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Determining Factors for Utilizations of Voluntary HIV Counselling and Testing Among Primary School Teachers in South-West Ethiopia

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Abstract

Background: Globally, HIV/AIDS is one of the most destructive pandemics human kind has ever faced. Despite, it is widely asserted that the education sector has been profoundly affected; majority of teachers in developing countries did not know their status.

Methods: A cross-sectional study design using quantitative data collection methods was conducted to describe factors influencing VCT uptake in the study area. Simple random sampling was used to select nine of the eighteen woredas and systematic random sampling was used to reach to six hundred thirty sample size. The SPSS window version (22.0) was used for analysis, where socio-demographic factors were summarised using distribution statics.

Results: The overall prevalence of VCT utilization was 47.3%(285/603). A multivariable binary logistic regression confirmed that perceived risk of HIV/AIDS (p=0.009; AOR= 1.69 (1.14-2.50), perceived benefits (p=0.003; AOR= 2.65(1.39-5.02) and education level (p=0.009; AOR= 1.69(1.14-2.50) were significantly associated with VCT uptake. The long waiting time, providers skill, VCT site, stigma, privacy and confidentiality were identified as hindering factors for VCT services.

Conclusions: The study revealed low VCT uptake (N=285, 47.3%). Perceived risk of HIV/AIDS, perceived benefits of VCT uptake and education background were significantly associated with VCT uptake. There is need to improve awareness of teachers, advocate for VCT uptake, reduce stigma and create conducive environment to increase of VCT uptake.

Keywords: Perceived severity, perceived risk, perceived benefits, Voluntary Counselling and Testing, strategic frameworkv

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Background Of The Study

Human Immunodeficiency Virus (HIV), which causes Acquired Immune Deficiency Syndrome (AIDS) is one of the most destructive pandemics human kind has ever faced and continued to be a major global public health challenge (WHO 2015:29; UNAIDS 2012:4). The HIV/AIDS epidemic affects the education sector mainly the supply of education through availability of teachers and quality of education, since the absenteeism of teachers from schools and ultimately their deaths affect the teaching resources available (Menna 2015:60). HIV/AIDS is having a devastating effect on the already shortage supply of teachers in Africa (Kazhila, Choshi & Cornelia 2011:547). In Ethiopia, the impact of HIV/AIDS on education sector, the most human intensive sector is being severe by increasing the number of staffs who are unable to work effectively as result of HIV/AIDS related illness and deaths (ESDP 2016:25; MOED 2009:3). VCT may have potential preventive effects on HIV transmission and serves as a gateway to HIV/AIDS-related services (WHO 2015:26). For the individual, VCT enhances the ability to reduce one's risk of acquiring or transmitting HIV, to access HIV-specific treatment, care and support to manage one's health, and to plan for the future (UNAIDS 2013a:57-60). For society, widespread knowledge of one's HIV status can lead to better community mobilization against the epidemic, and may reduce HIV related stigma and discrimination (HAPCO 2014:37).

Despite several measures have been put in place to increase the uptake of VCT services, the low utilisation of VCT services was reported by the latest demographic and health survey in Ethiopia (CSA 2011:228).

Several socio-demographic and psychological factors including awareness related to HIV/AIDS, perception being at risk, perceived benefits of VCT, HIV/AIDS related stigma and discrimination and confidentiality of the services could play a critical role in the uptake of VCT (Tangus, Odundo & Rambo 2014:1295-1297). Thus, the current study identified factors that determine acceptance and utilisations of VCT services that will help to formulate a strategic framework for the increase of VCT uptake amongst primary school teachers in the study area.

Research Methodology

Methodology is defined as the strategy or plan of action lying behind the choice and use of particular method and linking the choice and the use of method to the desired outcomes (Kumar 2011:36). Methodology shows the comprehensive ways of approaching research questions, which may be qualitative, quantitative or combination of the two (mixed methods research) (Bhattacherjee 2012:42). As the study was aimed to describe factors influencing VCT uptake amongst primary school teachers in the study area, quantitative method research approach was used.

Quantitative method research provides a broad explanation for behaviour and attitudes or prediction about the relationship among variables and completed with variables, constructs and hypotheses (Creswell 2014:98-108). It enables the researcher to quantify respondents' characteristics in relation to the central phenomenon of the study and provides an objective measure of reality (Bhattacherjee 2012:15; Kumar 2011:96).

In the current study, the researcher admitted that, factors that influence VCT uptake can be known by administering a standardised tool to measure various aspects of the respondents. Namely: Knowledge about HIV/AIDS and VCT services, perceived risk of contracting HIV, perceived severity of HIV/AIDS and perceived benefits of VCT uptake among other factors that may be associated with individual's decision to utilise VCT service.

Research Design

Research design is a plan of action that is adopted by researcher to answer questions of validity, objectively, accurately and economically (Kumar 2011:96). It is a specific structure that shows in detail how exact chosen method would be applied to answer particular research questions and how the research method will be applied to achieve the desired objectives (Rajasekar, Philominathan & Chinnathambi 2013:22). A quantitative method design is used to evaluate the processes and outcomes associated with the implementation of the programme (Polit & Beck 2009:224). Quantitative study designs are more suited to find out the extent of variation and diversity (Kumar 2011:104). In the current study, cross-sectional study design using quantitative data collection method was used. Six hundred three self-administered questionnaires were used to collect information on socio-demographic and psychological factors influencing VCT uptake amongst primary school teachers quantitatively.

Research setting

The study was conducted in Jimma Zone, South-west Ethiopia. Administratively, Jimma Zone is divided into 18 Woredas (woredas) with a total projected population of 2,770,329 (CSA 2007:86). In Jimma Zone, there were 10264 primary school teachers working in 1020 primary schools in the zone (JZEOR 2013:4). Regarding the number of health facilities, there were 3 district hospitals and 90 health centres functioning in the Zone and 79 of them were providing integrated VCT services (JZHOR 2013:7).

Sampling method

Sampling method is a process of selecting a small number of units from a large population in such a manner that can be used to make estimates about the whole group (Garson 2012:4; Wiley & Sons 2011:58-60). Broadly, sampling methods can be classified as probability and non-probability sampling methods (Datta, Funnel & Ramuscak 2012:13; Basavanthappa 2007:195).

Probability sampling is the process of selecting a sample from the sampling population or the bigger group to become the basis for predicting prevalence of outcome regarding the sampling population (Kumar 2011:177). Careful sample selection using one of the probability sampling methods enhances the likelihood that samples will be representative, where sampling procedure can be placed in a larger known pattern of variation (Handcock & Gile 2011:369).

In the current study, probability sampling method was used to arrive at each representative sample for the quantitative study in phase one and non-probability sampling method was used to arrive at specific sampling unit in phase 2.

Population

Population refers to a big group that meets the criteria for study established by researchers (Burns & Grove 2011:290). It is the target population that meet the sample criteria for inclusion in a study and in which the researcher wishes to study about and desires to make generalisation (Burns & Grove 2007 549; Kumar 2011:198).

The target population for the study included was included public primary school teachers in the study area. The target population elements for the quantitative phase of the study was included 630 primary school teachers, 394 males and 236 females. In addition, ten VCT providers and ten primary school teachers, those not included in the quantitative study were included in the qualitative study during the second phase of the current study.

Sampling

Sampling is selecting a subset of a population in the way that sample can be used to make estimates about the big group (Garson 2012:4; Wiley & Sons 2011:58-60). Ina broad terms, sampling can be categorised as probability sampling and non-probability sampling (Kumar 2011:181). Most commonly, probability samplings are used for quantitative study and non-probability sampling are used for qualitative study (Garson 2012:4). In the current study, probability sampling was used to reach to the quantitative study respondents during phase one of the study and non-probability sampling was used to select individual study participants for the qualitative study during phase 2 of the study.

Sample size determination

Sample size determination depends on what the researcher wants to do with the findings of the study, the level of accuracy in the results and the type of relationships to be established (Kumar 2011:191). For quantitative approach, sample size is the number of observations used for calculating estimates of a given population (Garson 2012:4). In order to select appropriate sample size, the sample size determination should be based on the understanding of the objectives and the theoretical and statistical assumptions of the study (Chandrashekara & Suresh 2012:7).

In the current study, to select representative sample size for the quantitative study, sample size was calculated using the statistical software for epidemiology (Epi Info). A 95% confidence level with 4% margin of error (MOE) was desired for this study and a single population proportion formula was used. The unknown prevalence of VCT uptake in the study area was estimated to be at 50 % (P=0.5) and non-response rate was set at 5%. By putting this information into Epi Info, the total 603 sample size was calculated.

Inclusion and exclusion criteria

Inclusion criteria

• All teachers of public primary schools with complete first and second cycles (Grade 1-8) in Jimma Zone, those established before six months at the time of the study.

• Techers who were stayed at least for six months in the study area at the time of the study.

Exclusion criteria

• Teachers who were not in schools during the study period.

• Teachers were severely ill and were not able to participate in the study.

Sampling procedures

Broadly sampling procedures can be categorised as probability sampling and non-probability sampling techniques (Kumar 2011:178).

Probability sampling

In probability sampling techniques, sample elements are automatically selected by some scheme under which a particular sample of given size from a specified population has some known probability being selected and some form of random selection to choose sample units (Basavanthappa 2007:195).

In the current study, to select the study respondents to which the structured questionnaire was administered, a two-stage probability sampling procedure was used. Firstly, nine study woredas were selected using lottery method among the total eighteen woredas in the study area. The name of all eighteen woredas found in the study area was written on equal size pieces of paper, placed in the hat, mixed thoroughly and nine of them were randomly selected and included in the study. Then after, the determined sample size (630) was proportionally distributed to nine selected woredas based on the total number of teachers in each woredas.

The second stage involved the selection of study respondents using systematic random sampling technique using the sampling frame which was collected from each study woreda. The sampling interval (K) was determined for each woreda, dividing the total number of teachers in each woreda by the desired sample size of each woreda. The random start number or the first number that was included in the sample was selected between one (1) and "K" by lottery method and finally, every "Kth" unit was selected until the total desired sample size in each selected woredas was reached (Table 3.2).

Data collection

Data collection refers to the systemic gathering of information relevant to the research objectives and questions of a study (Kumar 2011:132). It is a process of collecting organised information, usually the result of experience, observation and experiment in the form of numbers, words or images, particularly as measurements for a set of variables (Robert 2011:129-130). In the current study, data was collected on various socio-demographic and psychological factors influencing utilisations of VCT services using quantitative data collection approaches respectively.

Data collection methods

Data collection methods can be broadly categorised into quantitative and qualitative data collection methods (Halcomb & Hickman 2015:41-47; Harrell & Bradley 2009:20). Depending on research type, methods of data collection include: documents review, observation, questioning, measuring, or a combination of different methods (Abawi 2013:2). Survey is a very popular type of quantitative data collection methods, especially when gathering information from large groups and where standardisation is important (Leonard, Jason & Glenwick 2015:2).

Survey research is useful for documenting existing community conditions, characteristics of a population and community opinion (Halcomb & Hickman 2015:41-47). The use of a structured questionnaire enabled the researcher to quantify respondents with various characteristics relation to the utilisation of VCT services, allow statistical analyses to establish associations between respondents' characteristics and VCT utilisation. It was also helped to make estimations on aspects such as the number of people who are aware of the VCT existence and benefits of its utilisation and practiced VCT among other things.

Another advantage of using a structured questionnaire is that it was found to be an economical research tool in that due to the focus provided by standardised questions, only questions of interest to the study were asked, recorded, codified and analysed. Time and money was not spent on unnecessary questions. Moreover, structured questionnaire was found to be an efficient way of collecting information from relatively large number of respondents (603 sample). It also provided a way in which statistical techniques can be used to determine validity, reliability and statistical significance of responses. This technique is also flexible in the sense that a wide range of information can be collected from the same individual without them feeling overworked. In the current study quantitative data was collected among primary school using survey questionnaire.

Data collection tools

Data collection tools are the instruments used for data collection, which may include questionnaire, observation and reading (Annum 2016:2-3). The development of data collection tool is an extremely important, because any conclusions reached by the study is based upon the type of information collected, which is entirely dependent upon the questions that the researchers asked respondents (Kumar 2011:143-147).

It is advisable to search and identify existing instruments that measure the construct of interest, before developing a new test or measure (Carole, Kimberlin & Winterstein: 2008:2280). Using an existing research instrument that has substantial evidence of reliability and validity is more cost-effective than starting from scratch to develop and validate an instrument (Bolarinwa 2015:6).

In the current study, data collection tool was adopted from previous similar studies (Wondwssen 2007:49-58, Mayaki 2012:81-84, Bereda 2015:66-72, Onyango 2010:81-86, Menna 2015:139-199, Nyblade, Jain, Benkirane, Lohiniva, McLean, Turan, Varas-Dı´az, Cintro´n-Bou, Guan, Kwena & Thomas 2013:5-9). It was modified to research questions and local context, pre-tested before the actual data collection period. Data collection tool included various aspects of socio-demographic and psychological factors associated with the acceptance and utilisations of VCT services.

Since primary school teachers with diploma and certificate level followed their college diploma and certificate in local language, in the current study, data was collected using local language. The questionnaire items were prepared first in English and then translated into Afan Oromo by health professional (BSc public health). Afan Oromo version of the questionnaire and in-depth interview guide were pretested for clarity, acceptability and flow among the non-study subjects. Based on the findings from pre-test, items that were difficult to answer were modified and the corrected questionnaire was for data collection (Annexure 4, 6, 7 & 8).

Validity And Reliability Of Data Collection Tools

Validity and reliability of data collection tools are the key indicators for the quality of a measuring instrument (Carole et al 2008:2276). Validity is more associated with measurement procedures, while reliability

refers to the ability of research instrument to provide similar results under similar conditions (Kumar 2011:345; Carole et al 2008:2276).

Validity of data collection tools

Validity refers to the ability of an instrument or data collection tool to measure what it is designed to measure and can be defined as the degree to which the study has measured what it has set out to measure (Kumar 2011:166). Validity tests can take different forms, including face validity, construct validity, content validity and criterion validity (which could be concurrent and predictive validity) (Carole et al 2008:2276-2278).

In the current study, ensuring validity of data collection tools was one of the concerns that were given attention, since validity may be threatened in such survey due to self-reported data. Therefore, lots of steps were taken to address face and content validity, predictive and concurrent validity and construct validity of the current study.

Face validity

Face validity shows how each questions or items in the data collection tools were logically linked to research objective (Kumar 2011:335). In the current study, each question in the data collection tools was logically linked to research objectives to ensure face validity. The full range of socio-demographic and psychological factors influencing VCT uptake were covered to ensure content validity. Content validity was also achieved through administering the instruments in Afan Oromo, the local language that was familiar and well understood by all teachers, who participated in the study. The translation of English version questionnaire into Afan oromo and back translation to English and pre-test was done using the Afan Oromo version prior to final data collection were important steps taken to ensure content validity and facility.

Content validity

Content validity pertains to the degree to which the instrument fully assesses or measures the construct of interest (Carole et al 2008:2080; Oluwatayo 2012:392). In the current study, to ensure content validity, pre-test was carried out in similar setting prior to the main data collection in primary schools of Jimma zone to test the content of data collection tools. In addition, the title of the study was adequately represented by research questions and study objectives, as it was also gone through peer evaluation by experts on the study topic and evaluated and approved by university professor to ensure the content validity of the study. Finally, each aspect of the socio-demographic and psychological factors influencing VCT uptake was also addressed in the questionnaire to ensure content validity.

Construct validity

Construct validity is the degree to which an instrument measures the trait or theoretical construct that it is intended to measure (Bolarinwa 2015:197). It is the most valuable and most difficult measure of validity, basically, it is a measure of how meaningful the scale or instrument is when it is in practical use (Carole et al 2008:2279).

In the current study, to address construct validity, all concepts, which were used, were in line with theory employed to guide this study. The utilisation of adopted data collection tools was also contributed to address construct validity of data collection. Generally, since all other validity like face and content and criterion-related validity were addressed, these can also have contribution to construct validity of the data collection tools.

Criterion-related validity (predictive validity and concurrent validity)

Predictive validity assesses the ability of the questionnaire (instrument) to forecast future events, behaviour, attitude or outcomes in the future (Portland State University 2014:5). On the other hand, concurrent validity refers to the ability of a test to predict an event in the present form or how well an instrument compares with a second assessment concurrently done (Carole et al 2008:2280).

In the current study, to ensure criterion related validity, mixed methods research with multiple data collection approaches were used, i.e., the cross- sectional survey using quantitative data collection methods and in-depth interview using qualitative data collection methods. In addition, socio-demographic and psychological factors associated variables were included in the process of analysing data collected amongst randomly selected teachers working in public primary school in the study area. Therefore, the findings of this study were believed to have internal validity as well as external validity.

External validity

One more issue to be considered in the current study was generalisability or external validity of the study. External validity refers to the generalisability and applicability of the findings from sample population in the total population in other settings or with other subjects of similar contexts (Zohrabi 2013: [6]). That means, external validity is worth considering the extent to which the findings of the current study concluded from sample population can be generalizable and applicable in the total population of which sample was drown. It is also about the applicability of the current study findings beyond the total population to other settings or with other study subjects of similar contexts.

Accordingly, as discussed above in various sections of this study, the study participants of the current quantitative study, the predominant phase were randomly sampled from all the public primary schools in the study area. Hence, it is reasonable to accept the generalisability of the findings to all primary school teachers in Jimma Zone, south west Ethiopia. In addition, since all eighteen (18) woredas were included in the probability selection methods and the woreda selection criteria were representative of all woredas, the generalisability of the findings of this study can be expressed in terms of evaluating the reliability and validity of it. Furthermore, the issues of validity and reliability of the study were addressed while designing phase and through out of the study. Finally, the use of multiple methods of data collection and using different data sources were also ensured external validity of the current study and yield with much stronger results than the findings of one method data.

Reliability of data collection tools

Reliability of data collection tools refers to the ability of an instruments to produce consistent measurements each time, under the same or similar conditions to the same or similar population and obtain similar results (Bolarinwa 2015:198; Kumar 2011:345). Simply, reliability in the case of quantitative study refers to the ability to replicate the results of the study (PSU 2014:1-2; Simon 2011: [1-2]). Reliability of data collection tools is usually carried out using a pilot test, where the ambiguity in the wording, the nature of the interaction between data collectors and study participants and the regressive effect of an instruments are factors that can affect the reliability of a data collection tools (Zohrabi 2013: [2-3]).

In the current study, to ensure reliability of the data collection tools, several measures were taken. Reliability of the data collection tools was enhanced through repeated field tests during the pilot study whereby the questionnaire and In-depth interview guide items were evaluated in terms of their ability to give consistent results with repeated trials. The utilisations of mixed methods research, where both qualitative and qualitative data collection approaches were used to collect data using survey questionnaire and an in-depth interview

approaches was helped to improve reliability of the study.

In addition, the information collected from different sources, using different procedures was an additional to address reliability of data collection tools. In addition, pre-test was done as one of mechanism to improve reliability of the data collection tools, where some irrelevant questions were removed, which also helped to improve reliability of the data collection tools. Furthermore, the review and approval of data collection tools by university professor and research ethical committee was also increased reliability of data collection tools. Generally, this study employed mixed study designs with multiple data collection tools to generate reliable and valid information related to factors associated with the delivery and utilisations of VCT services amongst primary school teachers in the study area.

Recruitment And Training Of Research Assistants

The study was recruited research assistants (RAs) who were helped data collection, processing and analysis. Advertisement on the recruitment of research assistants was posted in different public places. Diploma and above in Public health, knowledge of local culture and language of the study area and previous experience of qualitative and quantitative data collection was used as minimum requirement. After all documents was reviewed, shortlisted individuals were interviewed and 9 successful candidates were recruited. In addition, head of education office in each study woreda was recruited as coordinator of data collection process in their respective woreda.

Pilot Study

A pilot study was conducted prior to the actual data collection period to test the relevance and adequacy of the methodology, data collection tools and analytic processes of the study (Kumar 2011:342). In the current study, a pilot test was conducted amongst thirty-seven primary school teachers (5% of the total sample) randomly selected from five schools to test quantitative data collection tool from four-five September, 2015. Pilot study participants were excluded from main study.

Pre-test of the instruments was aimed at improving the precision, reliability and cross-cultural validity of data collection tools. The pilot study was also helped the researcher to test the interview schedule and the level of the research questions' complexity, as well as assessed the adequacy of the interview's length. Furthermore, it was helped to identify problems and omissions as well. Following the pre-test of study instruments, ambiguous or unclear questions were either rephrased or removed and the corrected questionnaire was distributed to collect the data.

Data Quality Assurance Mechanisms

To ensure data quality, several actions were taken at different stages. Prior to the actual data collection, the intended data collection tools were pre-tested on similar non study population and edited accordingly. The pre-test of the data collection tools was done using primary school teachers from five public primary schools. The schools that were involved in the pre-test activity were not included in the main study. Those schools had similar characteristics to the study schools. So that, the pre-test was helpful to identify problems and omissions as well as checking time spent in responding. Pre- test of data collection tools was improved the precision, reliability and cross-cultural validity of data. Utilisation interview guide was also helped to formally probe and to collect detailed data.

Administration of data collection process using local language (Afan Oromo), the language that was familiar and well understood by all teachers was also helped to ensure data quality. The translation of English version questionnaire into local language, then back into English deferent persons with health background and pre testing the Afan Oromo version prior to final data collection were important steps taken to ensure data quality. The recruitments of experienced research assistants and intensive training given for data collectors on research ethics and data quality assurance was also another measure to ensure data quality.

At the field level, filled questionnaires were checked first by the data collectors themselves and then by their respective supervisors on a daily basis. Then, the principal investigator cross-checked the filled and collected questionnaires randomly for their completeness and consistency on daily bases and corrections were made immediately. The utilisation of experienced research team to guide and facilitate data collection and data analysis and the use of audio-recorders and note taking were also helped researcher to enhance the quality of the data. Again, data were checked at the data entry level for invalid codes, missing values, inconsistency of records and duplicated entries were done carefully to enhance quality of data. Furthermore, back up of the data and filled questionnaires were stored in a safe place under locked shelf. Finally, the assurance of validity, reliability and generalisability of study also contributed for the insurance of quality of the current study.

Data Collection Process

According to the information from Jimma Zone Education Office (2013b:4), all government employees working in the study area come to woreda capital every month for salary collection and for monthly review meeting. They came to woreda capital in two rounds each month for salary collection and review meeting, where half of the teachers from each school come on 24th of each month and stayed for three days (25th for salary collection and 26th and 27th half day for review meeting) and expected to go back to their duty station starting 28th of each month. Accordingly, the rest of the teachers come to woreda capital after four days of the last day of first round review meeting (2nd day of the next month for similar purposes.

Accordingly, quantitative data was collected on the last day of the review meeting in the afternoon for both rounds, using the opportunity that all teachers participated on the review meeting was free in the afternoon, since the meeting was finalised in the morning session. The woreda education office in each data collection woredas were informed early on the schedule and teachers were informed on the first day of their review meetings.

Data Collection Period

In the current study, quantitative data was collected from 27 November to 3 December, 2015. Local language (Afan Oromo) was used during data collection, where the back translation to English was done by another person with public health background and the English version will be used for data entry and analysis.

Data Management And Analysis

The accuracy and coding of all quantitative survey questionnaires were checked and re-checked for incompleteness after the data was collected and no incomplete questionnaire were found. Therefore, all questionnaires were handed over for the data entry. Then after, the data was carefully coded and entered into computer using SPSS for Windows (version 22.0) for analysis. The hardcopy and softcopy of the data were stored in file box and data folder with locked by password respectively, where data was accessed by principal investigator, data entry clerk. The stored data will be destroyed by researcher after the finding will be published.

Data analysis and statistical procedures

Data was analysed using descriptive and association Statistics in

general. Socio-demographic and psycho-social factors associated with voluntary HIV counselling and testing services (objective I) were analysed using distribution Statistics like frequencies, percentages, mean and standard deviation. Non parametric test, chi-square test for independence was used to examine between group differences on categorical variables for nominal and ordinal data (objective I).

Binary logistic regression was used to identify the relationship between independent and dependent variables, where the dependent variables are dichotomous (objective I). Ninety-five per cent confidence intervals (CI) was given for odds ratios (OR) and all statistical significance were considered at $p< 0.04$. Hierarchical regression analysis was used to predict the extent of variance that was account for the dependent variable from a set of independent variables, where the independent variables were entered into the equation sequentially. Each independent variable was assessed in terms of what it was added to the prediction of the dependent variable, after the previous variables was controlled for (objective I).

Ethical Clearance

In the current study, the overall goal of the study was clearly informed to every person from whom data were gathered. In addition, they also informed about the type of data to be collected, data collection procedures, how study subjects were selected, about potential benefit of this study and as no potential risk of being participated. Furthermore, they were communicated about confidentiality, right to withdraw and/or withhold information. The researcher and research assistants guided against any discomforts that might occur and immediately phrase the question so that it could not appear to be a personal experience.

In order to minimize the risk of losing confidentiality of participant from accidental disclosure to the third parts, one isolated room for an in-depth interview time was arranged by school director in each school. To avoid any possible fear or negative effect on the participant by involving in the study, orientation about keeping the anonymity, confidentiality of the information and voluntarily participation were explained as an introduction. In addition, the purpose and possible benefits of study was also clearly communicated, the benefits of the study findings in improving VCT uptake and in preventing the spread of HIV/AIDS amongst primary school teachers and beyond was clearly informed. In addition, the right of each participant to join or withdraw from study at any point of interview process if they feel necessary was guaranteed.

Personal identification of those from the data were gathered was not recorded in the study and any data obtained from them was not disclosed to anybody. Soft copy of the study was kept in the researcher personal computer and locked with password with backup in disk drive and the hard copy was put in a secure and locked cabinet. In the current study, participants were assured that the information that they provided orally or in written would be used only for the research purpose and therefore would be strictly confidential. They Qualitative study participants were also strictly informed not to mention their names at any time of data collection and in case if it was happed, they guaranteed as it was cut off not to relate any comment to identified individuals.

The research assistants also informed not to indicate who made specific comments. Furthermore, the anonymity of the study was also ascertained by using codes and not the participants' names in the questionnaires. Generally, all the data for the current study were handled with confidentiality and anonymity and the results will be disseminated later on to whom it should be disseminated for the possible benefits of the society. In addition, the soft copy was locked with pass word on computer and the hard copy was put in cabinet and locked.

Results And Discusions Of The Study

Results Of The Study

In the first phase of the study, a cross-sectional survey design was used to address the first objective of the study. As the first objective of the study was aimed at exploring and describing the socio-demographic and psychological factors influencing acceptance and utilisation of VCT services, various aspects of respondents' characteristics were explored and described. Accordingly, this section of the report was structured under the three sub-sections of objective one: Background characteristics of the respondents, personal risk perceptions and utilisations of VCT services. The findings of demographic and socio-economic characteristics of the respondents were used as an introduction to the results and discussions.

Demographic and socio-economic characteristics of the respondents

Out of the total six hundred thirty expected study respondents, six hundred three of them participated in the study, making a response rate of 95.7%. Among the total 603 respondents who successfully completed the questionnaires, 377 (62.5%) were males and 266 (37.5%) were females. The respondents' background characteristics were summarised under Table 2.

Personal risk perceptions

Under this sub-topic, the perceived risk of contracting HIV/AIDS and perceived severity of HIV/AIDS were presented and discussed in line with other literatures.

Perceived risk of contracting HIV/AIDS

The study respondents were asked if they considered themselves to be at risk of HIV infection. Majority the respondents (N= 467, 77.4%) felt that they were at risk of contracting HIV and the rest (N= 136, 25.6%) felt they were not. Those who said to be at risk of contracting HIV (N= 467, 77.4%) were further asked to rate their risk level as being high, moderate or low. Majority of them (N= 347/467, 74.3%) said that they were at low risk of contracting HIV and the rest (N= 120, 25.7%) considered themselves to be at moderate. Around half of those who considered at moderate risk of contracting HIV (N= 58, 48.3%) were raised having multiple sexual partners as the main factors for contracting HIV/AIDS.

Thus, majority of the study respondents were felt to be at risk of contracting HIV (N=467, 77.4%). This was in line with the finding of the study conducted in Ethiopia, where majority of subjects perceived to be at risk of contracting HIV (Tsegay et al 2013:9). It was also in agreement with another study conducted in Ethiopia, which reported high perceived risk (Menna 2015:203). The finding of the current study was also in agreement with the finding of the study conducted in Kenya (Wahome, Wiberforce, Dew & Josef 2015:23).

Perceived severity of HIV/AIDS

When the study respondents were asked whether they consider HIV/AIDS as any other disease or not, the vast majority of them (N=519, 86.1%) were answered no, followed by no response(N=57, 9.5%) and yes(N=27, 4.5%). In addition, when the study respondents were asked about having HIV positive test results, most of the study respondents (N=433, 71.8%) were respond as something scary (frightening) or terrifying, followed by no (N=145, 24.1%) and no response (N=25, 4.1%).

This finding was in line with the finding of similar study conducted in Ethiopia, where majority of the respondents were also reported high perceived severity of HIV/AIDS (Bereda 2015:54). In addition, the study

conducted in Uganda was also reported high perceived severity for majority of the study respondents (Odu & Amu 2013:9). Similar result was also reported in the study conducted in Kenya, where majority of the respondents were highly perceived severity of HIV/AIDS (Tangus et al 2014:1295-1297).

Factors associated with utilisations of VCT services

Under this subtopic, participants' knowledge about VCT services, perceived benefits of VCT services, practices of VCT services and factors statistically associated with utilisations of VCT services were assessed. Literature control of each sub-topic was used.

Knowledge about VCT services

Study respondents' knowledge about VCT service was explored by asking them about the confidently and process of VCT services. Having explained as VCT process involves confidentiality as an introduction to data collection, study respondents were asked to indicate if they knew before. Accordingly, the vast majority of the study respondents (N=590, 97.8%) knew as VCT process involve confidentiality and only very few of them lack this knowledge. With regard to the sources of information, as indicated in Figure 4.2, majority of the study respondents (N=425, 72%) were indicated mass-media as their main source of information. In addition, the study respondents' knowledge about the process of VCT service, which include, pre-test counselling, testing for HIV and post-test counselling was explored and the result showed that majority (N=459, 76.1%) of the respondents knew about VCT process and the rest lack this knowledge (N=144, 23/9% as indicated I don't know).

As the current study was targeted teachers, there is high probability that, educated people can easily access information and the finding was also supported with the study conducted in Ethiopia, which was reported high awareness about VCT services (Bereda 2015:49). In addition, the study conducted in eastern Ghana was also reported high awareness about VCT services amongst secondary school teachers (Apanga, Akparibo & John 2015:4).

However, this figure was higher when compared to the global report on comprehensive HIV/AIDS knowledge among young people in sub-Saharan countries, which was reported less than 50% of compressive knowledge of HIV/AIDS (UNAIDS 2013a:17). This might be because of the increase of awareness creations using different channels or might be as result of the more accessibility to different media from time to time.

Perceived benefits of VCT services

The study respondents were asked whether VCT was important or not. Accordingly, more than three-fourth of them (N=469, 77.8%) were believed that, VCT was important for prevention and control of HIV/AIDS. In agreement to this finding, the study conducted in Addis Ababa, Ethiopia was reported as majority of the respondents were agreed on the importance of VCT uptake (Bereda 2015:54). Another study conducted in Ethiopia was also reported similar result, where majority of the respondents were perceived benefits of VCT uptake (Fikadie, Bedimo & Alamrew 2014:4).

The most commonly cited reason as an importance of VCT uptake was its importance to know an individual HIV status (N=240, 51.2%), followed by self-care for future plan (N=148, 31.6%) and to preventing partners and or others (N=81, 17.2%). This finding was in agreement with previous study conducted in Ethiopia, in which majority of the study respondents were mentioned the benefits of VCT uptake as an important aspect in knowing the HIV status (Fikadie et al 2014:4). This figure was also in agreement with the finding of similar study conducted in Nigeria, where majority of the respondents mentioned knowing an individual status as an importance of VCT uptake (Amu & Ijadunola 2015:48-52). This figure was also in agreement with the finding of the study conducted in Kenya, which also reported knowing an individual HIV status as benefits of VCT uptake for majority of the respondents (Tangus et al 2014:1778).

Practice of VCT services

The current study found that, majority of the study respondents (N=318, 52.7%) were not practiced VCT services at least once in their life time. As it was shown in figure 4.3 below, among those ever practiced VCT services (N=285, 47.3%), the proportion of VCT uptake was slightly higher among female respondents (N= 112/226, 49.6%), when compared with their male counterparts (N=173/377, 45.9%) . Only less than half of the current study respondents (N= 285, 47.3%) were ever practiced VCT services. This finding was in agreement with the study conducted in Addis Ababa, Ethiopia, where VCT uptake was found to be higher among females as compared to males (Menna 2015:203). This figure was also in line with the study conducted on assessment of VCT service utilisation amongst adults of north-west Ethiopia, which was also reported high utilisation of VCT services amongst female respondents (Tsegay et al 2013:9). Other studies concurred with the findings of the current study were conducted in Darussalam, Tanzania (Odu & Amu 2015:6) and the one conducted in Zimbabwe (Takarinda, Madyira, Makaza, Peter, Ncube & Harrie 2016:12) where both of them revealed that, utilisations of VCT services among females were more than their male counter parts. In addition, the study conducted by World Health Organization (WHO) was also reported that HIV testing rates for men are generally lower than for women in countries with high HIV prevalence (WHO 2015:27).

However, the current finding was not in agreement with the recent study conducted in Addis Ababa, Ethiopia, which reported equal proportion of VCT service utilisation amongst male and female respondents (Bereda 2015:50). This can be explained that the study was conducted in the capital city of Ethiopia, unlike the current study, where the access to different information sources was relatively high in urban areas, which might be helped men and women equally in order to conduct VCT services. In the current study, the vast majority of those who practiced VCT services, were received pre-test (N=274, 95.1%) and post-test (N=574, 94.1%) counselling, where the counselling sessions were reported to be the level of their satisfaction for majority of the respondents (N=217, 81%). This finding was in agreement with previous study conducted in Ethiopia, which was reported as the vast majority (90% of the respondents) were received both pre-test and post-test counselling (Tamirayew & Tadesse 2016:40). In agreement to this finding, another study conducted Ethiopia was also reported that, more than ninety percent of the respondents were satisfied with the counselling (Dinku & Andargie 2013:3).

This finding was also in agreement with the study conducted in Zambia, in which the counselling sessions, both pre-test and post-test counselling were reported to be the level of respondents' satisfactions (Levery & Wang 2014: 35).

Concerning privacy of VCT services, majority of those who practiced VCT services (N= 138, 52.1%), were reported that, there was no adequate space to ensure privacy at waiting area. In agreement to this finding, the lack of privacy of VCT services was reported in another study conducted in Ethiopia (Tsegay et al 2013:12). This finding was also in agreement with the study conducted in Kenya, which was also reported the lack of privacy as a factor negatively influenced the utilisations of VCT services (Ndwiga & Omwono 2014:284-285). This figure was also supported by another study conducted Botswana, which was reported the lack of privacy of VCT services (Majelantle et al 2014:4).

With regard to confidentiality, regardless of VCT history, majority of the study respondents (N= 433, 71.8%), were replied strongly disagree, when they asked to rate their level of agreement to the statement "VCT providers keep the secret of their clients", followed by disagree (N=145, 24.0%) and the rest (N=25, 4.2%) said agreed. In agreement with the current study, the lack of confidentiality of VCT services was significantly associated with utilization of VCT services in the study conducted in Kenya (Ndwiga & Omwono 2014:284-285). Similarly, the study conducted in Botswana, was also reported the lack of confidentiality of VCT services ass inhibiting factors for the utilisations of VCT services (Majelantle et al 2014:4).

In the current study, majority of the study respondents (N=439, 72.8%), were mentioned the inability to deal with the stress of being HIV positive and fear of rejection by community related to being HIV positive (N=164, 27.2%) as hindering factors for the utilisations of VCT services. This finding was in agreement with the previous study conducted in Ethiopia, which was also reported the fear of coping with being HIV positive as hindering factor for the acceptance and utilisations of VCT services (Leta etal 2012:7). In agreement to the current finding, another study in Ethiopia was also identified the fear of an anxiety following the positive result as hindering factor for the acceptance and utilisations services (Bereda 2015:54). Similarly, the study conducted in Botswana was also identified the fear of stigma and discrimination related to being HIV positive as the factors negatively influencing the utilisations of VCT services (Majelantle et al 2014:4).

In the current study, majority of the respondents (N=326, 54%) showed willingness to undergo testing for HIV within the next 3 months at the time of the study. When study respondents were categorised based on their history of VCT uptake, majority of those ever practiced VCT services (N=166/285, 58.2%) and half of those who have never practiced VCT services (N=159/318, 50%) showed willingness for VCT uptake. This was supported by previous study conducted in Ethiopia, which reported that, majority of the study respondents want to have VCT in the near future (Fikadie et al 2014:4). This finding was also supported by another study conducted in Ethiopia, which was reported that, around half of those who have never tested showed interest to go for testing in the near future (Menna 2015:203).

Factors statistically associated with utilisations of VCT services

Under this sub-topic, the association of socio-demographic and theoretical variables (perceived risk & severity of HIV/AIDS and benefits of VCT uptake) with frequency of VCT uptake was assessed. Accordingly, the following significant associations were identified at bivariate analysis as it was showed in Table 4.2.

- Age of study respondents was significantly associated with frequency of VCT uptake (p=0.002; AOR=1.29; 95% CI=1.12-1.52).
- Educational status of the study respondents was significantly associated with frequency of VCT uptake (p=0.034; AOR=0.69; 95%CI=0.41-0.96).
- Perceived benefits of VCT uptake was significantly associated with frequency of VCT uptake (p=0.001; AOR=0.46; 95%CI=0.31- 0.69).
- Perceived risk of contracting HIV/AIDS was significantly associated with frequency of VCT uptake (p=0.001; AOR=0.46; 95%CI=0.31-0.69).
- Providers sex preferences was significantly associated with frequency of VCT uptake (p=0.018; AOR=1.2; 95%CI=0.46-2.3).
- Perceived role of religious leaders in the promotion VCT was significantly associated with frequency of VCT uptake (p=0.018; AOR=1.2; 95%CI=0.46-2.3) at bivariate analysis.

Based on the output of bivariate analysis, all variables significantly associated with frequency of VCT uptake services were entered into multivariate analysis for further analysis by controlling confounding factors of other variables. Accordingly, after the confounding factors of other variables were controlled, the following variables were identified as the final predictor for the utilisations of VCT services.

- Perceived risk of contracting HIV/AIDS was statically significantly associated with the frequency of VCT uptake (p=0.009; AOR= 1.69 (1.14-2.50).
- Study respondents' educational level was statistical significantly associated with frequency of VCT uptake (p=0.009; AOR= 1.69 (1.14-2.50).
- Perceived benefits of VCT uptake as prevention tool for HIV was statistical significantly associated with frequency of VCT uptake (p=0.003; AOR=2.65 (1.39-5.02).

Hence, in the current study, perceived risk of contracting HIV/AIDS (p=0.009; AOR=1.69 (1.14-2.50)), perceived benefits of VCT uptake (p=0.003; AOR=2.65 (1.39-5.02) and educational status of study respondents (p=0.009; AOR=1.69 (1.14-2.50) were identified as the final predictors for the utilisations of VCT services amongst primary school teachers in Jimma Zone, south west Ethiopia (Table 4.3).

As it was discussed above, study respondents with perceived risk of contracting HIV/AIDS were 1.69 times more likely to had undergo testing for HIV when compared with those who had not perceived risk of contracting HIV/AIDS (AOR 1.69; 95% CI=1.14-2.25). This might be explained in terms of the role of better self-awareness amongst teachers for timely interventions for certain health-related challenges like HIV/AIDS. This finding was also supported with the study conducted in Ethiopia, in which respondents with perceived risk of HIV were more likely to have undergone VCT, when compared with those who had not perceived risk of contracting HIV/AIDS (Mena et al 2015:2004). The current study was also supported with another study conducted in Addis Ababa, in which respondents with perceived risk of contracting HIV/AIDS were more likely undergone VCT services (Bereda 2015:74).

With regard to perceived benefits of VCT services, respondents with perceived benefits of VCT uptake were 2.65 more likely to had undergone testing for HIV, when compared to those not perceived benefits of VCT uptake (AOR 2.65; 95%CI=1.39-5.02). This finding was in agreement with the study conducted in Ethiopia, which was also reported perceived benefit of VCT uptake was highly likely to have intention conduct VCT services than to those having low perception (Bereda 2015:56). The current finding was also supported by another study conducted in Ethiopia, which was reported statistically significant positive association between perceived benefit and utilisation of VCT services (Abamecha, Godesso & Girma 2013:14).

Concerning the educational level, the current study found that, study respondents with certificate level were about 1.59 times more likely to undergo testing for HIV, when compared to those who have diploma and above (AOR 1.59; 95% CI 1.03-2.25). This might be related to the differences between Universities and Teachers training institute with regard to the promotion of VCT services. Which means, the promotion of VCT services might be given more attention in teachers training institute, when compared with Universities, since teachers with diploma and above are commonly trained in the University in Ethiopia. However, the researcher did not come up with similar finding from other reviewed studies.

Conclusion And Recommendation

In conclusion, the current study was explored and described various factors determining the delivery and utilisations of VCT services at individual, facility and system levels. Despite, majority of the respondents perceived benefits of VCT uptake, utilisation of VCT services found to be low. Perceived risk of contracting HIV/AIDS,

perceived importance of VCT uptake and educational status were significantly associated with VCT uptake. In addition, perceived risk of contracting HIV/AIDS was significantly associated with the willingness for VCT uptake.

The Ministry of Education and Ministry of Health in collaboration with their partners in HIV/AIDS prevention and control should allocate more resources to promote VCT Uptake for school community and beyond. They should give attention to improve the quality of teaching and learning of HIV/AIDS and promotion of VCT programme for the school community. Allocating reasonable resources for the promotion of peer education programme in primary school teachers could play significant role in bringing positive changes. Finally, qualitative studies should be conducted to explore in detail on factors that determine the acceptance and utilizations of VCT services in the study area.

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