication.

WHAT ARE YOUR OTHER CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

CONSENT FORM (STATEMENT OF CONSENT)

Participant’s statement

- I have read this consent form or had the information read to me.
- I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.
- I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study: Yes No

I agree to provide contact information for follow-up: Yes No

Participant _____ **printed** _____ **name:** _____

Participant signature / Thumb stamp _____ **Date** _____

Researcher’s statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher’s Name: _____ **Date:** _____

Signature _____

Role in the study: _____ [i.e. study staff who explained informed consent form.]

For more information contact _____ at _____ from _____ to _____

Witness Printed Name (If witness is necessary, A witness is a person mutually acceptable to both the researcher and participant)

Name _____ **Contact information** _____

Signature /Thumb stamp: _____ **Date;** _____

Assent form for Adolescent less than 18 years of Age[Minor]

(To be read aloud to the client)

Title of Study: **QUALITY OF CARE PROVIDED TO ADOLESCENTS AGED 10 UPTO 19 YEARS IN KENYATTA NATIONAL HOSPITAL, NAIROBI, KENYA**

Principal Investigator\and institutional affiliation: Dr.Imran Bhaudin Khares

Introduction

- My name is Dr. Imran Bhaudin Khares. I work with parents and children but I am also a student. We are doing a research study about learning how we treat patients like you and your age group, when you are brought to this Hospital by your Parents/Guardians. I would like to ask you a few questions if that is okay with you.
- Permission has been granted to undertake this study by the Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UoN ERC Protocol No. _____)
- This research study is a way to learn more about people. At least 400 children will be participating in this research study with you.
- If you agree, you will be asked to answer a few questions and maybe you can tell me in your own words what you feel about the way you felt when you were seen

by the doctor and by other staff of this Hospital. It should take only about 15 minutes.

- You may be helping us understand how we are taking care of your Health Needs and how better we can improve our services to you and others your age.
- If you agree to help us, you should know that your Parents won't know what you have said. You should also know that if you decide to help us or if you decide to say "no," your choice will not affect the way you will be treated today or in our next visit.
- There are no right or wrong answers. Please talk this over with your parents before you decide if you want to be in my study or not. I will also ask your parents to give their permission for you to be in this study, but even if your parents say "yes," you can still say "no" and decide not to be in the study. Your parents know about the study too.
- If you don't want to be in my study, you don't have to be in it.
- Remember, being in the study is up to you and no one will be upset if you don't want to be in the study or if you decide to stop after we begin, that's okay, too
- Also, remember that no one else, not even your parents, will know what you've said.
- Please feel free to ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call me or ask [*your parents/guardian*] to call me at: 0724216940
- Would you like to talk to me? [*Child answers yes or no; only a definite yes may be taken as assent to participate.*]
- When we are finished with this study we will write a report about what was learned. This report will not include your name or that you were in the study.
- If you decide you want to be in this study, please sign your name.

I, _____, want to be in this research study.

_____ (Signature/Thumb stamp)

(Date)

Consent form for the Health Facility Manager

Dear Sir/Madam

- My name is Dr.Imran Bhaudin Khares, a Pediatric Resident at Kenyatta National Hospital undertaking a Masters Degree in Pediatrics and Child Health, in the School of Medicine, Department of Pediatrics and Child Health, University of Nairobi,Kenya.
- I am conducting a study on the Quality of Care received by Adolescents aged 12 up to 19 years in Kenyatta National Hospital.
- Permission has been granted to undertake this study by the Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UoN ERC Protocol No. _____)

PURPOSE

- The results of the study will help us get important information that may help in formulating policy at National level to provide high standards of care to Adolescents both at County and National Level.

PROCEDURE

- I am conducting the above-stated study both in the inpatient and outpatient Clinics, KNH. In this study we are assessing the quality of care provided to adolescents in this facility. You are being requested to participate in the study because you meet the inclusion criteria.
- I would like to ask you and your staff some questions. Then, I would like to observe the environment for service provision at your health facility and access some of your records.
- In addition, I would like to inquire about the medicines and supplies available.
- At the end I would like to be present during at least one adolescent client-provider interaction. All this information will help to improve the quality of health care for adolescents in the county Observing the environment for service provision at the health facility will require about 35–40 minutes.

- Conducting the interviews will require about 60 minutes.
- All the information that you and your staff provide in the interview will be kept confidential and will not be shared with anyone else. This survey is anonymous and the questionnaire will not be seen by anyone not involved in the survey analysis. Your participation in this review process is voluntary. You may decide not to participate in this interview or not to answer some of the questions.
- The research study does not offer you any financial benefit. However, you will be provided with any health information that you request.
- Your participation in the study is voluntary and there are no consequences in case you decline participation. All information will be kept confidential and all the laboratory results will be explained to you comprehensively.

May I continue? YES / NO

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee protocol No. _____

CONSENT FORM (STATEMENT OF CONSENT)

Participant's statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I Mrs. / Miss. _____, agree to the above and All my questions were answered. I have understood the purpose of the study and conditions of

participation and agree to give consent to be included in this study as explained to me by _____.

Signature/thumb impression/verbal consent of the parent/guardian:

DATE: ____ / ____ / ____

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: _____ **Date:**

Signature _____

Role in the study: _____ *[i.e. study staff who explained informed consent form.]*

For more information, contact _____ at _____ from

_____ to _____

Witness Printed Name *(If witness is necessary, a witness is a person mutually acceptable to both the researcher and participant)*

Name _____ **Contact information** _____

Signature /Thumb stamp: _____ **Date:** _____

Signature of Interviewer: _____

WHAT IF YOU HAVE QUESTIONS IN FUTURE?

- If you have further questions or require further information or clarification about participating in this study, please call or send a text message to Dr Imran Bhaudin

Khares Department of Pediatrics and Child Health, University of Nairobi College of Health Sciences, Nairobi; Mobile No. 0724216940

- For more information about your rights as a research participant you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email uonknh_erc@uonbi.ac.ke.
- The study staff will pay you back for your charges to these numbers if the call is for study-related communication.

WHAT ARE YOUR OTHER CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

Consent form for Health-Care Provider

Dear Sir/Madam

- My name is Dr.Imran Bhaudin Khares, a Pediatric Resident at Kenyatta National Hospital undertaking a Masters Degree in Pediatrics and Child Health, in the School of Medicine , Department of Pediatrics and Child Health, University of Nairobi, Kenya.
- I am conducting a study on the Quality of Care received by Adolescents aged 12 up to 19 years in Kenyatta National Hospital.
- Permission has been granted to undertake this study by the Kenyatta National Hospital-University of Nairobi Ethics and Research Committee (KNH-UoN ERC Protocol No. _____)

PURPOSE

- The results of the study will help us get important information that may help in formulating policy at National level to provide high standards of care to Adolescents both at County and National Level.

- I am conducting the above-stated study at the inpatient and outpatient Clinics, KNH. In this study we are assessing the quality of care provided to adolescents in this facility. You are being requested to participate in the study because you meet the inclusion criteria.

PROCEDURE

- I would like to ask you some questions. This information will help to improve the quality of health care for adolescents in Nairobi County. The interview will require about 25–30 minutes. All the information that you will provide in the interview will be kept confidential and not shared with anyone else.
- This survey is anonymous and the questionnaire will not be seen by anyone not involved in the survey analysis. Your participation in this review process is voluntary. You may decide not to participate in this interview or not to answer some of the questions.
- The research study does not offer you any financial benefit. However, you will be provided with any health information that you request.
- Your participation in the study is voluntary and there are no consequences in case you decline participation. All information will be kept confidential and all the laboratory results will be explained to you comprehensively.

May I continue? YES / NO

This study has approval by The Kenyatta National Hospital-University of Nairobi Ethics and Research Committee protocol No. _____

CONSENT FORM (STATEMENT OF CONSENT)

Participant's statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential.

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I Mrs. / Miss. _____, agree to the above and All my questions were answered. I have understood the purpose of the study and conditions of participation and agree to give consent to be included in this study as explained to me by _____.

Signature/thumb impression/verbal consent of the parent/guardian:

DATE: ____ / ____ / ____

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's Name: _____ **Date:** _____

Signature

Role in the study: _____ *[i.e. study staff who explained informed consent form.]*

For more information, contact _____ at _____ from _____ to _

Witness Printed Name *(If witness is necessary, a witness is a person mutually acceptable to both the researcher and participant)*

Name _____ **Contact information** _____

Signature /Thumb stamp: _____ **Date;** _____

Signature of Interviewer: _____

WHAT IF YOU HAVE QUESTIONS IN FUTURE?

- If you have further questions or require further information or clarification about participating in this study, please call or send a text message to Dr Imran Bhaudin Khares Department of Pediatrics and Child Health, University of Nairobi College of Health Sciences, Nairobi; Mobile No. 0724216940
- For more information about your rights as a research participant you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email uonknh_erc@uonbi.ac.ke.
- The study staff will pay you back for your charges to these numbers if the call is for study-related communication.

WHAT ARE YOUR OTHER CHOICES?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

Appendix II: Data Collection Tools

No	Questions for the adolescent client exit interview	Response & Code	Remarks
1.	Is this your first visit to this facility?	First.....2 Repeat..... 3	
	Did you notice any signboard in? a language you understand that mentions the operating hours of the facility?	Yes 1 No..... 0	
	Today, if someone accompanied you, could you tell me who it was?	I came alone..... .A Parent/guardian.....B Sibling.....C Spouse.....D Friend..... E Other (please specify)F	-->Skip to Q 5
	If you came accompanied by another person, did you have some time alone with the health-care Provider?	Yes 1 No..... 0	
	Does your guardian (parent/spouse/ in-laws/other) support your using this health facility?	Yes 1 No 0 Don't know 8	
	Today, what services did you come to this facility for?	_____	
	Today, did you get the services that you came for?	Yes 1 No..... 0	

	<p>Did anybody tell you, today or in other occasions, what other services you can obtain in this facility?</p>	<p>Yes 1 No 0</p>	<p>-->Skip to Q 10</p>
	<p>Could you tell me what (other)? services are provided to adolescents in this facility? (Probe to see if he/she can mention some services.)</p>	<p>Yes..... 1 No..... 0</p> <p>Physical and pubertal development..... A Menstrual hygiene/problems.....B Nutrition.....C Anemia.....D Immunization E STIs.....F HIV.....G Oral contraceptive pills.....H Condoms.....I IUD.....J Emergency contraceptive pills..... K Implants.....L Injectables..... M Antenatal care.....N Safe delivery.....O Postpartum care..... P Safe abortion.....Q Post-abortion care.....R Dermatological..... S Mental health..... T Substance use.....U Violence..... V Injuries.....W Fever..... X Diarrhea..... ..Y Malaria..... Z Tuberculosis..... ZZ Other (please specify). ZZZ</p>	
	<p>If one day you will need services that are not provided in this facility, do you know where to go, or whom to</p>	<p>Yes 1 No 0</p>	

	ask?		
	Did you see informational materials for adolescents, including video or TV, in the waiting area?	Yes 1 No 0	-->Skip to Q 12
	Did you like the informational materials?	Yes1 No.....0 Don't know.....8	
	Today, when you visited the facility, did you find that it has:		
a)	Working hours that are convenient for you?	Yes 1 No..... 0	-->Code "yes" if the waiting time was 30 minutes or less.
b)	A reasonably short waiting time? (ask how long the client waited)	Yes 1 No..... 0	
c)	Curtains in doors and on windows so that nobody can see you during the examination?	Yes 1 No..... 0	
d)	Comfortable seating in the waiting area?	Yes 1 No..... 0	
e)	Drinking water available?	Yes 1 No..... 0	
13	Were the following sufficiently clean:		
a)	Surroundings?	Yes 1 No..... 0	
b)	Consultation areas?	Yes 1 No..... 0	
c)	Toilets, which were functional?	Yes 1 No..... 0	

<p>14</p> <p>A) Have you seen a display with your rights?</p> <p>B) Can you tell me what your rights are?</p>		<p>Yes 1 No..... 0</p> <p>Yes 1 No..... 0</p> <p>Considerate, respectful and non-judgmental attitude..... A Respect for privacy during consultations, examinations and treatments.....B Protection from physical and verbal assault.....C</p> <p>Confidentiality of information.....D Non-discrimination..... E Participation.....F Adequate and clear informationG</p>	<p>Code “yes “if at least 3 mentioned from the list provided.</p>
<p>15.</p>	<p>Have you seen a display which mentions that services will be provided to all adolescents without discrimination?</p>	<p>Yes 1 No..... 0</p>	
<p>16.</p>	<p>Have you seen a display of the confidentiality policy?</p>	<p>Yes 1 No..... 0</p>	
<p>17.</p>	<p>Today, during your consultation or counseling session:</p> <p>a) Did any service provider talk to you about how to prevent diseases and what to do to stay healthy?</p> <p>b) Did the service provider inform you</p>	<p>Yes 1 No..... 0</p>	

	about the services available?	Yes 1 No..... 0	
c)	Did the service provider ask you questions about your home and your relationships with adults?	Yes 1 No..... 0	
d)	Did the service provider ask you questions about school?	Yes 1 No..... 0	
e)	Did the service provider ask you questions about your eating habits?	Yes 1 No..... 0	
f)	Did the service provider ask you questions about sports or other physical activity?	Yes 1 No..... 0	
g)	Did the service provider ask you questions about sexual relationships?	Yes 1 No..... 0	
h)	Did the service provider ask you questions about smoking, alcohol or other substances?	Yes 1 No..... 0	<i>(Ask this question only to adolescents of an appropriate age.1)</i>
i)	Did the service provider ask you questions about how happy you feel, or other questions about your mood or mental health?	Yes 1 No..... 0	
j)	Did the service provider treat you in a friendly manner?	Yes 1 No..... 0	
k)	Was the service provider respectful of your needs?		
l)	Did anyone else enter the room during your consultation?	Yes 1 No.....	
m)	Did the service provider assure you at the beginning of the consultation that your information will not be shared with anyone without your consent?	Yes 1 No..... 0	
n)	Do you feel confident that the information you shared with service provider today will not be disclosed	Yes 1 No..... 0	

18.	<p>to anyone else without your Consent?</p> <p>o) Do you feel that the health information provided during the consultation was clear and that you understood it well?</p> <p>p) Did the provider ask you if you agree with the treatment/procedure/solution that was proposed?</p> <p>q) Overall, did you feel that you were involved in the decisions regarding your care? For example, you had a chance to express your opinion or preference for the care provided, and your opinion was listened to, and heard?</p> <p>a) Today, did you have any contact with anyone from support staff (receptionist, cleaning staff, or security staff)?</p> <p>b) Did you feel that support staff were friendly and treated you with respect?</p>	<p>Yes 1 No..... 0</p> <p>Yes 1 No..... 0</p> <p>Yes 1 No..... 0</p> <p>Yes 1 No..... 0</p> <p>Yes 1 No..... 0 Don't know..... 8</p> <p>Yes..... 1 No..... 0</p> <p>Yes 1 No..... 0</p>	
19.	Today, did you not get the services you wanted because of a lack of medicines or other materials?	<p>Yes 0 No..... 1</p>	
20.	Today, did you not get the services you wanted because of a lack of equipment, or because the equipment was not functioning?	<p>Yes 0 No..... 1</p>	
21	a) Today, were you denied necessary	<p>Yes..... 0</p>	

	<p>services at this health facility?</p> <p>b) If yes, what do you think was the reason for the denial? <i>Age below 18..... A</i> <i>Unmarried.....B</i> <i>Not in school.....C</i> <i>Inability to pay.....D</i> <i>Unavailable in the facility.....E</i> <i>The condition needs referral.....F</i> Other (please specify).....G _____</p> <p>c) Which services were denied? Nutritional.....B Anaemia.....C Immunization.....D Menstrual hygiene / problems..... E RTI and STI.....F HIV.....G Oral contraceptive pills..H Condom.....I IUD.....J Emergency contraceptive pills..... K Implants..... K Injectables K Medical abortion/menstrual regulation/surgical abortion..... L Post-abortion care..... M Antenatal care.....O Postnatal care.....Q Dermatological.....R Mental health.....S Substance use..... T Sexual violence.....U Other (please specify)...V</p>	<p>No..... 1</p>	
22	<p>a) Today, has any service provider referred you to another health facility for services not provided here?</p>	<p>Yes 1 No..... 0</p>	<p>Skip to Q</p>

<p>23</p>	<p>b) Did the provider give you a detailed referral note (stating the health condition, address of the referral, working hours and cost of services)?</p>	<p>Yes 1 No..... 0</p>	<p>23</p>
<p>24</p>	<p>a) 79 Today, or in other occasions, were you or your friends approached to help staff in working with adolescents in this adolescent clinic/ health facility?</p>	<p>Yes 1 No..... 0</p>	
	<p>b) Today, or in other occasions, were you or your friends approached to help facility staff in planning health services, or any activity to improve the quality of services such as surveys, participating in meetings to discuss the quality of care, or any other?</p>	<p>Yes 1 No..... 0</p>	
<p>25</p>	<p>Have you ever received information, counseling or health services in the community setting (for example in school, clubs, community meetings, or any other?)</p>	<p>Yes 1 No..... 0</p>	<p>Code “yes” if at least 2 items from the list were named.</p>
	<p>a) What do you know about anemia?</p>	<p>Nothing..... 0 Satisfactory answer (yes).....1 Less haemoglobin/blood..A It leads to: Weakness/tiredness.....B Loss of appetite.....C Repeated illness.....D Slow growth and stunting..... E Other (please specify)..... F _____</p>	<p>Code “yes” if at least 2 items from the list were named</p>
	<p>b) 8 Do you know how to prevent anemia?</p>	<p>Yes 1 No..... 0</p>	

		Iron and folic acid tablets..... A Eat leafy greensB Eat vegetables.....C Eat meat and liver.....D Drink milk.....E Eat eggs.....F Have a balanced diet....G Other (pleasespecify)H	
26	a) Can you name any health or other consequences of getting married very young? b) Can you name any health consequences of having a baby at a young age?	Yes1 No..... 0 Dropping out of school.. A Early childbirth.....B More prone to sexually transmitted diseases.....C Other (please specify)D <hr/> Yes 1 No..... 0 Anemia..... ..A Babies with low birth weight....B Death of the mother.....C Difficult labor.....D Preterm birth..... E Death of the baby.....F Other (please specify).....G <hr/> Correct answer..... 1 Doesn't know or incorrect answer..... 0	Code “yes” if at least 2 items from the list were named. Code “yes” if at least 2 items from the list were named.
27	a) 8 Do you know what is the minimum number of check-ups that a pregnant woman should get? (Ask 15–19 year olds only.) b) Do you know where an adolescent girl can go for such check-ups? (Ask 15–19 year olds only.)	Correct answer..... 1 Doesn't know or incorrect answer..... 0 Correct answer..... 1 Doesn't know or incorrect answer..... 0 Possible answers: Government hospital..... A Adolescent clinic.....B Health center/office.....C	Check policy for the recommended minimum number of check-ups Code “correct answer” if at least 1 type of

		Auxiliary nurse midwife office.....D Private hospital..... E Other (please specify).....F _____	facility in line with national policy was named.
28	<p>a) Can you name any methods of contraception? (Ask 15–19 year olds only.)</p> <p>_____</p> <p>b) 9 Do you think you could get one if you needed it? (Ask 15–19 year olds only.)</p> <p>Yes 1 No..... 0</p> <p>c) Have you heard about emergency contraceptive pills? (Ask 15–19 year olds only.)</p> <p>d) 8 Do you know what they are used for? (Ask 15–19 year olds only.)</p> <p>e) 9 Do you think you could get them if you needed them? (Ask 15–19 year olds only.)</p> <p>29 a) 8 Have you heard about condoms? (Ask 15–19 year olds only.)</p> <p>Yes 1 No..... 0 skip to Q 30</p> <p>b) 8 Could you tell me why a condom is used? (Ask 15–19 year olds only.)</p> <p>Yes 1</p>	<p>No..... 0 Yes 1 Condom..... A Oral contraceptive pills...B Emergency contraceptive pills.....C IUD.....D Injectables..... E Implants..... E Abstinence.....F LAM.....G Standard Days Method...H Withdrawal.....I Others (please specify).....J</p> <p>Yes 1 No..... 0</p> <p>(Probe for how they are used.)</p> <p>Yes 1 No..... 0 Stopping a pregnancy from happening..... 1 Other (please specify).. .10</p> <p>_____</p> <p>Yes 1 No..... 0</p>	<p>-->Skip to Q 29</p> <p>Code “yes” if at least 3 methods from the list, with at least 2 modern contraceptives, were named.</p> <p>-->Skip to Q 29</p>

<p>No..... 0 For contraception/ preventing pregnancy.... A Preventing HIV or other sexually transmitted infections.....B Other (please specify)....C</p> <hr/> <p>Code “yes” if both pregnancy and STI prevention is mentioned</p> <p>c) 9 If you or your friends would need a condom, can you tell me where to get one? <i>(Ask 15–19 year olds only.)</i> Yes1 No..... .0 Shop.....A Pharmacy.....B Government hospital/ clinic/family planning center.....C Adolescent clinic.....D Private hospital/clinic/ family planning center.....E Community volunteer.....F Auxiliary nurse midwife..G Other (please specify).....H</p> <hr/> <p>Code “yes” if at least one place is mentioned.</p> <p>d) 21 Do you feel you could get a condom if you needed one? (Ask 15–19 year olds only.) Yes 1 No..... 0 Don’t know..... 8</p>		
<p>30 a) 8 Have you heard of HIV? Yes 1 No..... 0 skip to Q 31</p> <p>b) 8 Could you please answer the following questions on HIV?</p>		

<p> Yes 1 No..... 0 Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?..... A Can a person reduce the risk of getting HIV by using a condom every time they have sex?.....B Can a healthy-looking person have HIV?.....C Can a person get HIV from mosquito bites?.....D Can a person get HIV by sharing food with someone who is infected?..... E Code “yes” if all five questions are answered correctly. c) 9 If you would want to get tested for HIV would you be able to get tested? Yes 1 No..... 0 31 9 If an adolescent in your locality had an unwanted pregnancy, would they know where to go for medical advice? Yes 1 No..... 0 </p>		
<p> 32 8 Do you know what care to take each month during the menstrual cycle? <i>(Ask girls only.)</i> Yes 1 No..... 0 Daily shower..... A Use soft and clean cloth.....B </p>		

<p>Wash cloth with soap and water.....C Dry cloth in sunlight.....D Store cloth in clean place..... E Use sanitary napkinsF How to dispose of sanitary napkins.....G Other (please specify)....H</p> <hr/> <p>33 a) 8 Have you ever heard of diseases that can be transmitted through sexual intercourse? <i>(Ask 15–19 year olds only.)</i> Yes 1 No..... 0 Don't know..... 8 Skip to Q 34</p> <p>b) 8 Do you know any symptoms of sexually transmitted infections? <i>(Ask 15–19 year olds only.)</i> Yes 1 No..... 0</p> <p>Abdominal pain (only in women).....A Genital discharge.....B Foul smelling discharge...C Burning pain on urination.....D Genital ulcers/sores..... ..E Swelling in the groin area.....F Other (please specify).....G</p> <hr/> <p>c) 9 If you or someone of your age had these problems, would you know where to go for check-up and treatment? Yes 1 No.....0</p> <p>Self-treat..... A Traditional healer.....B Adolescent clinic.....C Government facility.....D Auxiliary nurse midwife... E</p>		
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<p>Private clinic.....F Other (please specify).....G</p>		
<p>34 a) - Do you have any ideas for how adolescents could get more involved in planning, designing and implementing good quality health care in this community? Yes..... 1 No..... 0 <i>end the interview with thanks.</i></p> <p>b) - Can you please share your ideas with us?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><i>End the interview with thanks.</i></p>		

Appendix III: Time Schedule of Activities

Time Activities	May-June 2017	Aug-Dec 2017	Jan-May 2018	June 2018	July 2018	August 2018
Proposal writing & presentation						
Ethical clearance						
Data collection						
Data entry and analysis						
Thesis write up and presentation						
Submission						

Appendix IV: Study Budget

The overall Study had an estimated cost of KSH 40,000. This amount included printing costs for Drafts, Poster Presentations, and other miscellaneous costs as shown below.

DESCRIPTION	ESTIMATED COST KSH
1. Printing Costs	7,000.00
2. Poster for Presentation	3,000.00
3. Research Assistants x 5 @ 5000/-	25,000.00
4. Final Thesis Booklet	5,000.00
TOTAL	40,000.00