



Teachers' knowledge for the teaching of HIV/AIDS sex education in elementary school from 1st to 5th grade in municipal schools in the metropolitan region of Belém – Pará-Brazil

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ABSTRACT

The main question of this research is: What is the knowledge that elementary school teachers from 1st to 5th grade have in relation to sex education, but specifically the control and prevention of HIV/AIDS? To this end, it was decided to carry out an investigation of the type: Exploratory, Exploratory, Descriptive, Correlational from the perspective of the mixed approach (qualitative and quantitative data). Data collection was carried out via a questionnaire, google forms, intended for teachers and PLWHA's and face-to-face interviews with the managers of the municipal education departments. The following authors were taken as the theoretical basis for discussion: Vainfas (1977), Daniel; Baudry (1977), Foucault (1984), Fonseca et al (2000), Scheffer (2000), Brazil (2004/2011), Reis; Gil (2010), Dantas et al (2015) among others and analysis of the data collected by Bardin (1977) and SPSS software. The research will provide us with data to equip elementary school teachers in the development of the pedagogical work of sex education about HIV/AIDS. It was also partially observed that teachers do not have adequate information about HIV/AIDS and human sexuality and when they need to guide a student, they come up against family, religious and cultural issues. It is concluded that there is a need to equip teachers about the prevention, control and treatment of HIV/AIDS with contents and concepts about human sexuality.



Keywords: HIV/AIDS, Knowledge, Teacher, Sex Education, Sexuality.

1 INTRODUCTION

The article is part of the partial result of the data collected in the field of an ongoing doctoral research in Educational Sciences at the *Universidad Tecnológica Intercontinental – UTIC/PY*. Having as the main research question: What is the knowledge that elementary school teachers from 1st to 5th grade have in relation to sex education, but specifically the control and prevention of HIV/AIDS?

The problem led us to carry out an exploratory, descriptive and correlational research from the perspective of the mixed approach (qualitative and quantitative data). The objective of this study was to analyze in a critical-reflexive way the knowledge in HIV/AIDS sex education that has elementary school teachers from 1st to 5th grade in the Municipal Schools of the Metropolitan Region of Belém as a mechanism to minimize the increase in new cases and deaths from HIV/AIDS.

In this sense, the general objective was: To analyze in a critical-reflexive way the knowledge in HIV/AIDS sex education that has Elementary School teachers from 1st to 5th grade in Municipal Schools of the Metropolitan Region of Belém as a mechanism to minimize the increase in new cases and deaths from HIV/AIDS.

It is worth mentioning that the first publication of the partial data of the research was in the book: BORDINO, Adriana Estefania Mónico; SILVA, Christiane Kiline de Lacerda; CORRÊA, Júlio César da Silva, MORAES, Luciana de Fatima da Costa; MORAIS, Luciano Salazar. Sexual orientation at school, positive serum and homosexuality: prejudice, discrimination and acceptability from the space-time of the classroom. In.: SILVA, Daniel Augusto da; CARVALHO JUIOR, Fábio Ferreira de (Orga's) **Health Sciences: Challenges and Potentialities in Research**. The article brought together the advisor, co-supervisor, author of the thesis and researchers.

However, there was an adjustment of the title, methodology and objectives as a result of the orientation of the reader of the thesis project, added to the orientations of the advisor and co-presenter, the modifications were made and again the partial data are presented.

The investigation will provide data that will enable the comprehension and comprehension of the teacher's difficulties in promoting Sex Education in the space-time of the classroom, as well as instructing the teacher about the knowledge of HIV/AIDS and human sexuality, giving researchers and education professionals conditions based on the results of providing projects that aim at Sex Education in Basic Education. as well as carrying out HIV/AIDS prevention campaigns with a training course for multipliers focusing on Basic Education teachers.



2 HIV/AIDS AND SEXUALITY: THE TEACHER FACING SEX EDUCATION IN THE SPACE-TIME OF THE CLASSROOM

The physician treats sick people, the politician provides the physicians for the ills of government, and the educator must be regarded as the physician of society. However, while the physician and the politician practice curative medicine, the educator's performance is preventive (...) education must achieve the objective of developing students' capacities to create values for the well-being of society and of themselves (MAKIGUTI, 1994, p. 57)

The Japanese educator Tsenassaburo Makiguti (1994) makes a correct statement in his statement, because information/knowledge removes the blinders of ignorance that one has in the face of HIV/AIDS that causes discrimination and prejudice.

The school, in the figure of the teacher, and other actors that make up the school universe should and/or should work on Sex Education and human sexuality, but precisely knowledge about HIV/AIDS - Pedagogy of Prevention and Pedagogy of Treatment.

It is worth mentioning that in 2021 35,246 cases of AIDS were registered, in the period from 2011 to 2021 there were 52,513 young people infected with HIV, in the age group of 15 to 24 years old, the evolution to AIDS was greater in men in the proportion of 36 men for every 10 women. Between 2000 and 2022, 149,591 pregnant women/parturients/puerperal women infected with HIV were notified, the State of Pará had a significant increase in the number of HIV-infected women (BRASIL, 2022) if there is a vertiginous increase in new cases, where the error in the Pedagogy of Prevention or in the Pedagogy of Treatment may be, the actions are not having an effect, Or rather, the knowledge is not reaching the key population.

The school, in the figure of the teacher, must do its part in the dissemination of adequate knowledge about HIV/AIDS, the young population enters the universe of pleasure without knowing how to prevent themselves and take care of their bodies. Talking about sex and/or sexuality is still a taboo, parents/guardians do not talk about it and it is partly for the school to do it, and when in the space-time of the classroom the teacher does it, he is challenged and in some cases forbidden to talk about sex/sexuality (SILVA, 2018, DACROCE; CORRÊA, 2021)

The school space-time brings together different ideas, dreams, physical types, skin color, social class, religions, philosophy of life and sexual orientation, everyone has to live and/or should live with differences and accept them as something common that is part of everyday life, but what really happens is the vertiginous increase of preconceived and prejudiced attitudes in the face of the differences that are intertwined in the classroom creating expectations. anxieties, among others.

Preconceptions and prejudices have become more frequent in the face of the sexual orientation of individuals, whether male or female, but everything worsens when this other being: homosexual,



transvestite, bisexual, transgender is black, poor, illiterate and only the sum of one of these discrimination increases, causing the ignorance of each one towards the other who only wants to be happy and nothing else. But ignorance of knowledge can lead to entry into the HIV/AIDS statistics.

The full experience of sexuality brings to the school space discussions that were previously limited to the students' family environment and/or neighborhood. The fact is that schools cannot and/or should not remain silent in the face of some situations that occur in the social universe, such as: increase in cases of HIV/AIDS, adolescents assaulted and killed for being homosexual, transsexuals are killed in their workplace (prostitution), men and women lose their jobs for assuming their taste for people of the same sex, There are also men and women who present themselves as bisexual or for a while transit between heterosexuality-homosexuality-bisexuality are still in the process of constructing their sexual profile.

The school should be a privileged space for discussions about themes that guide the social universe, because prejudice and preconceptions arise within the family and take root and form in the dynamics of the classroom, in the relationship: teacher-student, student-student, teacher-teacher, teacher-direction-technical staff, student-direction-technical staff and teacher-parents-student.

Differences exist no matter which way you look, but you can't let misinformation/ignorance, prejudices and preconceptions take the form of violence, discrimination, ridicule (bad jokes) among other derogatory ways of dealing with another human being who lives their sexuality differently from the "vast majority" Is it "normal" and being the majority? What if the majority is wrong? These are questions that everyone should ask themselves before labeling and/or criticizing others for loving someone of the same sex.

The history of humanity refers us to the result or the sum of the influences – family, environment, culture – that builds the heterosexual, homosexual, bisexual, trans individual, among others, the *Queer child* suffers for being different and still has no notion of their differences. Anthropological research on the islands of New Guinea and Melanesia has made evident the practice of homosexual initiation rituals among old and young, which also existed in Greece, Rome and among all the peoples who occupied the part of the world that went from the Atlantic to the Ganges (VEYNE, 1982, VIDAL et al, 1985, ANDRADE, 2017 and DACROCE; CORRÊA, 2021).

It is worth noting that among the Greeks and Romans it was perfectly normal for men to have sexual relations with other men, as a demonstration of power, and also to have their wives. In Athenian society it was perfectly natural for a young man to be sexually possessed by an adult, because his role in society was one of passivity. In Ancient Rome, the rules of domination were more violent, and partners would be chosen from slaves, prostitutes, and prisoners of war.



The fearsome armies of Thebes and Sparta had units made up of pairs of homosexual lovers. These troops, capable of suicidal bravery, were stimulated by ideas such as those of Plato, who thought that a homosexual would never abandon his lover in combat and would seek to honor him with heroic deeds.

Lasso (1985) tells us that in Japanese culture, in the Meiji Era, homosexuality was a spontaneous way of living one's sexuality, linked to the values of courage in military service.

In Siberian Chukchee society, a cross-dresser was considered to be a shaman (priest, sorcerer), who married another man and behaved like a woman. In the Siwano community in Africa, all men and boys had anal sex and were not considered homosexual, married and single. It is worth remembering that it is part of the rites of initiation to puberty of the Keraki Tribe of New Guinea for singles to actively copulate with the new adolescents (VIDAL, 1985).

But throughout history, with political, religious, and economic interests, homosexuality has suffered severe blows over the centuries. The Law Lex Scantinia (226 B.C.) is a proof that expresses very well the prejudices placed against the homosexual being, because it was only around the 14th century, however, that bisexuality was discarded from the social conscience and human nature was definitively divided between homo and heterosexual. The first condition should then be repressed and the second publicly stimulated (GAFO, 1985)

In the eighteenth century, the homosexual was insulted and treated as a sinner. Thanks to the impossibility of procreation, their role in the emerging consumer society has been undermined. In the 19th century, the theory arose among physicians that homosexuality was nothing more than a degeneration – an idea that, in addition to the educated classes, quickly conquered the Catholic and Protestant churches. Among the methods of curing "perversion" were castration, shock therapy, and lobotomy. None of these techniques, however, had the intended effect, but gave rise to homophobia and to see the experience of a sexuality that does not follow the so-called "normal" majority as a standard to be followed.

It is worth mentioning that the sexual posture or sexual role to which the individual will identify will be built during their physical-biological development added to the experiences lived in this course. Thus, adolescence is undoubtedly a difficult period in the development of the human being, with more challenge than in childhood, characterized by changes that take place in the physical form and have significant repercussions on psychological conduct and on the form of social relationships and, of course, on their sexuality.

In the development and construction of their sexuality, many times the child can only count on the teacher to answer their doubts, what to be or do, because parents and guardians are safe with their way of thinking, acting in accordance with their culture, religiosity, among others, leaving aside what their child wants. But teachers also have their difficulties in relation to the pedagogical work of Sex Education, because it is the product of a family, culture and a religion that leaves deep marks that distorts the scientific vision.



In this sense, Sex Education in schools through a teacher of Fundamental Education from 1st to 5th grade can contribute to the well-being of children, future adults, since it constitutes a privileged place for the systematic approach to the prevention of sexually transmitted diseases, HIV/AIDS, drugs and contraceptive methods; pregnancy, among others, due to the time of permanence of the individual in the space-time of the classroom/school and the opportunities for exchanges, social interaction and romantic relationships and relationships.

School-based comprehensive sexuality education plays a key role in promoting the health and well-being of children and adolescents, both now and in the future. It improves sexual and reproductive health outcomes, including for sexually transmitted infections (STIs) and HIV, promotes safe and gender-equitable learning environments, and improves access to education (UNAIDS, 2012, p.1)

Thus, Sex Education should take place at school is a prescription of UNAIDS as a way/means of coping with HIV/AIDS, even sexuality is present from birth to death in the (inter)relations with people, or with themselves, as sexual beings. So, gradually, in the relationship with the other, we learn to use our sexuality, and it is in the period of puberty that hormones play their part, so the boy/girl feel prone to the discovery of sex and in the space-time of the classroom of Early Childhood Education or Elementary School, the discoveries are given or the need to know.

The word puberty comes from the Latin *pubes*, which means hair, so the verb derived from the noun *pubes* means to cover oneself with down. It is the sign of nature warning boys and girls that the last days of childhood have come; Physical changes begin: boys and girls begin to take on the features of adult men and women, and at the beginning of adolescence, at this stage, boys and girls look for their peers, who are not necessarily the opposite sex, but the family and the school teach them differently that only exists when they are of the opposite sex. How does the head of the teenager who finds himself attracted to someone of the same sex.

According to Carvalho; Fagundes (1997) the physical modifications vary greatly: in terms of date and rhythm. They suffer direct interference from geographical, economic, historical, sexual (boys and girls) and psychological factors. We can also say that puberty is marked by biological maturation – the process of maturation of the body, of the biological aspects of a person, it is adolescence writing its presence in the history of each individual, and can extend from 17 to 21 years of age.

Adolescence can be defined as a transition process between being a child and being an adult, or even to qualify the psychological processes of puberty adaptations that each individual goes through in their development. In adolescence, the preoccupation with the body and appearance are the concern of the day. "This preoccupation with one's own body is often mixed with feelings of inadequacy" (WROBEL et al, 1998, p.22). Another factor pertinent to the discussion is that in adolescence, attraction to the opposite sex or not intensifies. The adolescent discovers himself to be homosexual if he discovers himself and seeks the



attention of the other, either by showing effeminate traits or with an exaggeration of masculinity. The fact is that the body craves touch and emotional involvement (LASSO, 1985).

In this sense, parents should educate their children in the experience without repression of sexuality, be it homo, heto, bi, trans..., because rejection causes another trauma to the adolescent, who is still crawling in the experience of knowing his own body. According to Svevo (2007), parents are the first not to accept their children's homosexuality, the feeling of shame of adolescents and parents is great, and the question is "where did I go wrong?"

Discrimination packaged by fear of bringing up the subject at school and within the family is a reflection of years of distorted constructions of sexuality imposed as models of what is right or wrong. In this aspect we have religious philosophies that play God and gods, imposing on everyone what is licit or illicit to do in the face of sex. Who still hasn't heard that sex is for procreation and not for pleasure, these are truths built from a very early age by our parents and reinforced at school, back in the period of Early Childhood Education. We believe that it is the first barrier that homosexual adolescents encounter, as the male-male relationship does not procreate (BORDINO et al.2023).

Foucault (1988), in the History of Sexuality, states that even today we live in a world in which our sexuality is contained, mute and hypocritical, society does not let the other assume what he wants, what gives him pleasure, for the simple fact that he cannot, because there is a rule to be followed.

Granúzzio (2007) states that talking about sex with children, adolescents, men, and women is now a form of behavior control. The kindergarten teacher guides, even if unconsciously, the children's norms of conduct and they, without a developed degree of criticality, accept standard values instituted by society. When they reach high school or college, they forget the way they acquired these values and begin to accept them as pure truths, difficult to change.

Part of this is the difficulty of the adolescent to accept himself *as Queer*, without fear of being happy, to accept that everyone has limits. There are rules and to be discussed and not assimilated in a non-critical way. This is the first step that must be taken and until reaching the information/knowledge pertinent to HIV/AIDS so that this individual can be protected, because he knows how to protect.

In 1997, the Ministry of Education and Sports proposed PCN's for Elementary Education in all Brazilian schools. This curricular proposal includes, as one of the transversal themes, the Sexual Orientation to be addressed by teachers from the 1st to the 4th grade of Elementary School (Initial Grades 1st to 5th grade), permeating the various disciplines. In 1998, the proposal was expanded, covering the curriculum from 5th to 8th grade of Elementary School (currently 6th to 9th grade) and High School. However, attention was paid to the fact that teachers, regardless of their level of activity, were not prepared to discuss sexuality without embarrassment or prejudiced positioning (BORDINO et al, 2023).



The school space must pay attention to its curriculum, whether in Early Childhood Education, Elementary Education from 1st to 9th grade or High School, content that can instruct the child to know about their body and their sexuality. In this sense, the teacher must be prepared to know how to speak without fear and embarrassment and, above all, sure of the knowledge that will make the didactic transposition about Sex Education.

The school must prepare and make known to its students, make their choices in the face of the role they want to assume in society, having a critical view of being in the world and with the world and having access to scientific knowledge about HIV/AIDS, for this the teacher must be equipped to prepare their students at the right time in an appropriate way.

3 METHODOLOGICAL STEPS

The research will be involved in the school dynamics and its actors who mediate learning, that is, the teacher, because it is believed that school can contribute to the reduction of new cases of HIV/AIDS infections and deaths, as well as work on the acceptability of differences from the action of the teacher who works in Elementary School from 1st to 5th grade, Because the school should pay attention to the differences and doubts about sexuality and educate, when necessary, the student to know how to direct himself and to experience the intricacies of sexuality and the practice of safe sex.

Abreu & Masetto (1990), Freire (1996) and Gomes discuss the teacher-student relationship of empathy and cooperation that helps in communication between them.

The discoveries and transformations of the body are gradual and will be present from Early Childhood Education, where the child in the pedagogical bath realizes that he is different from his classmate, then begins the questions, the whys? And of course, it will be consolidated during schooling in pre-adolescence and then in adolescence they will intensify, nature will cause physical and emotional changes, etc. and so the student seeks answers to physical transformations, sexual interest, among others, and sees in the teacher the possibility of answers to his questions.

3.1 TYPE OF RESEARCH

Scientific research focuses on the application of a scientific method, so that from it can be built, elaborated relevant and reliable information to understand, correct, verify and apply the knowledge obtained (DACROCE; CORRÊA, 2021). Thus, the research proposes to analyze sex education carried out in the Municipal Schools of the Metropolitan Region of Belém in Elementary School from 1st to 5th grade in order to reduce new cases of HIV/AIDS infection.

The research in question is configured as an Exploratory, Descriptive and Correlational research from the perspective of the mixed approach (qualitative and quantitative data).



Regarding the correlational issue, it is intended to relate the data collected from gay PLWHA (qualitative data), Secretaries of Education or Principals of Education (qualitative data) with the data of teachers from the 1st to the 5th year of Elementary School (quantitative data) and PLWHA's in general (quantitative data) linked to NGOs. Art for Life (UREMIA – serves children 0 – 16 years old, UREDIPE – serves 16 years old and older, Casa Dia – serves PLWHA's from the Metropolitan Region of Belém, SAE-CTA Belém, SAE-CTA Ananindeua, SAE-CTA Marituba and AIDS Sector of the João Barros Barreto University Hospital) glimpsing the intimate relationship between sex education and reduction of new cases of HIV/AIDS and acceptance of differences. Correlational studies "associate variables through a predictable pattern for a group or population" (SAMPIERI; CALLADO; LUCIO, 2013, p.103).

From the data collected in the field, it was possible to interweave qualitative and quantitative data, relating managers, teachers, gay PLWHA and PLWHA in general, providing conditions for a better understanding of the theme of coping with HIV/AIDS in relation to the reduction of new diseases and acceptance of differences.

Mixed methods represent a set of systematic and critical research processes and imply the collection and analysis of quantitative and qualitative data, as well as their integration and joint discussion, in order to make inferences as a product of all the information collected (metainferences) and achieve a greater understanding of the phenomenon under study (HERNÁNDEZ SAMPIERI; MENDOZA, 2008 apud SAMPIERI, COLLADO; LUCIO, 2013, p.550)

In mixed research, it does not aim to replace quantitative or qualitative research, but to appropriate the strengths of both, promoting the combination and minimizing weaknesses. It is to enable a more in-depth analysis of the object of investigation, giving the researcher more knowledge of the investigated phenomenon.

Sampieri; Callado; According to Lucio (2013), in the qualitative approach, the studies begin in a descriptive exploratory way, are outlined with correlational types, without exploration of statistical data, but there is an urgent need to carry out fieldwork.

The qualitative approach is an interdisciplinary and transdisciplinary field of research that penetrates the human being, based on the Social and Physical Sciences. Producing descriptive data through the observation of people's speech, behavior and writing (CAMARGO; FERNÁNDEZ, 2019).

Quantitative research deals with numerical data, based on the application of questionnaires with closed questions that facilitate the analysis of the object of investigation, using different statistical techniques to quantify opinions and information about something that the researcher wants to investigate (SAMPIERI; GLUED; LUCIO, 2013, ARANDA, 2016).

The research on screen will enable a kaleidoscope of the field of investigation of the possibility of pedagogical work on sexual orientation (HIV/AIDS, Pedagogy of Prevention and Pedagogy of Treatment)



through the manager and teacher of Elementary School from 1st to 5th grade and PLWHA's linked to the NGO Arte Pela Vida.

3.2 DESIGN

The design is the task that is carried out before proceeding with the systematic collection of data, it is an outline of the research through specific procedural decisions. (HERNÁNDEZ FERNÁNDEZ; DE BARROS CAMARGO, 2018).

In this research, the Non-Experimental designation was chosen, since the phenomena will be observed in their natural context, and later analyzed. It is noteworthy that, in an investigation with a non-experimental design, there is no manipulation of the independent variable and, in addition, the study groups are not randomly formed. The data is collected and then interpreted, since there is no direct intervention on the phenomenon.

3.3 FOCUS

The selected approach is exploratory-descriptive-correlational from the perspective of the mixed or qualitative-quantitative approach, also known as hybrid.

This approach is the systematic integration of qualitative and quantitative methods into a single study in order to obtain a more complete analysis of the phenomenon. (Hernández Fernández & De Barros Camargo, 2018 cited by Hernández, Fernández and Baptista, 2003)

3.4 POPULATION/SAMPLE

The basis of the sample is the set of subjects in the population actually available for sample selection. It should match the population, but not always. The unit of the study sample is the individual element that constitutes the sample table and on which information will be obtained. (HERNÁNDEZ FERNÁNDEZ ; DE BARROS CAMARGO, 2018).

3.4.1 Locus of investigation

Figure Nº 01 - Map of the Metropolitan Region of Belém.



Source: Pereira; Vieira (2016, p.734) - Elaboration based on IBGE and ANA data

The *locus* of investigation managers of the Departments of Education of the Municipalities of the Metropolitan Region of Belém (Ananindeua, Marituba, Benevides, Santa Barbara, Santa Izabel and Castanhal) teachers of Elementary Education from 1st to 5th grade, gay PLWHA's and PLWHA's linked to the NGO's Service Network. Art for Life.

a) Quantitative data:

- General data of individuals undergoing treatment at the SAE's of the Metropolitan Region of Belém in the period from 2016 to 2020 (Belém, Ananindeua, Marituba and Castanhal, the municipalities of Santa Barbará, Benevides and Santa Izabel do not have SAE's because they do not have a population number that configures the installation of an NCS by the Federal, state or Municipal Government). The data are public and available in epidemiological bulletins via the Pará State Department of Public Health - SESPA or the Ministry of Health;
- Application of the *Survey* form with structured questions for PLWHA of the NGO Service Network. Art for Life.
- Application of the *Survey form* with structured questions for teachers from 1st to 5th grade of the Municipal Network of the Metropolitan Region of Belém.

b) Qualitative data:

- Carry out the application of semi-structured and open questionnaires with the gay PLWHA's that are part of the Service Network (Art for Life). The adhesion to the research will be spontaneous with the use of a questionnaire via *google forms (Survey)*, consequently there is no need for direct contact, respecting the private life and anonymity of the individual participating in the research;



- Interviews with the Municipal Secretaries of Education or Directors of Education of the Metropolitan Region of Belém (Belém, Ananindeua, Marituba, Benevides, Santa Barbará, Santa Izabel and Castanhal) – (script attached)

3.4.2. Sample population

Systematic random sampling will be performed and sample stratification will be proportional (González, Fernández & Camargo, 2014 and Aranda, 2016).

Table -N°1 - Municipal Schools of the Metropolitan Region of Belém

Municipality	No. of Schools	Teachers - Initial Grade
Belém	365	2115
Ananindeua	173	930
Marituba	67	382
Benevides	48	213
Santa Barbará	26	82
Santa Izabel	56	182
Castanhal	99	495

Source: School Census (2022)

- NGO Art for Life directly assists 600 gay PLWHA and 1500 PLWHA in general (men, women, children, adolescents, elderly, etc.)
- Municipal Secretaries of Education or Directors of Education of the Municipalities of the Metropolitan Region of Belém;
- Elementary School teachers who work from the 1st to the 5th year of the Municipal Public Education Network of each Municipality of the Metropolitan Region of Belém;

3.4.3 Criteria for participation in research

Inclusion

- gay PLWHA's with treatment adherence;
- PLWHA legally linked to the NGO Art for Life;
- Teachers hired and/or hired for more than one year of practice.

Exclusion

- PLWHA without adherence to treatment;
- Underage PLWHA's;
- Teachers who are on leave and/or awaiting retirement;



3.4.4 Desired size and accuracy

It is planned to carry out a quantitative analysis of the research with teachers from the 1st to the 5th year of Elementary School in municipal schools in the Metropolitan Region of Belém-Pará, Brazil; and the PLWHA community linked to the NGO Arte Pela Vida, for this purpose it is considered as a sampling error of 5% to 95% confidence.

a. Elementary School Teachers from 1st to 5th grade

The calculation of the sample is determined as follows, considering the population of teachers in the Metropolitan Region of Belém-Pará, according to the school census of the year 2022 (Table N°1), obtaining a total population of 4399 teachers.

Margen: 5%
Nivel de confianza: 95%
Poblacion: 4399

Tamaño de muestra: **354**

Ecuacion Estadistica para Proporciones poblacionales

n= Tamaño de la muestra
Z= Nivel de confianza deseado
p= Proporción de la población con la característica deseada (éxito)
q= Proporción de la población sin la característica deseada (fracaso)
e= Nivel de error dispuesto a cometer
N= Tamaño de la población

$$n = \frac{z^2(p \cdot q)}{e^2 + \frac{z^2(p \cdot q)}{N}}$$

b. PLWHA community linked to the NGO Art for Life

The calculation of the sample is determined as follows, considering the data provided by the collaborating NGO

Margen: 5%
Nivel de confianza: 95%
Poblacion: 1500

Tamaño de muestra: **306**

Ecuacion Estadistica para Proporciones poblacionales

n= Tamaño de la muestra
Z= Nivel de confianza deseado
p= Proporción de la población con la característica deseada (éxito)
q= Proporción de la población sin la característica deseada (fracaso)
e= Nivel de error dispuesto a cometer
N= Tamaño de la población

$$n = \frac{z^2(p \cdot q)}{e^2 + \frac{z^2(p \cdot q)}{N}}$$

c. Qualitative Analysis



For the qualitative analysis, interviews will be conducted with the managers of the Departments of Education of the Metropolitan Region of Belém-Pará, Brazil, the inclusion criteria will be the managers belonging to the Secretariats of Education of the Metropolitan Region of Belém (Belém, Ananindeua, Marituba, Benevides, Santa barbara, Santa Izabel and Castanhal) and the exclusion criteria will be the managers who do not wish to participate in the study.

Due to the depth of the type of study, it was decided to perform a sample calculation with 90% reliability and 10% margin of error, considering the population of 600 subjects with PLWHA linked to the NGO Arte Pela Vida.

Margen: 10%
Nivel de confianza: 90%
Poblacion: 600

Tamaño de muestra: 61

Ecuacion Estadistica para Proporciones poblacionales

n= Tamaño de la muestra
Z= Nivel de confianza deseado
p= Proporción de la población con la característica deseada (éxito)
q= Proporción de la población sin la característica deseada (fracaso)
e= Nivel de error dispuesto a cometer
N= Tamaño de la población

$$n = \frac{z^2(p \cdot q)}{e^2 + \frac{z^2(p \cdot q)}{N}}$$

3.5 TECHNIQUES AND INSTRUMENTS COLLECT DATA

- Collection Techniques/Methodology

The techniques enabled the immersion in the environment/locus investigated and the instruments will enable the collection and recording of the information necessary for the researcher to analyze, understand, understand and intervene on the object of the investigation (Luck & André, 1986 and Gondenberg, 2011)

- Bibliographic survey on the subject, search for books, scientific articles and other publications that can support the analysis and interpretation of the data that will be collected in the field, making a catalogue with information about the material found and its relevance to the research. Searches in repositories: TESEO, CAPES, Scopus and CICCICO as a way to raise the relevance of the investigation and to perceive what advances in research on HIV/AIDS sex education;

- File: from the survey of the bibliography raised, screening the collected collection and subsequent separation of the material already done at the first reading;



- Review of books, book chapters and articles, action carried out after the file, reading and analysis of the material found and producing a text;
- Survey and mining of quantitative data on HIV/AIDS diseases (official data). Screening of statistical data regarding the number of cases involving the key research population;
- On-site visit, travel to the Municipal Departments of Education to conduct interviews and collect some document pertinent to the investigation.
- Data collection instruments

The instruments in a scientific survey are closely related to the collection of research data, are the tools that will be part of the collection process *in locus*, for further analysis of the material collected in the field. (GIL, 1987, SANTOS, 1999).

Bogdan; Biklen (1994) and Gerhardt; According to Silveira (2009), the authors take steps to construct a field diary, where they state that it should contain two distinct parts: the first descriptive one contains the notes about: characteristics of the interviewees and location, how the interview was developed and what was observed at the time of the interviewees' actions, and record everything that happened at the time of data collection, the second reflective one: Analysis of everything recorded in the field diary, the implicit and explicit ideas of the interviewees and the place, the observation made at the time of collection.

- Field diary, the aim is to record the visits to the municipal managers to later analyze the impressions perceived during the interviews carried out.

Gerhardt; Silveira (2009) based on Beaud's statements; Weber (1998). They state that the field diary can be made in a notebook, but it should be organized as follows: on the right, the following are taken for registration: the dates (if necessary, time of collection), and names of the people (name of the interviewee / position / function), places (place of collection) and on the left side of the page of the notebook: questions to be asked (semi-structured or open-ended), hypotheses (contained in the research project), readings (notes of the theoretical basis of what will be investigated with the interviewee), theoretical support for the researcher. Thus, facilitating the work of analysis and interpretation of the data collected in the field.

- Application of a questionnaire to teachers from the 1st to the 5th year of Elementary School in municipal schools and PLWHA of the Service Network (questionnaire attached);
- Application of interviews with Gay PLWHA linked to the Art for Life Service Network;
- Application of a questionnaire with PLWHA's in general linked to the Art for Life Service Network;
- Interview with the Secretaries of Education (Script attached).

The techniques proposed to correlate with quantitative data are questionnaires with closed questions



For the qualitative analysis, the technique that is proposed to be used are the in-depth interviews with the managers of the Municipal Departments of Education of the Metropolitan Region of Belém and the gay male community linked to the NGO Arte Pela Vida, for them the interview guides will be used as an instrument.

3.6 CATEGORY OF ANALYSIS

- 1.- Knowledge of the 1st to 5th grade elementary school teacher about HIV/AIDS;
- 2.- Didactics (methodology and resources) to work on sex education with elementary school students from 1st to 5th grade;
- 3.- Interest of the municipal manager in promoting HIV/AIDS sex education in the schools of the municipality;
- 4.- Adherence to HIV/AIDS treatment;
- 5.- PLWHA's knowledge about HIV/AIDS;
- 6.- Perception of teachers, managers and PLWHA knowledge about HIV/AIDS Sex Education.

This category of analysis is previously carried out to establish an operationalization table where the items for the quantitative questionnaire will be established, from there the key questions will be obtained to carry out the interviews, taking into account that these items respond to the specific objectives presented and, in turn, respond to the general objective of the investigation.

3.7 DATA PROCESSING

The data collected in the field of investigation are carried out through the application of a questionnaire (google forms) and interviews will be analyzed through Content Analysis (Bardin, 1977) added to the use of ATLAS.ti It is a computer-aided qualitative data analysis software that facilitates qualitative data analysis for qualitative research, quantitative research, and mixed-methods research

It is worth mentioning that the ATLAS.ti software assists in the categorization of the group of data collected in the field, helping in their understanding, but the software does not analyze or suggest the interpretation of the collected data, and it is the researcher's responsibility to perform this function. The collected data will be classified, organized and processed by the software, but the conclusions are solely up to the researcher.

Quantitative data will be analyzed using the statistical software SPSS V.29.

3.7.1 Systematization by categories of analysis

The data obtained in the field of investigation will be inserted into the statistical software SPSS where they will be systematized by categories.



3.7.2 Frequency Analysis of Averages

They are measures of a data set that provide a simple, representative value that summarizes a large volume of information. This value tends to be in the middle (center) of the set. (Hernández Fernández & De Barros Camargo, 2018). Mean frequency analysis will be performed by SPSS software.

3.7.3 Parametric and non-parametric testing

It will be considered as the parametric Mann-Whitney U test, considering a non-parametric test applied to independent samples. It is used when the data follows an order, but normalities cannot be assumed in them. This test will allow us to know if there is a difference in the perception that the respondents had.

The methodological steps described here made it possible to go to the research field and collect and analyze the data collected, we are still in the process of closing and analyzing some interviews and preparing graphs, tables and charts so that the results are didactic for the use of teachers and professionals in the health area.

4 PARTIAL RESULTS

As already reported, the investigation is still in progress, the analysis and reading of the data was used, using the ATLAS software, similar to Bardin's Content Analysis (1977). It was difficult for the population of People Living with HIV/AIDS (PLWHA's) to fear being exposed, even though the research was carried out via *google forms* without any identification and location of the respondent source (ethics in the research), but the individual is afraid of exposure and of society's discrimination and prejudice, but it was possible to break the fear and had the necessary and necessary welcome for the development of the research.

Access to PLWHA was through the NGO Arte Pela Vida and its management team and the AIDS Pastoral, these two organizations were of paramount importance for the execution of the research.

With regard to the teachers, the difficulty was due to the lack of time and the absence in the handling of digital technology at the time of the *google forms* and its application. The access thanks were made to the undergraduates of Estácio Ananindeua of the Pedagogy Course who made it possible to contact teachers and municipal managers.

The following partial results were obtained:

- There is no systematic work in the school regarding Sex Education, but there is a great demand from pre-adolescents and adolescents for information about HIV/AIDS;
- Discrimination and prejudice occur mostly within the family and at school, with situations of verbal and physical aggressiveness, and especially to PLWHA;



- Elementary school teachers from 1st to 5th grade do not feel inhibited to promote Sex Education to their students, as a result of their family, religious and cultural values (hidden curriculum);
- Non-didactic resources to develop Sex Education for students in Fundamental Education from 1st to 5th grade;
- The textbook limits the discussion about Sex Education – HIV/AIDS;
- There is a possibility to better explore the school curriculum and develop Sex Education in the space-time of the classroom;
- Elementary school teachers from 1st to 5th grade are unable to educate their students due to family and religious pressure, because everything related to sex/sexuality is ugly, wrong and sinful;
- Primary school teachers from 1st to 5th grade need to be trained in the knowledge of HIV/AIDS (training course);
- The fight against HIV/AIDS can and should be carried out in the School of Basic Education, there is acceptability on the part of the municipal management, but there needs to be systematic work, first with the community and later in the school.

5 FINAL THOUGHTS

The students of Basic Education, but precisely Elementary School from 1st to 5th grade, are full of doubts about HIV/AIDS and sexuality and need answers to their questions. Statistical data on HIV/AIDS every day shows the key population being younger, which means that information is not reaching those who need it.

The family, for moral, cultural and religious reasons, is not guiding their children, consequently he or she will have an active sex life without information on how to prevent some diseases (HIV/AIDS, STI's), pregnancy, among others. In this sense, the way in which it is coped is made in the qualification of the teacher about the knowledge about HIV/AIDS, that is, in fact, to promote Sex Education in the space-time of the classroom.

This is the challenge to be met by the municipal managers of Greater Belém in the fight against HIV/AIDS. If you instruct the teacher, he will know how to talk to his student and solve the questions and gaps of the want to know, of course a scientific knowledge supported by the construction of validated and tested knowledge.



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