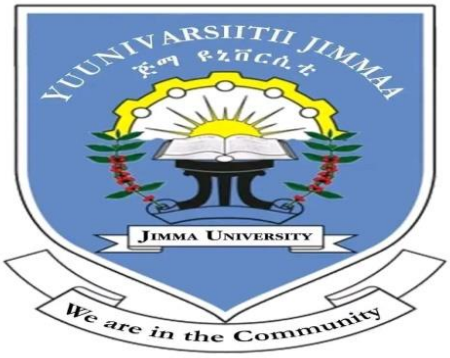

FACULTY OF PUBLIC HEALTH AND MEDICAL SCIENCE

DEPARTMENT OF HEALTH BEHAVIOR AND SOCIETY

UTILIZATION OF PRINTED INFORMATION EDUCATION AND COMMUNICATION (IEC) MATERIALS FOR HIV/AIDS PREVENTION AND CONTROL AMONG HEALTH CARE PROVIDERS: A PARALLEL MIXED METHOD

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A RESEARCH THESIS TO BE SUBMITTED TO DEPARTMENT OF HEALTH BEHAVIOR AND SOCIETY, FACULTY OF PUBLIC HEALTH, JIMMA UNIVERSITY IN PARTIAL FULFILLMENT FOR MASTER OF PUBLIC HEALTH (MPH) IN HEALTH PROMOTION AND HEALTH BEHAVIOR

JIMMA, ETHIOPIA

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Declaration

I, Naol Abera hereby declare that this MPH in health promotion and health behavior thesis is my original work (except where acknowledgements indicate otherwise) and has not been presented for a degree in this and any other universities, and all sources of materials used for this thesis have been duly acknowledged.

Moreover, the undersigned agree to accept all responsibilities for the scientific and ethical conduct of the research result. I provided timely progress reports to my advisor and find the necessary advice and approval in the course of the research. I communicated timely with all stakeholders.

Signature: _____

Date: _____

Approval Sheet

This is to certify that the research thesis conducted by Naol Abera entitled "*Utilization of printed Information, Education and Communication (IEC) materials for HIV/AIDS prevention and control among health care providers: Parallel mixed method*" submitted as the requirements of partial fulfillment for master of public health (MPH) in Health Promotion and Health Behavior with the regulation of Jimma University and meets the accepted standards with respect to originality and quality.

Signed by Advisors:

1. First Advisor: _____Signature:_____Date: _____
2. Second Advisor: _____Signature:_____Date: _____

Signed by Examiners:

1. Examiner: _____Signature:_____Date: _____
2. Examiner: _____Signature:_____Date: _____

Graduate Program Coordinator

ABSTRACT

Background: *Despite the important role of printed Information Education Communication materials in bringing the desired behavior change in prevention and control of HIV/AIDS, the issue of utilization of these materials by health care providers for its prevention and control was not subjected in scientific inquiry.*

Objective: *This study assessed the printed Information Education Communication materials utilization and associated factors for HIV/AIDS prevention and control among health care providers in health facilities of West Shewa zone of Oromia region, Ethiopia, 2022 G.C.*

Methods: *A Parallel mixed method was conducted by combining both quantitative and qualitative researchs. The data was collected from 356 health care providers randomly selected from the health facilities in west Shewa zone of Oromia region for quantitative part and 13 purposively selected key informants were participated. Data were entered using Epidata version 3.1 and analyzed using SPSS version 26. Descriptive statistics were used to calculate frequency means and logistic regression was used to identify predictors of IEC material utilization in HIV/AIDS prevention and control. Qualitative data was transcribed, translated, coded and thematization was done by using Atlas ti.7. Finally the result was presented by triangulating the findings of quantitative and qualitative studies.*

Result: *This study revealed that 185 (65.4%) of participants have ever used printed IEC materials for HIV/AIDS prevention and control. Sex (AOR=0.27, 95%CI=0.13-0.56, PV=0.001), Institution of graduate (AOR=4.03, 95%CI=2.02-8.05, PV<0.001), having training (AOR=2.3, 95%CI=1.10-5.11, PV=0.028), Materials availability (AOR=2.51, 95%CI=1.23-5.11, PV=0.011), knowledge (AOR=1.11,95%CI=1.01-1.24, PV=0.032), attitude (AOR=3.32, 95%CI=2.04-5.39,PV<0.001) and perceived usefulness (AOR=3.89, 95%CI=2.66-5.68, PV<0.001) are independent predictors of printed IEC materials utilization. Lack of adequate materials provision, inappropriateness of materials and poor knowledge of health care providers on materials utilization are the reasons for not using these materials.*

Conclusion and Recommendation: *the finding of this study implies that the the utilization of printed IEC materials for HIV/AIDS prevention and control is low among health care providers. Low materials provision, lack of enough training and the attention divert from HIV/AIDs are among barriers identified by qualitative part of the study. Providing adequate materials along with training for health professionals is a key to printed IEC materials utilization.*

Key Words: *Printed IEC materials, HIV/AIDS, Materials Utilization*

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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Anti-Retroviral Therapy
BCC	Behavior Change Communication
FHAPCO	Federal HIV/AIDS Prevention and Control Office
HEEC	Health Education Extension Center
HIV	Human Immunodeficiency Virus
IDI	In-depth Interview
IEC	Information Education Communication
NGO	Non-Governmental Organization
PHC	Primary Health Care
PLWHA	People Living With HIV/AIDS
PMTCT	Prevention of Mother to Child Transmission
SBCC	Social and Behavior Change Communication
UNAIDS	Joint United Nations Programme on HIV/AIDS
VCT	Voluntary counseling and Testing
WHO	World Health Organization

CHAPTER ONE: INTRODUCTION

1.1. Background

HIV (Human Immunodeficiency Virus) is a virus that destroys a person's immune system, making them more susceptible to other infections and disorders. It spreads by contact with a person's HIV-infected body fluids, most often during unprotected intercourse, or through sharing injectable drug equipment. AIDS (Acquired Immunodeficiency Syndrome) is a late stage of HIV infection in which the body's immune system is severely weakened as a result of the virus (1). Public health efforts to combat HIV have shifted from separate prevention and treatment models to a current emphasis on combination prevention strategies that address biomedical, behavioral, and social/structural levels (2,3).

Effective communication and the right flow of information about specific health concerns through suitable health education methods are at the heart of every disease control program's effectiveness. The same is true for AIDS prevention and control, since they provide the ability to guard against infection, influence decision-makers, and live with dignity and equality once affected (4). As a strategy to control the spread of HIV, health education and promotion use various methods and channels of communication to bring about desired behavior change, primarily by informing the public about AIDS in their native language and in a way that is culturally appropriate, promoting social supports for the brought positive behaviors, and reducing stigma and discrimination against people with the illness, educating health educators in efficient community information delivery, and putting the AIDS problem on priority lists (5).

Information Education Communication (IEC) is a systematic combination of approaches and activities designed to inform, educate, interact, and enable individuals to develop new skills by utilizing the most effective messages, mediums supported by visual materials such as posters, flyers, leaflets, brochures, and booklets, presentations and videos to aid activities and transmit information, all in an attempt to bring about desired changes in attitude and behavior, as well as building capacity to make appropriate health decisions (6,7).

IEC resources have been regarded as the primary means of imparting knowledge, distributing health information, and positively modifying health attitudes and behaviors as a basic component of health education and promotion. IEC has also been acknowledged as a feasible and cost-effective public strategy to tackling a wide range of health determinants and risk factors, as well as fostering trust and assuring community engagement in health projects (8). Furthermore, it extends beyond developing and producing health education materials to

include the entire process of communicating and providing information in a culturally sensitive and acceptable manner to the local community through the use of appropriate methods, materials, and channels in order to promote desired health behaviors among a predetermined group of audiences (8,9).

Printed IEC materials are print items such as posters, pamphlets, leaflets, billboards, flipcharts and others that are designed to bring attention to information about disease or health hazards. Most IEC materials do not attempt to just attract attention to an issue; rather, they strive to give useful information and assist the reader/viewer in taking action (10). These materials are at the center of IEC approaches and thought to improve learning by reinforcing messages received through other channels, carrying information and directions, and serving as motivators and reminders to act (11).

The Ethiopian government understands that poverty-related illnesses, particularly HIV/AIDS, are the leading cause of Ethiopian deaths, and behavior change communication (BCC) is seen as the greatest strategy to positively adapting healthy practices, allowing communities to gain control over their health problems (12). In Ethiopia, Health Education Extension Center (HEEC) was the sole government institution in charge of producing IEC materials for all regions of Ethiopia. The center primarily designs and manufactures IEC materials for the general public. Regions, on the other hand, create IEC materials based on their own context which will be duplicated by the center and later received by the regions for distribution (11,13).

According to the Federal HIV/AIDS Prevention and Control Office (FHAPCO), one of the six pillars of preventing the disease is social and behavior change communication (SBCC) for at-risk populations. Voluntary medical male circumcision is another priority strategy that requires community mobilization through the use of appropriate SBCC tools (14). The government of Ethiopia being led by FHAPCO to adapt advocacy and communications strategy aims to increase demand for HIV testing among at-risk populations, improve ART initiation and retention, increase demand for viral load testing, reduce HIV stigma and discrimination, increase community engagement and galvanize leadership at all levels around a unifying theme for achieving and maintaining epidemic control (15).

Therefore, this study assessed the utilization of printed IEC materials for HIV/AIDS prevention and control by health care providers in health facilities of West Shewa zone of Oromia region, Ethiopia.

1.2. Statement of the Problem

Human immunodeficiency virus (HIV) infection is still the major cause of illness and death worldwide. Since its discovery in the 1980s, HIV/AIDS has remained a global public health challenge, producing a high burden of illness and mortality globally (16,17). In 2020, globally an estimated 37.7 million individuals were living with HIV among which 25.4 million is from African region, with a global HIV prevalence of 0.7 percent among adults. Many African nations including Ethiopia have long been renowned for having a significant HIV victim population fuelled by unprotected sexual intercourse since its discovery in the late 1980s (17–19). In Ethiopian context 622,326 people are living with HIV/AIDS with the prevalence of 0.96 percent during the same year. Gambella has the highest adult HIV prevalence (4.45%), followed by Addis Abeba (3.42%), while Somali (0.16%) and SNNP (0.45%) regions have the lowest. Oromia region has 0.65 percent of adult HIV prevalence (20–22).

Various national and international initiatives have been implemented to combat the pandemic which includes life-long therapies such as Anti-Retroviral Therapy (ART), knowing one's status, preventing infection through preventative measures, and avoiding AIDS-related stigma and prejudice (23,24). With these all efforts there has been a significant decline in HIV-related mortality over the previous decade while the SDG 3.3 aim of eradicating HIV as a public health issue remains unfinished business (25). Ethiopia adopted UNAIDS' ambitious global 95-95-95 target, which aims to end the AIDS epidemic by 2030. By 2020, the goal is for 95 % of people living with HIV to know their HIV status, 95 % of those diagnosed with HIV to receive antiretroviral therapy (ART), and 95 % of people receiving ART to be virally suppressed. However, the country's achievement was 79%, 81.1 %, and 87.7 %, respectively (26).

As crucial components of all areas of HIV/AIDS initiatives, including prevention, information and communication have enormous potential to slow the spread of the illness. They provide viable remedies to ignorance and misconceptions, silence and denial, and stigma and prejudice towards HIV/AIDS patients (PLWHA) (4). They may also be a valuable resource for coping with the stress, change, crisis, handicap, and uncertainty that come with HIV positive (4,27). Thus, IEC materials play a critical role in effecting change and are regarded as an essential component of HIV/AIDS preventive program (4,24).

Printed IEC materials serve a variety of purposes including educating patients about behavioral change, anxiety reduction, distress alleviation, and pain relief, boosting patient

satisfaction, allowing patients to actively engage in their care, and improving informed choice (27). These printed based educational materials also give a realistic and high-quality definition of education, and they are inexpensive, simple, portable, appropriate, and simple to present (11).

The printed materials used in various health initiatives are inconsistent with the criteria for their development, distribution, and use. The inconsistency of these materials was largely related to language, cultural sensitivity, readability, and the bodies that generated them (28–30). On the other hand, if these materials are used effectively, they can significantly reduce HIV-related misunderstandings, stigmatizing, and discriminatory attitudes. However, these materials are deemed insufficient for adequately addressing people's concerns, interests, expectations, hopes, fears, and wishes regarding HIV/AIDS (24,31).

Accepting and implementing HIV/AIDS teaching messaging is difficult, with culture, poverty, and illiteracy cited as reasons for poor use of HIV/AIDS messaging (6). The design, development, distribution, and use of printed IEC materials in Ethiopia did not adhere to the fundamental principles of Information Education Communication material development (11).

Despite the proven effectiveness and important role of printed IEC materials in bringing the desired behavior change in prevention and control of HIV/AIDS, the issue of utilization of these materials by health care providers along with the contexts and challenges in HIV/AIDS prevention and control was not subjected in scientific inquiry. Therefore, this study was aimed at assessing the utilization of printed IEC materials for HIV/AIDS prevention and control among health care providers in health facilities of West Shewa zone of Oromia region, Ethiopia in 2022.

1.3. Significance of the study

Identifying health care providers' utilization of printed IEC materials, as well as existing barriers and facilitators would be a valuable hint for policymakers, health educators, care providers, health communication experts, and governmental and non-governmental initiatives aimed at HIV/AIDS prevention and treatment. Therefore the benefits of this study include both theoretical and practical implications:

The theoretical implication to this study is its contributions to the understanding of printed IEC materials utilization along with the barriers and challenges existed among health care providers working health facilities of West Shewa zone in prevention and control of HIV/AIDS.

This study also has three practical implications, which are as follows: First, it used as inputs for policymakers, health communicators, health education program planners, health care providers, and other HIV/AIDS prevention and control partners in planning and implementation of proper health communication and printed IEC materials utilization.

Second, it enables care providers working in health facilities to be aware of the challenges that exist and to take appropriate action to overcome these obstacles when using printed IEC materials. Finally, it encourages other researchers with an interest in the related topics to use this study as a reference material for future research.

CHAPTER TWO: LITERATURE REVIEW

The HIV/AIDS pandemic has been portrayed as dangerous, invasive, wild, incurable, devastating, ferocious, and warlike, among other things. But this has not roused the majority of people in the sub-region to work toward eradication (33). Thus, the goal of a health message designer should be to promote active thought in a passive audience. As a result, one must consider how, when, and why people exposed to health messages might be motivated to engage in active rather than passive message processing, as well as when and how to encourage more active thought (33).

2.1. Printed IEC materials utilization

Although printed IEC materials utilization is involved in every sector it is given priority in health sector particularly in HIV/AIDS prevention. Health communicators and health care providers in governmental facility and NGO/private facilities are the front lines to utilize these print based materials (23,34). Stigma and discrimination are major barriers to HIV/AIDS disease prevention, and IEC interventions are one way to address them. Bekele and his colleagues, (2017) found that programs utilizing combined IEC interventions on HIV/AIDS must be stepped up to dispel some of the prevalent misconceptions, stigma, and discrimination among school adolescents (31). According to a cross-sectional study conducted in Jimma zone, only 206 (68.0%) of health workers had ever used printed IEC materials, with the majority of them being used for educational purposes (11). Additionally, the study from Arsi zone revealed that the HLMs utilization for COVID-19 RCCE was 60.4% (35).

2.2. Factors associated with Printed IEC materials utilization

Studies show that relevance, appeal, uniformity, simplicity of the content and language, accuracy of information, length of the material, cultural appropriateness, availability, and modes of dissemination such as brochures, posters, pamphlets, booklet, new flipbook, and interpersonal communication all contribute to the effectiveness of IEC materials (23,33,36). Several researchers have created explanatory frameworks for identifying predictors of healthcare utilization. One of the most widely acknowledged models is the Behavioral Model of Health Services Use (BM), which was developed in 1968 by the US medical sociologist and health services researcher Ronald M. Andersen as a result of the third survey of the Center for Health Administration Studies and the National Opinion Research Center. The BM is a multilevel model that considers both individual and contextual determinants of health-

care utilization. As a result, it divides the major components of contextual characteristics as predisposing, enabling and suggest need for individual use of health services (37).

2.2.1. Predisposing Factors

According to Anderson model individual predisposing factors commonly assessed include socio-demographic factors (age, gender, education, occupation, ethnicity, social relationships) and health beliefs (Attitudes, values, and knowledge) that people have concerning and towards the health service (37).

2.2.1.1. Socio-demographic Factors

Studies show different socio-demographic factors like educational level, occupation, marital status and income level are associated with utilization of printed IEC materials. Study from Saudi Arabia on the utilization of printed IEC materials indicated the way materials were used did not differ significantly depending on the gender, age, or health status of the participants. More than half of those who said they read printed materials had a high level of education (P = 0.027). The majority of participants who used printed materials were married, while 35.6 % of unmarried participants stated that they do not read the materials on a regular basis (P = 0.001) (28).

Similarly the work experience of health care providers also has significant association with the use of printed IEC materials. The finding of study conducted on health care providers indicated that participants with three to five years of work experience were 3.71 times more likely than those with less than one year of experience to use printed IEC materials (AOR=3.71, 95 %) (11).

2.2.1.2. Professional Category

The use of printed IEC materials by health care providers varies according to their professional type. In relation to this, the institution from which the health workers graduated and taking the health education course during their college stay has a significant relationship with the use of printed materials. Cross-sectional study conducted in Jimma zone revealed that nurses and laboratory technologists were 0.35 and 0.23 times less likely to use IEC materials than environmental health experts, respectively (AOR=0.35, 95%) and (AOR=0.23, 95%). Study also indicated that, graduates of private colleges were 10 times more likely to report utilization of IEC materials than graduates of government institutions (AOR=10.46, 95% CI: 3.47-31.50) (11).

2.2.1.3. Health Belief Factors

Health belief factors are those that predispose a person to use health services, such as knowledge about the services, attitudes toward the services, and a person's perception of

appropriateness of the services in terms of usefulness, understandability, compatibility and capability to use the services. Printed educational materials should be appropriate for, and ideally tailored to, specific target audiences' educational and reading levels, as well as consistent with their ethnic and cultural background (38).

Knowledge of certain practices is a predisposing factor for and is mostly associated with engaging in certain health behaviors. It is essential to have knowledge of the materials and be aware of the benefits of these materials when using any printed IEC materials (23,34). Similar to this study conducted among 303 health workers showed that two hundred forty-four (80.5%) and 198 (65.3%) of the participants said they knew the poster and flip chart, respectively while poor utilization was reported in the study (11).

In addition to knowledge, many health behavior models, including Anderson's model, considered attitude as a predisposing factor to certain practices, with a positive attitude being associated with performing the practice (39–41). Perception is explained in various health education theories and models as a pre-requisite for performing any actions and practices in bringing desired behavior. Both Health Belief Model (HBM) and Extended Parallel Process Model (EPPM) are related models that assess one's perception of the risks and benefits of a particular practice. They also indicate that a person's belief about whether or not the recommended action can reduce risks is the driving force behind one's practice. As a result, the perceived efficacy or appropriateness of a particular service is a predictor of the practice that a person performs (40,42).

On the other hand the health care providers' perception of appropriateness of the printed IEC materials in terms of understandability, comprehensiveness, use of pictures and colors and sensitivity to local cultures is the main determinant of the health care providers' printed IEC materials utilization. The study by Birhanu, (2011) identified different factors associated with utilization of printed IEC materials in their study as belief in the importance of IEC materials, perceived understandability of materials, and belief in the extent to which printed IEC materials consider local context were predictors of printed IEC material utilization (11). Similarly, the study from Arsi zone revealed that increase of one unit in perceived usefulness of HLMs in building trust of an organization among target audiences is associated with 4% increase(1.04 times higher likelihood) in the odds of a health worker to use health learning materials for COVID-19 RCCE(AOR,95%CI;1.04 (1.01-1.06), PV=0.007) (35). More over the study from Addis Ababa among school youths indicated that IEC materials were perceived to be useful in increasing HIV/AIDS knowledge (51%), influencing attitudes (40%), and acquiring safer sexual practices (42%) by respondents (24).

According to, Mahapatra, (2014) the existing HIV/AIDS-related IEC materials are identified to be more often insufficiently comprehensive or poorly tailored to local needs and issues. In many cases, print-based IEC materials are excessively long, frequently repetitive, extremely generic, boring, out of date, and even inaccurate in some places (23). Moreover, the findings of the study conducted in Jimma zone by Birhanu and his colleagues, (2011) revealed that the design, production, distribution, and use of printed IEC materials were not in accordance with the underlying principles of IEC material development and thus all concerned institutions and individuals should work to improve (11).

Messages must be designed to address the target population's informational needs and perceptions based on audience research data analysis. They should be simple and appealing, with images and words that explain why the benefit is being promoted. The messages you create should not only provide information, but should also inspire and motivate the audience to make a change (43). The currently available IEC materials, such as brochures, leaflets, posters, and television programs, still lack details and information about effective and practical strategies for self- care. The contents of and illustrations in such materials are unclear and confusing (27). The study from Vietnam, (2004) on IEC materials assessment among care givers of PLWHA revealed that the current printed IEC materials, such as brochures, leaflets, and posters, are still lacking in specifics and information about effective and practical self-care strategies. Moreover, the contents and illustrations in such materials are ambiguous and perplexing (27).

2.2.2. Health Facility related Factors

While the informational content of IEC materials is clearly important, the form of the materials, including language and visuals, may also influence how these messages are received by the audience (13). Hillary and Vijaya, (2005) in their analysis of health communication materials on abortion and sex determination identified many challenges related to printed IEC materials among governmental and non-governmental organizations. Accordingly, government IEC departments lacked the staff and funding to assess and improve existing materials. The study also indicated that both governmental and non-governmental organizations outsourced design; while, NGOs appear to have had more editorial control over the development process (29).

The availability of these print based materials is also the factor to its utilization. The Ethiopian national health promotion and communication strategy stated that there had been little focus on developing capacity to provide and support technical assistance for the development of region-focused, culturally sensitive to the specific needs of local

communities and due to a lack of resources the impact of the IEC/BCC activities could not be assessed (13).

Moreover, the study conducted in Ghana to assess the IEC activities carried out to prevent Obstetric fistula revealed that none of the (5) five health facilities in the district had any IEC materials on obstetric fistula, which could account for the health service providers' inability to inform/educate the communities about obstetric fistula and could have contributed to the community's low level of awareness about obstetric fistula. (7).

Having trained on how to use printed IEC materials has an impact on their appropriate use. Coverage of trained health professionals and their commitment to providing appropriate HIV care and treatment services could be the main challenge in meeting the global target for HIV prevention. The training aimed at delivering HIV prevention, care, and treatment by trained health professionals at all service delivery facilities is critical to bringing about effective printed IEC material utilization in HIV prevention and control (26). Mahaptara, (2014) also recommended that health care providers, including physicians, nurses, community workers, and other outreach workers, must be trained, and existing materials must be updated in order to improve the utilization of IEC materials for prevention and control of HIV/AIDS in his study of role IEC materials in control of HIV/AIDS (23). During communication training, users should become acquainted with various types of materials and methods for utilizing them. At the very least, instructions and usage suggestions must be provided along with the materials (13,44).

2.3. Conceptual Framework for the Study

Generally, the following conceptual framework was adapted from different literatures and theories related to health service utilization in order to assess the utilization of printed IEC materials by health care providers in west Shewa zone of Oromia region in 2022 G.C. The literatures were also reviewed to get factors that could associate with the utilization of printed IEC materials. According to this framework the utilization is affaceted by many factors classified as predisposing, enabling and perceived need of the services. Factors include, socio-demographic, attitude, knowledge, professional categaories, perception and facility related factors to perform the utilization of these print based IEC materials.

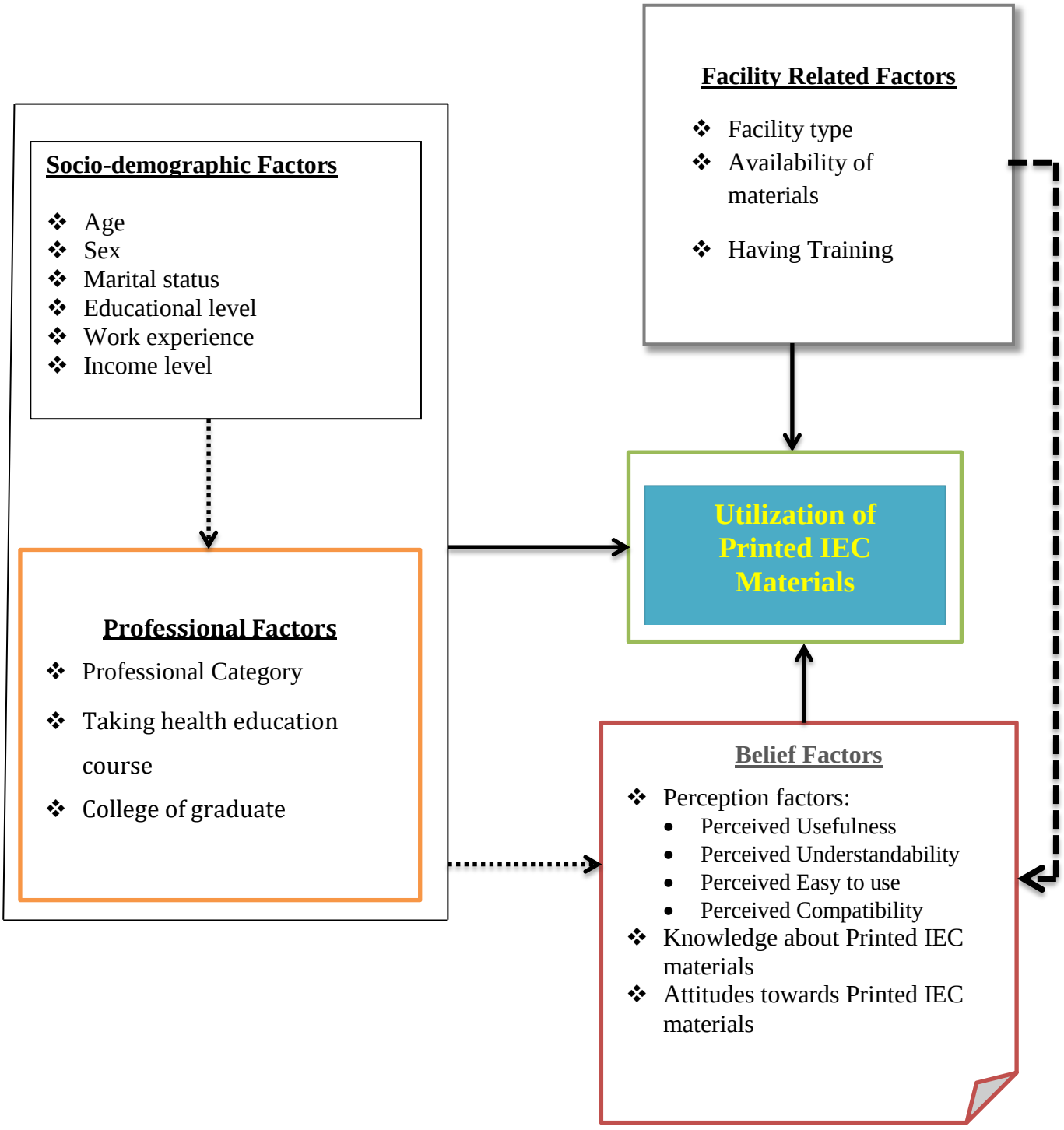

Figure 1: Conceptual framework adapted from reviewing different literatures to assess utilization of printed IEC materials among health care providers in west Shewa zone of Oromia region, Ethiopia, 2022 G.C.

CHAPTER THREE: RESEARCH OBJECTIVE

3.1. General objective

To assess the printed IEC materials utilization and associated factors towards HIV/AIDS prevention and control among health care providers in health facilities of West Shewa zone of Oromia region, Ethiopia, 2022 G.C.

3.2. Specific objectives

- To assess the level of utilization of printed IEC materials for HIV/AIDS prevention and control among health care providers in West Shewa zone.
- To identify factors associated with printed IEC materials utilization in HIV/AIDS prevention and control.
- To identify the barriers and facilitators in utilizing printed IEC materials in health facilities of West Shewa zone.

CHPTER FOUR: METHODS AND MATERIALS

4.1. Study setting

The study was conducted in health facilities in West Showa zone of Oromia. The West Shewa Zone is a zone in Oromia region of Ethiopia with a total population of 2,058,676, of whom 1,028,501 are men and 1,030,175 women and an area of 14,788.78 square kilometers. The zone is bounded on the south by the Southwest Shewa Zone and the Southern Nations, Nationalities, and Peoples Region, on the southwest by Jimma, on the west by East Welega Zone, on the northwest by Horo Gudru Welega Zone, on the north by the Amhara Region, on the northeast by North Shewa, and on the east by Oromia Special Zone Surrounding Finfinne. Ambo town which is located 114 km to the west of Addis Ababa, the capital city of Ethiopia is the capital of the zone. Currently, the zone has 1 referral hospital, 1 general Hospital, 6 primary hospitals, 92 health centers and 447 health posts with 98% of potential health service coverage. There are also 30 ART sites with 58 ART trained professionals in the zone. The total health care providers working in zone districts is 596 while 6872 clients are following ART medication in the zone.

4.2. Study design

A parallel mixed design ("paralleles Mixed-Methods-Design") was applied to conduct the study. This is a type of designs in which two or more parallel quantitative and qualitative strands are conducted, either sequentially or concurrently. The strand results are integrated into meta-inferences following separate analysis while related quantitative and qualitative research questions are answered or aspects of the same mixed research question are addressed (45). It is one-phase design in which various but complementary data on the same topic is collected using quantitative and qualitative methods in order to better understand the research problem. It typically entails the concurrent but separate collection and analysis of quantitative and qualitative data in order for the researcher to gain a better understanding of the research problem (46).

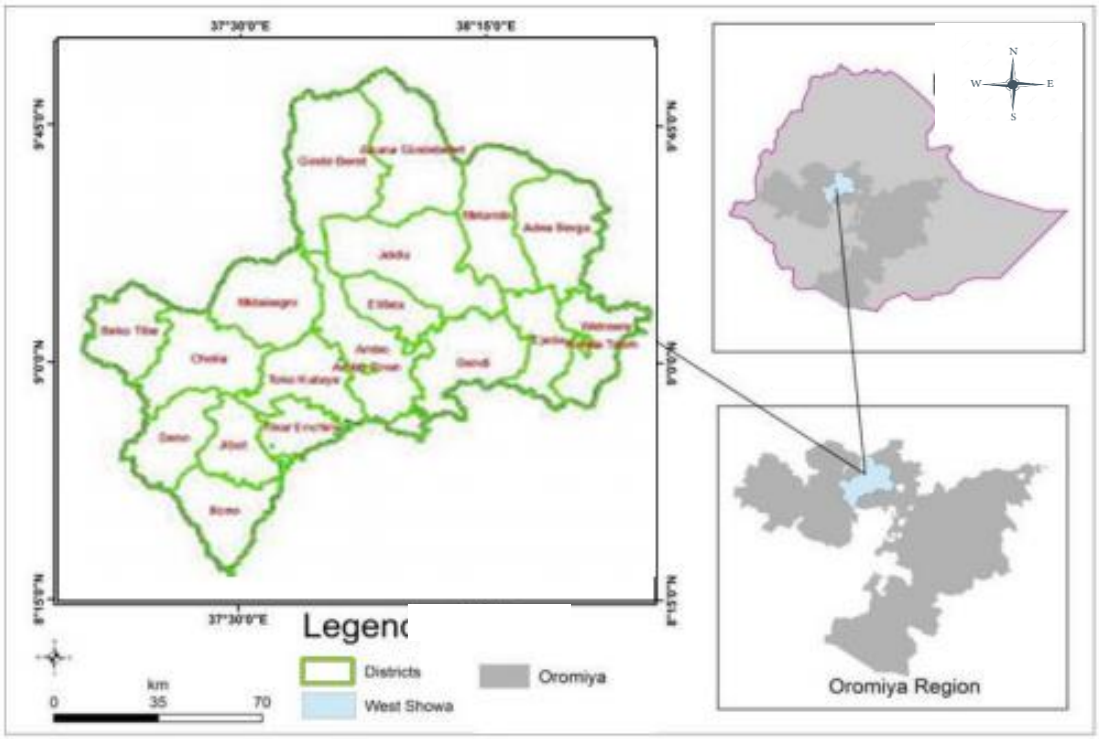

Figure 2: Map of the study area

4.3. Study period

The data collection was done from May 15th to June 15th, 2022.

4.4. Study participants

4.4.1. Source population

All health care providers in West Shewa zone are the source population.

4.4.2. Study population

Selected health care providers from randomly selected districts are study population.

For qualitative data, health care providers at different level of health care services which includes ART and VCT focal persons at health facility and district levels, MCH focal persons, Youth friendly service and health education focal persons were purposively selected as the study participants.

4.5. Inclusion and Exclusion Criteria

4.5.1. Inclusion Criteria

All health care providers present in the health facility at the time of data collection were included in the study.

4.5.2. Exclusion Criteria

Health care providers who were on leave permission during the data collection were excluded from the study.

4.6. Sample Size Determination and Sampling Techniques

4.6.1. Sample Size Determination

For the quantitave part of the study, the sample size was determined by using single proportion formula assuming 68% for the proportion of printed IEC utilization from the cross-sectional study conducted in Jimma zone (11). The marginal error (d) is 5% with 95% confidence interval which bring sample size of 335, (N=596).

$$ni = \left(\frac{za/_2{}^2\left(p(1-P)\right)}{d^2}\right)$$

Then, using correction formula, for that the numbers of health care providers is less than 10,000 the final sample size became 215.

$$nf = \frac{ni}{\left(1+\frac{ni}{N}\right)}$$

By multiplying the calculated sample size by 1.5 due to design effect the sample size became 323. Finally, by adding 10% of non-response rate the total sample size calculated for the study was **356.**

4.6.2. Sampling Techniques

Frist, the total number of total districts and health facilities in the zone was obtained from west Shewa zonal health office. Then, out of 22 districts in the zone, seven (7) districts (Dandi, Elfata, Ambo, Ada'a, Jaldu, Olankomi and Toke districts) were randomly selected. Following the selection of districts at random, the number of health care providers in each district was obtained from the districts health offices. Then the proportional allocation of participants was done for each district after which the participants from each districts were chosen using simple random sampling method to identify health care providers who would participate in the study. Finally, the total sample size of 356 was obtained as shown on the following schematic diagram of sampling the participants.

For qualitative data thirteen (13) health professionals, three female and ten male participants from different units and districts, were included for the key informant interview (KII). They are health care providers who are working in the ART clinics, VCT unit, MCH unit, TB clinics, Youth Friendly services and health education focal persons where available from health facility and woreda levels with the possible maximum variation. The maximum

variation of the participants was kept in terms of type of profession, location of health facility, the units they are working, type of health facility and position of job in the facility in order not to miss the possible various ideas might be gained.

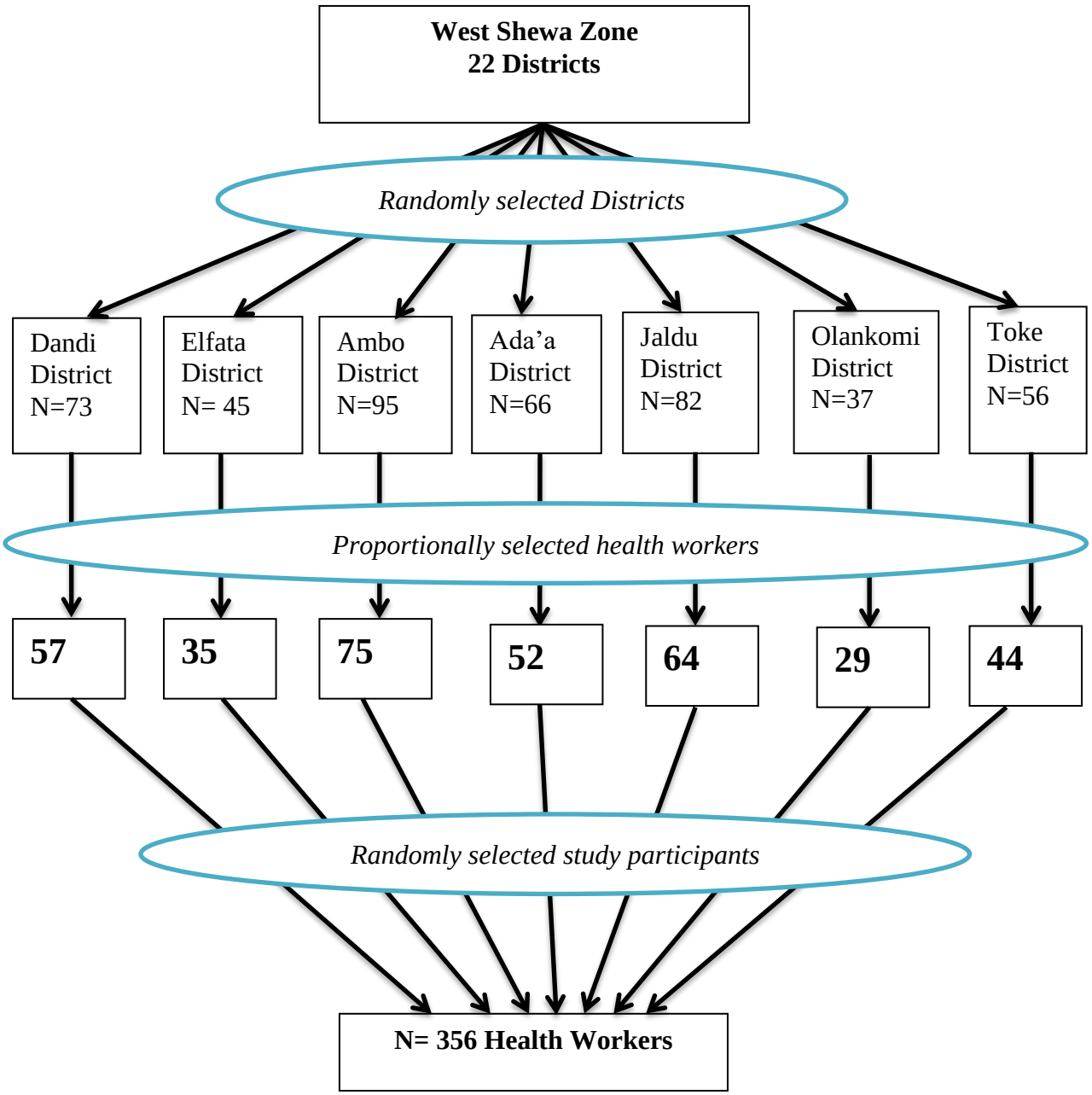

Figure 3: Schematic illustration of sample allocation for the study of printed IEC materials utilization among health workers in west Shewa zone towards HIV/AIDS prevention and control, 2022 G.C.

4.7. Variables

4.7.1. Dependent Variables

Printed IEC materials utilization

4.7.2. Independent Variables

Socio-demographic factors: Age, Sex, Marital status, income level and work experiences

Profession Factors: Professional category, college of graduate, having taken health education as a course.

Belief factors: Knowledge, attitude, perception factors (Perceived usefulness, understandability, easy to use, compatibility).

Facility factors: Type of facility, having training, availability of printed IEC materials in the facility.

4.8. Operational Definition and Measurements

Printed IEC materials:- are posters, leaflets, billboards, flipcharts, banners, brochures and others print-based items that are designed to bring attention to information about disease or health hazards (10).

Knowledge: - Awareness of the fact, information and understanding that one has gained about printed IEC materials. It was measured by the participants' responses to 13 knowledge-related questions related to printed IEC materials. Correct response was given a value of '1' and incorrect response was given '0'. The response was summed up to form composite variable and the score was treated as continuous variable (10).

Printed IEC materials utilization: - It is the use of at least one printed IEC materials by health care providers, for the purpose of HIV/AIDS prevention/treatment/control measured with "Yes" or "No" based questions (11).

Perceived Usefulness: - It is the extent to which the respondents think or belief that printed IEC materials is important or useful in HIV/AIDS prevention/treatment/control. Perception of the respondent was measured using seventeen items with Likertscale response ranging from strongly disagree (1) to strongly agree (5). The response was summed up to composite variable and the score was treated as continuous variable (11).

Perceived Understandability: - It is the participants' perception of the extent to which printed IEC materials can easily be understood in HIV/AIDS prevention and control communications. Perception of the respondent was measured using ten items with Likertscale response ranging from strongly disagree (1) to strongly agree (5). The response was summed up to composite variable and the score was treated as continuous variable (47).

Perceived Easy to use:- It is the perception of health care providers on how much it is easy to use the materials in HIV/AIDS prevention and control which was measured using ten items with Likertscale response ranging from strongly disagree (1) to strongly agree (5). The response was summed up to composite variable and the score was treated as continuous variable (43).

Perceived Compatibility: - It is the belief of health care providers regarding the extent to which printed IEC materials are sensitive to the local culture and match with the targeted audience measured using eight items with Likertscale response ranging from strongly disagree (1) to strongly agree (5). The response was summed up to composite variable and the score was treated as continuous variable (10,47).

Availability: - The existence of printed IEC materials provided to the health care providers by the facility or other partners in order to support the care provided in the facility. It was measured with participants' "Yes" or No" response to availability of any IEC materials in the facility related to HIV/AIDS.

College of Graduate: The respondents' report of the college or institutions he/she has been studied at during the academic stay. It is just government or private colleges giving offer of study in the country.

Attitude: It is a way of thinking or feeling of health care providers about printed IEC materials using in HIV/AIDS prevention and control. Attitude of the respondent was measured using 13 items with Likertscale response ranging from strongly disagree (1) to strongly agree (5). The response was summed up to composite variable and the score was treated as continuous variable (48)**.**

4.9. Data Collection Procedures and Instruments

4.9.1. Quantitative Data

Structured questionnaire adapted from similar studies was used to collect quantitative data from health care providers. The data collection tool was prepared in first in English then translated to Afan Oromo and it contains five parts: 1) socio-demographic data, 2) Knowledge about Printed IEC materials 3) Printed IEC materials utilization assessing questions 4) Attitude measuring questions and 5) perception related instruments. Data was collected through self-administered questionnaire by trained data collector under the close supervision of principal investigator. The pretest was conducted on 5% participants of the same population but at different area from the actual study area.

4.9.2. Qualitative Data

Semi-structured interview guides were used with probing accordingly for qualitative data collection. Key informant interview (KII) was conducted with thirteen (13) purposely selected health care providers working on ART clinics, VCT units, Youth Friendly service, TB clinics, health education units and other health professionals working in HIV/AIDS prevention and control related areas at woreda, districts and facility levels with maximum variation kept during the selection of participants. The data collection was supported by note taking and audio-record after permission was obtained from the participants. Written consent was obtained from participants before the start of the interview. The qualitative data was collected by principal investigator.

4.10. Data Processing and Analysis

The quantitative data was cleaned, coded and entered using Epidata version 3.1 and analyzed using SPSS version 26. Descriptive statistics were used to calculate frequency means, and logistic regression was used to identify predictors of IEC material utilization in HIV/AIDS prevention and control and a p-value of less than 0.05 while an odds ratio were used to demonstrate the degree of association between the independent and outcome variables. Binary and multivariable logistics regression analysis was done for variables with p-value less than 0.25 taking as candidates for multivariable analysis to identify the factors associated with utilization of printed IEC materials. Finally, the result was presented by using charts, graphs, tables, and statements.

The qualitative data was first transcribed verbatim within 24 hours of the collection. The transcribed data was entered to Atlas ti.7 software for qualitative analysis. Then it was coded, categorized and thematically analyzed using the software. Finally, the emerged themes were presented and triangulated with the quantitave findings making the result of both data support each other.

4.11. Data Quality Assurance

For quantitave data, the questionnaire was prepared in English then translated to Afan Oromo and it was collected by trained data collector who has at list completed bachelor degree with health background profession. The data was first pretested on 5% of sample size of the same population but from area other than study area to ensure the clarity and understandability of the tools. The collected data was checked for completeness by the data collector before taken from the participants. More over the data collectors were trained for two days before the data collection. On the other hand trustworthiness issue was assured for qualitative data as the

participants were selected purposively with maximam variation was kept as much as possible interms of work experience, working unit, health facility and setting of the facility. The data collection was supported with audio-record and note taking in order not to miss the ideas and feelings during the interview that cannot be recorded with audio-record. Moreover, the data was transcribed within 24 hours of data collection to minimize the possible missing of ideas from the participants.

4.12. Ethical Consideration

Ethical clearance was obtained from Jimma University Institute health ethics review board. Permission paper was obtained from west Shewa health offices and respective woreda offices at different levels. The informed consent was being taken from the participants and the audio-record with note taking was done for the qualitative data collection. The audio-recorded data was not used for purpose other than this study and will be discarded after the end of this study.

4.13. Dissemination Plan

Finally, the study's findings will be presented to JU and distributed to the west Shewa Zonal Health Department. It will also be shared with the districts in west Shewa health offices and ART units at different level. Finally, an effort will be made to publish in different health related journals.

CHAPTER FIVE: RESULTS

5.1. Socio-demographic data

A total of 348 respondents participated in the study making aresponse rate of 97.7%.The mean age of the respondents was 29.6 (±SD) years.

Out of total 348 participants, male accounts for 218 (62.6%). Almost half 164 (47.2%) of them were Protestant religion followers and more than two third 236 (67.8%) of them belong to Oromo ethnicity. In terms of the educational level majority of the participants 289 (83%) have finished their BSc degree. The socio-demographic characteristics of the participants are shown on the table 1 below.

Table 1: Socio-demographic characteristics result of health care providers working in west Shewa zone, Oromia region, Ethiopia, 2022 G.C (N=348).

Characteristics		Frequecy	Percentages (%)
Sex	Male	218	62.6
	Female	130	37.4
Age Group	<30	237	68.1
	30-40	96	27.6
	>40	15	4.3
Religion	Protestant	164	47.1
	Orthodox	127	36.5
	Muslim	36	10.3
	Waqefata	21	6.0
Ethnicity	Oromo	236	67.8
	Amara	47	13.5
	Tigre	21	6.0
	Gurage	16	4.6
	Other	28	8.0
Marital Status	Single	157	45.1
	Married	180	51.7
	Others	11	3.1
Education level	BSc Degree	289	83.0
	Diploma	51	14.7
	Masters	8	2.3
Professional type	Nurse	126	36.2
	Public Health	82	23.6
	Midwife	37	10.6
	HEW	30	8.6

	Pharmacy	19	5.5
	Physician	19	5.5
	Others	35	10.1
Health Facility Type	Health Center	191	54.9
	Hospital	157	45.1
Institution of Graduate	Government	214	61.5
	Private	134	38.5
Work experience (year)	<5	16	4.6
	5-10	226	64.9
	10-20	75	21.6
	>20	31	8.9
Monthly Income Category (ETB)	<5000	21	6.0
	5000-10,000	305	87.6
	>10,000	22	6.3

5.2. Awareness about Printed IEC Materials

From the total of 348 participants, 283(81.3%) have ever heard about printed IEC materials. Leaflets 191 (67.5%), posters 199 (70.3%), banners 126 (44.5%), flipchart 188 (66.4%), brochures 140 (49.5%), billboard 126 (44.5%), stickers 96 (33.9%), and flyers 142 (50.2%) were mentioned by participants. During their college or academic stay, 74.7% of the total participants took a Health Education course. 158 (60.8%) of 260 participants who took a health education course reported learning print-based IEC materials, while the remaining percentage reported exposure to audio 45 (17.3%), audio-visual 46 (17.7%), and other electronic materials 11 (4.2%). Similarly, 168 (64.6%) received health education at the university level, while 64 (24.6%) and 28 (10.8%) received it at the college and TVET levels, respectively.

The qualitative finding also identified that the health care providers are familiar with different IEC materials including printed, audio and audio-visual materials in the work of HIV/AIDS prevention and control. They reported that they are exposed mostly to posters, flipcharts, leaflets and banners in their work of disease prevention and behavior change.

"… Of course there are many materials with which we provide health education and raise awareness on different health issues. I know poster, leaflet, banner and flipchart. But we can also use other ways of communication like audio or audio-visual on mass media. In this

health center we have those printed materials mostly to support our counseling and health education" (**A 32 years old, Male, Nurse working in ART Unit).**

Table 2: Awareness about different printed IEC materials among health care providers in west Shewa zone, Oromia region, Ethiopia, 2022 G.C

Items measured		Frequency	Percentages (N %)
Have you ever heard about printed IEC matertial (N=348)	No	65	18.7
	Yes	283	81.3
Leaflet (N=283)	No	92	32.5
	Yes	191	67.5
Poster (N=283)	No	84	29.7
	Yes	199	70.3
Banner (N=283)	No	157	55.5
	Yes	126	44.5
Flipchart (N=283)	No	95	33.6
	Yes	188	66.4
Brochure (N=283)	No	143	50.5
	Yes	140	49.5
Billboard (N=283)	No	157	55.5
	Yes	126	44.5
Stickers (N=283)	No	187	66.1
	Yes	96	33.9
Flayers (N=283)	No	141	49.8
	Yes	142	50.2
Having taken Health Education course (N=348)	No	88	25.3
	Yes	260	74.7
The level at which the participant has taken health education course (N=260)	TVET	28	10.8
	College Level	64	24.6
	University Level	168	64.6
The type of materials the participant has taken (N=260)	Printed Materials	158	60.8
	Audio	45	17.3
	Audio-Visual	46	17.7
	Other	11	4.2

5.3. Printed IEC materials Utilization

From the total of 283 study participants who ever heard about printed IEC materials, 185 (65.4%) have used printed IEC materials one or more times for HIV/AIDS prevention and control. Posters 48(25.9%) is reported to be the most frequently used materials followed by flipcharts 40 (21.7%) and leaflets 33(17.8%) while banners 28(15.2%), brochures 19(10.2%) and other 17(9.2%) accounts for the remaining used printed IEC materials reported by the participants.

5.3.1. Purpose and Contexts of Printed IEC Materials Utilization

The participants also used these print based materials in different frequency and purposes. They have been using these materials for different purposes including teach ways of HIV/AIDS transmission 82(44.3%), counseling about ART 49(26.4%), counseling about VCT 25(13.5%), teach about condom use 21(11.3%) and other 8(4.3%) purposes. They have also reported different sources from where they get these materials for use which include the health facility (92), different NGOs (52) and government health offices (41). The table 3 below shows the printed IEC materials utilization along with the frequency of use for different materials and the purposes for which they were used in HIV/AIDS prevention and control.

On the other hand the findings from qualitative data identified that health care providers use printed IEC materials in different activities of preventing and controlling the HIV/AIDS. Materials like posters, leaflets and flipcharts are among mostly used materials in health facility and outreach activities. As supportive of the quantitative findings the participants of qualitative part of study reported that they used these materials for counseling purpose (ART and VCT), teaching how to prevent and ways of cope with the disease once they got the disease. They have also reported to use these materials as reminders outside the facilities in the community on certain special days like HIV days.

"In this facility we use these materials in different purposes. For example this (showing leaflet) is prepared to teach what the pregnant mother with HIV/AIDS should have to do and how to use her medication. Here she is pregnant but taking the medication and on the next step she is carrying her baby and still swallowing the medication. This teaches adhere hence for mother to child transmission in case of pregnancy and lactation…other posters brochures and flipcharts are also used in different activities. On the other hand there is TV in this facility around the waiting area and audio-visually clients will be learnt there" (**A 38, Male, Nurse working ART clinic**).

"…yes, in outreach activities we use mostly posters, banners and leaflets also. There are also other people working with us who are not health professional but teach about HIV/AIDS from the community. On some days like HIV day we distribute these materials in the community and we will do also other awareness creation activities. But there is no enough materials provision. It is available in the facility but the facilities do not distribute for us the keep it just I their office. I don't know the reason…" (**A 26 years old, Female, HEW of 2 years of experience**).

5.3.2. Extent of using printed IEC materials in HIV/AIDS preventionand Control

Health care providers use these print base IEC materials in different frequency for HIV/AIDS prevention and control. Based on this 18 (54.5%) of participants who use leaflet reported to use it rarely. About 44% of participants who use posters reported to use them oftenly. Similarly, among those uing flipchart 37% reported to use them always. On the other hand, most of participants reported to use banners, brochures and other materials like billboards only rarely and occasionally.

Table 3: Printed IEC materials utilization and the frequency of use among health workers in West Shewa zone, Oromia, 2022 G.C (N=283).

Items of printed IEC materials utilization		Frequency	Percentages (%)
Printed IEC Materials Utilization Status (N=283)	No	98	34.6
	Yes	185	65.4
Frequency of using these materials overall (N=185)	Leaflet	33	17.8
	Poster	48	25.9
	Banner	28	15.2
	Flipchart	40	21.7
	Brochure	19	10.2
	Other	17	9.2
Frequency of use for leaflet (N=33)	Occasionally	5	15.1
	Rarely	18	54.5
	Often	7	21.2
	Always	3	9
Frequency of use for poster (N=48)	Occasionally	5	10.4
	Rarely	17	35.4
	Often	21	43.7
	Always	5	10.4
Frequency of use for banner (N=28)	Occasionally	11	39.3
	Rarely	8	28.5
	Often	5	17.8
	Always	4	14.2

Frequency of use for flipchart (N=40)	Occasionally	5	12.5
	Rarely	9	22.5
	Often	11	27.5
	Always	15	37.5
Frequency of use for brochure (N=19)	Occasionally	8	42.1
	Rarely	6	31.5
	Often	5	26.3
Frequency of use for other materials (N=17)	Occasionally	11	64.7
	Rarely	6	35.3
Purpose the materials used for	Teach HIV Transmission	82	44.3
	Counseling ART	49	26.4
	Counseling VCT	25	13.5
	Teach Condom Use	21	11.3
	Other	8	4.3
Source of the materials	Given By Facility	92	49.7
	Provided By NGO	52	28.1
	Given By Health Offices	41	22.1

The proportion of printed IEC materials utilization in HIV/AIDS prevention and control is 65.4% as revealed by this study. The next pie-chart shows the prevalence of the materials utilization.

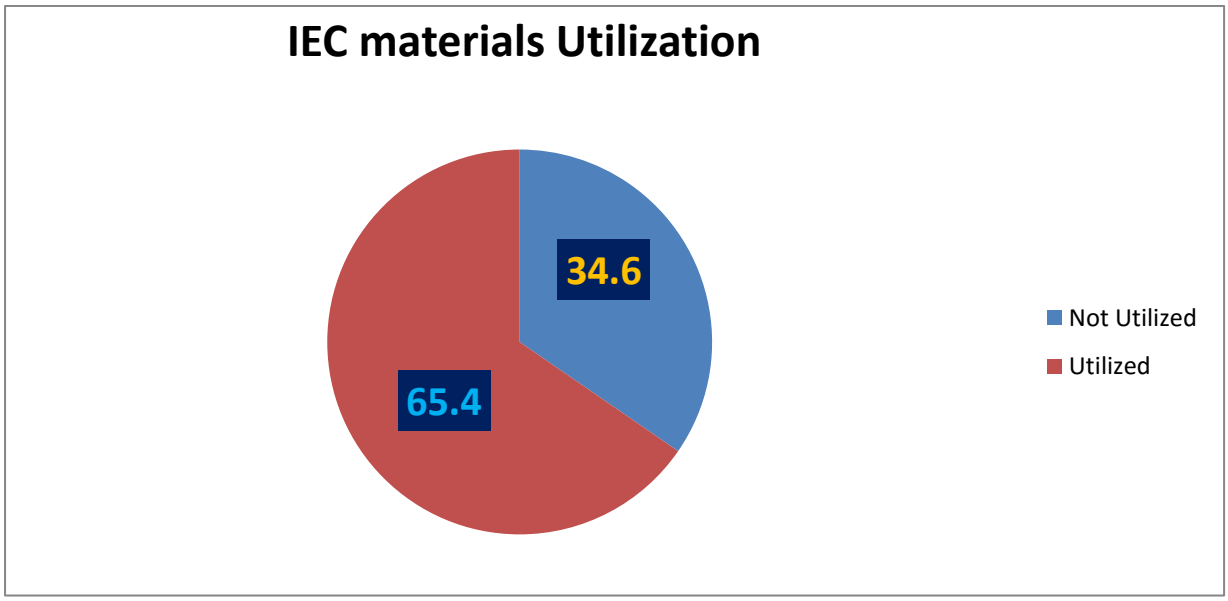

Figure 4: Pie chart showing the proportion of printed IEC materials utilization for HIV/AIDS prevention and control among health care providers in west Shewa zone, Oromia, 2022 G.C (N=283)

On other hand, those 98 (34.6%) participants who have not used printed IEC materials, reported different reason for not to use these materials. Among the reasons identified problem of availability of the materials in their facility 42(42.8%), materials not suitable for use 25(25.5%), lack of time 20(20.4%) and failure to know how to use 11.2(11.2%) the materials are included. The table below shows the frequency and reasons for which participants not using printed IEC materials.

The participants in qualitative part also reported the idea related to the challenges of using these materials. They mentioned lack of materials provision related to HIV/AIDS recently as compared to previous. The outbreak of COVID-19 pandemic is also identified among conditions made the use of printed IEC materials more challenging as it has taken attention of health communication towards health issues other than the pandemic.

"…using these materials needs time and the health workers are so busy to use them because of high patient flow in our hospital. On the other hand the occurrence of COVID-19 took attention of public health initiatives of different level as it was emergency issue…even currently the provision of these materials is not as much as pre-COVID-19 period (**A 28, Male Nurse working in ART unit**).

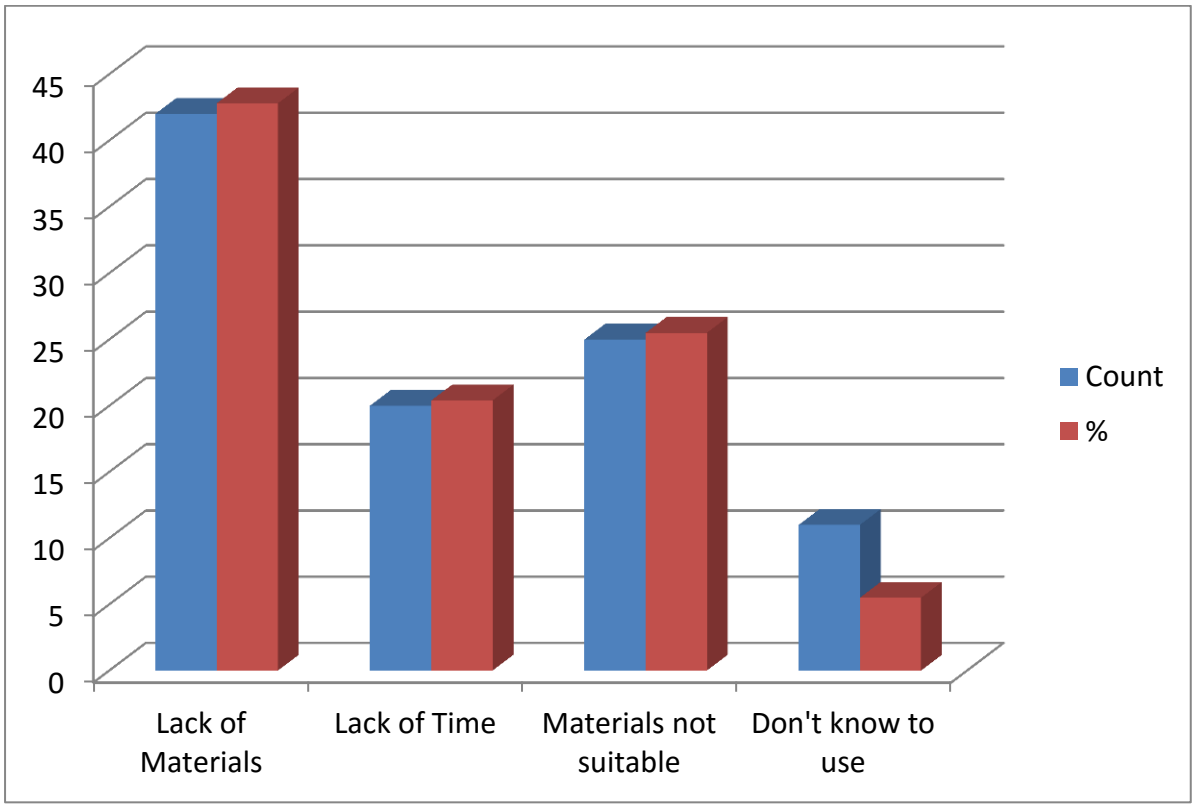

Figure 5: Reasons for not using printed IEC materials among health workers who are not using materials west Shewa zone, Oromia, Ethiopia, 2022 G.C (N=98)

5.3.3. Printed IEC Materials Preferences and Distribution

Out of the total 283 participants only less than half 135 (47.7%) have ever distributed printed IEC materials for HIV/AIDS prevention and control. They reported to have been distributing the different printed IEC materials to different places. Poster 48 (35.5%) and Leaflets 42 (31.1%) are the mostly distributed materials as reported by the participants. Among those reported to have distributed printed IEC materials 82(60.7%) distributed them in health facility while other distributed at schools 38(28.1%) and other places like public gathering and communities 21(15.5%). Regarding the materials preferences of the participants, 128 (45.2%) prefers to use poster while 88 (31.1%) of them prefer to use leaflet. The remaining proportion reported to prefer banners, brochures and billboards. The distribution practice and preference of materials among the participants is shown on the table below.

Table 4: Printed IEC materials distribution status of health care providers in West Shewa, Oromia, 2022 G.C

Characteristics to be measured		Frequency	Percentages (%)
Printed IEC materials distribution status (N=283)	No	148	52.3
	Yes	135	47.7
Materials distributed (N= 135)	Leaflet	42	31.1
	Poster	48	35.5
	Banner	21	15.5
	Flipchart	6	4.5
	Billboard	12	8.9
	Other*	6	4.5
Place of distribution (N= 135)	In The Facility	82	60.7
	At Schools	38	28.1
	Others**	21	15.5
Materials preferred to use (N=283)	Leaflet	88	31.1
	Poster	128	45.2
	Banner	30	10.6
	Brochure	24	8.5
	Billboard	13	4.6

*= brochures and stickers, pamphlets **= in the community and public gatherings

5.4. Factors Associated with Printed IEC Materials Utilization

5.4.1. Binary Logistic Regression

Utilization of Printed IEC materials is associated with sex, religion, professional type, institution of graduate, availability of materials, knowledge, attitude and perceptions

(perceived usefulness, perceived understandability, perceived easy to use and perceived compatibility).

Female participants experience 82% decrease in odds of using printed IEC materials when compared to Male participants (COR= 0.185, 95%CI= 0.114-0.298, P<0.001). Regarding the religion they follow Muslims religion followers are 2.3 times more likely to use printed IEC materials when compared to Orthodox religion followers (COR= 2.38, 95%CI= 1.00-5.63, P=0.049). From all professional categories Pharmacists experience 75% decrease in odds of using printed IEC materials when compared to Public health professional (COR=0.253, 95%CI=0.087-0.735, P=0.012).

In terms of the facility the participants are working in health workers from health center are 2.32 times more likely to use printed IEC materials than those health workers from hospitals (COR=2.328, 95%CI=1.48-3.65, P<0.001). Accordingly, participants who have been graduated from government institution are 3.91 times more likely to use the printed IEC materials in comparison with those who are private institute graduates (COR=3.910, 95%CI=2.45-6.23, P<0.001). Availability of the materials has also significant association with utilization of the print based IEC materials. Thus, health workers who reported to have available materials in the facility they work are 5.7 more likely to use the printed IEC materials when compared to those responded have no available materials in their facility (COR=5.709, 95%CI=3.50-9.30, P<0.001).

The result of binary logistic regression also showed that a unit increment of knowledge is associated with 1.31 increase in the odds of using printed IEC materials (COR=1.310, 95%CI=1.21-1.41, P<0.001). Based on the results of binary logistic regression to see if the participants' attitude has association of with utilization of printed IEC materials it is found that a unit increment of person's attitude is associated with 2.29 odds of using printed IEC materials for HIV/AIDS prevention and control (COR=2.292, 95%CI=1.67-3.129, P<0.001).

Similarly, perceived usefulness of the materials has a significant association with the utilization of printed IEC materials. The unit increment in participants' perception about usefulness of the materials is associated with 4.19 odds of using the materials (COR=4.193, 95%CI=3.06-5.73, P<0.001). Additionally, perceived understandability of the materials has also statistically significant association with printed IEC materials utilization with a unit increase in perceived understandability is associated with 1.65 odds of using the printed IEC materials (COR=1.653, 95%CI=1.30-2.098, P<0.001). Moreover, perceived easiness and perceived compatibility has the strong association with the utilization of printed IEC

materials. Thus, the unit increment of perceived easy to use and perceived compatibility has 1.66 (COR=1.667. 95%CI=1.299-2.139, P<0.001) and 1.77 (AOR=1.778, 95%CI=1.396-2.264, P<0.001) odds of utilizing the printed IEC materials respectively.

Participants of qualitative part also reported many problems starting from their development throughout the timely distribution and utilization by health workers as well as the targeted community. The participants tried to relate the low provision of printed materials, poor knowledge about these materials and perception of the health workers regarding the usefulness and appropriateness of these materials with its utilization effectiveness in prevention and control of HIV/AIDS.

"...sometimes materials prepared with English and Amharic languages are sent to us saying that rather than keeping them at the higher offices. Although those prepared in Amharic might be used those in English would give no service for the community. What I want to say is they prepare it themselves and the work of developing these materials is central rather involving the local communities and other lower level facilities. They send us materials ordering it is useful as it seems rule to use rather than making clear how much these materials useful and how to use (**A 35, male, public health profession, working districts health office)**.

"There are materials to teach about HIV/AIDS in this health center but the health workers do not know enough how much these materials are useful. For example, there is no training given for workers on how to use these materials rather they train only health education focal person sometimes like twice a year. So as I think it should be given to all health workers as using these materials is responsibility of all health workers (**A 28, male, Public Health, working on TB clinic).**

Table 5: Binary logistic regression of variables with printed IEC materials utilization among west Shewa zone, Oromia, 2022 G.C

Variables		Printed IEC Materials Utilization Status				
		NO	YES	Total	COR (95%CI)	P-Value
Sex of the participant	Male	45	173	218	1	
	Female	76	54	130	0.18 (0.11-0.29)	<0.001[a]
Religion of the participant	Orthodox	58	69	127	1	
	Protestant	52	112	164	1.465(0.902 2.378)	0.123[c]
	Muslim	8	28	36	2.38 (1.00-5.63)	0.049[b]

	Waqefata	3	18	21	0.816 (0.32 2.03)	0.662
Professional type	Public Health	29	53	82	1	
	Physician	9	10	19	0.608 (0.222-1.666)	0.333
	Nurse	39	87	126	1.221 (0.677-2.201)	0.508
	Midwife	9	28	37	1.702 (0.708-4.091)	0.234[c]
	HEW	10	20	30	1.094 (0.452-2.648)	0.842
	Pharmacy	13	6	19	0.253 (0.087-0.735)	0.012[b]
	Others	12	23	35	1.049 (0.456-2.410)	0.911
Health Facility Type	Hospital	71	86	157	1	
	Health Center	50	141	191	2.32 (1.48-3.65)	<0.001[a]
Health Education Status	No	38	50	88	1	
	Yes	83	177	260	1.621 (0.987-2.661)	0.056[c]
Institution of Graduate	Private	72	62	134	1	
	Government	49	165	214	3.910 (2.45-6.23)	<0.001[a]
Availability of Printed IEC materials	No	70	44	114	1	
	Yes	51	183	234	5.709 (3.50-9.30)	<0.001[a]
Training Status	No	92	155	247	1	
	Yes	29	72	101	1.474 (0.892-2.435)	0.130[c]
Age of the participant					0.973 (0.937-1.010)	0.154[c]
Knowledge					1.310 (1.21-1.41)	<0.001[a]
Attitude					2.292 (1.67-3.129)	<0.001[a]
Perceived usefulness					4.193 (3.06-5.73)	<0.001[a]
Perceived understandability					1.653 (1.30-2.098)	<0.001[a]
Perceived easiness					1.667 (1.299-2.139)	<0.001[a]
Perceived compatibility					1.778 (1.396-2.264)	<0.001[a]

Key: 1=reference, a = p<0.001 highly significant, b = P <0.05 significant, c= candidate for multivariable logistic regression, (-) represent "to".

5.4.2. Multivariable Logistic Regression for Printed IEC materials Utilization

Variables with p-value <0.25 in binary logistic regression above were candidate for multivariable logistic regression to be entered with stepwise forward method of analysis to get the final model of the analysis. Fifteen variables include age, sex, religion, professional category, facility type, having taken health education course, type of institution, availability of materials, having any training, knowledge, attitude, perceived usefulness, perceived understandability, perceived easy to use and perceived compatibility are the candidate variables for multivariable analysis. The final step of the forward stepwise logistic regression identified seven (7) variables to have significant association with the utilization of printed IEC materials when they entered to the model together.

Sex, one's institution of graduate, having training, availability of materials, knowledge, attitude and perceived usefulness of materials are the variables in the final model of the analysis. After multi-variable logistic regression female participants experience 73% reduction in odds of using printed IEC materials when compared to male participants (AOR= 0.273, 95%CI=0.131-0.569, P=0.001).

Regarding the institution from which the participants have graduated, health care providers who were graduated from government institution have 4 times odds of using printed IEC materials when compared to those who were graduated from private institutions (AOR=4.039, 95%CI=2.023-8.065, P<0.001). Similarly, health care providers who have taken training about IEC materials are 2.3 times more likely to use printed IEC materials in comparison with those did not get any training of the materials (AOR= 2.372, 95%CI= 1.100-5.113, P=0.028). Health care providers who reported to have available printed IEC materials in their facility are 2.5 times more likely to use printed IEC materials (AOR=2.513, 95%CI=1.234-5.118, P=0.011).

Similarly, one unit increment in person's knowledge is associated with 1.12 odds of using printed IEC materials for HIV/AIDS prevention and control (AOR=1.119 , 95%CI=1.010-1.240, P= 0.032). Moreover, a unit increment of one's attitude is associated with 3.3 odds of using printed IEC materials (AOR= 3.324, 95%CI= 2.048-5.393, P<0.001). A unit increase in person's perceived usefulness of materials is associated with 3.8 odds of using the print based IEC materials for HIV/AIDS prevention and control (AOR= 3.894 , 95%CI=2.667-5.685, P<0.001). The table below shows the variables in the final model and their level of association with the outcome variables.

Table 6: Multivariable logistic regression of variables with printed IEC materials utilization among west Shewa zone, Oromia, 2022 G.C

VARIABLES		Printed IEC Materials Utilization Status				
		NO	YES	Total	AOR (95%CI)	P-Value
Sex of the participant	Male	45	173	218	1	
	Female	76	54	130	0.273 (0.131-0.569)	0.001[b]
Availability of materials	No	70	44	114	1	
	Yes	51	183	234	2.513 (1.234-5.118)	0.011[b]
Institution of Graduate	Private	72	62	134	1	
	Government	49	165	214	4.039 (2.023-8.065)	<0.001[a]

Training Status	No	92	155	247	1	
	Yes	29	72	101	2.372 (1.100-5.113)	0.028[b]
Knowledge					1.119 (1.010-1.240)	0.032[b]
Attitude					3.324 (2.048-5.393)	<0.001[a]
Perceived usefulness					3.894 (2.667-5.685)	<0.001[a]

Key: 1=reference, a = p<0.001 highly significant, b = P <0.05 significant, (-) represent "to".

5.5. Result of Qualitative Study

5.5.1. Participant characteristics for qualitative study

For qualitative study thirteen (13) health professionals ten male and three female participants from different units and districts were included for the key informant interview (KII). Their age ranges from 26 to 48 while they have work experiences range from 2 years to 11 years of work in their profession. The KII includes professionals with different health professions like nurses, public health, HEWs and other professional backgrounds.

Table 7: Summary of socio-demographic charesteristics of key informants of the qualitative part of the study, west Shewa zone of Oromia, 2022 G.C

S.N	Age	Sex	Professional category	Working unit	Facility type	Work experience (years)
KI1	32	M	Nurse	ART	Hospital	8
KI2	36	F	"	TB	H.center	6
KI3	33	M	Public health	ART	"	11
KI4	32	F	"	YFS	"	7
KI5	38	M	"	ART	"	9
KI6	37	M	"	HE (f)	"	4
KI7	28	M	Nurse	TB	Hospital	5
KI8	42	M	Public health	ART(f)	District	11
KI9	26	F	HEW		District	2
KI10	30	M	Midwife	MCH	Hospital	5
KI11	48	M	Nurse	ART	H.center	10
KI12	29	M	Midwife	VCT	H.center	6
KI13	34	M	Nurse	HE(f)	H.center	7

5.5.2. Themes emerged from qualitative data

The qualitative approach was used to achieve the objective of identifying contexts, gaps, barriers and facilitators of print based IEC materials in behavior change communication related to prevention and control of HIV/AIDS. The responses were classified under three major themes and categories.

Theme 1: Barriers and Gaps of printed IEC Materials Utilization

Sub-theme 1: Materials Provision Related

Printed IEC materials provision is among key activities in the process of utilizing these materials in any behavior change communication. In HIV/AIDS prevention and control the provision of these materials continued to be the barrier of using these materials. The problem is from the design center, zonal level, the districts and facility level. The responses of participants regarding these barriers are discussed under the following three categories.

Category 1: At materials design and Production center

The materials are prepared at the center by Health Education Extension Center (HEEC) and Oromia Regional Health Bureau (ORHB). Currently the provision of these materials is decreased especially for HIV/AIDS prevention and control. Additionally, these centrally prepared materials are not considered the need of the targeted community. The provided materials are mostly focused on people with HIV/AIDS and the messages are how to adhere to drugs and counsel ART follow up. There is no involvement of people from local districts, facilities and communities of target at all.

"…currently we can say the provision of materials about HIV/AIDS is almost discontinued. The provided materials reach only selected facilities and for sure there may be health care providers who even do not know about printed IEC materials. For example I got these materials (showing posters) from some NGO who are doing research in this area. They prepare the materials themselves (the materials designing center) and no one is involved from the facilities, woreda and community" (**A 36, Female Working on Health center, TB clinic**).

Additionally, sometimes the participants reported that center send them the materials prepared in languages other than that of local communities. They do this by preferring to distribute these materials rather than keeping them at the center as they got the materials from different sources. These materials left unused when they reach districts and facility level.

"The materials provided are mostly prepared in Afan Oromo and Amharic but sometimes they provide materials prepared in English. They order us to use them just rather than put it in their office. We (health workers) can use these materials for ourselves for counseling and

sometimes we try to translate them to local language as much we can. But, these materials cannot be directly used by the local target community" (**A 33, Male working in ART clinic**).

Category 2: Districts and Facility Level

At districts and facility level there are problems related to provision of printed IEC materials. They have to ask the needed materials from the concerned body and expected to distribute them to the targeted organ timely. Most of the time, materials are seen to be received from the center and remain in the offices of local districts and facilities rather than being distributed to the people for whom they are intended. The participants of KII reported that in the facilities the problem of giving the materials to the concerned units and person.

"…when the materials reached at the health center mostly kept in the offices of management or a person who get it from the districts. There is also problem on behalf of health workers. They don't use the materials after they take to their unit may be they don't know the importance of these materials…so the person who provides first have to think to whom I should give this materials, who will use this materials well? Otherwise, they (the materials) will not be used for their intended purpose" **(A 32 Female, From Health Center, working on YFS unit).**

Category 3: Health Care Providers side Barriers

The health care providers have the responsibility to use the provided materials properly. They don't ask timely the type of materials they need and the materials are not received from where they prepared and designed. The health workers' delay to receive the materials prepared is a problem in some case. This is due to lack interest of using these materials fail to know the importance in behavior change communication especially in the case of HIV/AIDS prevention and control. Additionally, once they receive the materials there is an occasion when the health care providers fail to distribute the materials to the community of need for whom the behavior change is tend to brought. Rather they use them in their offices for other purposes like decorating their offices.

"Yeah! Still there is a gap on the side of health care providers as they are not distributing these materials on time. They put them in their offices or attach on the wall for making their office attractive instead of using them for intended purpose. …even sometimes health workers have no interest of using these materials. May be on some occasion when health education provided in community they use different banners, posters and leaflets. Otherwise, even if we

*provide the materials, health workers are unlikely to use them." (***A 38 Male, Public Health, Districts ART focal person).**

Sub-theme 2: Low attention towards HIV/AIDS prevention and control

From the very recent the attention given to HIV/AIDS prevention and control became very low due to different reason. The participants of qualitative part of this study also identified many problems becoming the reason for declined focus towards HIV/AIDS at different level. The responses of the participants are discussed under the following three categories as well.

Category 1: Training of Health workers on Printed IEC materials utilization

The participants of the study also identified low training provision related to printed IEC materials utilization for health care providers at different level of HIV/AIDS prevention and control as one of the barriers hindering the utilization of printed IEC materials. The attention of government and NGOs towards HIV/AIDS along with the activities towards its prevention and control is currently decreased. This in turn leads to improper and low printed IEC materials utilization.

"...as a sector, there are many problems in this sector, particularly in HIV/AIDS prevention, despite the international goal of completely eliminating HIV/AIDS from the world. The attention given by government as well as by NGOs is not as of previous. For example the training given by higher organ and NGOs is not as much enough…the training on materials utilization is provided for selected units like health education units. Even that is not enough, it is only once in this year. So this is a problem; health professional should have get trained for what they do" (**A 37 years old, Male, Health Education focal person**).

"…when we go for training they train us on how to counsel, how to treat and the like but, no one teach us how to use these materials. I don't know why the think as all health workers know well the use of the materials. I had training as ART focal person from this health center but the focus is most of about treatment not the way of prevention and control. I think it is assumed as the disease is already controlled which is wrong. We who are working at facility level know how much the new cases are identified daily" (**A 42 years old, Male, ART focal person of Health center**).

Category 2: The outbreak of COVID-19 Pandemic

The activities of HIV/AIDS prevention and control have been declined since the outbreak of the pandemic COVID-19 particularly relating to the BCC/SBCC. As a part of SBCC the printed IEC materials utilization focus is also becoming towards the urgent and killer pandemic. This diverted the attention of public health experts from HIV/AIDS to the

pandemic. The materials prepared are also most of COVID-19 related since the outbreak. The participants of KII identified that the pandemic brought a much attention switch from HIV/AIDS to the outbreak control.

"Before the COVID-19 outbreak there was quit better materials provision and its utilization towards HIV/AIDS prevention. But when the pandemic started most attention was turned to towards its prevention especially the health communication activities from federal to facility level were towards COVID-19. Even currently after the pandemic the attention did not restored and back to HIV/AIDS. Still the materials provided are about COVID-19; other disease got less focus now" (**A 28, Female, Nurse, working on ART clinic**).

On the other hand, respondents mentioned that the lock downs and restricts during the pandemic decreased the work of community mobilization and other health communication through health education and direct face to face communication. Rather public health experts and people prefer to use of other electronic media and mass media at home like radio and TV.

"*…the social distances and lockdowns during the pandemic restricted the health professionals from health communication activities in different ways. The use of printed materials is at public most of the time during health education and campaign. But it is totally not allowed at that time even the schools, market places and camps were locked down. So there was no permission of using these materials in public at all. We restrict health education in this facility even at that time…"* (**A 30 years old, Male, Public Health, health education focal person**).

Category 3: Poor linkage between ART and Health Education units

The participants of the KII also discussed the poor link between ART clinics and health education units to be one of the barriers to low printed IEC materials utilization towards HIV/AIDS prevention and control. They responded that there is no communication and link between health education and ART clinic and other units of services which ends with poor health communication works. As the person working in health education and promotion units have more training and understandings of using these materials working together and knowledge share among health professionals is a key to proper utilization of IEC materials. But this is not seen in health facilities of different level.

"I don't know the reason but there is no communication between health education and ART clinic in this facility. Not only with ART but with other units like TB clinic, MCH units and others there is no good link. For sure it seems like there is no health education department in this facility. They have better knowledge of health communication work but there is not

experience change among units...as I think health professional should discuss what they trained for other care providers" (**A 42, Male, Nurse, working on ART clinic**).

Sub-theme 3: Nature of the printed IEC materials related

The other barriers of using printed IEC materials are the nature of the materials. The participants responded that the problems of low printed IEC materials utilization are attributed to the nature and appearance of these materials. The following two categories are discussed under this sub-theme.

Category 1: Printed IEC materials suitability to use in any environment

The idea is that relative to other materials how much the print based materials are able to provide information sustainably. Participants mentioned that the printed IEC materials are not suitable to use in all environment as they can be easily damaged with rain and other environmental characteristics. Thus, these materials cannot stay in place for long time providing necessary information for the targeted group. Due to this the health workers mostly prefer to use materials other than print base for mass communication like electronic materials.

*"Yeah! As I told you these materials have many limitations to use. For example if you take the posters and banners posted in some public places they can easily be damage by rain. They can easily be torn by winds and cannot stay for longtime. Therefore many experts not use these materials. Currently, there are many options to use in communication about health like mass media and other social media pages…"***(A 36, Female, Working on Health center, TB clinic).**

Category 2: Related to contents of the messages on materials

The contents of these printed IEC materials are also raised to be barriers of utilizing them in some cases. It includes type of languages used, pictures attached and messages contained on the materials. As the materials designed from the federal and regional level there is the problem of using the appropriate local languages even within a region the meaning of words goes different unless the local communities and leaders are involved in the designing activities. Fear arousal pictures also have effects to increase stigma and discrimination towards people living with HIV/AIDS as people remember the picture and associate with fear to approach the people with the disease.

"…relating to their (materials) contents most of the time the materials contain scaring photos to make people fear the disease and protect themselves. But, other people started to discriminate and fear the people who are HIV positive…therefore using such like contents would decrease the effectiveness of these materials. This, by the way, is due to a lack of

knowledge about the community prior to designing the materials, as well as local community involvement." (**A 42 Male, Nurse, working on ART clinic).**

"Of course, there is difference in meaning of words from place to place in Oromia region. Afan Oromo spoken by Borana people and Shewa people is quite different so it should be prepared in line with the local languages spoken by target community…sometimes they also provide messages prepared by English language as they get it from different NGOs. These materials left unused in facilities mostly" (**A 36, Female, Working on Health center, TB clinic).**

Theme 2: Facilitators of printed IEC materials utilization

The participants of the KII also identified different facilitators that encourage health care providers and other experts to use in HIV/AIDS prevention and control activities. The following two main sub-themes are discussed under this emerged theme from the responses of the participants of KIIs.

Sub-theme 1: Availability of places to use printed IEC materials

Using printed IEC materials needs appropriate places to find the target audiences. Since the post pandemic the public health experts and health care providers are able to get people together at different places including youth entertainment center, schools, market places and religious institutions like church and mosques. Participants in the KII mentioned opportunities as facilitators in utilizing the printed IEC materials.

"We celebrate 'HIV/AIDS Day' as our facility and on that day we order all health workers to have their own slogan about HIV/AIDS prevention and control and we use different materials at that day …there are many institutions where to distribute these materials and provide health education. As we get the materials we distribute them at Schools, Churches, Masjids (mosque), market places and youth entertainment in this town" (**A 30 years old, Male, Public Health, health education focal person)**.

Sub-theme 2: Easy to use the printed IEC materials

In comparison to other IEC materials printed IEC materials are preferred to use in many ways. This is related to nature of printed IEC materials to be easily portable, cost effective and used to transmit messages using words and pictures which are easily be understood by all targeted group. On the other hand, the materials prepared to direct the health workers on how to treat HIV/AIDS and steps to follow are very directive and facilitate the health workers to use them. One of the participants of KII said that,

"We can use these materials in the facility and outside the facility. For example we have flipcharts on adherence to ART for pregnant and lactating mother in preventing mother to child transmission. Posters, leaflet and banners are also easily taken to outside of the facility to use them…In terms of cost, I think these materials are cost effective than other mays of communication like radio and TV" (**A 38, Male Public Health, Districts ART focal person).**

Additionally, some NGOs who provide these materials and working different research do follow the progress of using the materials they provided for the health workers. They assess how much the materials being used by health professionals and visit even the places these materials used in some cases. So the respondents mentioned this as one of strength and facilitators of using printed IEC materials for HIV/AIDS prevention and control.

"I provided these materials (showing poster) from NGO who is working research, the materials prepared by the NGO and MoH. So this NGO visits how I am using these materials, where I attached them and all things starting from outside of the health center up to the place where I keep them in my office. So once, the materials reached my office the responsible person to use is me whether I get trained of it or not" (**A 36, Female, Working on Health center, TB clinic)**.

Theme 3: Contexts of Printed IEC Materials Utilization

Health care providers reported to use these print based IEC materials in different activities of HIV/AIDS prevention and control. They also adopt them in various contexts of health service provision. The following two sub-themes were emerged under this major theme.

Sub-theme 1: For clinical services in the facility

In the facility health professionals use print based materials as guideing for clinical services given and cousel the clients about certain health issue. Participants reported that the printed materials provided them are used as guiding materials in steps of treating HIV/AIDS like ART service provision steps. The posters, flipcharts and brochures provided from different sources are useful for directing the health care providers towards appropriate service provision in disease prevention and control. One participant working ART clinic showed the flipchart provided on ART initiation and said that,

"…the materials also give directions on how to initiate ART medications. For example, this materials (showing flipchart available in the unit) says 'Linkage and ART initiation', guides the steps to follow in initiating ART medication. So it is important also for health professionals. (**A 28 Male, Nurse, working on ART clinic).**

The participants reported that they used these materials for counseling purpose (ART and VCT), teaching how to prevent and ways of cope with the disease once they got the disease. During counseling the clients health professionals are supported by materials that contains pictures and and easly remembered steps to follow. To encourage ART medication adherence health care providers use poster and flipcharts contain pictures to show what to do and advantages of being adhere to the medication. One of the participants from ART clinic showed the poster contain the photo of pregnang mother and taking the medication and said the following:

"In this facility we use these materials in different purposes. For example this (showing poster) is prepared to teach what the pregnant mother with HIV/AIDS should have to do and how to use her medication. Here she is pregnant but taking the medication and on the next step she is carrying her baby and still swallowing the medication. This teaches adhere hence for mother to child transmission in case of pregnancy and lactation… On the other hand there is TV in this facility around the waiting area and audio-visually clients will be learnt there" (**A 38, Male, Nurse working ART clinic**).

Sub-theme 2: For outreach Activities

Besides supporting the counseling printed IEC materials also used in the facilities and in the community as reminders. The health care providers use these materials for awareness raising activities at different places where the audiences are able access them. The participants reported to use them materials like banners in some special days like HIV Day as reminders while posters are posted in the facilities and other public gathering areas to reming people of the disease and way of protecting themselves. This is the quote taken from one of HEW on how they use printed IEC materials in outreach activities.

"…yes, in outreach activities we use mostly posters, banners and leaflets also. There are also other people working with us who are not health professional but teach about HIV/AIDS from the community. On some days like HIV day we distribute these materials in the community and we will do also other awareness creation activities. But there is no enough materials provision. It is available in the facility but the facilities do not distribute for us the keep it just I their office. I don't know the reason…" (**A 26 years old, Female, HEW of 2 years of experience**).

All themes and sub-themes along with categorries are summarized on the following table.

Table 8: Summary of themes and sub-themes emerged from the qualitative data collected from health care providers in West Shewa zone, Oromia, 2022 G.C

S.N	Themes	Sub-themes/Categories
1	**Barriers and gaps of Printed IEC materials utilization**	**Materials Provision related** ➢ At materials design and Production center ➢ Districts and Facility Level ➢ Health Care Providers side Barriers **Low attention towards HIV/AIDS prevention and control** ➢ Training of Health workers on Printed IEC materials utilization ➢ The outbreak of COVID-19 Pandemic ➢ Poor linkage between ART and Health Education units **Nature of the printed IEC materials related** ➢ Printed IEC materials suitability to use in any environment ➢ Related to contents of the messages on materials
2	**Facilitators of Printed IEC materials utilization**	**Availability of places to use printed IEC materials** **Easy to use the printed IEC materials**
3	**Contexts of Printed IEC Materials Utilization**	**For clinical services in the facility** **For outreach activities**

CHAPER SIX: DISCUSSION

Based on data obtained from health workers and program experts in West Shewa Zone, this study has provided many useful insights. Type of college graduated from, receiving training on IEC materials utilization, availability of materials, health workers' knowledge, perception, and attitude toward printed IEC materials in HIV/AIDS prevention and control among target audiences were independent predictors of utilization.

According to this study, 185(65.4%) people use printed IEC materials for HIV/AIDS prevention and control. This finding implies that the majority of health professionals use one or more print-based IEC materials for HIV/AIDS prevention and control. This finding is inline with the result of study conducted in Jimma Zone (11) which showed prevalence of 68.0% and Arsi Zone (35) with prevalence of 60.4%. On the other hand this finding is less than that of study conducted in north Shewa zone (49) which revealed that the prevalence printed IEC materials to be 83.6%. The possible reason for the variation is the difference in study settings in which the previous study includes only hospitals as study setting while the current one includes hospitals and health centers. Additionally, the previous study assessed the utilization of materials as general while the current study assessed for the purpose of HIV/AIDS prevention and control. This implies that the printed IEC materials utilization for HIV/AIDS is low as compared to utilization for the other purposes. The current study revealed that poster is the most used printed IEC materials followed by flipcharts. This is again constistent with the study from Arsi, Jimma and North shoa zone in which posters are the mostly used printed IEC materials. This implies that posters are the mostly preferred print based IEC materials among health care providers (11,35,49).

Regarding the socio-demographic factors this study identified that level of education showed no association with the utilization of printed IEC materials in the current study. In contrast to this, study from Saudi Arabia on the utilization of printed IEC materials indicated that the level of education associates, as more than half of those who said they read printed materials had a high level of education. The possible reason is the difference in study population as the previous study was conducted among the community with diverse educational level while the current study is among health care providers who are all most at comparable educational level (28).

This study revealed that the participants who are working in health center are more likely to use printed IEC materials than those health workers from hospitals. In contrast to this the study conducted in Arsi zone indicated that health workers from hospitals have higher odds

of using health learning materials. In hospitals health care providers mostly focus on clinical treatment of patients rather than concerning about behavior change communication activities like health education provision. But, in case of emergency all health workers from any type of facility are urged to turn their attention towards behavior change communication. This is the possible reason for the difference of the findings as the previous study is about COVID-19, the emergency case while the current study is about HIV/AIDS which assessed the routine utilization of printed IEC materials not as emergency but as continuous activity. The current study also indicated that participants who have been graduated from government institution have higher odds of using printed IEC materials. This is not consistent with the cross sectional study conducted in Jimma which indicated that the odds of using print based IEC materials is higher among private institution graduates. The possible reason for the variation is the difference in study period and population as the previous study was conducted 10 years back. It could also implies improvement in involvement of health communication for courses given in governmental institutions (11,35).

The current study has indicated that person's perceived usefulness of the materials have strong association with utilization of printed IEC materials for HIV/AIDS prevention and control. This finding is in line with study from Arsi zone (35) and central Ethiopia (49) showing the strong association between perceived importance of the materials and their utilization. Perception is explained in various health education theories and models as a pre-requisite for performing any actions and practices in bringing desired behavior (40,42).

Having training on IEC materials utilization is also found in this study to be associated with the printed IEC materials utilization. Participants who reported to have training on IEC materials utilization are more likely to use these materials when compared to those who didn't. This is in line with the study by Mahaptara, (2014) which recommended that health care providers, including physicians, nurses, community workers, and other outreach workers, must be trained, and existing materials must be updated in order to improve the utilization of IEC materials for prevention and control of HIV/AIDS in his study of role IEC materials in control of HIV/AIDS (23).

Similarly, availability of these materials is also other factors identified by the current study to factors associated with utilization of printed IEC materials. Thus, health workers who responded to have available materials in the facility they work are more likely to use the printed IEC materials when compared to those responded have no available materials in their facility. In consistent to this finding, The Ethiopian national health promotion and

communication strategy stated that there had been little focus on developing capacity to provide and support technical assistance for the development of region-focused, culturally sensitive to the specific needs of local communities and due to a lack of resources the impact of the IEC/BCC activities could not be assessed (13). The current study showed that flipcharts are the most available printed IEC materials followed by posters and leaflets. However, interms of utilization of materials posters are reported to be mostly used materials in the current study. This implies that health workers prefer to use posters than flipcharts. This may attributed to the fact that health workers think that printed IEC materials are mostly used incase of outreach activities like compaign and public awareness creation in which more posters are used than flipcharts. This study is consistent with previous studies from Arsi, Jimma and North shoa zone (11,35,49).

Lack of adequate materials to use is the main problems reported to be reasons for not using the materials among non-user in the current study. This is similar to the study conducted in Jimma zone and Arsi zone which reported the unavailability of materials as a reason of not using these materials mainly (11,35). The current study also indicated that many materials are in appropriate to use interms of consistency with local language and use of pictures as it is prepared at the central level. This implies that there is no involvement of local communities in the process of designing and production of printed IEC materials and prepared centrally. On the other hand when the materials are provided by NGOs and partners they prepared with English languages and directly distributed for use. Low concern given to materials utilization and rather preferring to treat HIV/AIDS with medicines is also raised by key informats in this study. The previous study also identified the issue of low attention as reason of low printed IECmaterials utlilization (11,35,50).

STRENGTH AND LIMITATION OF THE STUDY

The study assessed the utilization materials based on the health care providers' self-report of using the materials. Thus, social desirability bias might be occurring due to the participants' over report tending to reach interests of the investigators. Additionally, the study included only the governmental facilities and hospital and health center level. Therefore there may be the chance of missing the information related with the way the materials designed, developed and distributed to the lower facility level. The primary targets of the communication for which we use printed IEC materials, the community other than the health care provider which includes client of the health facilities were not included in the participants of the current study. Moreover, due to less studies conducted on the utilization of printed IEC materials for

HIV/AIDS prevention and control, there is no enough similar literatures to adequately discuss the results of the current study. On the hand, the study conducted using mixed methods of investigation so that the findings support each other to get reach information about the topic of study. The responses of variables like attitude and perception were summed up to composite and treated as continuous variables in order to make the analysis free of costs of categorizing the variables.

CHAPTER SEVEN: CONCLUSION and RECOMMENDATION

7.1. Conclusion

In conclusion, the finding implies that printed IEC materials utilization among health care ptoviders is low for HIV/AIDS prevention and control. Posters, flipcharts, leaflets and banners are the mostly used printed materials reported by participants. More than one third of the participants reported not to have ever used print based materials for the purpose of HIV/AIDS prevention and control. Sex, institution of graduate, having training of IEC materials, availability of materials, knowledge, attitude and perceived usefulness are identified to be independent predictors of printed IEC materials utilization among health care providers. Health care providers use printed IEC materials for different purposes in HIV/AIDS prevention and control including counseling on ART and VCT, teaching ways of prevention and drug adherence. The qualitative result also revealed that low concern about HIV/AIDS, lack of adequate training on proper utilization of materials and the outbreak of COVID-19 recently are among the barriers and challenges of using print based IEC materials in health facilities.

7.2. Recommendation

For MoH and ORHB

- HEEC and ORHD should design and produce adequate printed IEC materials for HIV/AIDS prevention and control.
- They should involve zonal, district health offices and health centers in the entire process of developing printed IEC materials.

For NGOs and Universities

- Should provide the printed IEC materials that is prepared in line with culture of local community in terms of language and other contents
- Should actively initiate SBCC programs supported with appropriate printed IEC materials
- Should also encourage studies assess the proper utilization of available printed IEC materials at facility level and community
- Provide training for health professionals working in different facility on how to use the materials for intended purpose along with provision of appropriate materials

For West Shewa Zonal Health Department and District Offices

- Should follow the proper utilization and management of these materials at facility level and in the community

- Should respond the feedback of the materials to the development center regarding the contents and cultural sensitivity
- Should strengthening the link between HIV/AIDS prevention units and health communication and promotion units

For Health Facilities

- Health workers should timely used the provided printed IEC materials for intended purpose and targeted audiences
- There should be strengthened link between health education units with ART clinics in the facility
- Health care providers should assess the need of their community and ask for appropriate IEC materials in HIV/AIDS prevention and control
- Should give due attention for SBCC in HIV/AIDS prevention and control rather than focusing only on treating with drugs
- Health workers should assess the effectiveness of the materials and provide the feedback to higher offices and districts so that the materials would be prepared and provided in a way that is acceptable among target audiences and bring effective behavior change.

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ANNEX-1: CONSENT FORM FOR DATA COLLECTION

My name is _____and I am collecting data for the research being conducted by Mr. Naol Abera, Student of Master of Public Health in Health Promotion and Health Behavior in Jimma University. He is conducting research on utilization of printed information education and communication (IEC) materials for HIV/AIDS prevention and control among health care providers in west Shewa zone of Oromia region, Ethiopia. You are selected to be one of the participants from the study. Here I am going to collect information that consists of your demographic characteristics, printed IEC materials utilization and certain related questions. The information collected will have no harm on you but vital for success of this study and so as to understand the health care providers' utilization of printed IEC materials to prevent and control HIV/AIDS. So, you are kindly requested to answer the questions carefully for the successful completion of this research work. Finally, we would like to express our appreciation for your willingness to be participant of this study. If you have any question about this study you may ask me or principal investigator Mr. Naol Abera using his phone number +251924780972 or his email naolabera55@gmail.com Thank you!

Are you volunteer to participate? Yes_____ No _____ (Stop here)

If yes, please, proceed to the next page.

Questionnaire code: _____

Name of data collector	Name of supervisor
_____	_____
Sign	Sign
_____	_____
Date	Date
_____	_____

ANNEX II: ENGLISH VERSION QUESTIONNAIRE FOR DATA COLLECTION

PART-I: Socio-demographic data (answer questions accordingly).

001	What is your age in years?	_____years
002	What is your sex?	1) Male 2) Female
003	What religion do you follow?	1)Orthodox 2) Protestant 3) Muslim 4) Waqefata 5) Other(specify)
004	Ethnicity	1)Oromo 2)Amhara 3) Gurage 4)Tigre 5)Other(specify)
005	What is your marital status?	1) Single 2) Married 3) Divorced 4) widowed
006	What is your current educational qualification?	1)Diploma 2) BSc degree 3) masters 4) Other (specify)
007	What is your profession category?	1) Public Health 2) Environmental Health 2) Nurse 3) Mid-wife 4) Physician 5) HEW 6) Other (specify)
008	Work experience	_____ years/months
009	What is your monthly salary?	_____ Birr

010	In what type of health facility you are working currently?	1) Health center 2) Hospital
011	In which unit are working currently?	Specify _____
012	Have you ever received health education course?	1)Yes 2) No
013	If 'yes' for #015 at what level you received health education course?	1) Technical and vocational (TVET) 2) College level 3) University level 4) Other(please, specify)
014	Which types of IEC materials for do you learn in health education course? (more than one answer is possible)	1) Print materials 2) Audio 3) Audio-visual 4) Other(please specify)
015	From which Institution did you graduate?	1) Government 2) Private

PART-II: Printed Information, communication and Education (IEC) materials knowledge assessing questions (encircle your answer; more than one answer is possible).

S/N	Items	Answers	Remark
101	Have you ever heard about printed IEC materials?	1)Yes 2) No	If "No" end the questions here!
102	Which printed IEC material do you know?	1)Leaflet A) Yes B) No 2)Poster A) Yes B) No 3)Banner A) Yes B) No 4)Flipchart A) Yes B) No 5)Brochure A) Yes B) No 6)Billboard A) Yes B) No 7)Pamphlet A) Yes B) No 8)Flyers A) Yes B) No 9)Folders A) Yes B) No 10) Others (specify)	

103	Which printed IEC material is/are used to be posted on public places?	1)Leaflet 2)Poster 3)Banner 4)Flipchart 5)Pamphlet 6) Folders 7) Other (Specify)	
104	Which printed IEC material is/are made of a single page?	1)Leaflet 2)Poster 3)Banner 4)Flipchart 5)Pamphlet 6) Other (Specify)	
105	For what purpose do the printed IEC materials used in HIV/AIDS prevention and control?	1)Counseling on ART 2)Counseling on VCT 3)Teach proper condom use 4) To cure the disease 5) To decorate the facility 6) Other (if any)	
106	What is the first step in printed IEC materials development?	1)Pre-test 2) Audience analysis 3) Distribution 4) Evaluate effectiveness	
107	Where is the appropriate place to distribute printed IEC materials?	1)Health facilities 2)Schools 3)Households 4)Market place 5) Work place 6) Invisible area 7) Other (specify)	

Part III: Questions assessing utilization of printed IEC materials for HIV/AIDS prevention and control by health care providers

201	Have you ever used printed IEC materials in HIV/AIDS prevention/treatment/control?	1)Yes 2) No	If No go to #206
202	Which printed IEC materials do you use for HIV/AIDS prevention and control? (more than one answer is possible)	1)Leaflet 2)Poster 3)Banner 4)Flipchart 5)Brochure 6)Billboard 7)Others (specify)	
203	How often do use these materials in HIV/AIDS Prevention and control? (more than one answer is possible)	1)Leaflet A) occasionally B) rarely C) often D) always 2)Poster A) occasionally B) rarely C) often D) always 3)Banner A) occasionally B) rarely C) often D) always 4)Flipchart A) occasionally B) rarely C) often D) always 5)Brochure A) occasionally B) rarely C) often D) always 6)Others (specify)	
204	If you used any of the above materials for what purpose do you use? (more than one answer is possible)	1)Counseling for ART 2) Counseling VCT 3) Teach about Condom use 4) Teach about transmission of HIV/AIDS 5) Others purpose (Specify)	
205	From where did you get the materials?	1)Developed by yourself 2)Given by the facility 3)Provided by local NGOs 4)Given by health offices 5)Other (specify)	
206	Have you ever distributed printed IEC materials?	1)Yes 2) No	If "No" go to

			#209
207	What type printed materials did you distribute? (more than one answer is possible)	1) Leaflet 2) Poster 3) Banner 4) Brochure 5) Billboard 6) Others (specify)	
208	Where did you distribute them? (more than one answer is possible)	1)In the facility 2)At school 3)In the community 4)Public gathering 5)other (specify)	
209	If not use any printed IEC materials why?	1)Materials not available 2)Lack of time 3)Don't know how to use 4) Not suitable to use 5)Other (specify)	
210	What printed IEC materials do you prefer to use? (more than one answer is possible)	1) Leaflet 2) Poster 3) Banner 4) Brochure 5) Billboard 6) Others (specify)	

Part III: Questions to assess the Facility related factors for printed IEC materials utilization

301	Are there printed IEC materials available in your facility?	1) Yes 2) No	If "No" go to #303
302	Which printed IEC materials are available in your facility?	1)Leaflet 2)Poster 3)Banner 4)Flipchart	

		5)Brochure 6)Billboard 7)Others (specify)	
303	Do you get training on Printed IEC materials utilization?	1) Yes 2) No	
304	If yes to #303 when did you take the training?	1) Within the last 3 month 2) Within the last 6 month 3) Within the last 1 year 4) Within the last 3 year 5) More than 3 years ago	
305	On which type of printed IEC materials you had received training?	1)Leaflet 2)Poster 3)Banner 4)Flipchart 5)Brochure 6)Billboard 7)Others (specify)	
306	On what basis do you get training?	1) weekly 2) monthly 3) yearly 4) twice a year 5) other (specify)	
307	Who provides you the training?	1)The facility 2) local NGO 3) Governmental offices 4) Other (specify)	
308	Have you taken Health education course during your College stay?	1) Yes 2) No	

Part-IV: Attitude measuring questions ((48**))**

The following are questions to measure the attitudes toward the printed IEC materials for HIV/AIDS prevention and control. Strongly Disagree (SDA)=1, Disagree(DA)=2, Neutral(N)=3, Agree (A)=4 and Strongly Agree (SA)=5. Please read each items and encircle to your answer among the given response options.

S.N	Items	Levels of agreement

401	Using printed IEC materials will improve the practice of HIV/AIDS prevention and control	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
402	Printed IEC materials make communication interesting	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
403	I can get access to printed IEC materials whenever I need	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
404	I think printed IEC materials are essential for HIV/AIDS prevention and control	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
405	I feel comfortable working with printed IEC materials	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
406	The more I use printed IEC materials the more I become effective	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
407	Printed IEC materials can take attention of people if used to communicate message about HIV/AIDS prevention and control	1.Strongly Disagree 2.Disagree 3.Neutral

		4.Agree 5.Strongly Agree
408	I do not need help from others to use printed IEC materials	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
409	Using printed IEC materials enables to use time wisely	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
410	Printed IEC materials are easy to use	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
411	Working with printed IEC materials make my work simple	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
412	I wish printed IEC materials are used in HIV/AIDS prevention and control	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree
413	Printed IEC materials will simplify the communication between providers and clients	1.Strongly Disagree 2.Disagree 3.Neutral 4.Agree 5.Strongly Agree

Part V: Perception Related Questions ((11,47**))**

The following are questions **(Q 501-544)** to measure the perception of health care providers toward the printed IEC materials for HIV/AIDS prevention and control. Strongly Disagree (SDA)=1, Disagree(DA)=2, Neutral(N)=3, Agree (A)=4 and Strongly Agree (SA)=5.

Perceived Usefulness: Is the perceptions of health care providers regarding the importance of printed IEC materials for HIV/AIDS prevention and control (tick "√" in space provided based on your own level of agreement with the idea).						
S/N	Items	SDA (1)	DA (2)	N (3)	A (4)	SA (5)
501	I perceive that printed IEC materials help to communicate risks about the HIV/AIDS					
502	In my opinion, printed IEC materials serves to improve skills on HIV/AIDS preventive measures					
503	I perceive that printed IEC materials can able to supplementing messages presented verbally during interpersonal communications					
504	I believe that printed IEC materials help for the quick reach of information to the target populations					
505	I think printed IEC materials enable to increase self-efficacy of the target audiences related to HIV/AIDS					
506	I think printed IEC materials raises public awareness about HIV/AIDS prevention and control					
507	To my thinking, printed IEC materials are tailored to the needs of specific target populations					
508	As I think printed IEC materials provide detailed facts about HIV/AIDS					
509	I think that printed IEC materials helps to counteract stigma and discrimination related to HIV/AIDS					

510	I think that printed IEC materials solve doubts and misconceptions about the HIV/AIDS					
511	In my opinion, printed IEC materials allows users to think about messages in private					
512	I think that printed IEC materials reduces costs related to the HIV/AIDS					
513	I believe that printed IEC materials are helpful reminders for key messages about HIV/AIDS					
514	In my opinion, printed IEC materials assist to stimulate/ mobilizing the community for the prevention and control of the HIV/AIDS					
515	I believe that printed IEC materials encourage the target audiences comply with HIV/AIDS preventive and control measures					
516	I perceive that printed IEC materials has the benefits of to stimulate voluntary HIV testing					
517	Printed IEC materials is appropriate method to provide up to date information regarding HIV/AIDS prevention and control					

Perceived Understandability: (tick "√" in space provided based on your own level of agreement with the idea)						
S.N	Items	SDA (1)	DA (2)	N (3)	A (4)	SA (5)
517	I perceive that printed IEC materials make the message easily understandable					
518	I think printed IEC materials provide information as it is needed to provide					
519	Printed IEC materials use common everyday language					
520	The numbers appearing on printed IEC materials are clear and easy to understand					

521	I perceive, the printed IEC material provides information in short so as to reduce confusion					
522	In my opinion, printed IEC materials provide information in logical sequence					
523	I believe the printed IEC material uses visual aids whenever they could make content more easily understood					
524	I think the printed IEC material uses illustrations and photographs that are clear and uncluttered					
525	The printed IEC material clearly identifies actions the user can take					
526	I perceive printed IEC materials provides simple instructions or examples of how to perform the intended action					

Perceived Easy to use: (tick "√" in space provided based on your own level of agreement with the idea)						
S/N	Items	SDA (1)	DA (2)	N (3)	A (4)	SA (5)
527	I think the printed IEC materials are simple to be used by target audiences					
528	I perceive the printed IEC materials can be used in health facility and outside the facility					
529	In my opinion printed IEC materials can be used in any unit for HIV/AIDS prevention and control					
530	I think printed IEC materials help to save resource in terms of time and money					
531	I believe that printed IEC materials are the easy way to reach a large audiences in short period of time					
532	Using printed IEC materials in prevention of HIV/AIDS does not need additional support from other					

533	Pictures and diagrams can be easily used on printed IEC materials in HIV/AIDS prevention and control					
534	I think a message on printed IEC materials can be used for a long time once reach the target audiences					
535	It is possible to support counseling of HIV/AIDS patient using printed IEC materials					
536	In my opinion, a person can communicate one's idea on printed IEC materials to target audiences					

Perceived Compatibility: (tick "√" in space provided based on your own level of agreement with the idea)						
S.N	Items	SDA (1)	D (2)	N (3)	A (4)	SA (5)
537	As my opinion, printed IEC materials are the appropriate materials to be used in HIV/AIDS prevention and control					
538	I think printed IEC materials are prepared in a way that is consistent with the local culture of target audiences					
539	Available printed IEC materials for HIV/AIDS prevention and control are prepared in local languages of target audiences					
540	The printed IEC materials in HIV/AIDS prevention/treatment/ control are prepared by considering the educational level of the target audiences					
541	The printed IEC materials are appropriate in calling to action in HIV/AIDS prevention/treatment/ control					
542	The used pictures and diagrams on the printed IEC materials for HIV/AIDS prevention/treatment/ control match with messages					

543	I think the colors used on printed IEC materials are appropriate to use in any situation in HIV/AIDS prevention/treatment/ control					
544	In my opinion, Printed IEC materials well designed enough to convey messages as intended for the target audience					

ANNEX III: INTERVIEW GUIDES

Background Information of the participant of the interview

Age	Sex	Professional category	Working unit	Position	Facility type	Work experience

1. Would you tell me what you know about printed IEC materials?
2. What printed IEC materials do you know and how they could be useful in prevention and control of HIV/AIDS?
3. Would you discuss those difficulties in utilization of these printed IEC materials? **Probe**: related to production, distribution, culture sensitivity?
4. What do you think are the opportunities related to printed IEC materials in HIV/AIDS prevention and control? **Probe**: How much it is effective to use these materials in HIV/AIDS prevention and control? How health facilities should be work with it?
5. Where do you think does the gap lay in the utilization of printed materials by health care providers? **Probe**: Particularly in the case of your facility? Your district? West Shewa zone? Probe: Availability? Training? Other factors?
6. Who do you think is responsible to use these materials to prevent HIV/AIDS and why?
7. What measures should be taken to improve proper utilization of printed IEC materials in prevention of HIV/AIDS? **Probe**: at individual level? At facility level? From designing and producing organ?
8. Anything you want to add regarding our topic of discussion?

Thank You!!

ANNEX II: AFAN OROMO VERSION QUESTIONNAIRE FOR DATA COLLECTION

Inistitiyuutii fayyaa Muummee sirna-Amalootaa fi Hawaasummaa

Gaaffiilee Funaansa ragaa haala itti fayyadama meeshaalee maxxansaa ittisaa fi to'annoo dhukkuba HIV/AIDS irratti ogeessotni fayyaa qaban agarsiisan.

Ani maqaan koo _____jedhama. Qorannoo Naa'ol Abarraa Yuuniversiitii Jimmaatti barataa digirii 2ffaa muummee amaloota fayyaa fi hawaasummaa kan ta'een geggeeffamu irratti ragaa funanuuf as dhufe. Qorannoon kunis mata duree haala itti fayyadama meeshaalee maxxansaa ittisaa fi to'annoo dhukkuba HIV/AIDS irratti akkaataa itti fayyadama ogeesota fayyaa godina Shawaa Lixaa keesa jiranii kan jedhudha. Isinis namoota raga kana kennuuf filaman keessaa tokko dha. Ragaa kana kennuu miidhaa tokko isini irratti kan hin qabnee fi hojiin qorannoo kun garuu akka milkaa'uuf waan fayyaduuf ragaalee armaan gadii kana akka naaf kennitaniif fedhii keessan kabajaan isin gaafadha. Dhumarrattis waan fedhii taataniif galatoomaa jechaa qorannoo kanaan walqabatee gaaffii fi odeeffaannoo dabalataa yoo barbaaddan qorataa olaanaa Naa'ol Abarraa karaa bilbila +251924780972 yookiin email- naolabera55@gmail.com argachuu dandeessu.

Hirmaachuuf fedhii qabduu? 1) Eeyyee 2) Lakkii (Asumatti dhaabi)

Yoo deebiin kee "Eeyyee" ta'e itti fufi.

Maqaa nama raga funanuu	Maqaa nama to'atuu
_____	_____
Mallattoo	Mallattoo
_____	_____
Guyyaaa	Guyyaa
_____	_____

***Kutaa 1ffaa*:** Gaaffiilee odeeffannoo raga dhuunfaa hirmaattotaa agarsiisan

001	Umriin kee meeqa?	Waggaa _____
002	Saalli kee maali?	1) dhiira 2) dhalaa
003	Amantii kamiin hordofta?	1)Ortodoksii 2) Protestaantii3) Musliima 4) Waqeffataa 5) Kan biro (ibsi)
004	Sabummaan kee maali?	1)Oromoo 2)Amaaraa 3) Guraagee 4)Tigiree 5)Kan biroo(ibsi)
005	Haalli gaa'elaa kee maali?	1) kan hin fuudhin/heerumin 2) kan fuudhe/heerumte 3) Kan hike/hiikte
006	Sadarkaan barnootaa kee yeroo ammaa maali?	1)Diploomaa 2) Digirii 1ffaa 3) Digirii 2ffaa 4) Kan biroo(ibsi)
007	Gosti ogummaa keetii maali?	1) Qondaala Fayyaa (HO) 2) Fayyaa Naannoo 2) Narsii 3) Miidiwaayifii 4) Hakiima (Doktora) 5) Hojjettuu ekisteeshinii fayyaa 6) Kan biroo(ibsi)
008	Muuxannoon hojii kee hagami?	Waggaa/ Ji'a _____
009	Mindaan ji'aa kee hagami?	Qarshii _____
010	Yeroo ammaa dhaabbata fayyaa akkamii keessa hojjetta?	2) Buufata Fayyaa 2) Hospitaala
011	Kutaa kam keessa hojjetta?	Ibsi _____
012	Gosa barnootaa 'barnoota fayyaa' fudhattee beektaa?	1)Eeyyee 2) Lakki
013	Yoo #015 'Eeyyee' ta'e sadarkaa kamitti fudhatte?	5) Barnoota leenjii fi teekinikaa (TVET) 6) Sadarkaa Koollejjiitti 7) Sadarkaa yuuniversiitiitti 8) Kan biroo(ibsi)
014	Meeshaalee odeeffannoo, barnootaa fi qunnamtii (IEC) kam baratte? (deebii 1 ol filachuu dandeessa)	5) Meeshaalee barreeffamaa 6) Meeshaalee sagalee 7) Meeshaalee suur-sagalee 8) Kan biroo(ibsi)

015	Dhaabbata barnootaa kam irraa eebbifamte?	3) Kan mootummaa 2) Kan dhuunfaa

***Kutaa 2ffaa*:** Gaaffilee beekumsa waa'ee meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) walqabatee jiru madaaluuf qophaa'an)

T/L	Gaaffiilee	Filannoowwan deebii gaaffilee	Darbii
101	Waa'ee meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) dhageessee beektaa?	1)Eeyyee 2) Lakki	Yoo 'lakki' ta'e asumatti dhaabi
102	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) keessaa kamiin beekta?	1)Liifleetii A) Eeyyee B) Lakkii 2)Poostera A) Eeyyee B) Lakkii 3)Faajjii A) Eeyyee B) Lakkii 4)Flipchartii A) Eeyyee B) Lakkii 5)Brosherii A) Eeyyee B) Lakkii 6)Barjaalee A) Eeyyee B) Lakkii 7)Xoobbee A) Eeyyee B) Lakkii 8)filaayeroota A) Eeyyee B) Lakkii 9)Kan biroo (ibsi)	
103	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) kamtu bakkawwan fuulleetti faca'uu qaba?	1)Liifleetii 2)Poostera 3)Faajjii 4)Flipchartii 5)Brosherii 6)Barjaalee 7)Xoobbee 8)filaayeroota 9)Kan biroo (ibsi)	
104	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) kamtu fuula	1)Liifleetii 2)Poostera 3)Faajjii 4)Flipchartii	

	tokko qofa qaba?	5)Brosherii 6)Barjaalee 7)Xoobbee 8)filaayeroota 9)Kan biroo (ibsi)	
105	Dhukkuba HIV/AIDS ittisuu fi to'achuu keessatti meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) maaliif nu fayyadu?	1)Qorichoota farra HIV(ART) irratti gorsa kennuuf 2)Qorannoo HIV (VCT) irratti gorsa kennuuf 3)Akkaataa itti fayyadama koondoomii barsiisuuf 4) Dhukkubicha fayyisuuf 5) dhaabbata fayyaa sana bareechuuf 6) Kan biroo (ibsi)	
106	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) qopheessuu keessatti kamtu hojii isa jalqabaati?	1)Madaallii duraa gochuu 2) Hirmaattota qorachuu 3) Raabsuu 4) Bu'aa isaa madaaluu	
107	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) raabsuuf bakki sirriin kami?	1)Dhaabilee fayyaa 2)Manneen barnootaa 3)Manneen jireenyaa 4)Bakka gabaa 5) Bakka hojii 6) Bakka hin mul'anne 7) Kan biroo (ibsi)	

Kutaa 3ffaa: Gaaffilee akkaataa itti fayyadama meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) dhukkuba HIV/AIDS ittisuu fi to'achuu madaaluuf qophaa'an

201	Ittisa/yaala/to'annoo dhukkuba HIV/AIDS keessatti meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) fayyadamtee beektaa?	1)Eeyyee 2) Lakki	Yoo 'lakki'ta 'e #206 deemi
202	Ittisa/yaala/to'annoo dhukkuba HIV/AIDS tiif meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) kamiin fayyadamtee beektaa?	1)Liifleetii 2)Poostera 3)Faajjii 4)Fliipchaartii 5)Broosherootae 6)Barjaalee 7)Kan biroo (ibsi)	

	(deebi 1 ol deebisuu dandeessa)		
203	Hagam irra deddeebiin meeshaalee kanneen fayyadamta? (deebi 1 ol deebisuu dandeessa)	1)Liifleetii A) gonkuma B) darbee darbee C)baay'inaan D) yeroo mara 2)Poostera A) gonkuma B) darbee darbee C)baay'inaan D) yeroo mara 3)Faajjii A) gonkuma B) darbee darbee C) baay'inaan D) yeroo mara 4)Fliipchaartii A) gonkuma B) darbee darbee C)baay'inaan D) yeroo mara 5)Broosheroota A) gonkuma B) darbee darbee C)baay'inaan D) yeroo mara 6)Kan biro (ibsi)	
204	Meeshaalee kanneen keessaa kan fayyadamte yoo jiraate faayidaa kamiif itti fayyadamte? (deebi 1 ol deebisuu dandeessa)	1)Qorichoota farra HIV(ART) irratti gorsa kennuuf 2)Qorannoo HIV (VCT) irratti gorsa kennuuf 3)Akkaataa itti fayyadama koondoomii barsiisuuf 4) Akkaataa ittisa HIV/AIDS barsiisuuf 5) Kan biroo (ibsi)	
205	Meeshaalee itti fayyadamte kanneen eessaa argachuu dandeesse?	1)Ofii koon qopheesse 2)Dhaabbilee fayyaa irraa 3)Dhaabbata miti-mootummaa (NGO) irraa 4)Biiroo Fayyaa irraa 5) Kan biroo (ibsi)	
206	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) raabsitee beektaa?	1)Eeyyee 2) Lakkii	Yoo lakki ta'e #209 deemi
207	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) isaan kam raabsitee beektaa? (deebi 1 ol deebisuu dandeessa)	1) Liifleetii 2) Poostera 3)Faajjii/Banner 4)Biroosheroota 5) Barjaalee/Billboard 6) Kan biro (ibsi)	

208	Meeshaalee kanneen eessatti fa'a rabsitee beekta? (deebi 1 ol deebisuu dandeessa)	1)dhaabata fayyaa keessatti 2)Manneen barnootaatti 3)Uummata keessatti 4)Bakka walga'ii uummataatti 5) Kan biro (ibsi)	
209	Meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) fayyadamtee hin beektu yoo ta'e maaliif?	1)Meeshaalee kanneen dhabuu 2)yeroo gahaa dhabuu 3)Akkaataa fayyadamaa wallaaluu 4) Meeshaaleen mijataa tahuu dhabuu 5) Kan biro (ibsi)	
210	Meeshaalee kamiin irra fayyadamuu filatta? (deebi 1 ol deebisuu dandeessa)	1) Liifleetii 2) Poostera 3) Faajjii/Banner 4) Birroosheroota 5) Barjaalee/Billboard 6) Kan biro (ibsi)	

***Kutaa 4ffaa*:** Gaaffilee haalota dhaabbilee fayyaan walqabatee fayyadama meeshaalee maxxansaa odeeffannoo, barnootaa fi qunnamtii miidhuu danda'an ilaalchisee

301	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) dhaabbata fayyaa ati keessa hojjettu keessa jiraa?	2) Eeyyee 2) Lakkii	Yoo'lakki' ta'e #303 deemi
302	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) isa kamtu dhaabbata fayyaa ati keessa hojjetu keessatti argama?	1)Liifleetii 2)Poostera 3)Faajjii/Banner 4)Fliipchaartii 5)Birroosheroota 6)Baarjaalee/Billboard 7)Kan biro (ibsi)	
303	Haala fayyadama meeshaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) irratti leenjii fudhattee beektaa?	2) Eeyyee 2) Lakki	
304	Yoo #303 'Eeyyee' ta'e	6) Ji'oota 3 darban keessatti	

	leenjii sana yoom fudhattee turte?	7) Ji'oota 6 darban keessatti 8) Waggaa 1 darbe keessatti 9) Waggaa 3 darbe keessatti 10) Waggoota 3 darban dura	
305	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) kam irratti leenjii fudhattee turte?	1)Liifleetii 2)Poostera 3)Faajjii/Banner 4)Fliipchaartii 5)Birroosheroota 6)Baarjaalee/Billboard 7)Kan biro (ibsi)	
306	Turtii yeroo hagamii gidduutti leenjii sana fudhachaa turte?	1) Torbaniin 2) Ji'aan 3) Waggaan 4) waggaatti si'a lama 5) Kan biro (ibsi)	

***Kutaa 5ffaa*:** Gaaffiilee ilaalcha madaalan ((48))

Gaaffiileen armaan gadii meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii ilaalchisee ilaalcha ogeessotni fayaa qaban madaaluuf kan qophaa'anidha. Baay'ee itti walii hin galu (BWH)=1, Itti walii hin galu (WH)=2, Giddu-galeessa (GG)=3, Itti waliin gala (WG)=4 and Baay'ee itti walii gala (BWG)=5. Maaloo yaadota kanneen dubbisuun sadarkaa walii galtee keessanii itti maraa.

T/L	Yaadota	BWH (1)	WH (2)	GG (3)	WG (4)	BWG (5)
401	Messhaalee maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuun gocha dhukkuba HIV/AIDS ittisuu fi to'achuu keenya ni fooyyessa.	1	2	3	4	5
402	Messhaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) qunnamtii odeeffannoo fayyaa hawwataa taasisa	1	2	3	4	5
403	Yeroon barbaadetti Messhaalee maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) argachuu nan danda'a	1	2	3	4	5
404	Akka yaada kootti messhaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) ittisaa fi to'annoo dhukkuba HIV/AIDS keesatti baay'ee barbaachisaadha	1	2	3	4	5

405	Messhaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuun natti tola	1	2	3	4	5
406	Ammuman messhaaleen maxxansaa odeeffannoo, barnootaa fi qunnamtii (IEC) fayadamuun bu'a qabeessummaan koo ni dabala	1	2	3	4	5
407	Messhaaleen barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) yoo ergaa waa'ee ittisaa fi to'annoo dhukkuba HIV/AIDS dabarsuuf itti fayyadamne xiyyeeffannoo namootaa ni harkisa	1	2	3	4	5
408	Messhaaleen barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuuf gargaarsa nama kan biraa na barbaachisa	1	2	3	4	5
409	Messhaaleen barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuun yeroo keenya qisaasessa	1	2	3	4	5
410	Messhaalee barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuun salphaadha	1	2	3	4	5
411	Messhaalee barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) fayyadamuun hojii koo naaf salphisa	1	2	3	4	5
412	Messhaalee barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) ittisaa fi to'annoo dhukkuba HIV/AIDS keessatti fayyadamuun hawwii kooti	1	2	3	4	5
413	Messhaaleen barreeffama odeeffannoo, barnootaa fi qunnamtii (IEC) walii galtee ogeessa fayyaa fi dhukkubsataa gidduutti adeemsifamu ni fooyyessa	1	2	3	4	5

***Kutaa 6ffaa*:** Gaaffiilee akkaataa hubannoon walqabatan ((11,47))

Gaaffiileen armaan gadii meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii ilaalchisee akkaataa hubannoo sammuu ogeessotni fayyaa qaban madaaluuf kan qophaa'anidha. Baay'ee itti walii hin galu (BWH)=1, Itti walii hin galu (WH)=2, Giddu-galeessa (GG)=3, Itti waliin gala (WG)=4 and Baay'ee itti walii gala (BWG)=5.

Hubannoo faayida qabeessummaa: Kun akkaataa hubannoo ogeessota fayyaa faayidaa qabeessummaa meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ilaalchisee gaaffiilee qophaa'aniidha. (yaadota kanneen dubbisuun sadarkaa walii galtee keessanii itti maraa).

T/L	Yaadota	BWH (1)	WH (2)	GG (3)	WG (4)	BWG (5)
501	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) miidhaalee dhukkuba HIV/AIDS waliin walqabatan ibsuuf ni gargaara jedheen hubadha	1	2	3	4	5
502	Akka yaada kiyyaatti meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) gahumsa dhukkuba HIV/AIDS ittisuu keenya ni fooyyessa	1	2	3	4	5
503	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ergaawwan afaaniin ibsinu deegaruuf nu fayyadu jedheen yaada	1	2	3	4	5
504	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) odeeffannoo barbaachisa yeroo gabaabaa keessatti nama yaadame biraan gahuuf ni gargaara jedheen amana	1	2	3	4	5
505	Akka yaada kootti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ofitti amanummaa nama dhukkuba HIV/AIDSn qabamee ni dabala	1	2	3	4	5
506	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) hubannoo hawaasa waa'ee dhukkuba HIV/AIDS irratti dabaluu ni gargaara jedheen yaada	1	2	3	4	5
507	Akkan hubadhutti, ergaawwan meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) irra jiran fedhii nama yaadameef kan giddu galeessa godhate dha	1	2	3	4	5
508	Akka yaada kootti meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) haqawwan waa'ee dhukkuba HIV/AIDS gadi	1	2	3	4	5

	fageenyaan dhiyeessuu danda'a					
509	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) qoqqobbii fi adda wal baasuu namoota dhukkuba HIV/AIDS qaban irra gahu ni hir'isa jedheen amana	1	2	3	4	5
510	Akka natti fakkaatutti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) shakkii fi hubannoo dogoggoraa waa'ee dhukkuba HIV/AIDS irratti jiru ni fura	1	2	3	4	5
511	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) tajaajilamtoonni waa'ee ergaa sanaa qofaa isaanii irra deebi'anii akka yaadan ni godha jedheen yaada	1	2	3	4	5
512	meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) gatii ittisa dhukkuba HIV/AIDS ni hir'isa jedheen yaada	1	2	3	4	5
513	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) yaadichiistuu ergaalee waa'ee HIV/AIDS ti jedheen amana	1	2	3	4	5
514	Akka yaada kootti meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS irratti hawasa kakaasuuf ni gargaara	1	2	3	4	5
515	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) tajaailamtootni ittisa HIV/AIDS haalaan akka hojiirra oolchan ni jajjabeessa jedheen yaada	1	2	3	4	5
516	Akkan hubadhutti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) tajaajilamtootni qorannoo HIV fedhii ofiitiin akka taasisan ni kakaasa	1	2	3	4	5

Ilaalcha hubatamuu: (yaadota kanneen dubbisuun sadarkaa walii galtee keessanii itti maraa)						
T/L	Yaadota	BWH (1)	WH (2)	GG (3)	WG (4)	BWG (5)
517	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) ergaan darbu salphaatti akk hubatamu gargaara jedheen yaada	1	2	3	4	5
518	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) odeeffannoon akka barbaadametti dhiyeessuuf fayyada jedheen amana	1	2	3	4	5
519	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) afaan loqoda salphaatti fayyadama	1	2	3	4	5
520	Lakkoofsotni meeshaalee maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) irratti argaman hubachuuf ifaa fi salphaadha	1	2	3	4	5
521	Akkan ani yaadutti, meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) odeeffannoo gabaabinaan akka hubatamutti dhiyeessuu danda'a	1	2	3	4	5
522	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) haala qindoomina qabuun odeeffannoo kenna jedheen yaada	1	2	3	4	5
523	Akkan ani amanutti, meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) yeroo barbaadametti suuraan deeggaramuu danda'a	1	2	3	4	5
524	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) suuraa salphaatti hubataman kan qabudha	1	2	3	4	5
525	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) gocha fayyadamtootni raawwachuu qaban sirriitti kan ibsudhae	1	2	3	4	5
526	Akka yaada kootti meeshaaleen maxxansaa	1	2	3	4	5

	odeeffannoo, barnootaa fi quunnamtii (IEC) ajajaa fi fakkeenyota salphaatti hojiirra ooluu danda'an kan qabatedha					

Hubannoo Fayyadamuu danda'uu: (yaadota kanneen dubbisuun sadarkaa walii galtee keessanii itti maraa**)**						
T/L	Yaadota	BWH (1)	WH (2)	GG (3)	WG (4)	BWG (5)
527	Akka yaada kootti meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) itti fayyadamuuf salphaadha	1	2	3	4	5
528	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) dhaabata fayyaa keessaattii fi alatti itti fayyadamuun ni danda'ama jedheen amana	1	2	3	4	5
529	Akka natti fakkaatutti meeshaalee maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) kutaa yaalaa kam keessatti HIV/AIDS ittisuuf fayyadamuu ni dandeenya	1	2	3	4	5
530	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) yeroo fi maallaqa qusachuuf nu gargaaru jedheen yaada	1	2	3	4	5
531	Akkan ani yaadutti meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) yeroo gabaabaatti fayyadamttota bay;ee qaqqabuuf ni gargaara	1	2	3	4	5
532	Meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisa HIV/AIDS tiif fayyadamuun gargaarsa nama kan biraa nama hin barbaachisu jedheen yaada	1	2	3	4	5
533	Suuraawwanii fi danaaleen meeshaalee maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) irra jiran fayyadamuuf kan	1	2	3	4	5

	nama rakkisan miti jedheen amana					
534	Yeroo tokkoof fayyadamtoota bira yoo ga'an meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) yeroo dheeraaf turuu danda'u	1	2	3	4	5
535	Gorsa waa'ee dhukkuba HIV/AIDS irratti meeshaaleen maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) fayyadamuun ni danda'ama jedheen amana	1	2	3	4	5
536	Akka yaada kootti namni tokko yaada isaa fayyadamtootaaf meeshaalee maxxansaa odeeffannoo, barnootaa fi quunnamtii (IEC) irratti ibsuu danda'a	1	2	3	4	5

Hubannoo walfudhannaa: (yaadota kanneen dubbisuun sadarkaa walii galtee keessanii itti maraa)						
T.L	Yaadota	BWH (1)	WH (2)	GG (3)	WG (4)	BWG (5)
537	Akka yaada kootti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS keessatti meeshaalee fayyadamuu qabnudha	1	2	3	4	5
538	Meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) akkaataa safuu hawaasaa tajaailamtootaa hin cabsineen qaphaa'an jedheen yaada	1	2	3	4	5
539	Akka yaada kootti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS tiif dhiyaatan afaan/loqoda naannoo tajaajilamtoonni jiraataniitiin qophaa'e jedheen amana	1	2	3	4	5
540	Meeshaaleen barreeffamaa odeeffannoo, barnootaa	1	2	3	4	5

	fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS sadarkaa barnoota hawaasa tajaajilamtootaa kan giddu galeeffate dha jedheen yaada					
541	Akka yaada kootti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS keessatti tarkaanfii akka fudhannuuf ni kakaasu	1	2	3	4	5
542	Suuraalee fi danaawwan meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS irratti fayyadamnu ergaa dabarsuu barbaadame waliin kan deemudha jedheen yaada	1	2	3	4	5
543	Akka yaada kootti, halluuwwan meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS irratti mul'atan haala kam keessattu kan fayyadamuu dandeenyudha	1	2	3	4	5
544	Akka yaada kootti, meeshaaleen barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS akkaataa ergaa barbaadame dabarsuu danda'utti kan qophaa'edha	1	2	3	4	5

Qajeelfama Afgaaffii akkaataa itti fayyadama meeshaalee barreeffamaa odeeffannoo, barnootaa fi quunnamtii (IEC) ittisaa fi to'annoo HIV/AIDS keessatti gargaaran

Odeeffaaffannoo raga dhuunfaa hirmaatotaa agarsiisu

Umrii	Saala	Gosa Ogummaa	Kutaa hojjetu	Gahee hojii	Gosa dhaabbata fayyaa	Muuxannoo hojii

1. Waa'ee meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) waan beektu natti himuu dandeessaa?
2. Meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) kam fa'a beekta? Meeshaaleen kunneen akkamitti ittisaa fi to'annoo HIV/AIDS keessatti fayyadu jettee yaadda?
3. Rakkoolee itti fayyadama Meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) kunneeniin walqabatee jiru irratti yaada kee na mariisisuu dandeessa? **Yaadachiisa**: Haala qophaa'insa isaanii irratti? Haala raabsa isaanii irratti? Haala safuu naannoo waliin walqabatee?
4. Carraaleen Meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) kanneeniin walqabatee ittisaa fi to'annoo HIV/AIDS keessatti jiru maal fa'a? **Yaadachiisa**: Meeshaalee kanneen fayyadamuun hagam bu'aa qabeessa? Dhaabileen fayyaaa akkasumas ogeessotni fayyaa haala kamiin fayyadamuu qabu?
5. Itti fayyadama meeshaalee kanneenii ilaalchisee hanqinni eessatti jira jettee yaadda? Yaadachiisa: Ogeessota fayyaa gidduutti? Keessumaa akka dhaabata fayyaa ati keessa hojjetaa jirtuutti? Akka godina shawaa Lixaatti? Dhiyeessii meshaalee kanneeniin walqabatee? Leenjii keenamuun walqabatee? Kan biraa yoo jiraate?

6. Meeshaalee barreeffamaa odeeffannoo, barnootaa fi qunnamtii (IEC) itti fayyadamuun dhukkuba HIV/AIDS ittisuufi to'achuu keessatti gahee eenyuuti jettee yaadda? Maaliif?
7. Ogeessotni fayyaa dhaabbilee fayyaa irra jiran meeshaalee kanneen haalaan akka itti fayyadaman gochuuf wantootni hojjetamuu qaban maal fa'a jettee yaadda? **Yaadachiisa:** sadarkaa dhuunfaatti? Akka dhaabilee fayyaatti? Sadarkaa qaamolee meeshaalee kanneen oomishanii fi dhiyeessaniitti hoo?
8. Mata duree marii keenya ilaalchisee yaada itti dabaluu feetu ni jiraa?

Yaada bal'aa naaf qooddaniif galatoomaa!!