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Intention to use District Health Information System (Dhis2) and Associated Factors Among Health Professionals in Health Centers of Bahir Dar Metropolitan City, North West Amhara, Ethiopia, 2022

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BAHIR DAR UNIVERSTY
COLLEGE OF MEDICINE AND HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Intention to use District Health Information System (Dhis2) and Associated Factors
Among Health Professionals in Health Centers of Bahir Dar Metropolitan
City, North West Amhara, Ethiopia, 2022

Amarech Kindie (BSc)

ADVISORS: Mr. DESTA DEBALKIE (MPH, Assistant professor)

Mr. HABTAMU ALGANEH (MPH, Lecturer,)

RESEARCH THESIS SUBMITTED TO DEPARTMENT OF Health System
Management and Economics, SCHOOL OF PUBLIC HEALTH, BAHIR DAR
UNIVERSITY FOR THE PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER IN HEALTH SYSTEM
AND PROJECT MANAGEMENT.

AUGUST, 2022

BAHIR DAR, ETHIOPIA

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INTENTION TO USE DISTRICT HEALTH INFORMATION SYSTEM (DHIS2)
AND ASSOCIATED FACTORS AMONG HEALTH PROFESSIONALS IN
HEALTH CENTERS OF BAHIR DAR METROPOLITAN CITY,NORTH WEST
AMHARA, ETHIOPIA, 2022

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BAHIRDAR

DECLARATION SHEET

I declare and affirm by my signature that this thesis entitled intention to use district health information system (DHIS2) and associated factors among health professionals in health centers of Bahir Dar metropolitan city, north west Amhara, Ethiopia, 2022 quantitative cross-sectional study is my original work and all the sources that I have used throughout the thesis have been indicated and acknowledged using complete references.

Name of student: AmarechKindieMossee(BSc)

Signature _____ Date ____/____/_____

This work has been submitted for examination with my approval as an advisor,

Name of advisors: **1.** Mr. DestaDebalkie(MPH, Assistant Professor)

Signature _____ Date ____/____/_____

Name of advisors: **2.** Mr. HabtamuAlganah(MPH, Lecturer)

Signature _____ Date ____/____/_____

EXAMINERS APPROVAL FORM

We here by certify that we have examined this thesis entitled intention to use district health information system (DHIS2) and associated factors among health professionals in health centers of Bahir Dar metropolitan city, North West Amhara, Ethiopia, 2022 by AmarechKindie.

Board of Examiners

_____	_____	_____
External examiner's name	Signature	Date
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internal examiner's name	Signature	Date
_____	_____	_____
Chair person's name	Signature	Date

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I would like to acknowledge Bahir Dar University College of medicine and health science, department of Health system management and Economics for giving me the chance to write a thesis

I especially thank the participants of this study, Bahir Dar Metropolitan city health centers, data collectors and the supervisor who facilitated the data collection processes.

ABSTRACT

Background: District health information system is an open and globally distributed system. Its data on the causes of consultation and hospitalization, services, and patient clinical outcomes are collected, analyzed, and reported by health providers and facilities. The low intention to use health information technology is attributed to the interaction between humans and technology. DHIS 2 is an aggregated statistics component of the HMIS. In developing countries, factors such as resource supply, education and training as well as management support influence the intention to use DHIS2.

Objectives: To assess the intention to use district health information systems and its associated factors among health professionals in health centers of Bahir Dar Metropolitan city, Ethiopia, 2022.

Methods: An institution based quantitative cross-sectional study design was employed among 368 randomly selected health professionals. Four point Likert scale Questions were used and compute to measure the outcome variable. Data were collected using structured and self-administered questions. Completed questionnaires were entered and coded into Epi-data version 4.6 computer programs and exported to SPSS version 25 for further cleaning and statistical analysis. The bivariable and multivariable outputs were summarized by the Crude Odds Ratio (COR) and Adjusted Odds Ratio (AOR). Finally, the variable which showed statistical significance (p -value <0.05) in multivariable analysis was considered as an important determinant of the outcome variable.

Results: Out of 368 total samples, 342 were responded with a response rate of 92.93%. From the respondents, 176(51.5%) were female and more than one thirds, 147(43%) of the study participants were nurses. About 223(65.2%) of the study participants have an intention to use DHIS2. Among the respondents 64% (AOR=0.36, 95% CI=0.17- 0.76) had unfavorable attitude and the health professionals computer skill were 3.36 odds (AOR=3.36, 95% CI= 1.83- 6.09).

Conclusion& recommendation: This finding showed that attitude, perceive usefulness, perceive easiness and computer skill were directly affect the intention to use DHIS2. A huge effort is needed to improve their computer skills before the actual implementation of DHIS2 for health professionals. In particular, 34.8% of health professionals had no intention to use DHIS2.

Key words: Intention to use, District Health Information System 2, Primary Health Center

List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
DHIS2:	District Health Information Software Version 2
e-HMIS:	Electronic Health Management Information System
FMoH;	Federal Ministry of Health
HCPs	Health Care Professionals'
HIS:	Health Information System
HIV	Human Immune Virus
HISP:	Health Information System Program
HMIS	Health Management Information System
ICT:	Information Communication Technology
PE	Perceived Easiness
PU	Perceived Usefulness
SPSS	Statistical Package for Social Science
TB	Tuberculosis
WHO:	World Health Organization

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1. Introduction

1.1 Background

District health information system(DHIS2) is a web-based software platform developed by Health Information Systems Program (HISP) as an open and globally distributed system and the development is coordinated by the university of Oslo(1). DHIS 2 is an aggregated statistics component of the HMIS, built on Java-based frameworks after several years of development and modification. This platform is independent and can run in both on-line and offline modes(2).

Data from the District Health Information System (DHIS2) is collected, analyzed, and reported to facilitate effective policy formulation, management, planning, budgeting, implementation, monitoring, and evaluation of health services and program interventions in the health sector(3, 4). This computerized application has a great impact on the health care system that supports longitudinal record keeping for clinical care, especially for HIV/AIDS treatment, TB care and antenatal care. The system is economically beneficial because it eliminates the cost of paper reports(5, 6).

Currently, DHIS2 is the world's largest Health Management Information System (HMIS) platform, with ministries of health in 72 low and middle-income countries using it(1). The system is particularly helpful for a developing country's health sector to facilitate using their limited resources for evidence-based decision making(7). DHIS2 is essential for strategic planning, priority setting, decision making and monitoring and evaluation of service delivery in terms of access, coverage, expenditure, human resources, disease profiles and health outcomes(8).

Ethiopia began customizing and adopting district health information system(DHIS2) software in 2017(9). According to the Federal Ministry of Health (FMOH), Ethiopia joins a growing list of countries that have adopted and been using DHIS2(10). Developing nations like Ethiopia, with limited resources to implement HMIS technology, need users' behavioral intention to use HMIS technologies that can be used by executives for prior preparation(11). Health professionals' better understanding and intention in using HMIS/DHIS2 can influence the adoption and resistance of the technology(12).

1.2 Statements of the problem

Globally, District Health Information System (DHIS2) is a well-proven technology supported by a community of software developers and health practitioners, many countries currently implementing DHIS2 face significant challenges in analyzing and using data collected to inform local decisions(13).According to the findings of a study conducted in China, health professionals' intentions to use HMIS/DHIS2 are directly influenced by attitude, perceived usefulness, and perceived ease of use (14).

Furthermore, study findings in Indonesia show that variables like perceived ease of use and perceived usefulness influence the intention to use HMIS/DHIS2 health technology(15). A study conducted in Bangladesh revealed that insufficient human resources, poor Internet connectivity, and a poor culture of practicing DHIS2 had a significant impact on users' perceptions of using DHIS2(16).

The majority of developing-country health professionals who intend to use DHIS2 face obstacles such as insufficient ICT infrastructure, computer skill gaps among health professionals, experience, and training(17).In developing countries, factors such as resource supply, education and training as well as management support influence the intention to use DHIS2(18).Most developing countries' HMIS/DHIS2 are inefficient and vulnerable by data unreliability caused by underreporting(19). According to reports from Sub-Saharan Africa, vital health decisions in this context are made based on rough estimates of disease and treatment burdens(20).

The implementation of DHIS2 in Kenya was a step in the right direction. However, there is compelling evidence that health professionals are hesitant to intend to use and utilize health technology, which contributes to the lag in adoption and utilization of DHIS2 in the health sector(21).

According to the study findings, lower-level HMIS users in Uganda found online reporting difficult. During peak reporting times, the DHIS 2 platform tends to slow down as multiple users congest the web traffic. Furthermore, reports containing errors and missing data are inaccurate, untrustworthy, and difficult to submit. Users have a difficult time with this experience(22).

Furthermore, in Tanzania, vertical program data reporting systems frequently duplicate or overlap with the national main HMIS data, making it difficult to determine which data to use and increasing the burden on health providers who must record multiple sets of HMIS data(20).

Ethiopia is also in progress to deploy throughout the country(23).All previously deployed and ongoing systems have been implemented through a trial-and-error approach, which is very expensive and unsuccessful. As a result, the implementation and dissemination of HMIS technology in Ethiopia is still in its early stages(11).

In Ethiopia during the pilot implementation phase, user resistance was reported to be the primary hindering factor to its successful adaptation (24).However, it has not been well studied in Ethiopia in general and in Bahir Dar Metropolitan city in particular. Therefore, the aim of this study is to assess the intention to use DHIS2 and its associated factors among health professionals in Bahir Dar metropolitan city, North West Ethiopia.

1.3 Significance of the study

The findings of this study are expected to help Bahir Dar metropolitan city health centers and their administrative health office by providing evidence for the development of evidence-based policy and interventions based on health professionals' intentions to use DHIS2. Furthermore, it provides valuable information to the health bureau about the current state, reasons for, and challenges to the intention to use DHIS2.

The findings of this study will help Bahir Dar Metropolitan city health centers to inform them about the issues that influence the intention to use the district health information system at the facility level. This will enable them to address these issues and possibly roll out the strategy to the rest of the health institutions.

Moreover, the study benefits health institutions, by helping them to identify their weakness in the intention to use DHIS2 and providing scientifically sound information and recommendation on determinant factors of intention to use the DHIS2.

Furthermore, the study will also be used as a reference by others in future research on the same or related topic.

2. Literature review

2.1. Intention to use

According to a Chinese study, 58% of nurses intend to use the Health Information System (HMIS/DHIS).20) Case based surveillance study in Botswana shows 89% of the health professionals were had an intension to use DHIS2(26).

According to a study conducted in Kenya, Nairobi, 63.4% of health professionals intend to use the district health information system (DHIS2). This result can be explained by the fact that even respondents who had not yet begun using DHIS2 expressed a strong intent to use it(17).A similar study conducted in Kenya discovered that 30.9% of health providers intended to use DHIS2(27).

According to a study conducted in Cameroon, 81.9% of health professionals planned to use DHIS2(28).Furthermore, a study conducted in Ghana, the intention of health professionals to use HMIS was 85%, and health providers' attitudes toward the intention to use HMIS had a strong significant effect. This study also confirms that Perceived Usefulness (PU) had the greatest impact on health professionals' behavioral intention to use HMIS(29).

According to the Ugandan study, factors that influence the intention to use DHIS2 include computer supply, electricity/power source, and internet access. Education and training include computer and system user training, as well as ongoing mentorship and training and technical assistance during the implementation phase(18).

The study done in Addis Abeba shows that the health professionals intention to use HMIS/DHIS was 70.2%(30). Furthermore, a study conducted in Amhara regional state referral hospitals found that 56.2% of health professionals intended to use ehealth, including DHIS2. In this study, perceived ease of use, perceived usefulness, and health professionals' attitudes were identified as primary determinants that directly influence the intention to use the new technology(11).

2.2 Factors affecting the intention to use DHIS2

2.2.1 Scio-demographic factors

The study in Cameroon found that the intention to use DHIS2 among health professionals was significantly higher in men than women, and that respondents aged 40 and above had a significant influence on the intention to use DHIS2(28).

The study done in Kenya revealed that there was evidence of an association between age and intention to use DHIS2(32). Furthermore, the integrated literature review revealed that age, level of education, professional experience, and technology experience were significantly associated (directly or indirectly) with behavioral intention for health information technology use. On the other hand, it was found to have a significant negative impact on nurses' behavioral intention to use HIT.(33).

2.2.2 Computer skill

According to an Indian study, computer skills have a significant impact on the intention to use DHIS/HMIS, perceived ease of use, and perceived usefulness. Healthcare professionals with prior experience with computers and subsequent training have an intention(23).

According to a study conducted in Kenya, health professionals' computer skills had a significant influence on their intention to use the district health information system (DHIS2)(34).Furthermore, literature review from 11 countries shows that staff who have competent computer skills were associated with the intention to use DHIS2 and its implementation(5)

2.2.3 Attitude factor

The study in India found that health professionals' intentions to use HMIS/DHIS were directly influenced by the provider's attitude(23, 35). Moreover, in the study in Kenya, users who had a positive attitude towards DHIS2 had a higher intention towards using the system(21).

According to a study conducted in Addis Abeba, health professionals' positive attitude toward the intention to use Health Management Information System (HMIS) significantly increased the

acceptance of technology utilization.(30). Furthermore, according to a study conducted in Ethiopia's northwestern Amhara region, the attitudes of health professionals toward eHealth, including HMIS, have a significant impact(11).

2.2.4 Health professionals perceived usefulness

According to a European study, higher levels of an individual's perceived usefulness of an HMIS will positively influence his/her continued intention to use the system(12).Furthermore, in an Indian study, health professionals' intention to use HMIS/DHIS was directly influenced by perceived usefulness(35).

According to a study conducted in Ethiopia's North West Amhara region, perceived usefulness has a significant impact on the intention to use eHealth, including HMIS and DHIS2(11).

2.2.5 Health professionals perceived ease

The perceived ease of use influenced health professionals' intention to use HMIS/DHIS in a study conducted in India(35). A similar study in Ghana found that health professionals' perceived ease of use of the HMIS system positively influenced their intention to use it(29).

Furthermore, according to a study conducted in Ghana, approximately 83% of respondents perceived ease in learning to use the interface or clearly understanding it. More than eight out of ten people thought it was simple for them to be skilled, and 85% thought the interface was simple to use. The overall perceived ease of use was 84%(29).

2.2.6 Organizational factors

According to a study conducted in Cameroon, people who received DHIS2 training and valued training adequacy had a higher intention to use DHIS2 than those who were not trained or were not using DHIS2 was significantly associated with the intention to use DHIS2(28).

Furthermore, according to a study conducted in Kenya, technology experience and facilitating conditions influenced healthcare workers' intentions to use DHIS2 by 14.4% and 61.5%, respectively(17).

A similar study in Kenya found that adequate training contributed up to 30.9% of health professionals' intention to use DHIS2, and adequate exposure of most health workers to computers and the internet were significant factors(21).

Training adequacy was also found to influence the intention to use DHIS2 in a study conducted in Kenya. Furthermore, there is a scarcity of ICT experts,' insufficient network, internet connectivity, and power supply all have an impact on the intention to use DHIS2.(36).

According to a study conducted in Ethiopia, an organization's technical infrastructure has a significant impact on healthcare providers' intentions to use eHealth, including HMIS technology(11).

3. Conceptual framework

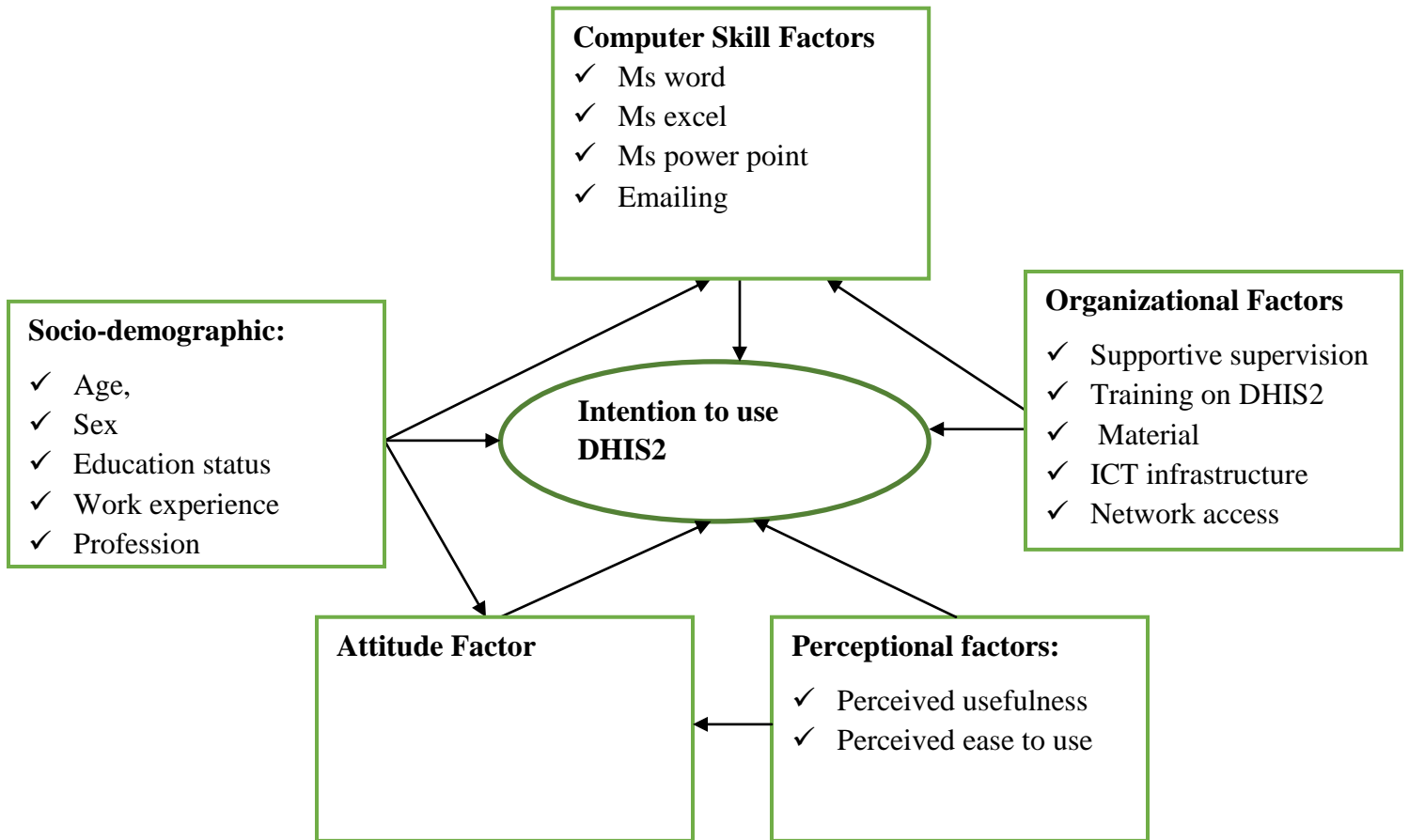


Figure 1: Conceptual framework of intention to use DHIS2 and associated factors in health centers of Bahir Dar Metropolitan city, Ethiopia, 2022(36, 37)(Adapted from different literatures)

4. Objectives

4.1. General objective

To assess the intention to use District Health Information System (DHIS2) and associated factors among health professionals in health centers of Bahir Dar Metropolitan city, Ethiopia,2022

4.2. Specific objectives

- ✓ To determine the level of intention to use District Health Information System (DHIS2) in health centers of Bahir Dar Metropolitan city, Ethiopia,2022

- ✓ To identify factors associated with intention to use District Health Information System (DHIS) in health centers of Bahir Dar Metropolitan city, Ethiopia, 2022

5. Methods and materials

5.1. Study area and Period

The study was conducted at Bahir Dar metropolitan city health centers. Bahir Dar is the capital city of Amhara national regional state. It is located in the northwest highlands of Ethiopia. There are 19 health centers in Bahir Dar Metropolitan City, including Han HC, B/dar HC, Shimbt HC, Abay HC, Shumabo HC, D/minilik HC, Meshenti HC, Zege HC, Zenzelma HC, T/abay HC, F/wega HC, Leta HC, Sekelegna HC, Dek HC, Robit HC, Kinbaba HC, Andasa HC, Yinesa HC, and Wenjeta HC. There are 706 health professionals working in Bahir Dar Metroplitan city Health Centers.

The study was conducted among health professionals in the health centers of Bahir Dar Metropolitancity, from May 24, 2022, to June 24, 2022

5.2. Study Design

A cross-sectional study design was conducted

5.3 Source and Study Population

5.3.1 Source Population

All health professionals in the health centers of Bahir Dar Metropolitancity.

5.3.2 Study Population

All health professionals in the selected health centers of Bahir Dar Metropolitancity

5.4 Eligibility Criteria

5.4.1 Inclusion Criteria

All health professionals working in the selected health centers of Bahir Dar Metropolitancity was included in the study.

5.4.2 Exclusion Criteria

All health professionals who had less than 6 month service.

5.5 Sample Size Determination

The sample size was determined by using a single population proportion formula for the address the primary objectives and by considering the 95% confidence level, 5% margin of error and 15% non-response rate.

1. For Intention to use = P= 39.8%(24)

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

$$n=369$$

Double population proportion formula for the second objective by using some significant variables

Factors	Intention to use		OR	Sample size	Reference
	P1	P2			
Physician	13.4%	43.93%	0.19	68	(38)
Computer skill	56.5%	31.9%	2.77	64	(34)
Support	61.7%	26.7%	4.42	62	(29)

After comparing the above results, the largest sample size of 369.was taken. But, since the total number of source population during the study period was less than 10,000, a correction formula was also used.

$$nf = \frac{n_o}{1 + \frac{n_o}{N}} = \frac{369}{1 + \frac{369}{504}} = 213$$

By considering the non-response rate of 15%, the sample size was 245. Lastly, multiplying with a design effect of 1.5 to increase the sample size, then the final sample size was 368. From the 19 primary health centers, 12 health centers were selected using a simple random sampling technique; the 12 randomly selected health centers contain 504 health professionals. Finally, the health professional is selected using a computer generated simple random sampling technique

5.6 Sampling procedure

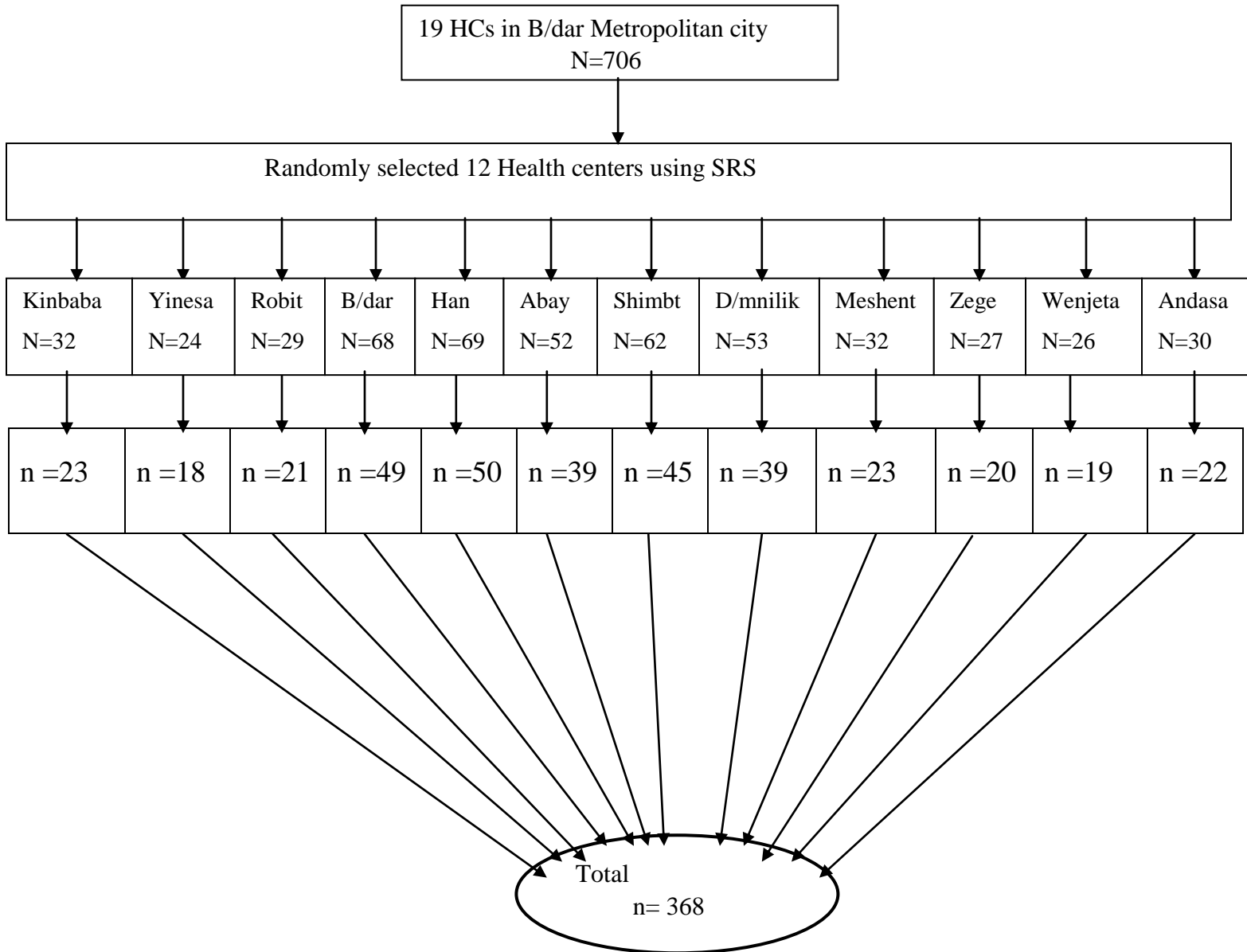


Figure 2 Schematic presentation of the sampling procedure of this study

5.7 Variables

5.7.1 Dependent Variable:

- ✓ Intention to use District Health Information system (intention to use, intention not to use)

5.7.2 Independent Variables:

Socio-demographic

- ✓ Age
- ✓ Sex
- ✓ Education status
- ✓ Work experience
- ✓ Profession

Organizational factors

- ✓ Supportive supervision
- ✓ Training on DHIS2
- ✓ Material support
- ✓ ICT infrastructure

Perceptual factors:

- ✓ Perceived usefulness
- ✓ Perceived ease to use

Computer skill factors

Attitude factor

5.8 Terms and operational Definitions

Intention to use DHIS2: Is a measurement to which a person has formulated conscious plans to perform some specified future behavior for using DHIS2. Study participants who scored above the mean from three likert scale questions were considered as having an intention to use(24).

Intention not to use DHIS2: Is a measurement to which a person has formulated conscious plans not to perform some specified future behavior for using DHIS2. Study participants who scored below the mean from three likert scale questions were considered as having an intention not to use(24).

Computer skill: The level of expertise of an individual with basic computer hardware and software like internet browsers, emails, and Microsoft office tools determines computer skill. It had four points on a Likert scale components ranging from strongly disagree to strongly agree. Study participants who scored above the mean were considered as having computer skill and who scored less than the mean were considered as not having computer skill.(31).

Attitude: Study participants were asked a series of six questions on how they feel regarding DHIS2. It had four points on a Likert scale components ranging from strongly disagree to strongly agree. Finally, the mean score cut off point was used to classify “unfavorable attitude” if the score is less than or equals the mean score and “favorable attitude” if the score is greater than the mean score.(39).

Perceived usefulness: is defined as the extent to which a healthcare professional believes that by using the health information system, would enhance and improve their performance. It had four points on a Likert scale components ranging from strongly disagree to strongly agree. Study participants who scored above the mean were considered as perceived to be useful and who scored less than the mean were considered as perceived to be not useful.(31).

Perceived ease of use: has been defined as the level to which a healthcare professional believes that they will be free from physical and mental effort to use health information systems. It had four points on a Likert scale components ranging from strongly disagree to strongly agree. Study participants who scored above the mean were considered as perceived to be easy and who scored less than the mean were considered as perceived to be not easy. (31).

5.9 Data Collection Tools and Procedures

Data were collected with a standardized questionnaire that was adapted and contextualized for my study from similar literature. The questionnaire consisted of demographic information, intention to use DHIS2, perceive usefulness, perceive ease to use, their attitude and computer skill. Data Collection was done through a self-administered questionnaire and had closed-ended questions. And 4-point Likert-scale questions were used to measure each item. The items were assessed for intention to use, perceived usefulness, perceived ease of use and attitude. Structured questionnaires ease the process of data analysis due to their speed and accurate recording of information. Three personnel were recruited for data collection and one Public Health officer was recruited to supervise the overall data collection processes.

5.10 Data Quality Assurance

The quality of data was assured by questionnaires that were initially prepared in English, translated into Amharic, and then translated back into English to check the consistency of the question. Pretest was done on 5% of health professionals with similar characteristics to the study population at Shimabo HC and training of data collectors and supervisors of the data collection procedures, categorization and coding of the questionnaire. Every day, 10% of the computed questionnaires were reviewed and checked for completeness and relevance by the supervisors and principal investigator and the necessary feedback was offered to data collectors in the next morning before the actual procedure. When there was an error, measures were taken timely. After data collection, every questionnaire was crosschecked daily by the supervisors and the principal investigator.

5.11 Data Processing and Analysis

Completed questionnaires were entered and coded into Epi-data version 3.1 computer programs and exported to SPSS version 25 for further cleaning and statistical analysis. Frequency tables and descriptive summaries were used to describe the study variables. The fitness of the model was assessed using by the Hosmer-Lameshow test, which was 0.94. The multivariable outputs were presented in Adjusted Odds Ratio (AOR). Finally, the variable which showed statistical significance (p-value <0.05) in multivariable analysis was considered as an important determinant of the outcome variable. Finally, the results were presented using tables, frequencies, figures, and texts.

5.12 Ethical Consideration

Ethical clearance was obtained from Bahir Dar University College of medicine and health sciences. For the health professionals, information about the study was given before the study began. The information included objectives of the study, voluntary participation, right to decline to participate, anonymity and confidentiality. The data collector got verbal consent from all participants of the study and permission from respective institutions within the research location. The decision by some participants who declined to be included in the study was respected. To safeguard the confidentiality of participants, only demographic information such as age and work experiences was collected. Their names, positions and/or other identifiers were not collected or taken. After entering into the computer, the data was not disclosed to any person other than the principal investigator. All information collected from the charts was kept strictly and confidentially.

6. RESULTS

6.1 Socio-demographic characteristics of respondents

Out of 368 total samples, 342 were responded with a response rate of 92.93%. The mean age of the study participants' was 31.34 years \pm 5.491 SD. From the respondents, 176(51.5%) were female. More than one third, 147(43%) of the study participants were nurses, 48(14%) were midwives and only 26(7.6%) were other health professionals. About 115(33.6%) of the study participants had less than 3 years working experience, and only 51 (14.9%) had more than 10 years working experience(Table1).

Table 1: Socio-demographic characteristics for health professionals(n=342) in Bahir Dar Metropolitan city, North westAmhara, Ethiopia, 2022

Variables		Frequency	Percent(%)
Sex	Male	166	48.5
	Female	176	51.5
Age	20-29	129	37.7
	30-39	183	53.5
	40-49	30	8.8
Marital status	Single	116	33.9
	Married	220	64.3
	Widowed	2	0.6
	Divorce	4	1.2
Educational status	Diploma	130	38
	Bachelor degree	199	58.2
	MSC & Above	13	3.8
Profession	Health Officer	44	12.9
	Libratory Technician	32	9.4
	Pharmacist	45	13.2
	Nurse	147	43
	Midwife	48	14
	Medical doctor	7	2

	Others	19	5.6
Experience	1-3	115	33.6
	4-6	106	31
	7-9	53	15.5
	≥10	68	19.9

6.2 Attitudetowards intention to use DHIS2

The mean favorable attitude response was above 18.1 (± 3.152) SD. From the respondents, 106(31%) had a favorable attitude toward the intention to use DHIS2, whereas, 236(69%) had an unfavorable attitude. While 230(67.3%)agreed and 64(18.7%) strongly agreed DHIS2 makes their work more interesting. More than two-thirds of respondents agreed that they will use DHIS2 if it is available in their facility(Table 2).

Table 2: Attitude towards intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, North westAmhara, Ethiopia, 2022

Variables		Strongly Agree Frequency (%)	Agree Frequency (%)	Disagree Frequency (%)	Strongly Disagree Frequency (%)
Attitude	Using DHIS2 is useful	58(17)	245(71.6)	25(7.3)	14(4.1)
	DHIS2 make work more interesting	64(18.7)	230(67.3)	38(11.1)	10(2.9)
	Working with DHIS2 is interesting	51(14.9)	235(68.7)	44(12.9)	12(3.5)
	I will use DHIS2, if it is available in the facility	64(18.7)	238(69.6)	27(7.9)	13(3.8)
	I will also encourage others to use DHIS2	63(18.4)	220(64.3)	42(12.3)	17(5)
	It is better than paper based	102(29.8)	183(53.5)	51(14.9)	6(1.8)

6.3 Perceived usefulness towards intention to use DHIS2

From 342 respondents, 214(62.6%) perceived DHIS2 to be useful. While 128(37.4%) respondents perceived DHIS2 as not useful. Among the respondents, 66(19.3%) and 186(54.4%) perceived that DHIS2 improved their effectiveness in healthcare delivery, agreed and strongly agreed, respectively. While more than two-thirds of the respondents believed DHIS2 increased their productivity (Figure 3).

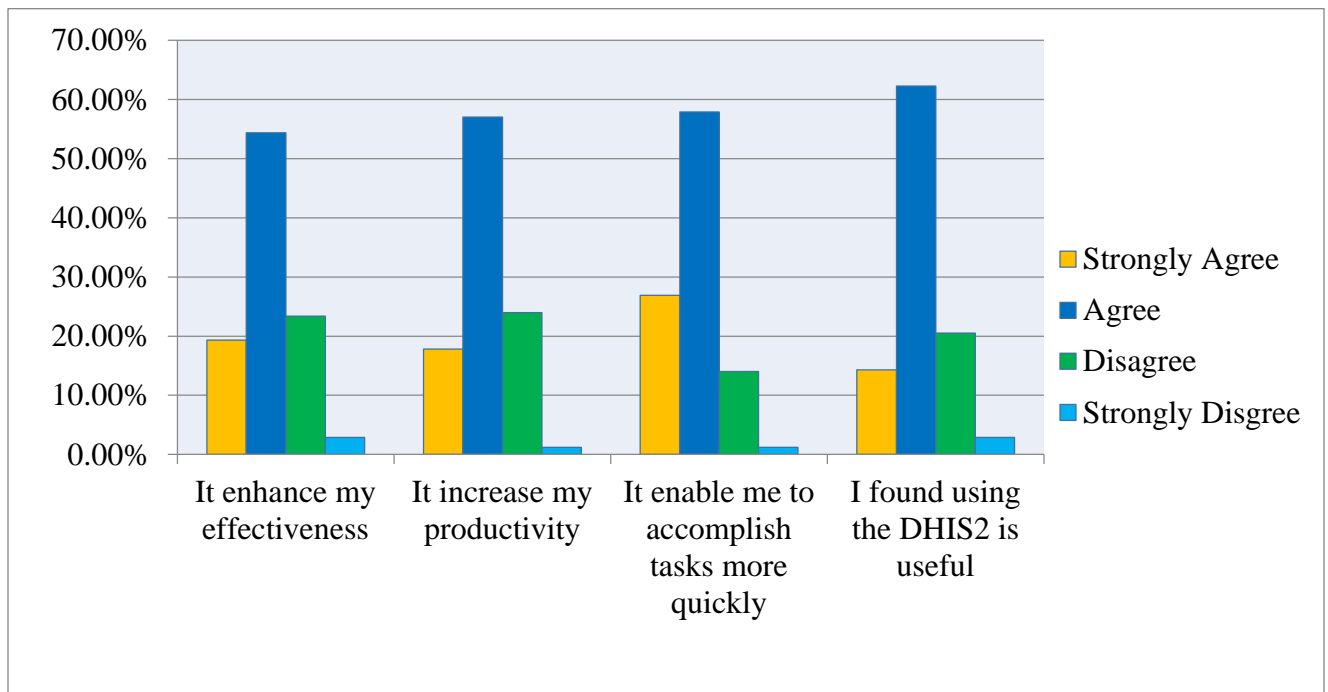


Figure 3: Perceived usefulness (PU) of intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, North west Amhara, Ethiopia, 2022

6.4 Perceived easiness towards intention to use DHIS2

The overall perceived ease of use among 342 respondents was 161(47.1%) perceived ease and 181(52.9%) perceived not easy using DHIS2 .More than half of the respondents perceived it easy for them to learn about DHIS2 use and 187 of them believed it was easy for them to be skillful. While 184(53.8%) agreed and 23(6.7%) strongly agreed to be flexible when interacting with DHIS2(Table 3).

Table 3: Perceive easiness of intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, North westAmhara, Ethiopia, 2022

Variables		Strongly Agree Frequency (%)	Agree Frequency (%)	Disagree Frequency (%)	Strongly Disagree Frequency (%)
Perceive easiness	Learning to use the DHIS2 is easy for me	28(8.2)	170(49.7)	116(33.9)	28(8.2)
	DHIS2 system is clear and understandable to use	26(7.6)	152(44.4)	137(40.1)	27(7.9)
	It is easy for me to perform	20(5.8)	167(48.8)	123(36)	32(9.4)
	I found the DHIS2 to be flexible	23(6.7)	184(53.8)	109(31.9)	26(7.6)

6.5 Computer skill towards intention to use DHIS2

The overall computer skill level of the respondents was 164(48%) had computer skill and 178(52%) had no computer skill. Two-thirds of the respondents had a basic level of word processing skill. Only 95(27.8%) of respondents had a basic level of computer processing skill (Ms excel)(Table 4).

Table 4: Computer skill towards intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, Ethiopia, July 2022

Variables		Yes	No
		Frequency (%)	Frequency (%)
Computer skill	Do you have basic level of word processing skill(Ms word preparation)	227(66.4)	115(33.6)
	Do you have basic level of web surfing skill	160(46.8)	182(53.2)
	Do you have basic level of computer processing skill(Ms excel righting)	95(27.8)	247(72.2)
	Do you have basic level of presentation skill(Ms power point preparation)	180(52.6)	162(47.4)
	Do you have basic level of emailing skill	236(69)	106(31)

6.6 Organizational factors towards intention to use DHIS2

Among a total of 342 respondents, 301(88%) did not have previous experience of DHIS2 utilization. Whereas, 312(91.2%) of the respondents agreed that there was no specialized instruction and education available in their facility. From the total respondents, 48(14%) attended DHIS2 training. Among them, 16(33.3) and 32(66.7) had only taken theoretical training and both theoretical & practical, respectively (Table 5)

Table 5: Possible organizational determinants that affect intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, Ethiopia, July 2022

Variables		Frequency	Percent (%)
Ever use of DHIS2	Yes	41	12
	No	301	88
Person available to assist DHIS2 in your facility	Yes	163	47.7
	No	179	52.3
Instructions available in your facility	Yes	30	8.8
	No	312	91.2
Training access available in your facility	Yes	34	9.9
	No	308	90.1
Did you attend training on DHIS2	Yes	48	14
	No	294	86
how many days training on DHIS2	3-5 days	39	81.3
	6-7 days	5	10.4
	8-10 days	1	2.1
	>10 days	3	6.3
Necessary equipment available for implementation	Yes	123	36
	No	219	64
Power supply is available	Yes	88	71.5
	No	35	28.5
Telephone is available	Yes	62	50.4
	No	61	49.6

Computer hardware and software available	Yes	81	65.9
	No	42	34.1
<hr/>			
Internet access in your facilities	Yes	148	43.3
	No	194	56.7
<hr/>			
How would you rate the internet access	Very satisfied	13	8.6
	Satisfied	46	30.5
	Unsatisfied	63	41.7
	Very unsatisfied	29	19.2
<hr/>			

6.7 Intention to use DHIS2

In this study finding, 223(65.2%), (95% CI=0.60- 0.70) of the study participants had an intention to use DHIS2 who scored above the mean. The mean score of intention to use DHIS2 was 8.81 with a standard deviation of 1.673. The minimum and maximum scores were 3 and 12, respectively(Figure 4)

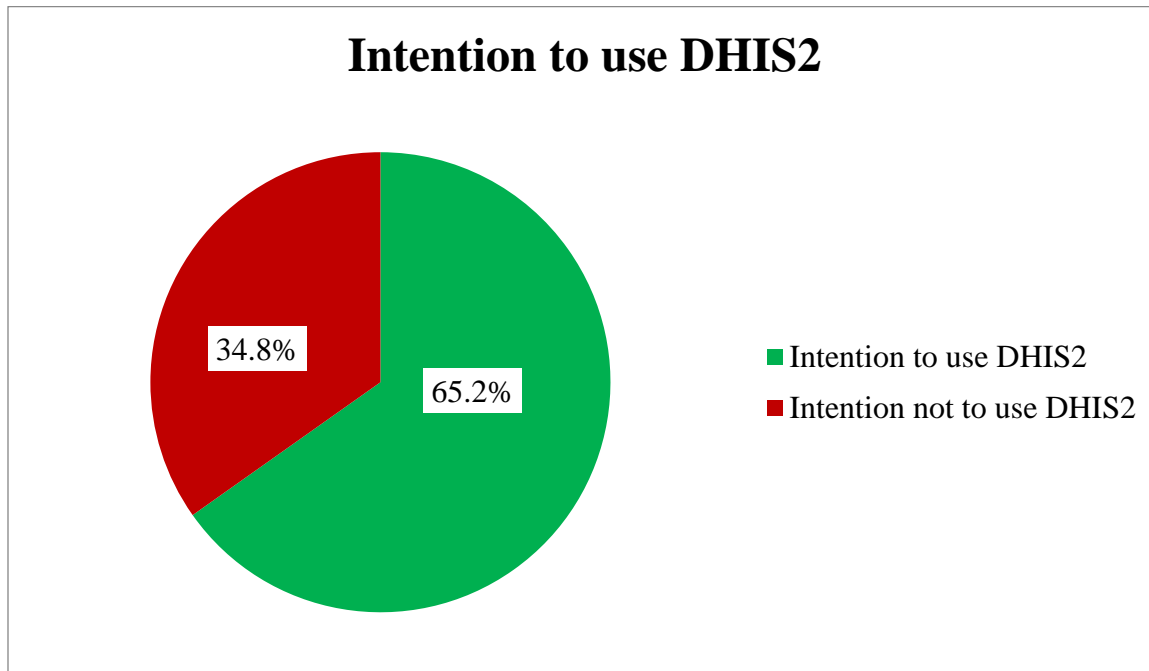


Figure 4: Intention to use DHIS2 among health professionals in Bahir Dar metropolitan city, Ethiopia, 2022

6.8 Factors associated with Intention to use DHIS2

All variables were entered into the multivariable logistic regression to identify the association between dependent variables and independent variables. Five variables were significantly associated with intention to use DHIS2 at $p < 0.05$ from the total 12 variables. Attitude, computer skills, Perceived usefulness, Internet access and Perceived easiness.

A person who had an unfavorable attitude were 64% (AOR=0.36, 95% CI=0.17- 0.76) less likely to have an intention to use DHIS2 than those who had a favorable attitude. The health professionals who had a computer skill were 3.36 (AOR=3.36, 95% CI= 1.83- 6.09) times more likely to have an intention to use DHIS2 than those who did not have a computer skill.

A person who has perceived that DHIS2 is useful were 3.48(AOR=3.48, 95% CI=1.79- 6.09) times more likely to have an intention to use DHIS2 than those who had perceived that it is not useful to use DHIS2. A person who has perceived it was not easy to use DHIS2 were 80% (AOR=0.20, 95% CI=0.10-0.41) less likely to have an intention to use DHIS2 than those who had perceived it was easy. A person who had internet access in their facility were 3.34 (AOR=3.34, 95% CI=1.81- 6.17) times more likely to have an intention to use DHIS2 than those who had internet access in their facility.

Table 6; Multivariable logistic regression result on intention to use DHIS2, among health professionals in health centers of Bahir Dar metropolitan City, Ethiopia, July 2022

Variable	Intention		COR,(95%)CI	AOR,(95%)CI	P-value
	Intention to use	Intention not to use			
Age					
20-29	90	39	1.13(0.51-2.48)	0.39(0.14-4.78)	
30-39	115	68	1.54(0.67-3.49)	0.79(0.24-2.63)	
40-49	18	12	1	1	
Sex					
Male	108	58	1	1	
Female	115	61	1.01(0.65-1.58)	1.08(0.58-2.03)	
Educational status					
Diploma	85	45	1	1	
Bachelor degree	131	68	1.02(0.64-.62)	0.70(0.34-1.39)	
Master's & above	7	6	0.618(0.196-1.95)	0.52(0.12-2.56)	
Work experience					
1-3	87	28	1	1	
4-5	46	30	0.49(0.26-0.92)	0.67(0.27-1.65)	
6-10	62	38	0.53(0.29-0.94)	0.69(0.27-1.74)	
≥11	28	23	0.39(0.19-0.79)	0.63(0.17-2.32)	
Experience of DHIS2					
Yes	33	8	2.41(108-5.40)	0.87(0.26-2.85)	
No	190	111	1	1	
Attitude					
Unfavorable attitude	132	104	0.21(0.11-0.38)	0.36(0.17-0.76)	0.009*
Favorable attitude	91	15	1	1	

Attend training					
Yes	38	10	1.48(0.53-4.67)	1.48(0.53-4.12)	
No	109	185	1	1	
Internet access					
Yes	121	27	4.04(2.44-6.69)	3.34(1.81-6.17)	0.000*
No	102	92	1	1	
Computer skill					
Have computer skill	144	34	4.56(2.81-7.39)	3.36(1.83-6.09)	0.000*
Have not computer skill	79	85	1	1	
Perceived usefulness of DHIS2					
Perceived useful	179	35	9.76(5.84-16.33)	3.48(1.79-6.09)	0.000*
Perceived not useful	44	84	1	1	
Perceived easiness of DHIS2					
Perceived not easy	79	102	0.09(0.05-0.16)	0.20(0.10-0.41)	0.000*
Perceived easy	144	17	1	1	
Instruction availability					
Yes	24	6	2.27(0.90-5.72)	7.84(0.69-9.46)	
No	199	113	1	1	

1 = Reference; COR=Crude Odds Ratio; AOR=Adjusted Odds Ratio *Shows independent variables for intention to use DHIS2 at p value <0.05

7. Discussion

The intention to use DHIS2 among health professionals was 65.2%,(95% CI=0.60- 0.70) in this study. This study implies that 65.2% respondents had a positive value for DHIS2. This study is slightly higher than the study conducted in Addis Abeba which shows the health professionals' intention to use HMIS was 70.2%(30).The possible reason for this condition could be the study was done in a similar setting and with similar study design methods and techniques.

However, it is lower than the study in Cameroon, the level of intention to use DHIS2 was 81.9%(28). The possible explanation for this condition could be poor support in providing proper training, availability and consistency of internet connection and electricity, and insufficient availability of smart phones/computers

Similarly, the finding of this study is much lower than the study done in Botswana, intention to use DHIS2 in Botswana was 89%(26). The possible explanation for this condition could be that they conducted a survey among a small group of health professionals and there was implementation of a case-based surveillance DHIS2 platform in Botswana.

Based on this study finding,perceived ease of use and perceived usefulness have been previously documented as positive influences toward intention to use DHIS2, 47.1% and 62.6% of them perceived ease and useful tointention to use DHIS2 respectively. It is aligned with the study done in Yogyakarta was 62% of Respondents had a great expectation of the DHIS2's usefulness(40). The possible explanation for this condition could be the same status level of the participants and facility type.

It is also supported by the study done in Botswana which shows that this two variables had a positive influence towards intention to use DHIS2(26).Furthermore, this study confirms that Perceived Usefulness (PU) had the greatest impact on health professionals' behavioral intention to use HMIS(29). The possible explanation for this condition could be the same status level of the participants, which means the educational background of the study participants

However, it is lower than the study done in Ghana shows overall behavioral intention to use rate was 85%(29). The possible explanation for this condition could be the availability of instruments, instruction, and training in the facility for health professionals.

In this study finding, health professionals who had computer skill had a significant effect to have intention to use DHIS2. This finding is consistent with Malaysians study mentioning that computer skill continues to be seen as a vital factor in enhancing the intention to use healthcare technology(41).

According to this study findings healthcare professional's attitudes toward DHIS2 positively influenced their intention to use DHIS2. This results support the study conducted in Ghana that shows attitude towards use have strong statistically significant influence on health professionals intention to use Health care technology(29).The possible explanation for this condition could be a study that was conducted in a health facility and included only the health professionals. In this study internet access is statistically significant with the intention to use DHIS2. It is supported by the study in Cameroon(28).

The health professionals who had a computer skill was 4.81 (AOR=4.81, 95% CI= 1.41- 16.42) times more likely to have an intention to use DHIS2 than those who had not have a computer skill. This result is consistent with the study done in Malaysia viewed as their computer skill was an important factor that can enhance healthcare professionals' intention to use healthcare technologies(41).The possible explanation for this condition could be the availability of ICT infrastructures, financial support and training that DHIS2 increase the intention level of the health providers.

This study also showed that 34.8% of respondents affirmed that have no intention to use district health information system among health professionals and can be influenced by attitude, computer skill, perceived usefulness, perceived easiness, assignment of budget and organizational factors.

8. Conclusion

From this study it was understood that the intention to use DHIS2 was good. Most of the health professionals needed to implement DHIS2. Important and significant variables of intention to use DHIS2 were attitude, computer skill, perceived usefulness, internet access and perceived easiness. These variables directly affect the intention to use DHIS2. Intention to use DHIS2 might mainly be influenced by facilitating conditions such as computer skills, training, individual attitude, internet connection, electricity, and availability of computers. This study provides evidence for decision makers to consider the intention to use DHIS2 to implement DHIS2 in the health system of their country

9. Recommendation

Based on the study findings, the following recommendations were made to institutions and concerned bodies:

Ministry of Health:

- ✓ should ensure ample supply of computers, network, internet services to boost ICT infrastructure to increase their intention and functioning of DHIS2.

Regional Health Bureau:

- ✓ Should conduct technical assistants and specialized instruction and education to improve the perception of the providers
- ✓ For remote areas sim cards or mobile internet will be provided accordingly to avail the internet access.

Health Facilities:

- ✓ Training should be given to all health professionals to improve their computer skill, perception and attitude towards intention to use SHIS2

For Researchers

- ✓ Further large-scale study should be conducted at the national level to assess the intention to use District Health Information System(DHIS2)

10. Limitation of the Study

Lack of local and national reference materials to make a comparison. social desirability bias of respondents. additionally, results may not be attributed to the whole health professional in the region.

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11. Annex

Annex-01 Information Sheet

I am _____ I came from Bahir Dar University, College of Medicine and Health Science, School of Public Health to conduct research. I kindly request you to give me your attention to explain to you about the study and study participant

THE STUDY TITLE: Intention to use District Health Information System (DHIS2) and its associated factors among health professionals in primary health centers of Bahir Dar city administration, 2022

PURPOSE OF THE STUDY: The main aim of this study is to write a thesis as partial fulfillment of a Master's degree in Health System and Project Management. After completion of this study, the results were used as evidence and input to assess and reduce poor data collection, handling, communicating, analyzing, interpreting & poor information use & practices for evidence decision making.

PROCEDURE AND DURATION: I will be assessing the intention to use DHIS2 by using Questionnaires, that needs your full cooperation and this may take about 15 to 30 minutes

RISKS AND BENEFITS: The risk of participating in this study is nil since the study does not need collecting any samples. There would have no direct benefits for being a study participant but indirectly the findings from this research will important for giving recommendation for Bahir Dar city and regional health bureau. And also give information for further scientific research.

CONFIDENTIALITY: All information forwarded is kept confidential and names will not be written.

RIGHTS: Permitting this study is voluntary. You have the right to permit or not for this study. If you decide to permit the study, you have the right to terminate the study at any time if you consider something related to the study is wrong.

AmarechKindie (BSc, MPH Candidate) (PI) (Tel +251-9- 36-75-07-75)

ADVISORS: Mr. DestaDebalkie (MPH, Assistant professor)

Mr.HabtamuAlganeh (MPH, Lecturer,)

Annex 02: Consent form

Dear Sir/madam;

My name is ----- and I am from Bahir Dar University. I am conducting research to assess the intention to use District Health Information System (DHIS2) and its associated factors among health professionals in primary health centers of Bahir Dar city administration, 2022. I kindly requested to be included in the assessment which has great importance for giving advice, awareness, and information about the intention to use DHIS2 problem of the health system. The interview will take about 15 to 30 minutes. Your participation will be based on your willingness and you have the right not to participate fully or partially. If you agree to be included in the study, I will start my question by asking general identification questions.

Thank you for your cooperation!!!

Annex 03: Questioner Date _____

Collecting Data on intention to use DHIS2 HC Code: _____

Part One: Socio demographic variables and background information			
S.no	Questions	Response	Remark
101	Sex of the respondent?	1. Male 2. Female	
102	Age of the respondent?	_____	
103	What is your marital status?	1. Married 2. Single 3. Divorced 4. Widowed	
104	Your educational status	1. Certificates 2. Diploma 3. Bachelor of Degree 4. Master's Degree and above	
105	what is your field of specialization	1. Health Officer 2. Laboratory Technician 3. Environmental Health Technician 4. Pharmacist 5. Nurse 6. Medical doctor 7. Midwifery 8. Other	
106	How long have you employed in your current position?		

Part Two: Intention to use DHIS2					
S.no	Questions: Please select the one to which your intention is exactly matching	Response			
		Strongly Disagree	Disagree	Agree	Strongly Agree
201	I intend to use the DHIS2 system in the future				
202	I predict I will use the DHIS2 system in the future				
203	I plan to use the DHIS2 system in the future				
Part Three: Attitude related questions on intention to use DHIS2					
S.no	Questions: Please select the one to which your attitude is exactly matching	Response			
		Strongly Disagree	Disagree	Agree	Strongly Agree
301	Using DHIS2 is a good idea				
302	DHIS2 make work more interesting				
303	Working with DHIS2 is fun				
304	I will use DHIS2 without any hesitation, if it is available in the facility				
305	I will also encourage others to use DHIS2				
306	It is better to use DHIS2 software than paper based				
Part Four: Perceived usefulness (PU)					
S.no	Questions: Please select the one to which your perceived usefulness is exactly matching	Response			
		Strongly Disagree	Disagree	Agree	Strongly Agree
401	Using the DHIS2 enhance my effectiveness in healthcare delivery				

402	Using the DHIS2 increase my productivity in my work				
403	Using the DHIS2 enable me to accomplish tasks more quickly				
404	I found using the DHIS2 useful				

Part Five: Table 2: Perceived ease of use (PEOU)

S.no	Questions: Please select the one to which your perceived ease of use is exactly matching	Response			
		Strongly Disagree	Disagree	Agree	Strongly Agree
501	Learning to use the DHIS2 is easy for me				
502	DHIS2 system is clear and understandable to use				
503	It is easy for me to become skillful at using the DHIS2				
504	I found the DHIS2 to be flexible to interact with				

Part Six: Computerskill

S.no	Questions:	Response	Remark
601	Do you have basic level of word processing knowledge (e.g. MS Word preparation)	1. Yes 2. No	
602	Have you basic level of web surfing Skill with any Internet browse	1. Yes 2. No	
603	Have you basic level of computer processing skill(e.g. MS Excel)	1. Yes 2. No	
604	Have you basic level of presentation software skill (e.g. MS PowerPoint preparation)	1. Yes 2. No	
605	Have you basic level of emailing skill	1. Yes 2. No	

Part seven: Organizational			
701	Have you experience in the use of DHIS2 software?	1. Yes 2. No	
702	Is there a specific person (group) available to assist DHIS2 difficulties' in your facility	1. Yes 2. No	
703	Specialized instruction and education concerning software about DHIS2 is available in your facility?	1. Yes 2. No	
704	Did you attend training on DHIS2?	1. Yes 2. No	If no, skip to Q710
705	If “Yes “For how many days training on DHIS2 were made?	1. 3-5 days 2. 6-7 days 3. 8-10 days 4. >10 days	
706	How would you rate your level of training on DHIS2?	1. Very poor 2. Poor 3. Good 4. Very Good	
707	The training you received was adequate?	1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	
708	Is there the necessary equipment for DHIS2 implementation in your facility?	1. Yes 2. No	If no, skip to Q712
709	If “ yes “, which of the following equipment are assigned to DHIS2?	1. Power supply 2. Telephone 3. Computer hardware and software 4. Internet or any kind of network 5. printer	

		6. Hard copy manual	
710	Have you internet access in your facilities?	1. Yes 2. No	
711	How do you mostly access the internet for your work? Through	1. Wi-Fi 2. Internet service provider network 3. Mobile provider's wireless modern 4. Other.....	
712	Currently, how would you rate the internet access provided at your work of place?	1. Very satisfied 2. Satisfied 3. Unsatisfied 4. Very unsatisfied	

እኔ _____

የባህርዳርደኒቨርሲቲየህክምናእናጤናሳይንስኮሌጅየህብረተሰብጤናትምህርትተማሪስሆንጥናትስማድረግወደተቀማችሁመጣሁ። ስለጥናቱ እና የጥናቱ ተሳታፊ ስለሆነዎት ማስረጃ ትኩረት ስለሆነ እንዲሰጡኝ በአክብሮት እጠይቃለሁ።

የጥናት ርዕስ: የዲስትሪክት ጤና መረጃ ሥርዓት አሠራር (DHIS2) እና ተደጋጋሚ የሆኑ የጥናት ባህርዳር ከተማ አስተዳደር የመጀመሪያ ደረጃ የጤና ክብካቤ ክፍሎች ውስጥ ሰዎች ጤና ባለሙያዎች ጋር፣ 2022

የጥናቱ አላማ: የዚህ ጥናት ዋና አላማ በጤና ስርዓት እና በፕሮጀክት አስተዳደር የማስተር ስድገት ከፊልድ ማሟያ ሆኖ ተሰጥቶ ለመገኘት ነው። ይህ ጥናት ከተጠናቀቀ በኋላ ወጤቶች ደካማ መረጃዎችን አስባለብኝ፣ አደጋዎችን ገንኝነት፣ መተንተን፣ መተርጎም እና ደካማ የመረጃ አጠቃቀም እና የማስረጃ ውሳኔ አሰጣጥን ለመገምገም እና ለመቀነስ እንደሚችል ማስረጃ እና ግብአት ቀርቦ ስለሆነ።

የጥናቱ ሂደት እና የቆይታ ጊዜ: የአንተን መሳተፊ ብብር የሚሹ መጠይቆችን፣ ቁጥጥር የመረጃ ስጦታ ለመጠይቆች እና የምልክታዎች ዝርዝር ስለመጠቀም የDHISን ስምምነት ለመግባቱ እና ይህን 15 እስከ 30 ደቂቃ ሲወስድ ይቻላል። ስጋቶች እና ጥቅሞች: ጥናቱ ምንም እንኳን ሁሉንም ሰብስቦ ስለሌለበት በዚህ ጥናት ውስጥ የመሳተፊ አደጋ እዚህ ግባ የሚባል አይደለም። የጥናት ተሳታፊ መሆን ተኛ፣ ደዳኝ ደኛ ረውም ገርግን በተዘዋዋሪ ከዚህ ጥናት የተገኘው ጤና ባህርዳር ከተማ እና ስርዓት ጋር ለመስተጋብር ለመስጠት ጠቃሚ ነው። እና ስለ ጤና ማረጋገጫ ሳይንሳዊ ምርመራ መረጃ ይስጡ።

ምስጢራዊነት: ሁሉም የተሳታፊ መረጃዎች ሚስጥራዊ እና ስለሞቶች አይደሉም።

መብቶች: ይህንን ጥናት መፍቀድ በፈቃድ እንኳን ነው። ስዚህ ጥናት ፈቃድ የመስጠት ወይም የመስጠት መብት አለዎት። ጥናቱን ለመፍቀድ ከወሰኑ፣ ከጥናቱ ጋር የተደዘነ ገርስህ ተት እንደሆነ ሳይሆን ማንኛውም ጊዜ ጥናቱን የማቋረጥ መብት አለዎት።

አማራጭ አድራሻ (ቢ.ኤስ.ሲ.፣ MPH እጩ) (PI) (ቴሌ +251-9- 36-75-07-75)

አማካሪዎች: አቶ ደስታ ደባልቄ (MPH፣ ረዳት ፕሮፌሰር)

አቶ ሀብታሙ አልጋነህ (ኤም.ፒ.ኤች፣ መምህር)

አባሪ 03: መጠየቅ ቀን _____

ስለ DHIS2 የመጠቀም ፍላጎት መረጃ ኮድ: _____

ክፍል አንድ: ስነ-ህዝብን (ዱሞግራፊን) የተመለከቱ ፕሮግራሞች			
ተ.ቁ	ፕሮግራሞች	ምሳሌ	አስተያየት
101	ጾታ	1. ወንድ 2. ሴት	
102	ዕድሜ	_____	
103	የጋብቻ ሁኔታ	1) ደግሞ 2) ደግሞ 3) ባልቀረጠበት 4) የፈታች	
106	የትምህርት ደረጃ	1. የምስክር ወረቀት 2. ዲፕሎማ 3. የባችለር ዲግሪ 4. የማስተርስ ዲግሪ እና በላይ	
107	የእርስዎ የስራ መስክ ምንድነው?	1. የጤና መኮንን 2. የጥበቃ ተራቴክኒሻን 3. የአካባቢ ጤና ቴክኒሻን 4. ፋርማሲስት 5. ነርስ 6. የፋርማሲ ቴክኒሻን 7. አጠቃላይ ሐኪም 8. አዋጅ ነገት 9. የጤና መረጃ ቴክኖሎጂ ባለሙያ 10. ሌላ.....	
108	አሁን ባለህበት/አበት የስራ መደብ ምን ይህል ገዢ ሰርተዎል?		
ክፍል ሁለት:- DHIS2 የመጠቀም ፍላጎት			
ተ.ቁ	ፕሮግራሞች:	ምሳሌ	

	ሀሳባችሁበትክክልየሚዛመደበትሳይምልክትደድርጉ	በጣምአልሰማ ማም	አልሰማማም	አሰማማሰሁ	በጣምአሰማ ማሰሁ
201	ወደፊትየDHIS2 ስርዓትንመጠቀምእፈልጋለሁ።				
202	ወደፊትየDHIS2 ስርዓትንእንደምጠቀምአተነብደሰሁ				
203	ወደፊት DHIS2 ስርዓትሰመጠቀምአቅደኛለሁ				
ክፍልሶስት:- DHIS2ንየመጠቀምፍላጎትሳይከሰሰካከትጋርየተደደዩጥያቄዎች					
ተ.ቁ	ጥያቄዎች: ሀሳባችሁበትክክልየሚዛመደበትሳይምልክትደድርጉ	ምሳሽ			
		በጣምአልሰማ ማም	አልሰማማም	አሰማማሰሁ	በጣምአሰማ ማሰሁ
301	DHIS2 መጠቀምጥረሀሳብነው				
302	DHIS2 ስራንየበለጠምቶደድርገዋል				
303	ከ DHIS2 ጋርመስራትአስደሳችነው				
304	በተቋሙውስጥረሚገኝከሆነ DHIS2ንደስምንምማመንታትአጠቀማለሁ።				
305	ሌሎች DHIS2ንእንዲጠቀሙአበረታታለሁ።				
306	ከወረቀትይልቅ ሶፍትዌርመጠቀምየተሻለነው። DHIS2				
ክፍልአራት:ጠቃሚነቱንመገንዘብሳይየተኮረጥያቄዎች					
ተ.ቁ	ጥያቄዎች: ሀሳባችሁበትክክልየሚዛመደበትሳይምልክትደድርጉ	ምሳሽ			
		በጣምአልሰማ ማም	አልሰማማም	አሰማማሰሁ	በጣምአሰማ ማሰሁ
401	DHIS2ንመጠቀምበጤናንክብካቤአሰማጥሳይውጤታ ማነቱንደሳድጋል				
402	DHIS2ንመጠቀምበስራደምርታማነቱንይጨምራል				
403	DHIS2ንበመጠቀምስራቶችንበበለጠፍጥነትእንደፈጽ ምደስችሰኛል				
404	DHIS2 መጠቀምጠቃሚሆኖአግኝቼዋለሁ				
ክፍልአምስት:የአጠቃቀምቀሳልነትሳይየተኮረጥያቄዎች					
ተ.ቁ	ጥያቄዎች: ሀሳባችሁበትክክልየሚዛመደበትሳይምልክትደድርጉ	ምሳሽ			
		በጣምአልሰማ ማም	አልሰማማም	አሰማማሰሁ	በጣምአሰማ ማሰሁ
501	DHIS2ንመጠቀምመማርስእኔቀሳልነው				
502	የ DHIS2 ስርዓትግልጽእኔሰመጠቀምቀሳልነው				

		4. በጣም ጥሩ	
707	ደገኝ ትስስጠና በቂ ነበር?	1. በጣም እስማማለሁ 2. እስማማለሁ 3. አልስማማም 4. በጣም አልስማማም	
708	በእርስዎ የጉዳይ ቡድን/ቢሮ/ተቋማት ውስጥ ስርዓት ግብራት አስፈላጊ መሳሪያዎ አለ?	1. አዎ 2. አይደለም	አይደለም ከሆነ፣ ወደ ጥ. 712 ይዘሰሉ
709	“አዎ” ከሆነ፣ ከሚከተሉት መሳሪያዎች ውስጥ ስርዓት ግብራት አስፈላጊ መሳሪያዎ የተመደበው የትኛው ነው? DHIS2	1. የኃይል አቅርቦት 2. ስልክ 3. የኮምፒውተር ሃርድዌር እና ሶፍትዌር 4. ኢንተርኔት ወይም ማንኛውም አይነት ኔትወርክ 5. አቃሚ 6. ሃርድድስት መመሪያ	
710	እርስዎ በሚሰሩበት ቡድን/ተቋማት ውስጥ የኢንተርኔት አገልግሎት አለዎት?	1. አዎ 2. አይደለም	
711	ስለ ስርዓት ግብራት ኢንተርኔት ገንዘብ ማግኘት ይቻላል?	1. ዋይፋይ (Wi-Fi) 2. የበይነመረብ አገልግሎት አቅራቢ አውታረ መረብ 3. የሞባይል አቅራቢ ውሽጥ አገልግሎት 4. ሳይበርካፊ 5. ሌላ	
712	በአሁኑ ጊዜ፣ በስራ ቦታ ላይ የሚሰጠውን የኢንተርኔት አገልግሎት ገንዘብ ማግኘት ይቻላል?	1. በጣም ረክቻለሁ 2. ረክቻለሁ 3. አልረክቻለሁም 4. በጣም አልረክቻለሁም።	

DECLARATION SHEET

I declare and affirm by my signature that this thesis entitled intention to use district health information system (DHIS2) and associated factors among health professionals in health centers of Bahir Dar metropolitan city, north west Amhara, Ethiopia, 2022 quantitative cross-sectional study is my original work and all the sources that I have used throughout the thesis have been indicated and acknowledged using complete references.

Name of student: Amarech Kindie Mossee(BSc)

Signature  Date ____/____/____

This work has been submitted for examination with my approval as an advisor,

Name of advisors: 1. Mr. Desta Debalkie(MPH, Assistant Professor)

Signature  Date 5/20/2022

Name of advisors: 2. Mr. Habtamu Alemu(MPH, Lecturer)

Signature  Date 30/12/2014 E-C

