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Routine Health Information Utilization and Associated Factors Among Health Care Professionals Working at Public Health Facilities Of Dire Dawa, Eastern, Ethiopia

MPH THESIS

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Program: General Public Heath

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ROUTINE HEALTH INFORMATION UTILIZATION AND ASSOCIATED FACTORS AMONG HEALTH CARE PROFESSIONALS WORKING AT PUBLIC HEALTH FACILITIES OF DIRE DAWA, EASTERN, ETHIOPIA

SAMUEL MEKURIA

A Thesis Submitted to Haramya University College of Health and Medical Sciences School of Public In Partial Fulfillment of the Requirements for the Degree of Master of Public Health In General Public Health.

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APPROVAL SHEET

I hereby certifying that I have read and evaluated the thesis entitled routine health information utilization and associated factors among health care professionals working at public health facilities of Dire Dawa, Eastern, Ethiopia prepared under my guidance Samuel mekuria. I recommend that it be submitted as fulfilling the thesis requirement

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Final approval and acceptance of the Thesis is contingent upon the submission of its final copy to the council of Graduate studies (CGS) through the candidate's department or school graduate committee (DGC or SGC)

DECLARATION

I Samuel mekuria do here by declare that this assessment report has not been submitted to Haramaya University or any other Universities for any an academic award.

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By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical principles of scholarship in the preparation, data collection, data analysis and completion of this thesis.All scholarly matter that is included in the thesis has been given recognition through citation. I affirm that I have cited and referenced all sources used in this document. Every effort has been made to avoid plagiarism in the preparation of this thesis.

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BIOGRAPHICAL SKETCH

I was born in Harar on Feb 20/1982. I completed elementary school in Harar Aboker School from 1987-1995 and High school in Harar senior secondary school from 1996-2000. Then from Sep 2000- Jun 2003, I joined Haramaya University public health facuility to study Enviromental health sciences were graduated with Bachelor degree.I worked at Dire Dawa Regional Health Bureau in legaoda Gudenfta health center as health Extension supervisor from 2003-2005, Keble 05 Health and Health related as professional from 2005- 2009 and Dire Dawa Regional Health Bureau Health and Health related know service, input and quality control core process as a professional from 2010 till now.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

AOR**:** Adjusted Odds Ratio

ART: Antiretroviral Therapy

CI: Confidence Interval

COR: Crude Odds Ratio

CSA: Centeral Satatic Agency

Epi- Info: Epidemiological Information

ESHE: Essential Services of Health for Ethiopia

FMOH: Federal Ministry of Health

HIS: Health Information System

HIV/AIDS: Human ImmuneViruse /Acquired Immunity Deficiency Synderom

HMIS: Health Management Information System

HMN: Health Metrics Network

IHRRC: The Institutional Health Research Ethics Review Committee

LQAS: Lot Quality Assurance Sampling

M&E: Monitoring and Evaluation

MCH: Maternal and Child Health

NGO: Non-Goveremnent Organization

OPD: Out Patient Department

PHCU: Primary Health Care Unit

PMT: Performance Monitering Team

PRISM: Performance of Routine Information System Management

RHIS: Routine Health Information System

RHIU: Routine Health Information utilization

SD: Stanardard Devation

SNNPR: South National Nationalities and Peoples Republic

TB: Tuberculosis Bacilli

USD: United Stata Dolar

UNICEF: United Nations Children's Emergency Fund

USAID: United States Agency for International Development

WHO: World Health Organization

ABSTRACT

Background: Using reliable information from RHIS over time is an important to improve Health outcomes, tackling disparities, enhancing efficiency and encouraging innovation. In Ethiopia, the RHIS for enhancing performance was not well studied among health workers. In Dire dawa, RHIS was below the national standard in all health facilities which is below 80%. The factors which affect RHIS were lack of training, lack of decision based on supervision, and lack of feedback.

Objective: To assess the level of routine health information utilization and associated factors a mong Health Care Professionals Working at public health facilities of Dire Dawa, Eastern Ethiopia, 2020.

Methods: Afacility-based cross-sectional study design with quantitative data collection methods was employed at the Dire Dawa from June10–July20, 2020. A total of 378 randomly selected health workers were included in the study, the data were collected using a self-administration questionnaire developed by reviewing different litratures. The data were cleaned and entered into Epi-data version 3.1, and then exported to Stata version 14.2 for analysis. Descriptive statistics and binary logistic regression analyses were used to analyze the data, Odds ratio with 95% CI was used to assess the association between RHIU.Significant associations were declared significant at p-value < 0.05.

Results:-The study revealed that 57.67% of the health workers utilize routine health information. Good decision making autonomy AOR=3.29, 95% CI: (1.70, 6.3), Good self efficacy AOR= 2.71, 95% C.I: (1.30, 5.63) & Good organization support AOR=3.85, 95% CI:(1.88, 7.70) were found significantly associated with level of RHIU.

Conclusion:-. More than half of the health workers working at public health facilities utilize routine health information , Self efficacy, Organizational support and Decision making autnomy were found to be significantly associated with RHIU.Thus, Self-efficacy, decision making

autnomy and organizational support are recommended for improving RHIU.

Key word: Health care Professionals, Routine health information utilization, Dire Dawa, Eastern Ethiopia.

1 INTRODUCTION

1.1 Background

Effective health management information systems (HMIS) are essential for setting community-based problems, budget allocation, resource management and decision making at all levels of health services. In Africa including Ethiopia, there are many problems in data management in the health sector concerning missing data in reports this leads to a picture that could represent the country's health information(Tadesse K, Gebeyoh etal.,2014).Health management information system (HMIS) is a system that allows for the collection, storage, compilation, transmission, analysis and usage of health data that assist decision-makers and stakeholders to manage and plan resources at every level of health services. It is also used to improve patient satisfaction with health services by tracking certain dimensions of service quality(Tadesse K, Gebeyoh etal. ,2014).

HMIS has been envisaged not only to help the administrators to have better monitoring and control of the functioning of hospitals and public health programs but also assist the doctors and medical staff to improve health services with readily reference patient data, work flow across the health institution by using decision support indicators. This also enabled less paper-process and parameterized alarms and triggers during the patient treatment cycle. HMIS enables monitoring predefined health indicators and the embedded exception reporting facilitates decision making by the hospital management and higher-level administrators for policy and strategic decisions(Ranjit K. ,2014).

The Routine Health Information System (RHIS) allows organizational members to track their progress routinely in meeting organizational objectives, including patient management objectives, for which data cannot be collected otherwise. Health system managers have no substitute for routine information interms of monitoring progress towards achieving service coverage objectives and managing associated support services (e.g. logistics, human resources and finance) for their local target populations **(**Anwer Aqil,2009**).** Routine health information system (RHIS) is the backbone for planning and management of health services at district levels as it can play an important role in effective and efficient health Service delivery, decision making, and the improvement of the program. (Mulusew , Andualem etal.,2017).

In the history of routine health information survey was the Work of John Snow in cholera epidemics was made possible by using health information registers (data) of births, deaths and address maintained in 1800s (AbouZahr C etal.,2015;83(8)) In the 1990 promote the development of routine health information systems in developing countries,emphasizing management of the health system (Stephanie Mullen TL,

Michael Edwards etal,2015).HMIS has been implemented since 2008 in Ethiopia and provide core indicators used to improve the provision of health services and ultimately, to improve health status of the population. It is a major source of information for monitoring and adjusting policy implementation and resource use (FMOH ,2015).

Ethiopian FMOH has developed seven years ,2013 National HIS strategic road with vision of timely, complete and accurate health and health related information from an integrated data repository made available and used for evidence based decision making at all levels in the country (FMOH ,2012).

Routine health information system is vital for operational, tactical and strategic decision making. Utilization of information at all levels of the health system through effective data analysis, interpretation and utilization is important. However, poor data quality incompleteness and incorrectness limited use remain the major concerns(Framework ,2008 FMOH, 2015).

1.2 **Statement of the Problem**

Globally, significant human and financial resources have been invested to improve routine information systems for planning, reporting, community health mobilization and observing disease trends, consequently, more attention has been given to strength evidence-based decision through good governances, transparency and accountability (Hotchkiss DR, Aqil A et al.,2009). Most developed nations have made remarkable strides in strengthening data-driven decisions in health care, though it remains a challenge across various nations globally (Ngorsuraches S, Meng W etal., 2012).

The value of health information is determined by its utilization in decision-making, public health decision-making is critically dependent on the timely availability of sound data.Developing countries are reported to have a large amount of unreliable health data, poor human resources, and poor information technology infrastructure, hence effective HISs are needed to improve these problems.In recent time ,resource constraints, good governance, transparency and accountability have become the mantra of development and consequently more attention is given to strengthening evidence-based decision-making and information utilization, international donors such as UNICEF and USAID heavily influenced health information system(Anwer Aqil and Dairiku Hozumi ,2009).

Data are collected at health facilities about the populations they serve, their health needs and the services provided to meet those needs. These data are used to populate reports that are required by the varied national health programs. Often, once these data are sent to the higher level in the health system, they are

not considered or used by the facilities themselves or their district or regional management to make decisions about future service delivery (Nutley and Reynolds ,2011).

The Sounded policy, resource allocation and day-to-day management decisions in the health sector require timely information from routine health information systems (RHIS) to track the delivery of quality health care services and related support systems, including equipment and supplies, finance, infrastructure and human resources. However, previous assessments in developing countries indicate that the RHIS is over and over again in confusion((David R Hotchkiss, Theo Lippeveld et al.,2005).

Despite this,The use of information for evidence-informed decision making-particularly data produced by routine health information systems (RHIS) is still very weak in most low and middle-income countries (LMICs)(WHO ,2007 Measure Evaluation, 2017) . Too often, data are sat in reports, shelves, cabinets, data bases and left unanalyzed to be sufficiently utilized for policy and program improvements (Nutley 2012, Nutley T and HW, 2012).

Health information systems are further fragmented by disease-focused demands that often relate to donor requirements and international initiatives directed towards specific areas such as malaria, HIV/AIDS or tuberculosis. Intense pressure for the rapid availability of data often contributes to the establishment of disease-specific information systems driven by performance-based funding. Countries then risk being over whelmed by multiple and often parallel information demands that can search available resources beyond their limits. Within the health sector itself, health workers are over burdened by excessive reporting requirements from multiple and poorly coordinated subsystems that cannot deliver timely, accurate and complete data. Although a vast amount of data may be collected, only a small proportion is synthesized, analyzed and used(WHO/HMN ,2010).

An Unfortunate feature of health care systems in many parts of the world is that decisions are taken despite the absence of information use. One critical weakness across Africa is the current lack of capacity to effectively use data to monitor patterns of service use through time so that the impacts of changes in policy and service delivery can be evaluated (Mukama,2013).

The management information system is an essential tool for strengthening planning and management in the health facilities. But in developing countries due to resource limitation, HMIS implementation is at its infant age. Many of health professionals focus on treatment due to lack of training there is no awareness on the importance of patient record. Consequently, decision-makers cannot identify problems and needs, track progress, evaluate the impact of interventions and make evidence-based decisions on health policy, programmed design and resource allocation (Kidane Tadesse, Ejigu Gebeye et al., 2014).

Research conducted in ,2009 in health facilities in Addis Ababa states lack of appropriate inputs to the system, lack of Health Information System manipulation skill, lack of incentives, lack of feedback, lack of technical support,the low attitude of health workers, lack of management commitment ,awareness centralized decision making, absence of information culture and non participation of Health Information System staff in the planning process as factors affecting the use of HIS at facility level (Mengistu,2009).

Routine data can be collected as aggregated data for example on tally sheets or tick sheets from which only total patients and priority interventions are counted or patient-based data by means of tools containing more detailed data for each individual patient and also routine health information includes information enable early identification of specific problems .Use of information depends upon the decision power of the people and the importance given to other considerations. However, without assessing use of information, it is difficult to know whether a RHIS is meeting its intended objectives, improving evidence-based decision-making and consequently leading to better health system performance (Aqil,2009).

A study conducted by kidist teklegiorgis, 2016 dire dawa, Eastern, Ethiopia The level of data quality was below the national standard in all health facilities which is below 80%. However hospitals and health centres have better performance compared to health posts. The factors which affect data quality were lack of training, lack of decision based on supervision and lack of feedback not all but also the data utilization is differently reported.

1.3 **Significance of the study**

The finding of the study will be used by the health care manager and other health stakeholders to reflect on the performances of routine health information systems and identify factors affecting performances of routine health information systems utilization.

The study finding will be used to inform the planning and allocation of resources to priority action, aimed at improving performances of routine health information systems.

This study will also be important for the Dire Dawa regional health bureau to know the level of health information utilization in their facilities for planning, management and decision making.

The study will act as a source of literature for scholars who wish to did further studies about health information utilization or in other fields related to the factors that affect the effective's utilization of routine health information in public health facilities.

1.3.1 Objectives

1.3.2 General Objectives

To assess the level of routine health information utilization and associated factors a mong health care professionals working at public health facilities of Dire Dawa Eastern , Ethiopia ,2020.

1.3.3 Specific Objectives

To determine the level of routine health information utilization among health care professionals working at public health facilities.

To identify factors associated with routine health information utilization among health care professionals working at public health facilities.

2 LITERATURE REVIEW

Level of information utilization

Study by Angelo, India, 2010, Of all respondents, 81% had never been trained on HMIS, 65% did not properly define this system, 54% didn't know who is supposed to use the information collected and 42% did not use the collected data for planning, budgeting and evaluation of services provision. Although the attitude towards the system was positive among 91%, the reviewed HMIS booklets were never completed in 25%-55% of the facilities. There were no significant differences in knowledge, attitude and practice on HMIS between clinicians and nurses. The most common type of HMIS booklets which were never filled were those for deliveries (55%). The gaps in the current HMIS were linked to lack of training, inactive supervision, staff workload pressure and the length and laborious nature of the system. (Angelo and Nyamtema ,2010).

Study in Tigray by Ataklti welay ,2017,Out of all the total respondents, 50 (72.5%) of them said that the information they collected had used for planning and 42.4% respondents were used to observe trends of health service.In fact all the Health facilities had established PMT and all 69(100%) respond PMT conducted monthly meeting using a minute book, but only 43 (62.3%) said that PMT puts a solution according to the problem identified, additionally all respondents said that they have conducted LQAS on monthly bases and 49(71%) of case teams that uses result of LQAS for decision making (Ataklti W, Kidane T etal. ,2017).

Study conducted in Bahir Dar, 2013, the majority of the respondents acknowledged the need of health information to their routine activities. About 54.0% of respondents lacked access to health information. Only 42.8% of respondents have access to internet sources. Important barriers to access information were geographical, organizational, personal, economic, educational status and time. About 58.0% of the respondents accessed information by referring their hard copies and asking senior staff ,Age, sex, income computer literacy and access, patient size, work experience and working site were significantly associated with information needs and seeking behaviour (Mulusew Andualem ,2013).

Study by Dagnew in North Gondar, Northwest Ethiopia ,2017 In this study, the level of good routine health information utilization among health professionals was 78.5% ,also the majority 94% of the respondent used routine health data for treating patients 90.1% for disease prioritization 85% for drug procurement 89.6% for monitoring day to day health service 92.6% for checking data quality 86.7% for

resources allocation 89% for planning 88% for department performances 85% for selection of best experiences within health facility,82.8% for sharing health data to other facilities and stakeholders 87.8% for decision making and 87.7% for community mobilization and discussion. Good routine health information system utilization was noted among health information utilization was 84.9% at health center and 64.1% at hospital (Dagnew, Woreta etal .,2018).

The study in east Gojjam zone, Northwest Ethiopia, 2017 by Mulusew Andualem Asemahagn revealed that 45.8% of the health workers had a good level of routine health information utilization (Mulusew , Andualem etal., 2017).

A study conducted in Jimma by sultan,2011on utilization of health information system at district level in Jimma zone stated that the overall utilization of information in the study area was about 32.9%.In this study it was found that 26.7%, 31.3% and 36.0% units or departments of Health Posts, Health Centers and District Offices respectively tried to change data into information, while cumulatively, (32.9%) units/departments of health facilities used their data or information for decision making, planning, budget and M&E of their activities. The assessment also showed that Availability of resources: 85% of the facilities surveyed have computers, printers and calculators while 40% have regular telephone line and internet. Access to an electricity and water supply is very high (89.2%).The study confirmed that poorly coordinated processes, no capacity building activities on HMIS and absence of supplies like guidelines. Data production, documentation and transfer were not fully supported by information technologies((Abajebel, Jira etal., 2011).

As study in Adis Ababa by Tsedale, 2017 stated that, 416 respondents respond to the questionnaire with 98% response rate.The current utilization rate of HMIS at health centers were about 41.7%. The total outcomes of the generated routine data were compiled using tally sheet, registers, and report in combination of these formats. The combined utilization of the mentioned formats constituted 199 (48.8%). The odds ratio result indicated that the provisions of technical supports, presence of computers, generated data at department level and practice of conversion of data into information enhanced the utilization of HMIS (AOR=1.69,95%CI:1.092.63), (AOR=2.08, 95% CI:1.29-3.35)(AOR=2.78, 95% CI:1.654.68) and (AOR=3.44, 95% CI:(1.82-6.51) (TsedaleAdane, Trhas Tadesse etal., 2017).

2.1 **Factors affecting information utilization**

In south Africa study by Nicol ,2017,showed that routine health information utilization level as human factors finding the average confidence levels at performing RHIS tasks is 69% (Nicol, et al. 2017).The Benin study by Yolaine, 2014,conclude that majority of the participants were working in the public sector

74.8% from those professionals less than a quarter 22.4% had been trained or retrained in the RHIS in the last 12 months. Among the health workers interviewed, 38.5% were also responsible for the health center in addition to their RHIS activities regarding the perceived complexity of the technical factors of the RHIS.The average score for perceived self-efficacy was 61.4% (Yolaine Glèlè Ahanhanzo, Laurent T Ouedraogo etal, 2014).

The study showed that Eastern Ethiopia utilization rate was found to be 53.1%. Utilization of HIS was also compared based on health facility type and from the analysis the highest utilization rate was 55.3% by the health centers and 52.2% in hospitals (Teklegiorgis, Tadesse etal.,2016).The study in East Wollega by Yarinbab, 2018 the multivariate logistic regression analysis revealed that staff motivation,decisions based on superior directives and performance monitoring by health professionals were significantly associated with HMIS data utilization. The odds of HMIS data utilization was two times more likely (AOR= 2.07, 95% CI=1.12, 4.29) among motivated staffs as compared to among those not motivated. Similarly, the odds of HMIS data utilization was two and half times (AOR=2.46, 95% CI=1.10, 5.49) more likely among health professionals who made decisions based on superiors'directives than among those who did not use superiors' directives for decision making. Besides, the odds of HMIS data utilization was four times (AOR=4.07, 95% CI=1.29, 12.83) more likely among health professionals who regularly monitor their performance as compared to those who did monitor their performance. (Yarinbab Ergat and Mekonnen, 2018).

The utilization of HMIS data showed significant association with staff motivation (AOR=2.07, 95% CI=1.12, 4.29) decisions based on superior directives (AOR=2.46, 95% CI=1.10, 5.49) and performance monitoring by health professionals (AOR=4.07, 95% CI=1.29, 12.83). (Yarinbab Ergat and Mekonnen,2018). Research conducted by Atsede mazengia 2017,state that,HMIS training [AOR = 2.72, 95% CI: 1.60, 4.62], good data analysis skills [AOR = 6.40, 95%CI: 3.93, 10.37], supervision [AOR = 2.60, 95% CI: 1.42, 4.75], regular feedback [AOR = 2.20, 95% CI: 1.38, 3.51] and favorable attitude towards health information utilization [AOR = 2.85, 95% CI: 1.78, 4.54] were found significantly associated with a good level of routine health information utilization (Atsede , Dessalegn etal., 2017).

A study at western, Amhara by Mulusew, 2017 both the quantitative and qualitative data showed the following findings. More than two thirds (170; 68%) of study participants had regular health facility reports in hard copy formats and only 80 (32%) had softcopy reports. Very few (72; 28.8%) respondents had monitoring and evaluation/feedback reports. More than half (150; 60%) of the participants did appropriate HMIS indicators calculation to be presented in tables and charts. A relatively small number of respondents (30; 12%) took training on how to use routine/HMIS data also Of all 250 study

participants, only 96 (38.4%) routinely used facility health information for two or more purposes in addition to reporting duties; 50 (52%) to develop plan, 23 (24%) for feedback, 17 (18%) for patient management, and 6 (6%) to conduct research. Residence, data management knowledge, work load, computer skill, computer access, supportive supervision, HMIS training and availability of HMIS guideline and formats were important factors affecting health information utilization (Mulusew , Andualem etal, 2017).

Study in hadiya, Ermias Health center units or department had key indicators (AOR=3.67; 95% CI: 2.11, 6.39), completeness of data format (AOR=3.42; 95% CI: 1.65, 7.08), consistency of data (AOR=1.91; 95%CI: 1.05, 3.48) were found to be significantly associated with utilization of health information system at 95% level of significance (ErmiasAbera, Kidist Daniel etal., 2016).

According to the multivariable logistic regression analysis, sex (AOR = 2.19, 95% CI: 1.47, 3.27), type of institution (AOR = 3.57, 95% CI: 2.39, 5.32), standard indicators (AOR = 3.28, 95% CI: 1.90, 5.65), data analysis skills (AOR = 1.90, 95% CI: 1.12, 3.23), and good governance (AOR = 1.97, 95% CI: 1.31, 2.95), were found significantly associated with a good level of health information utilization.(Dagnew, Woreta etal, 2018).

A facility based cross sectional study was conducted in Ayder referral and teaching hospital by Tadesse, Mekele, Ethiopia. In addition, information was not still used for action since there was no well established information-use culture in the facility. This might be mostly due to lack of knowledge on how to use HMIS data for allocation of resource and man power and also lack of supervision and follow up from the regional health bureau might be another reason (Tadesse K, Gebeyoh etal., 2014).

A study by kidest revelved that another study in Bahr Dar by Helen T, 2011. On assessment of HMIS implementation reported that there was no incentive for information use or motivation to improve information culture. The same study reported that rules and regulations in the new HMIS were found to be low as 47.5% of the respondents lack confidence to participate and make decisions for HMIS-related activities; 65.7% of respondents lack appropriate technologies to utilize information and the use of information for decision-making was found to be 45.6%, among them 35.3% used it for future reference and 42.4% used to observe trends, with 42.9% to pass report data to health office (Teklegiorgis, Tadesse etal, 2016).

Study from kidest Eastern Ethiopia, 2016 state that the findings of this study 75% of units and or departments reported that they had trained staffs and skilled human resources who were capable of performing HIS tasks.Only 37% of departments reported there were specifically assigned personnel for

HIS activity. Similarly 35% of the facilities have separated HIS offices and 19% have assigned budgets for HIS (Teklegiorgis, Tadesse etal, 2016).

Study by Emiruin ,West Ethiopia ,Wollega,2018. All of the respondents had training on Health Management Information System, only 36 (11.8%) had in service training. Based on the criteria 140(45.8%) were not utilized Health Information system, 202 (66.0%) of them utilized Health Information system to prepare plan of action. The independent predictors affecting utilization of Health Information were feedback from respective supervisor [AOR=14.5(6.9-30.3)], types of the decision [AOR= 3.9(1.9-7.8)] and type of the organization [AOR= 3.5(1.5-8.1)]. The proportion quarterly completeness & timeliness of report were 86% and 89% respectively however data accuracy were not 100% maintained as per guideline (Emiru, Oljira etal, 2018).

2.2 Conceptual frame work

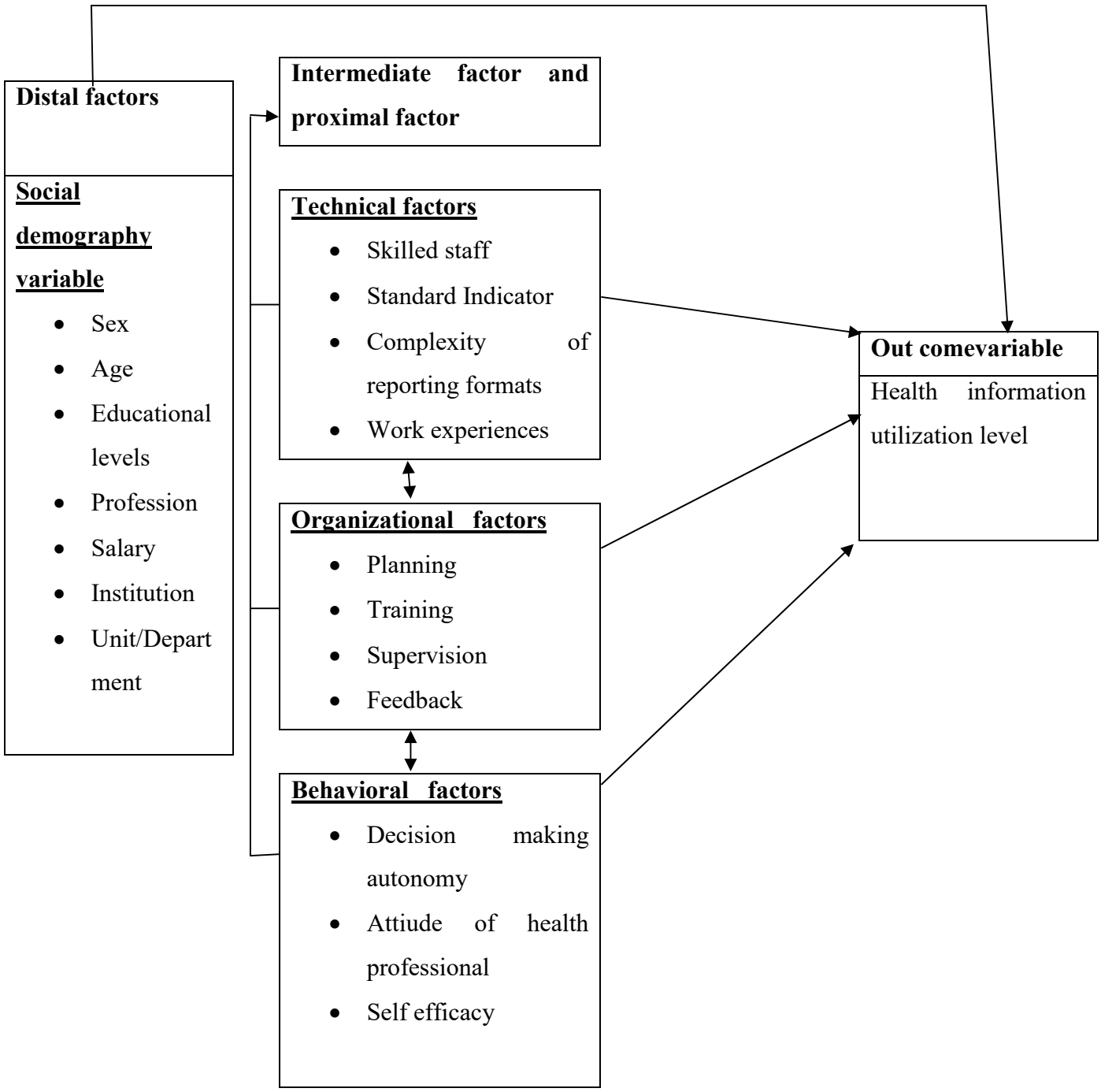

Figure 1: Conceptual framework for routine health information utilization and associated factor a mong health facilites in Dire Dawa, Eastern, Ethiopia.

3 METHODS

3.1 Study Area and period

This study was conducted in Dire Dawa city administration ,Dire Dawa is found in Eastern Ethiopia about 515 km far from the capital city, Addis Ababa 311 km from Djibouti, and 55 km from Harar town. The city is found at a latitude and longitude of 9°36′N41°52′E9.6°N 41.867°E. Based on the 2007 census conducted by the Central Statistical Agency of Ethiopia (CSA), Dire Dawa has a total population of 342, 827, (171, 930 men and170 897 women) 69.92% of the population are considered urban inhabitants, with an estimated area of 1231.20 km^2.The Dire Dawa Administration has two hospitals,15 health centers and 34 health posts,The public health facilities in the Dire Dawa have a total of 1080 diffirent catagories of health professionals.The current study was conducted June 10 – July 20,2020.

3.2 Study design

A facility-based cross –sectional study was conducted.

3.3 Population

3.3.1 Source population

All Health Care Professionals working in the public health facilities of Dire Dawa were the source population.

3.4 Study Population

Randomly selected Health Care Professionals currently working in the public health facilities of Dire Dawa.

3.5 Inclusion and exclusion criteria

3.5.1 Inclusion criteria

Health care professionals working at public health institutions of the study area at least for the last six months or above were included in the study.

3.5.2 Exclusion criteria

Health professionals who are not satisfying the above criteria and who were on leave during data collection period will be excluded.

3.6 Sample size determination

3.6.1 Sample Size for the first objectives

The Sample size for the first objectives was calculated using single population proportion formula,considering the following assumptions:78.5% good level of health information utilization based on the study conducted in North Gondar, Northwest Ethiopia, (Dagnew, Woreta et al. 2018) 95% level of confidence, 5% margin of error and 10% of non-response rate.

$n= Z (\alpha/2) P (1-P)/d^2$

d= Standard error or precision =0.05

$\frac{(1.96)2 (0.78) (0.22)}{(0.05)^2} = 263$

With a non response rate 10% of 263 = 289.3

Form associated factor we use the biggest sample size 378.4

3.6.2 Sample Size for Secondary objective

The sample size for the associated factors is calculated using double population proportion using Epi Info7, considering the following assumptions: 80% power of the study 95% confidence level, and 1:1 case to control ratio.

Table 1: Sample size determination factor a mong health professional at public health facilities of Dire Dawa, Eastern,Ethiopia,2020

Factors	Routine health information utilization		Odd ratio	Non-response rate	Sample size	Reference
	Cases among	Cases among				

		exposed	non exposed				
Supportive supervision	Exposed (Yes)	56(22.4)	49(19.6)	3	10	136	(Mulusew , Andualem et al., 2017)
	Non-exposed (No)	40(16)	105(42)				
Good governance	Exposed (yes)	92(29.77)	217(70.23)	2.38	10	224	(Dagnew, Woreta etal., 2018)
	Non-Exposed (NO)	62(15.09)	349(84.9)				
Feedback	Exposed (yes)	90(27.11)	242(72.89)	1.88	10	378	(Dagnew, Woreta etal., 2018)
	Non-Exposed (NO)	64(16.49)	324(83.5)				
HMIS data management Guideline available	Exposed (yes)	16(6.4)	9(3.6)	3.22	10	334	(Mulusew , Andualem et al., 2017)
	Non-Exposed (NO)	80(32)	145(58)				

3.7 **Sampling Techniques and Procedures Sampling Technique**

Health professionals for self-administered questionnaire were selected by using a simple random sampling technique and purposive sampling techniques. From a total of 15 health centers and two hospitals, one hospital purposively selected the other health center simple randomly selected. The calculated sample size for respondent's self-administered questionnaire was proportionally allocated to each health center and Hospital, then health professionals were selected using by lottery method.

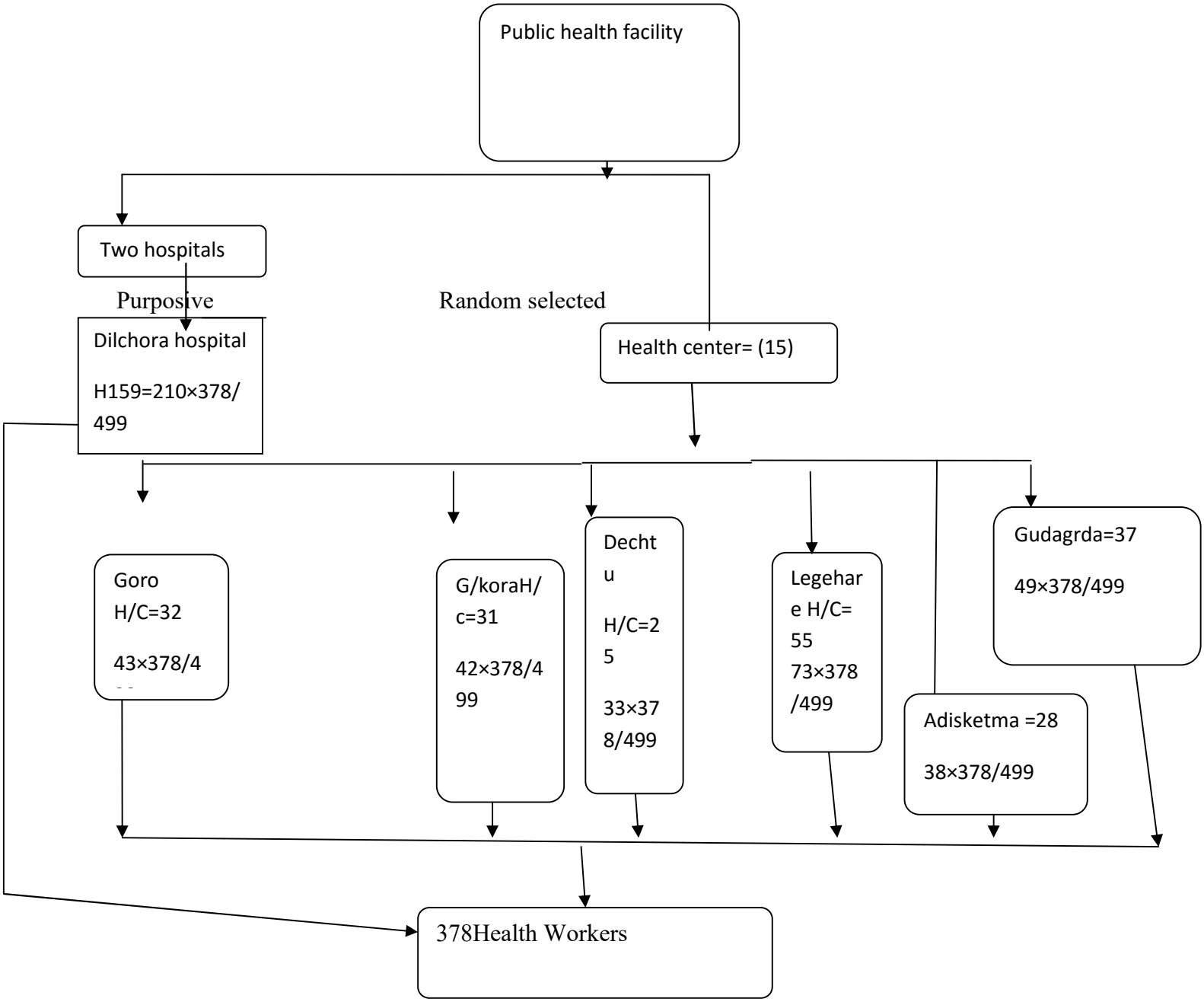

Figure 2: Sampling procedure for the level of routine health information utilization and assocaited factor among public health facilities ,Dire Dawa ,Ethiopia

3.8 Data collection method

3.8.1 Data collection tools

Structured questionnaires adopted from PRISM framework assessment tool version 3.1.was used to collect data regarding socio-demographic variable, technical factor, organization factors and Individual behavioral factors (Aqil A ,2009 USAID, 2011)].

3.8.2 Data Collectors

Two days' intensive training was given to Six health professionals who had HMIS training and prior data collection one health professionals who had experience in HIS monitoring supervised the task ,on the objective of the study and the confidentiality of information. The data collectors were responsible to distribute the questionnaire as well as help the subjects, fill the form. The data collectors were trained on how to help the subjects while filling the form and responsible for collecting back the questionnaires that was distributed. Both the data collectors and supervisor were trained about the objective and methodology of the research, data collection and interviewing approach for two days.

3.9 Data Collection Procedure

Data was collected using self-administration questionnaire by six data collectors who trained for two days. A supervisor who is health officer in profession was supervising the data collection. Both data collectors and supervisors were trained for two days, on the objective and methods of the research, data collection and interviewing approach. Also I was monitoring the day to day data collection.

Pre-test

The pre-test was conducted in the (5% of the sample size) to ensure that the questions elicited the information needed, checked the clarity, sequencing and wording of the questions. The collection tool was pre-tested reviewed and research assistant reoriented to understand the study unit and data collection tool.

3.10 Variable of the study

3.10.1 Dependent variable

Utilization of routine health information

3.10.2 **Independent variables**

Socio-demographyic factors: sex, age, educational levels, profession, postion in case team, salary and Institution Unit/Department

Technical factor: skill of staff, standard indicators, position of respondent, workers experiences, properindicator, and complexity of reporting formats

Individual behavioure factors: personal liking, motivation and, Confidence levels, skill

Organization factors: training, supervision, regular and feedback

3.11 **Operational Definitions**

Routine health information utilization:

Use of information for improving health services at all levels of health services, also use of routine health information for treating patient, diseases prioritization, drug procurement, monitoring day to day health services activities, ensuring efficient and effective use of limited resource, resources allocation, Prediction and detection of outbreaks, review strategy by examining service performance target, community mobilization and discussions ,planning ,monitoring the performances of staff, selecting good experiences with facility and sharing of best experiences with other facility and stakeholders. Mean scores were used to health. information utilization as has good routine health information utilization when they scored above the mean value or has poor routine health information utilization when they scored equal to and below the mean value (Dagnew, Woreta etal., 2018).

Training:

Training on HMIS and its tools according to the national HMIS training manual (how to use them), data elements, indicators and their definitions. Interquartile range was used for organizational factors below 25% is poor between 25%-75% is fair and above 75% is good

Organizational factors:

Include all those organizational factors like number of supportive supervision received in the last quarter or number of feedback received and training on HMIS. Interquartile range was used for organizational factors below 25% is poor between 25%-75% is fair and above 75% is good.

Behavioral factors:

Include competence of to undertake HMIS task, Self Efficacy, attitude of Health workers towards HMIS design. Interquartile range was used for Self Efficacy. Interquartile range was used for organizational factors below 25% is poor between 25%-75% is fair and above 75% is good.

Assessed by the understanding of the complexity or user-friendliness of the reporting form, RHIS tools reporting forms, tally sheets and registers as a common tool for data collection and reporting. Interquartile range was used for Technical factor below 25% is poor between 25%-75% is fair and as above 75% is good.

Confidence level or self-efficacy; was measured in a scale of 0-100 that means from no confidence (zero) to full confidence (100) to perform HMIS tasks

3.12 **Data quality control**

To ensure the quality of data, before applying the instrument to the actual study participant's pre-test was done. Who did not included in the main study and out of the study area that locates melkajubdu.

Two days training conducted for data collectors and supervisors how to approach the study subject and the importance of informed consent of study subject. The completeness, consistency, and quality of data were checked on the daily basis by the principal investigator and if any problem amendment made before the next data collection time. In addition, data cleanup and cross checking were done before analysis.

3.13 **Data Processing and Analysis**

After data collection, each questionnaire was checked for compeletence and coded. Data were cleaned and entered into Epi-data version 3.1 and exported to Stata version14 for analysis. Frequency, percentage, and summaries were used to describe the study variable. Binary logistic regression was used to identify predictors of the outcome variable. The bivariable analysis was carried out to see the association between each independent variable and the dependent variable.Variables with p-value≤0.05 in the bivariate analysis were considered into a multivariate logistic regression analysis to control the effect of confounders. Binary logistic regression had carried out to identify factors associated with the utilization of health information. Finally, the adjusted odds ratio with 95% confidence intervals and explanatory variables with a p-value of 0.05 were considered to have a significant association with the outcome variable.

3.14 **Ethical Considerations**

Ethical clearance was obtained from Haramaya University college of Health and Medical Science Institutional Research Ethical Review committee before starting the actual work, ethical committee confirm that the study was in line ethically and it has no harm on the respondents. Letter of obtained support from the concerned bodies of dire dawa health office and submitted the respected departments and get informed written consent from the manager or head of public health institution after the clear explanation of purpose, duration, required samples and data collection method of the study. The study subject has assured the confidentiality of their responses, nothing to harm them, the benefit of the study, no any secret behind it, are secured regarding the study, no any special payment for the participation of the study. The participants not to be forced for their participation, they have full privacy in the process and they have full right to not participate if they are not interested. The study subject participates to the research only they are volunteers even they can stop the middle of filling the questioner or did not answer if they don't like to fill selected questions.

3.15 **Dissemination of results**

The result of the research will be disseminated to School of Public Health College of Medicine and Health Science, University of Haramaya and Dire Dawa Health Bureau study participant health institutions and finally we try to publish the result for further researcher who is interested to work in this area that they lives another area of in the world.

4 RESULT

4.1 Socio-demographic characteristics

A total of 378 respondents consented to the study yielding a response rate of 100%. Two-fifth were from the hospital and the remaining were from the health center. Over half, 50.79% of respondents were female and More than half (263; 69.58%) of the respondents belonged to the age group of 26-35 years.The majority, 79.89% of the participants were degree holders. Almost half, 49.21% respondents were from adult OPD and 25.40% are members of Performance Monitoring Team (PMT). More than half (140; 57%) were BSc nurses and 127 (33.60%) of the respondents had 5-10 years working experience.

Table 2; the socio-demography characterstic of the respondent

Socio demography	Category	Frequency(n=378)	Percentage (%)
Sex	Female	192	50.79
	Male	186	49.21
Age	20-25 years	48	12.70
	26-35years	263	69.58
	36-55years	67	17.72
Martial status	Ever married	238	62.96
	Never married	140	37.03
Type of health facility	Hospital	159	42.06
	Health center	219	57.94
Education status	Diploma	55	14.55
	Degree	302	79.89
	Masters	21	5.56
Religion	Orthodox	220	58.20
	Muslim	91	24.07
	Catholic	56	14.87
	Protestant	11	2.91
Professional category	Health officer	37	9.79
	Laboratory technician	26	6.88
	Pharmacy	31	8.20
	Medical doctor	39	10.32
	Nurse	245	64.81
Have Postion in the facilities	Yes	65	17.20
	No	313	82.80

Type of the Position	PHCU director	6	9.52
	Chief clinic officer	2	3.17
	Department head	43	68.25
	Matron	12	19.04
Work unit	ART clinic	24	6.35
	MCH unit	90	23.81
	OPD	186	49.21
	Pharmacy unit	28	7.41
	Laboratory unit	24	6.35
	EPI clinic	26	6.88
Year of experiences	≤5years	218	57.67
	5-10years	127	33.60
	≥11years	33	8.73
No health faculties served	≤1Facility	183	48.41
	≥2Facilites	195	51.58
Salary	≤133.28USD	94	24.87
	133.28-209.57USD	175	46.30
	≥209.USD	109	28.84

4.2 **Organizational, Technical and Behavioral characteristics**

From a total of 378 health professionals, perceived organizational support is good for 25.93% of the participants with a mean (SD) of 36 ±7.4 a round one-fourth of the study participants were taking HMIS related training in the last one year. The perceived training adequacy of the participant were good a mong 28.57% with mean (SD) of 25.58 ±5.5 (Table 3).

A mong the total participants 63.23% of them were received RHIS supportive supervision in the last 3 month from higher-level institutions. One-thirds, 36.8 of them was not supervised , The majority, 89.12%, 88.3%, 76% and 78.7%. explained that supervisors use a checklist, check the quality of data, discussed performance based on target and make a decision based on information from the RHIS, respectively.However, only 79.5% of supervisors sent reports to supervisee after the supervision had taken place.

From a total of 378 health professionals, technical support is good for 28.7% of the participants with a mean (SD) of 24 ±5.02 (Table3).From a total of 378 health professionals, Attitude health profession are based upon is good for 29.37% of the participants with a mean (SD) of 18±2.7. a round two fifth of the study participants were good Self efficacy. The self efficacy of the participant were good a mong 25.13% with mean (SD) of 44±18.9 (Table3).

From a total of 378 health professionals, perceived decisions making autonomy is good for 29.89% of the participants with a mean (SD) 19±3.02 (Table3).

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Table 3: The organization, technical and behavioral characteristic for the level of rouitne health information utilization and associated factor a mong public health facilities Dire Dawa,Eastern ,Ethiopia ,2020.

Characteristics	**Frequency n=378**	**Percentage**
Organization support		
Poor	122	32.28
Fair	158	41.80
Good	98	25.92
Traning adequacy		
Poor	30	28.57
Fair	45	41.86
Good	30	28.57
Technical support		
Poor	123	32.54
Fair	144	38.10
Good	111	28.7
Self efficacy		
Poor	98	25.93
Fair	185	48.94
Good	95	25.13
Attitude health professional		
Poor	135	35.71
Fair	132	34.92
Good	111	29.37
Decision making autonomy		
Poor	175	46.30
Fair	90	23.81
Good	113	29.89

4.3 The level of Routine health information utilization

The current study identified, the level of good routine health information utilization is 57.67% (95% CI: 52.61, 62.58) among health professionals working in Public health facilities of Dire Dawa. Infromation utilization is better in female professional than male counter parts.However, the diffirence is stastistically insignificant Pearson chi 2=2.9 Pr =0.085(Figure 3).

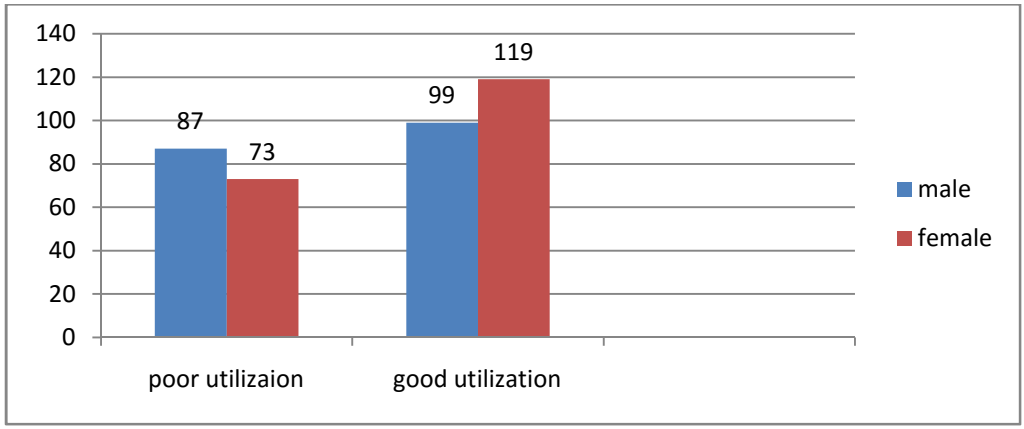

Figure 3 : The level of routine health information utilization

4.4 Factors associated with utilization

In the bivariable logistic regression analysis, sex, name of health facilities , performances montering team , technical support ,decision making autonmay, attiude of health professional and self efficacy were factors associated with routine health information utilization at a p-value of less than 0.25. Consequently, these variables were subjected to the multivariable logistic regression analysis, and it was noted that data analysis Decision making autonomy, self efficacy and organization support were significantly associated with good routine health information utilization at a p-value of less than 0.05.

Table 4 : Logistic regression analyses some of selected variable on routine health information utilization and associated factor among public health facilities in Dire Dawa ,Eastern Ethiopia,2020

Varible	Utilization of routine health information utilization		OR(95%C.I)	
	Good	poor	Crude	Adjusted
Sex				

Female	119(54.59)	73(45.63)	1,43(0.95-2.15)	1.35(0.852.16)
Male	99(45.41)	87(54.37)	1.00	1.00
Name of health facilties				
Hospital	79(36.24)	80(50)	0.568(0.375-0.86)	0.794(0.49-1.2)
Health center	139(63.76)	80(50)	1.00	1.00
Performances_montering team				
Yes	67(30.73)	29(18.13)	2.004(1.22-3.28)	1.13(0.632.03)
No	151(69.27)	131(81.88)	1.00	1.00
Self efficacy				
Fair	108(49.54)	77(48.13)	2.31(1.39-3.82)	1.56(0.892.74)
Good	73(33.49)	22(13.75)	5.47(2.92-10.24)	2.71**(1.30-5.63)
Poor	37(16.97)	61(38.13)	1.00	1.00
Techincal support				
Fair	85(38.99)	59(36.88)	1.84(1.13-2.99)	1.26(.72-2.22)
Good	79(36.24)	32(20)	3.15(1.83-5.4)	0.92(.46-1.83)
Poor	54(24.77)	69(43.13)	1.00	1.00
Organization support				
Fair	94(43.12)	64(40)	2.42(1.49- 3.94)	1.8 (1.0-3.19)
Good	78(35.78)	20(12.50)	6.44(3.49-11.89)	3.85* (1.88-7.7)
Poor	46(21.10)	76(47.50)	1.00	1.00
Decision making autonomy				
Fair	47(21.56)	43(26.88)	1.40(0.835-2.31)	0.984(.54-1.78)
Good	94(43.21)	19(11.88)	6.3(3.538-11.20)	3.29*(1.707-6.34)
Poor	77(35.32)	98(61.25)	1.00	1.00
Attiude of health professional				
Fair	74(33.94)	58(36.25)	1.59(0.98-2.58)	1.18(0.67-2.11)
Good	84(38.53)	27(16.88)	3.88(2.24-6.74)	1.59(0.818-3.11)
Poor	60(27.52)	75(46.8 80	1.00	1.00

5 Discussion

This study aimed to assess the level of routine health information utilization and associated factors a mong health care professionals working public health facilities of Dire Dawa.The result of this study reveled that 57.67% of respondents utilize routine health information, this result was higher than the study conducted in Dire Dawa Eastern Ethiopia has 53.1% by (Teklegiorgis, Tadesse etal ,2016).On contrary, This finding was more than the study conducted in Jimma,Ethiopia,which were 32.9% (Abajebel et al., 2011),.Also the study conducted in East Gojjam zone, Western Amhara Regional State,Ethiopia(45.8%)(Atsede, Dessalegn et al., 2017), this variation might be good supportive supervision and feedback. Hadiya zone 242(69.3%) (Ermias Abera, Kidist Daniel et al.,2016).This variation might be this study conducted only health centre, 242(69.3%) in all the study units or departments of health centers. In my study both health center and hospital , Also Western Amhara, Ethiopia (38%) (Mulusew ,Andualem et al.,2017).This variation might be health centre and Department or Unit heads are only, In my study in which health professional working in dire dawa.Similarly, the finding was less than those of studies reported from outside Ethiopia,Uganda (59%)(Gladwin J, Dixon R et al., 2003) , South Africa (65%) (Garrib A, Herbst K et al.,2008). Also which is higher than Cote d'Ivoire (Nutley, Gnassou et al.,2014) where overall routine health information use score at facility level was 38%.

In this study, Good decision-making autonomy was statistically significant associated with routine health information utilization. Good decision making autonomy 3.29 times more likely to utilize health information higher than their counterpart AOR=3.29, 95% C.I :(1.70, 6.34), Possible reason may be due to the lack of personal liking by health professional and Superior directive by health facililties. other studies done in East Wollega Zone, Oromia Regional State, Ethiopia, the odds of HMIS data utilization was two & half times AOR=2.46, 95% CI:(1.10, 5.49) more likely among health professionals who made decisions making autonomy on superiors directives than among those who did not use superiors directives for decision making autonomy **(**Teklemariam,Yarinbab et al.,2018**).**This result was also supported by other studies done in Dire Dawa Eastern Ethiopia AOR = 2.131, 95% CI:(1.073, 4.233) more likely among health professionals who made decisions making autonomy on superiors directives than among those who did not use superiors directives for decision making autonomy (Teklegiorgis, Tadesse et al., 2016). Receiving senior management directive AOR= 3.56, 95% CI: (1.76, 7.19) times higher odds of the level of information-use for decisions (Moges Asressie et al.,2019).

In this study, Good organization support was statistically significant associated with routine health information utilization. The organizational support for health professional 3.85 times more likely utilize routine health information higher than to their counterpart AOR=3.85% C.I: (1.88, 7.7) This may be due to inspite of supportive supervision and feedback has been improved, this study also supported by good organization support AOR = 1.97, 95% CI: 1.31, 2.95, were found significantly associated with health information utilization (Dagnew, Woreta et al.,2018).

In this study, good self efficacy was statistically significant associated with routine health information utilization.good self efficacy AOR= 2.71, 95% C.I:(1.30-5.632) 2.7 times the self efficacy of health professional assocaited with routine health information utilization than their conterpart.The possible reason may be due to lack of HMIS training for health professional this result was supported by other studies the Odds of health information utilization among Health workers those who were Self efficacy enough to perform HMIS activities were higher than their counterpart AOR=1.873, 95% CI (1.264,2.776) (Siraneh, Feleke et al.,2018**)**.

6 Strength and Limitation

6.1 Strength

Quantitative methods of data collection are used for this assessment of study.Selected public health institutions under Dire Dawa Health Bureau and the study used PRISM frame work version 3.1.

6.2 Limitation

The study attempted to show the level and the predictors of routine health information system utilization, particularly a mong health professionals. However, the study was not free from limitations, such as inability to include qualitative methods to measure health professional's culture of health information utilization and other organizational factors. In addition, the cross-sectional design might have prevented the work from showing temporal relationships. Besides, the study was not able to include health professionals in private institutions.

7 Conculsion

This study concluded that more than half of the health workers in dire dawa health facilities had practiced good level of routine health information system utilization. Self efficacy, Organizational support and Decision making autonomy were found to be significantly associated with data utilization. Therefore, training on self efficacy, strengthening Organization and Decision making autonomy at health facilities are recommended. Furthermore, further research is suggested for assessing health workers' culture of health information utilization at the lower health facilities where data are generated.

8 Recommendations

Recommendations to health service provider

The health professional should improve their self efficacy by utilization of routine health information.

Recommendations to health facilities

Health facilities should promote health professional in decision making autonmy for routine health information utilization.

The health professional at health center and hospital level should get strong organization support from health facility.

Recommendations to Dire Dawa health bureau

The health professional at health center and hospital level should get strong organization support from the higher management bodies.

Efforts have to be made to improve the self efficacy of Health Professsional towards RHIS in the facilities by giving traning on HMIS.

Health bureau should promote health professional in decision making autonomy for routine health information utilization.

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10 Annex

10.1 Annex: one Participant Information Sheet and Informed Voluntary Consent for Head of Health instition

My name is ----------I am working as a data collector for the study being conducted in this health facililties by Mrs. Samuel mekuria who is studying for his/her Master's Degree at Haramaya University, the College of Health and Medical Sciences. I kindly request you to lend me your attention to explain you about the study and your institution being selected as study setting.

1. The study/project title:

Level of routine health information utilization and associated factors a mong health care professionals working on public health facilities of dire dawa eastern, Ethiopia, 2020.

2. Purpose/aim of the study

The Findings of this study can be important for the Regional health office to plan and implement activities that can motivate the health professionals to give attention to improve the health status of community. It can also provide important baseline information for further studies. Moreover, the aim of this study is to write a thesis as a partial fulfillment of a masters' program in General public health

3. Procedure and duration:

I will be interviewing health professionals using a questionnaire to provide me with pertinent data that is helpful for the study. There are 61 questions (open ended, closed ended) to answer where I will fill the questionnaire by interviewing you. The interview will take about 60 minutes I kindly request you to spare me this time for the interview.

4. Risks and benefits: The risk of being participating in this study is very minimal, but only taking your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

5. Confidentiality:

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study community and

will not reflect anything particular of individual persons. No reference will be made in oral or written reports that could link participants to the research directly.

6. Rights:

Participation for this study is fully voluntary. You have the right to declare to participate or not in this study. If you decide to participate, you have the right to withdraw from the study at any time and this will not label you for any loss of benefits which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

7. Contact address:

If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses.

Principal investigator: Principal investigator: Samuel mekuria

E-mail:Samuelmekuria7@gmail.com

Mobile phone: +251935648761 Haramaya University College of Health and Medical Science Institutional Research Ethical review Committ

Office phone: 0254662011 P.O.Box: 235, Harar

8. Declaration of informed voluntary consent:

I have read the participant information sheet. I have clearly understood the purpose of the research, the procedures, the risks and benefits, issues of confidentiality, the rights of participating and the contact address for any queries. I have been given the opportunity to ask questions for things that may have been unclear. I was informed that I have the right to withdraw from the study at any time or not to answer any question that I do not want. Therefore, I declare my voluntary consent to participate in this study with my signature as indicated below.

Name and signature of Data Collector: _____ _____ Date _____Participant

10.2 Annex:twoParticipant Information Sheet and Informed Voluntary Consent

1. The study/project title:

Level of routine health information utilization and associated factors a mong health care proffessionals working on public health facilities of dire dawa eastern, ethiopia2020.

2. Purpose/aim of the study

The Findings of this study can be important for the Regional health office to plan and implement activities that can motivate the health professionals to give attention to improve the health status of community. It can also provide important baseline information for further studies. Moreover, the aim of this study is to write a thesis as a partial fulfillment of a masters' program in General public health

3. Procedure and duration:

I will be interviewing health proffessionals using a questionnaire to provide me with pertinent data that is helpful for the study. There are 61 questions (open ended, closed ended) interview to answer where I will fill the questionnaire by interviewing you. The interview will take about 60 minutes I kindly request you to spare me this time for the interview.

4. Risks and benefits:

The risk of being participating in this study is very minimal, but only taking your time. There would not be any direct payment for participating in this study. But the findings from this research may reveal important information for the local health planners.

5. Confidentiality:

The information you will provide us will be confidential. There will be no information that will identify you in particular. The findings of the study will be general for the study community and will not reflect anything particular of individual persons. No reference will be made in oral or written reports that could link participants to the research directly.

6. Rights:

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and this will not label you for any loss of benefits which you otherwise are entitled. You do not have to answer any question that you do not want to answer.

7. Contact address:

If there are any questions or enquires any time about the study or the procedures, you can contact by using the following addresses.

Principal investigator: Samuel mekuria

E-mail:Samuelmekuria7@gmail.com

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.

Name and signature of Data Collector: _____ _____ Date _____Participant.

10.3 **Annex: three Questionnaires (English version)**

Questionnaire Prepared to assess the Level of Routine Health Information Utilization and Associated Factors among Health Professional in Public Health Facilities of Dire Dawa, 2020.			
Code: _____			
Name of the facility: _____			
Name of Unit/department: _____			
Date of interviewers: _____/_____/_____			
SECTION A: BACKGROUND INFORMATION			
CODE	**QUESTIONS**	Response options	**Response**
101	**What is your age?**	**_____Years**	
102	**What is your sex?**	**Male----------1** **Female ----------2**	
103	**What is your religion?**	**Orthodox…….1** **Muslim ……2** **Protestant…….3** **Catholic ……4** **Others** **(specify)_____.....5**	
104	**What is your current marital status?**	**Married ----------1** **Single----------2** **Divorced----------3** **Widowed----------4**	

105	**Your current residence**	**Urban ----------1** **Rural ----------2**	
106	**What is your Profession?**	**_____**	
107	**What is your Level of education?**	**Diploma----------1** **Degree----------2** **Masters and above----------3** **other (specify)---------- 4**	
108	**Your current working unit**	**_____**	
109	**How long have you been in this facility?**	**_____ Years**	
110	**Number of health facility you have served so far including the facility**	**_____**	
111	**Do you currently have any position in the current health facility**	**Yes ----------1** **No ----------2**	
112	**If 'Yes' to Q.112 what is your current position?**	**PHCU director ----------1** **CEO (for hospitals) ----------2** **Chief clinic officer (for hospitals) -----3** **Case team leader ----------4** **Department head (for hospitals) -------5** **Merton (for the hospital) ----------6** **Others** **(Specify)** **_____7**	
113	**Are you a member of performance monitoring team (PMT)?**	**Yes ----------1** **No ----------2**	
114	**What is your monthly salary in ETB?**	**_____ ETB**	

115	**What is your average duty payment per month**	**_____ ETB (Insert '00' if you were not paid duty)**	
116	**What is your average monthly payment received from training, extra work, incentives, e.t.c**	**_____ ETB (Insert '00' if you were received nothing in the last 6 months)**	

SECTION B: Factors determining Data utilization

I would like to know your opinion about how strongly you agree with certain statements. There are no right or wrong answers, only expressions of your opinion on a scale from 1 (strongly disagree) to 5 (strongly agree). You have to determine first whether you agree or disagree with the statement. Second, decide about the intensity of agreement or disagreement. If you disagree with statement then use left side of the scale and determine how much disagreement that is – strongly disagree (1), or disagree (2) and circle the appropriate answer. If you are not sure of the intensity of belief or neither disagree nor agree then circle 3. If you agree with the statement, then use right side of the scale and determine how much agreement that is – agree (4), or strongly agree (5) and circle the appropriate answer. Please be frank and choose your answer how do you rate your agreement on the following statement in terms of the following factors (Make a tick (√) mark)

Section B: Organizational Factors						
SNo.	Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
200	Existence of coordinated effort and leadership commitment					
201	Existence of strategy and policy (Clear roles and responsibilities related to decision-making)					
202	Health Facility encourages staff to check data quality					

203	Health Facility encourages staff to check evidence before making decisions					
204	Health Facility makes staff accountable for their decisions and actions					
205	Health Facility encourages staff to use data to monitor changes in health service indicators					
206	Health Facility give feedback regularly to solve data related problem					
207	Facility Control of budgets or allocation of resources for the use of routine data					
208	Lack of motivational mechanism when data collectors use it for assessing their performance					
209	In health facility, decisions are based on political interference					
210	In health facility, decisions are based on comparing data with strategic health objectives					
Question to assess Training						
Code	**Questions**	**Response**				
300	Did you receive any training in HMIS related activities in the last 2 years?	Yes ----------1 No ----------2 (If your response is 'No' skip to Q. 400)				
	Training adequacy	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	**2**	**3**	**4**	**5**
301	The training received on RHIS is very helpful in my use of the data.					
302	I have training reference documents that I can consult in my use of RHIS.					
303	I Feel the training received is adequate for my					

	efficient use of RHIS.					
304	I Need further training on RHIS to enable me use the system efficiently.					
305	My training on basic use of RHIS tool is adequate for data utilization					
306	The RHIS training I received was well organized and easy to follow.					
307	I need some further training on using RHIS data for decision making					
Questions to assess supportive supervision and feedback						
SNo.	**Question**	Response				
400	How many times did the district supervisor visit your facility during the last three months? (check the answer)	_____ times (if you didn't receive supportive supervision in the last 3 months skip to Q. 500)				
401	Did you observe a supervisor having a checklist to assess the data quality?	Yes ----------1 No ----------2				
402	Did the supervisor check the data quality?	Yes ----------1 No ----------2				
403	Did the supervisor discuss performance of health facilities based on RHIS information when he/she visited your facility?	Yes ----------1 No ----------2				
404	Did the supervisor help you make a decision based on information from the RHIS?	Yes ----------1 No ----------2				
405	Did the supervisor send a report/feedback/note on the last two supervisory visits?	Yes ----------1 No ----------2				
SNo.	**Section C: Technical factors**					
	Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly disagree

		1	2	3	4	5
500	In your health facility there is standardized set of indicators					
501	In your health facility there is well designed data collection and reporting forms					
502	In your health facility trained staff able to fill out forms					
503	In your health facility there is skilled human resource to collect health data					
504	In your health facility there is friendly format for Reporting results and Easy-to-visualize					
505	In your health facility there is reporting forms, tally sheets, and registers as a common tool for data collection and reporting					
506	In your health facility there is Uue of Appropriate technology for data analysis, transfer, presentation					

Question to assess complexity of RHIS formats

SNo.	Questionnaires	Response	Response
507.1	Do you think RHISformats are easily understandable /user friendly?	Yes ----------1 No ----------2	
507.2	Do you think each cell of the RHIS format is enough to fill required information?	Yes ----------1 No ----------2	
507.3	Do you think data in each cell of RHIS formats is easy to aggregate?	Yes ----------1 No ----------2	
507.4	Do you think filling data in each cell ofRHISformats is **not** tedious and time consuming?	Yes ----------1 No ----------2	

Section D: Behavioral factors

How do you rate your agreement on the RHIS in terms of the following statement(Make a tick (√) mark)

Questions to assess self-efficacy

This part of the questionnaire is about your perceived confidence in performing tasks related to health information systems. High confidence indicates that person could perform the task, while low confidence means room for improvement or training. We are interested in knowing how confident you feel in performing HMIS-related tasks. Please be frank and rate your confidence honestly.

Please rate your competence to accomplish the various RHIS activities on a scale from 0-10, where 0 is no competency and 10 are best.

SNo.	**Questions to assesses Level self-efficacy**	0	1	2	3	4	5	6	7	8	9	10
600	I can check data accuracy											
601	I can calculate percentages/rates correctly											
602	I can plot data by months or years											
603	I can compute trend from bar charts											
604	I can explain findings & their implications											
605	I can use data for identifying gaps and setting targets											
606	I can use data for making various types of decisions and providing feedback											

	Questions to assesses the level of attitude HP	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Questions	**1**	**2**	**3**	**4**	**5**
607	Collecting information which is not used for decision making discourages me					
608	Collecting information makes me feel bored					
609	Collecting information is meaningful for me					
610	Collecting information gives me the feeling that data is needed for monitoring facility performance					
611	Collecting information gives me the feeling that it is forced on me					
612	Collecting information is appreciated by co-					

	workers and superiors					
In your facility decisions are based on						
613	Personal Liking					
613	Superior directive					
614	Cost consideration					
615	Comparing data with strategic objectives /indicators					
616	Evidence /facts					
617	Health needs					

Section E: Information Utilization

How do you rate your agreement on the RHIS data utilization in terms of the following statement (Make a tick (√) mark)

Please indicate the extent to which you use routine health information generated for the following decision

	Questions to assesses the level of RHIS data utilization	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Questions	**1**	**2**	**3**	**4**	**5**
700	Treating patient					
701	Diseases prioritization					
702	Drug procurement					
703	Monitoring day to day health services activities					
704	Ensuring efficient and effective use of limited resource					
705	Resources allocation					
706	Prediction and detection of outbreaks					
707	Review strategy by examining service performance target					
708	Community mobilization and discussions					

709	Planning					
710	Monitoring the performances of staff					
711	Selecting good experiences with facility					
712	Sharing of best experiences with other facility and stakeholders					

Thank you very much

Table 5: Questionnaires for the level of routine health information utilization and associtated factor among public health facilities Dire Dawa Eastern, Ethiopia, 2020

Annex: four Curriculum Vitae

I: Personal information

Name: Samuel mekuria

Date of Birth: Feb/1986G.C

Place of Birth: Harar

Nationality: Ethiopia

Address: Dire Dawa Ethiopia

Telephone No: +251-1111394/ +251-935648761 mobile phone

Email: Samuel mekuria7@gmail.com

II: Educational Background

Primary School: Aboker primary School 1-8 grade Harar

Secondary School: Harar senior Secondary School 9-12 grade

BSC Degree in Enviriomental Health: Haramaya University from November 2000E.C---May 2003

BSC Degree Civil engineering: Dire Dawa University from Jan 2005-2010 E.C.

III: Working Experience

A. Employment by: DRHB

1. Dire regional heath bureau health extension supervisor Rural Health Center lagaodagudnfeta .From 2003-2005 E.C

2. Dire Dawa Keble 05 administration Heath Health Related coordinator heath professionalt, from 2005-2009E.c

3. Know in dire dawa administration Heath bureau form regultory food case team health as proffessionalApril 2010-know

IV: Language Experience

Language	Speaking	Reading	Writting
Ahamaric	Excellent	Excellent	Excellent
Afan Oromo:	Poor poor	poor	
Somali:	Poor poor	poor	
English:	Very good	Excellent	good

VI: Hobbies

- Admiring nature
- Reading Books, Like positive thing
- Watching TV, BBC NEWS

VIII: Reference

1. Mesefine Kebede Dire dawa university collage of health and medicine Lecture 0923206512