A RESEARCH REPORT SUBMITTED TO WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCES, DEPARTMENT OF PUBLIC HEALTH IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR BACHELOR DEGREE IN PUBLIC HEALTH

TITLE*:* ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE TOWARD COVID 19 AMONG DIABETIC PATIENTS IN WOLKITE UNIVERSITY, SPECIALIZED TEACHING HOSPITAL IN GURAGE ZONE, SNNPR, ETHIOPIA, 2021 GC

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ACRONOMY AND ABBREVIATION

ADA - American Diabetes Association

BMI - Body Mass Index

CD - Communicable Diseases

DM - Diabetes Mellitus

HANES - Health and Nutrition Examination Survey

HF - Heart Failure

HTN - Hypertension

IDDM - Insulin Dependent Diabetes Mellitus

IFG - Impaired Fasting Glucose

IGT - Impaired Glucose Tolerance

NCDs - Non Communicable Diseases

NHANES - National Health and Nutrition Survey

NIDDM – None Insulin Dependent Diabetes Mellitus

OGTT - Oral Glucose Tolerance Test

OPD - Out Patient Department

PAHO - Pan-America Health Organization

SARS - Severe Acute Respiratory Syndrome

WHO - World Health Organization

WUSTH – Wolkite University Specialized Teaching Hospital

ABSTRACT

Background

Our study focus on knowledge, attitude and practice concerning the global pandemic COVID -19 among diabetic patient in Wolkite university specialized Thatching Hospital, coming for follow up at chronic disease follow up OPD. There are only few researches was done concerning this recent alarming health problem, currently most available data is from hospitalized cohorts report prevalence of diabetes in COVID-19 is 54.5%,and the case of fatality rate is 33.7% but this study was worldwide not on particular areas ,and still has gaps .we were interested on knowing on the perception of those patients , identify constraining condition by interviewing 123 DM patients by sequential sampling technique ,coming with in the given time, qualitative and quantitative data was collected by 3 public health students after we prepare questionnaire. Our ultimate goal was to eradicate misconception concerning this critical health condition and provide better understanding to benefit the society and support health policy maker and planners.

Objective

To assess the knowledge, attitude and practice towards COVID-19 among diabetic patients in Wolkite University specialized teaching Hospitals, SNNPR Ethiopia,2021.

Methods and Material

Institution based cross sectional qualitative and quantitative data collection was conducted at Wolkite University specialized teaching hospital, WKU College of Medicine and health sciences, Department of public health, SNNPR, South Ethiopia. We interviewed around 123 DM patients age >14 by sequential sampling technique after we prepare questioner containing sociodemographic status, knowledge, attitude and practice questions, data was collected by 3 forth year public health student with in the given time and data quality controlled daily by checking for clarity, consistency and completeness. Finally, after we analyzed and interpret the data by scientific calculator and SPSS, the result of this study was presented with text, table and graphs.

CHAPTER ONE
INTRODUCTION

1.1. BACKGROUND

COVID-19 pandemic has profoundly influenced the economic outlook and psychosocial well-being worldwide. The global economy and tourism are predicted to struggle a lot in the years to come. Millions have been unemployed, industries are down, and virtually every part of life has been affected **[1].** Wuhan City, Hubei Province, China was the starting point of this viral pandemic **[2].** Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) is a part of the Corona viridian family that has also previously caused the SARS epidemic in 2002 and MERS epidemic in 2008, killing 774 and 858 people, respectively **[2,3]**. The Corona viridian is a family of enveloped viruses with a positive-sense single-stranded RNA genome **[4,5]**.

SARS-CoV-2 is structurally different from other viruses, consisting transmembrane crown-like glycoprotein spikes **[6]**. The virus reaches the host cells using the angiotensin-converting enzyme 2(ACE2) receptor **[7].** Once inside, the virus captures the host cell's genetic system to make viral proteins and their genetic material. After replication is complete, the virus leaves the cell through exocytosis; the stress of the virus triggers apoptosis of the cell **[8].** The apoptosis or necrosis of the virally infected cells triggers an inflammatory response via the activation of pro inflammatory cytokines. These high amounts of cytokines eventually lead to a "cytokine storm" in the body [9]. The cytokine storm causes multiple organ failure and hyper-inflammation **[10,11].**

There are several mechanisms suggested with association of chronic diseases such as, diabetes, hypertension, cardiovascular disease with COVID-19. Diabetes mellitus is a chronic metabolic disorder that affects the body ability to produce or action of insulin, hormone periodically secreted from pancreatic cells, and manifested with poly symptoms, weight loss and hyperglycemia **[12].**

It can broadly classify as Type 1and Type 2 Currently HbA1c is not a suitable diagnostic test, but WHO recommends two diagnostic criteria for diabetes and intermediate hyperglycemia, those are fasting plasma glucose >126mg/dl or 2hr plasma glucose >200mg/dl with poly symptoms **[14].** The management is life style modification, insulin replacement or oral hypoglycemic agents based on types and duration. **[14]**

Diabetes mellitus causes severe short term and long term consequences ranging from brain damage to amputation and heart disease. It also creates fertile ground for opportunistic bacterial and viral infections, but our intention is on relation with SARS COVID -19, the recent easily spreading pandemic respiratory tract RNA viral disease which arise from China, Wihan in the late December 2019 **[19].**

WHO has declared this new and potentially serious disease outbreak to be a public health emergency on international concern, and estimate around 197 million people around the world was infected. There are many corona virus species ranging from common cold to much more serious viruses like sever acute respiratory syndrome(SARS) and middle east respiratory syndrome (MERS) which transmitted from animals to people **[14].**

In severe cases with co morbidity such as diabetes it can causes pneumonia, kidney failure and even death. Its clinical manifestation is varying in different peoples and regions, but commonly presented with high grade fever, cough, sneezing with nasal discharge, sore throat, fatigue but atypical symptoms may appear in diabetic patients and other chronic diseases. The symptoms usually start with in 3-7 days of exposure, but in some cases it may take 14 days of incubation period **[20]**. The majority of people infected with this virus not require hospitalization for supportive care, around 98% will survive, however in up to 15% of cases it could be sever, and in 5% cases it could be critical and lead to death. Currently, there is no effective management announced for this life threatening disease, indeed there was some recent studies concerning this global health problem.

There are several potential mechanisms relation of diabetes and COVID-19, but the most common one is uncontrolled hyperglycemia due to poor glycemic control of diabetes mellitus patients who drop out from follow up, this condition make our body vulnerable for viral infection like COVID-19, the other reason is diabetes impair our immunity system and affect our bodies inflammatory response to viral infections. Glycemic adjustment in hospitalized patients is vital in the context of the COVID-19 pandemic, and screening to identify undiagnosed cases of diabetes is markedly important **[13]**.

Generally, diabetes patients with COVID-19 have much higher rates of serious complication and death than people without diabetes but not increase the chance of contracting the virus **[19].**

Though diabetes increases the risk of infection, most studies have reported prevalence of diabetes almost similar to general population, a meta-analysis of eight trials in china showed that diabetes was present in 8% of 46,248 patients with COVID-19**[12].** indeed, prevalence of diabetes in COVID-19 varies with sociodemographic characters. A UK study described hospital death of 23,804 COVID-19 patients, of which 32% had type 2 DM and 1.5% had type 1 DM, with 2.03- and 3.5-fold risk of death in hospital relative to non-DM patients, respectively **[16]**.

A retrospective Chinese study suggested that COVID-19 patients with diabetes had a higher incidence of hypertension (56.9%), cardiovascular disease (CVD) (20.9%), and cerebrovascular disease (7.8%) compared to non-DM patients (28.8, 11.1, and 1.3%, respectively) **[17]**. A population-based cohort study from England reported a greater possibility of death from COVID-19 in patients with diabetes (either type 1 or type 2 DM) with HbA 1c > 10% relative to those with HbA 1c < 6.5% **[18]**.

Despite few research trials on this area of health problem, still there is gaps on determining whether patients with diabetes with well-controlled blood glucose level can increase or decrease risk of infection of COVID-19, In recent study 1122 patients with COVID-19 in 88 centers across the USA found diabetes to associated with more than fourfold increase mortality, As you consider all those studies they only try to determine the prevalence and severity of diabetes patients with COVID-19, they have limitation on determining knowledge , attitude and practice of those diabetes patients toward this globally alarming rapidly spreading COVID-19 **[23].**

Our study was target on knowing the perception of those diabetic patients on the way of transmission, clinical manifestation including atypical ones which are particular for those patients, the incubation period till the symptoms appear, the burden this viral diseases and method of prevention like washing hands with soap and water, using sanitizers, keeping physical distance of around 2 meters, staying at home, proper wearing of WHO recommended face masks, health care seeking habits while symptoms appear and isolation or quarantine for 2 weeks, after we searching them concerning those ideas we try clear out the confusion toward this health problem and the study will drill the way of improving the knowledge, attitude and practice of those principles which recommended by WHO and health professionals, and try to avoiding misconception with regard to spiritual or cultural aspect, this study will provide potential benefit

to the society ,health care systems ,health policy makers and planners by saving resources and human power of the country and as a leading point for further researches was done in the future [14].

1.2 STATEMENT OF THE PROBLEM

The high prevalence of diabetes globally makes it a frequent co-morbidity in patients with corona virus-associated disease 2019 (COVID-19). Though diabetes increases the risk of infection, most studies have reported prevalence of diabetes almost similar to general population, a meta-analysis of eight trials in china showed that diabetes was present in 8% of 46,248 patients with COVID-19 [12].

Though diabetes increases the risk of infection in general, most studies have reported prevalence of diabetes almost similar to that in general population in patients with COVID-19. A meta-analysis of eight trials in China showed that diabetes was present in 8% of 46,248 patients with COVID-19. Understandably, prevalence of diabetes in patients with COVID-19 varies by region, age and ethnicity. It is not known whether patients with diabetes with well-controlled blood glucose levels have an increased risk of infection with severe acute respiratory syndrome corona virus 2 (SARS CoV-2) [23].

According to Ministry of Health in Ethiopia, from 3 January 2020 to, 24 September 2021, there have been 338,306 confirmed cases of COVID-19 with 5,291 deaths, reported to WHO. As of 22 September 2021, a total of 3,281,470 vaccine doses have been administered of Given the rapid spread of new coronavirus infectious disease and its impact on human health and wellbeing, the researchers from varies directions has investigated immediately about the new coronavirus type and enormous research articles from different view point have already been published [30].

The importance of assessing knowledge, attitude and practice of society, particularly diabetes patients toward COVID-19 was recognized by the world, but there is limitation on addressing to each specific societies and there are also gaps on improving perception of diabetes patients on the way of transmission and prevention mechanisms of this life threatening viral disease. There is also lack of attention of the society toward implementation of recommendation given by WHO and health professionals [31].

Hence our study aimed to provide the level of knowledge, attitude and practice on the cause, mode of transmission, clinical manifestation, preventive methods including the level of applicability of commands from the federal ministry of health and other concerned bodies, diagnostic methods and treatment processes of COVID-19 infection in wolkite university specialized teaching hospital in Ethiopia. This research can deliver an essential fact for researches interrelated to this topics, additionally may support government and non-governmental organizations to make decision on schemes to control the recent COVID-19 infection at local, national and global level.

1.3 SIGNIFICANCE OF THE STUDY

In Ethiopia, although DM is recognized as one of the major non-communicable diseases, the exact prevalence, progress, and associated complications are not well documented and updated regularly. Although a nationwide surveillance on occurrence of DM has not been made, IDF 2012 report indicated an estimated DM prevalence of 3.32 % **[29].** Though the actual prevalence of DM in Ethiopia could be as high as 8% as suggested by some institution-based studies, aside from what is projected by IDF **[21]**. Regarding the progress and distribution of DM in Ethiopia, a ten-year retrospective study on the spread of DM conducted in Gondar Hospital (Northern Ethiopia) indicated that both Type 1 DM (T1DM) and Type 2 DM (T2DM), cases increased by 125% on average **[21]** Covid-19 in diabetic are becoming common community problems. The outcomes of this problem are increased hospitalization, increased direct patient costs, and mortality. So we are interested to assess KAP toward COVID 19 among diabetic patients and to provide sources for the coming researchers to provide solution.

CHAPTER TWO

LITERATURE REVIEW

2.1 KNOWLEDGE TOWARDS COVID-19

According A meta-analysis of eight trials in China almost all patients (99.2%) heard about the pandemic COVID-19. The major primary sources of information for study participants were television and radio (59.9%). Health professionals 16 (3.9%) and Newspaper 13 (3.2%) were the least sources of information. Concerning awareness of the symptoms, cough was the most (88.1%) known/reported symptom followed by fever 332 (82.2). Myalgia was the least 98 (24.3%) known symptoms of COVID-19 **[22].**

The prevalence of poor knowledge was 33.9% (95% CI (29.3–38.5%). Only 151 (37.4%) study participants had good knowledge while the remaining 116 (28.7%) had poor knowledge. 293 (72.5%) study participants reported that there is no effective treatment or vaccine for COVID-19. The majority (70.1%) of the study participants reported that shaking hands of infected individuals result in the spread of infection. Touching an object or surface with the virus on it, then touching the mouth, nose, or eye, and respiratory droplets of infected individuals through the air during sneezing or coughing were reported as means of COVID-19 transmission by 217 (53.7%) and 337 (83.4%) of the study participants, respectively.

Frequent proper hand washing with soap for 20 seconds was reported as one major means of protection by 317 (78.5%) participants. Most (85.4%) of the study participants reported that avoiding of going to crowded places prevents the spread of infection. Three hundred and six participants (75.7%) reported that it is necessary to wear a mask when moving out of the home to prevent the infection of COVID-19 **[22].**

2.2. ATTITUDE TOWARDS COVID-19

According to A meta-analysis of eight trials in China bivariate logistic regression analysis showed that age group of 31-40 years (OR=0.47; 95%CI: 0.23-0.95) and ≥40 years (OR=0.28; 95%CI: 0.11, 0.69) (vs. ≤21 years), urban residents (OR=1.96; 95%CI: 1.05-3.67), and COVID-19 knowledge score (OR: 1.13; 95%CI: 1.03-1.24) were significantly associated with the

successfully controlled of COVID-19. Educational levels of degree or higher (vs. primary school and below) (OR=3.01; 95%CI: 1.41-6.83), government employed (vs. students) (OR=0.46 95%CI: 0.28-0.75), urban residence (vs. rural) (OR=2.07; CI: 1.15-3.73) were significantly associated with confidence of winning the battle against the COVID-19 virus. Sex, age, marital status, occupation, and residence were significantly associated with the think that the cause of COVID-19 is spiritual/ is it happened because of sin. Age, marital status, education, occupation, and knowledge on COVID-19 were statistically associated with no oppose the wearing of face mask. Age, marital status, and occupation were significantly associated with negatively affected because hearing news about COVID-19 infection. Marital status, occupation, and residence were associated with the belief of traditional medicines **[22].**

2.3. PRACTICE TOWARDS COVID-19

According to A meta-analysis of eight trials in China Female gender (OR=3.12; 95%CI: 2.01-4.86) (vs. male), age group of ≥40 years (OR=0.24; 95%CI: 0.11, 0.52) (vs. ≤21 years), marital status of married (OR=0.42; 95%CI: 0.29-0.61) (vs. single), government employed (OR=0.33; 95%CI: 0.27-0.51) and private employed (OR=0.38; 95%CI: 0.22-0.66) (vs. students), and urban residence (OR=0.19; 95%CI: 0.09- 0.43) (vs. rural) were significantly associated with restricted going to any crowded place. Age, occupation, and place of residence were statistically associated with wearing a mask outside. Age, education level, and occupation were significantly associated with a practice of hand washing often with soap and water for at least 20 seconds. All explanatory variables were statistically associated with a hand sanitizer used that contains at least 60% alcohol when soap and water are not available. Age, marital status, and educational level were significantly associated with used sterilizers before and after touching inanimate object like money, after being in contact with ATM. Marital status, education level, and occupation were significantly associated with applying if the government announce stay-at-home order and not touching nose and mouth frequently without washing your hand respectively **[22]**.

CHAPTER THREE
OBJECTIVE

3.1 GENERAL OBJECTIVE

To assess knowledge, attitude and practice towards COVID 19 among diabetic patients visiting WUST Hospital, Ethiopia,2021.

3.2 SPECIFIC OBJECTIVES

1. To assess knowledge toward COVID-19 among diabetic patients

2. To determine attitude toward COVID-19 among diabetic patients

3. To estimate practice toward COVID-19 among diabetic patients

CHAPTER FOUR

METHODES

4.1 STUDY AREA

The study was conducted at wolkite university specialized teaching hospital which is found in wolkite sub city Gubrye. Wolkite town is located 158 km southwest of Addis Ababa, the capital city of Ethiopia and 271.6km from Hawassa. Wolkite is the capital city of Gurage Zone that has an average annual temperature of 18.6 °C and an average rainfall of 1244 mm. This town has a latitude and longitude of 8°17′N 37°47′E and an elevation between 1910 and 1935 meters above sea level. It is surrounded by Kebena woreda and it was part of former Goro woreda.

4.2 STUDY PERIOD

The study is going conducted from July 22 up to October 23,2021 G.C

4.3 STUDY DESIGN

Institution based cross sectional study was conducted.

4.4 POPULATION

4.4.1 Source population

All patients visiting WUSTH at chronic disease follow up OPD.

4.4.2 Study population

All diabetic patients with covid 19 who were visiting chronic disease follow up OPD at WUSTH. During our Research conducting period the total population of diabetic patient who have regular diabetic follow up are more than 1000.

4.4.3 Study unit

The unit is a patient on which the data was collected.

4.5 Eligible criteria

4.5.1 Inclusion criteria

All diabetic patients who are voluntary to participate in the study to have regular follow-up at chronic disease follow up OPD at WUSTH >age 14 years old.

4.5.2 Exclusion criteria

critically ill patients and unwilling to participate in the study.

4.6 Sample Size Determination

The sample size was based on the number of patients who had follow up during our research time.

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

Where n= required sample size

Z = the standard normal deviation at 95% confidence interval; = 1.96

P= proportion of covid in diabetic prevalence is not known so we took 50%

d = margin of error that can be tolerated, 5% (0.05)

C= correction of the patient who refuse to give information, 5%(n)

1-p = proportion of population that don't possess the character of interest.

$n = (Z)^2\ p(1-p)/d^2 + c = (1.96)^2\ (0.50)\ (0.50)/\ (0.05)^2 + 5\%\ (n) = 384+19 = 403$

We take all the patients who attend WUSTH OPD. Which was 123 DM with COVID 19 because of there is no research done before in this title.

4.6.1 Sampling technique and procedure

Sequential sampling technique was use to recruit participants. The pattern of patient flow rate in the OPD at WUSTH was considered. Every consecutive patient attending OPD during our research conducting time was asked to recruit participants.

4.7 Data collection instrument

A structured questionnaire was prepared to address the knowledge attitude and practice of diabetic patients to COVID 19 and the questionnaire was contained knowledge of the patient, attitude about the disease and practice of the patient and it includes sociodemographic characteristics and awareness.

4.8 Data collection methods

Data was collect through face-to-face interviews, patient record interviews and Data collection was carry out by our 3 public health students (graduating public health students) and by reviewing different questionnaires.

4.9 Variable

Dependent variable

- Knowledge
- Attitude
- Practice toward COVID 19

Independent variables

Sociodemographic characteristics, like

- Age
- Sex
- Marital statues
- Educational level
- Occupation
- Income
- residence

4.10 Operational definition of term

Diabetes mellitus: a group of common metabolic disorders that share the phenotype of chronic hyperglycemia

COVID 19: is a corona virus; RNA viruses, family Corona viridian, order Nidovirales which mainly affects respiratory system

Knowledge of covid 19 among diabetic patients: is defined as adequate understanding of covid 19 among diabetic patients. There are seven multiple-choice questions to measure knowledge out of the total 22 question on the questionnaire, to assess if they had information and a positive response forthis question is considered as knowledgeable.

Attitude towards covid 19 among diabetic patients: is the study subjects' opinion and idea towards covid 19 among diabetic patients. There are total of eight questions on the questionnaire to assess attitude and if the answer of the respondents for six of them is in favor of covid 19 among diabetic patients, it is claimed as a good attitude. The scoring for the questions assessing attitude was summed up giving 2 if a positive answer (a Yes or Agree) and 0 otherwise, the total

was obtained and the mean was calculated then a score above the mean was considered as a positive attitude and below the mean was taken as a negative attitude.

Practice of covid 19 among diabetic patients: Is performance (actual application) of covid 19 among diabetic patients. There is a Yes or No question for practice of covid 19 among diabetic patients in the questionnaire, a Yes was considered as practiced and the appropriateness of the practice was measured by the rest questions for practice.

4.11 Data quality management

Every day the collected questionnaire was checked for clarity, consistency, and completeness by the investigators. Consequently, amendments and corrections was made before the start of the next day work. Data double entry was done for reliability and correctness with the respective original data. In addition, computer data cleaning was done. To assure the quality of the data, properly designed data collection instruments was developed. Every day 5-10% of the collected data was reviewed and checked for completeness and relevance by the supervisors and principal investigator.

4.12 Methods of data analysis

The collected data was checked for completeness; exploratory data analysis was carried out to check the levels of missing values. The data were coded and entered in to a computer and it was analyzed using the software SPSS version 20 and then finally summarized and presented in frequencies, percent, texts, tables, and graphs.

4.13 Ethical consideration

Ethical clearance was obtained from WUSTH Medical faculty; informed consent was obtained from each study subject prior to the interview after the purpose of the study is explained to respondent. Confidentiality of the information was assured and privacy of the respondent was maintained. The instruments and procedure was not cause any harm to the study subject. Three public health student working in the chronic disease follow up clinics and performed the data collection process by wearing a mask and glove at a well-ventilated room keeping a minimum distance of 2 m from the patients.

4.14 Dissemination of the result

We submit the research result by presentation on the seminar., by printing in hard paper and presented to College of Medical and Health Sciences, Wolkite University. It was kept in Wolkite University library so that it will be accessed by various students and readers. And also for future to be published as a source of different researches on this topic.

CHAPTER FIVE

RESULT

5.1 Socio-demographic Characteristics

The research was conducted at WUSTH chronic disease follow up OPD. From Hospital based survey we have collected information from 123 patients with face to face interview and questionnaires. From these participants 84(68.3%) was male and 39(31.7%) was females. and from those 82(66.7%) patients were from age group of more than 50 years of age and 41 (33.3%) 0f responders was from age group of 14 to 50.

Among the study participants 81 (65.9%) was from Urban the remaining are from rural. From these patients 97(78.9%) were married and the remaining was not. 14(11.4%) held diploma or above, 12(9.8%) engaged in governmental employee and the remaining are engaged small scale private industries, house wives and jobless. The majority of participants had monthly income. The minimum and maximum monthly incomes were 500.00 and 27,000 Birr, respectively.

Table 1. Demographic characteristics of participants, Wolkite university specialized teaching hospital chronic disease follow-up OPD SNNPR Ethiopia, 2021.

Characteristics	Variables	Frequency	Percent
Sex	Male Female	84 39	68.3 31.7

Age-group (years)	14-20 21-30 31-40 41-50 >51	1 5 6 29 82	0.8 4.1 4.9 23.6 66.7
Place of Residence	Urban Rural	81 42	65.9 34.1
Marital Status	Single Married Divorced Widowed	13 97 8 5	10.6 78.9 6.5 4.1
Education	Illiterate Read and write 1ry-and-2ryschool Diploma and above	27 59 23 14	22 48 18.7 11.4
Occupation	Government-Employed non-Government Employed Merchant House-wife Others**	12 21 58 18 14	9.8+ 17.1 47.2 14.6 11.4
Monthly Income	500-1500 1501-3000 3001-5000	10 31	8.1 25.2 22

	5001-7500 >7500	27 35 20	28.5 16.3
Types of DM	Type 1 Type 2	13 110	10.6 89.4
Duration of DM in years	<1 1-5 6-10 11-15	14 94 13 2	11.4 76.4 10.6 1.6

5.2 Knowledge

Almost all of the respondents are informed about COVID 19 of 100% and the main source of information are health professionals of 75.6%. and the next source of information television (62.6%)and the remaining are from radio and family member which accounts 53.7% and 52% respectively. The range of correct answer by the respondent from a total of 7 knowledge questions are from 3.3%-100% with average of 84.89%.

All responders know that the main way of transmission of COVID 19 is through inhaling droplets of infected person while coughing and sneezing and Close contact with infected person. Almost all respondents know that the main symptom of COVID 19 is fever and cough 100%, 95.9% respectively. And other common clinical manifestations like fatigue and shortness of breath is answered by 116 and 77 participants respectively.

All participants agreed that: wash hand through soap and water; avoid touching the eyes and nose with un clean hand; avoid contact with infected people; using masks at public gathering and maintaining social distance are important to prevent COVID 19. Whereas only 31.7% of the participants agreed that self-quarantine can prevent the spread of COVID 19. All participants selected the choices of old age and chronically ill patients are at risk for COVID 19. And the

remaining 4.1% and 3.3% selected children and pregnant women respectively are most at risk for COVID 19.

Table 2. Knowledge about COVID-19and source of information, of participants, Wolkite university, specialized teaching hospital chronic disease follow-up OPD SNNPR Ethiopia, 2021.

Characteristics	Sources	Frequency	%
Have you heard about COVID 19	Yes No	123 0	100 0
Source/s of information	1 TV 2 Radio 3 Friends 4 Relatives 5 Family members 6.Health-professional 7.Social-Media 8 newspaper	77 66 51 20 64 93 31 0	62.6 53.7 41.5 16.3 52 75.6 25.2 0

How is COVID 19 spread	1 through inhaling droplets of infected person while coughing and sneezing 2 touching contaminated surface 3 Contact with infected animals 4 Through eating infected animal products 5 Close contact with infected person	123 117 0 0 115	100 95.1 0 0 93.5
Common symptoms of COVID 19	Fever Dry cough Sore throat Shortness of breath Fatigue I don't know	123 118 47 77 116 0	100 95.9 38.2 62.6 94.3 0
What to do prevent COVID 19	1wash hand through soap and water 2 avoid touching the eyes and nose with un clean hand 3 avoid contact with infected people 4 using masks at public gathering 5 maintaining social distance 6 maintaining self-quarantine	123 123 123 123 123 39	100 100 100 100 100 31.7

Who is mostly at risk	1 old aged person 2 pregnant women 3 children 4 individuals with cancer, diabetic, chronic respiratory disease	123 4 5 123	100 3.3 4.1 100

5.3. Attitude towards COVID-19 infection

The following table shows that 84.3% of diabetic patient may probably infected with COVID 19 and almost all of them agreed about to give concern to COVID 19.and 95.1% of respondents agreed for isolation to COVID center if infected.

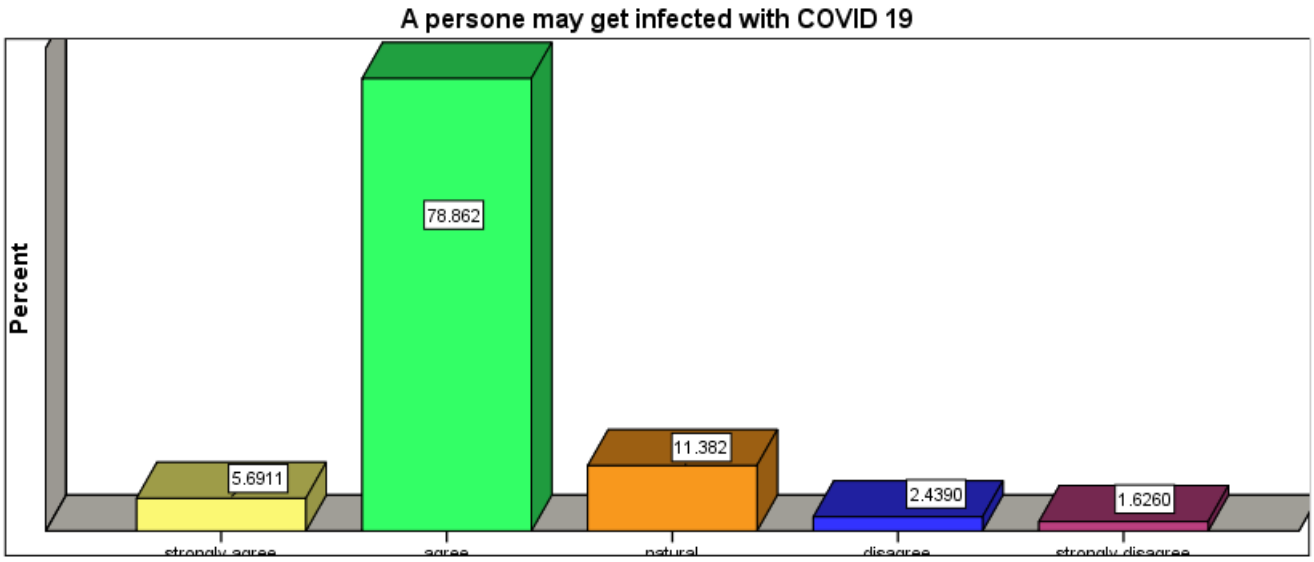

Figure 1. frequency distribution of attitude towards patient think they may probably get infected with COVID 19

Almost all of the respondents had positive attitude that hand hygiene, wearing face mask, health education is important for the prevention of the spread of COVID 19. 79.7% of diabetic disagreed to the believe of all diabetic patient with COVID 19 result in death. And the remaining 20.3% was neutral.

Table 3. Attitude towards COVID-19 infection of participants, Wolkite university, specialized teaching hospital chronic disease follow-up OPD SNNPR Ethiopia, 2021.

Characteristics	Sources	Frequency	%
As diabetic patient is it important to be concerned about COVID 19	1 strongly agree	61	49.6
	2 agree	62	50.4
	3 neutral	0	0
	4 disagree	0	0
	5 strongly disagree	0	0
If you get infected with COVID 19 will you accept isolation in isolation facilities?	1 strongly agree	64	52
	2 agree	53	43.1
	3 neutral	6	4.9
	4 disagree	0	0
	5 strongly disagree	0	0
Do you believe hand hygiene is important in controlling the spread of COVID 19?	1 strongly agree	34	27.6
	2 agree	89	72.4
	3 neutral	0	0
	4 disagree	0	0
	5 strongly disagree	0	0

Do you believe wearing face mask is important in controlling the spread of COVID 19	1 strongly agree 2 agree 3 neutral 4 disagree 5 strongly disagree	64 59 0 0 0	52 48 0 0 0
Do you believe individuals with COVID 19 symptoms should inform to health care authorities?	1 strongly agree 2 agree 3 neutral 4 disagree 5 strongly disagree	55 68 0 0 0	44.7 55.3 0 0 0
Do you think health education can help to prevent COVID 19?	1 strongly agree 2 agree 3 neutral 4 disagree 5 strongly disagree	46 77 0 0 0	37.4 62.6 0 0 0
Do you believe all diabetic patient with COVID 19 result in death?	1 strongly agree 2 agree 3 neutral 4 disagree 5 strongly disagree	0 0 25 98 0	0 0 20.3 79.7 0

5.4 Practice towards covid 19 infection

Among the study participants, 84.5% of respondents had at least one risk behavior related to COVID-19 infection. 84(68.3%) of participants gone out of home without wearing face-mask.

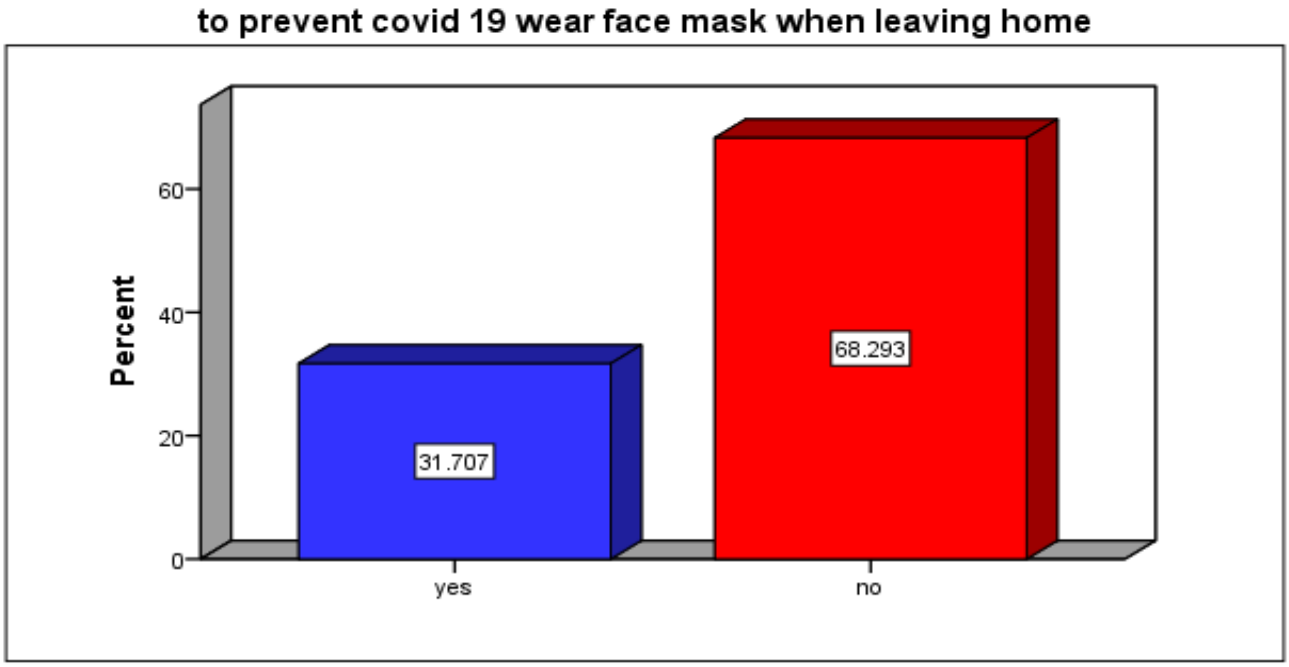

Figure 2: practice to prevent covid 19 by wearing face mask when leaving home.

91(74%)0f the respondent doesn't use tissue or hand kerchiefs during coughing/sneezing or cover with bent elbow. Almost 95.9% 0f the respondents don't maintain social distance and 68.29% of them do not wash their hands with soap regularly.

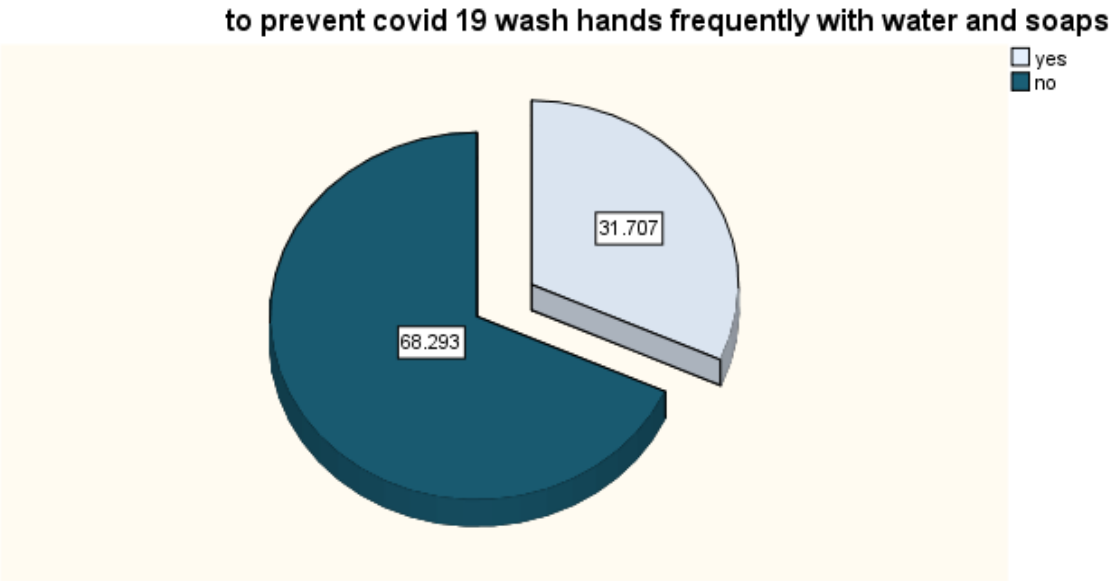

Figure 3: practice to prevent covid 19 by wash hands frequently with water and soaps

Table 4. Practices towards COVID19 infection

Characteristics	Sources	Frequency	%
Do you use tissue or hand kerchiefs during coughing/sneezing or cover with bent elbow?	1 yes 2 no	32 91	26 74
Do you avoid touching nose, eyes and mouse with un clean hands?	1 yes 2 no	18 105	14.6 85.4
Do you avoid hand shacking kissing and hugging?	1 yes 2 no	13 110	10.6 89.4
Do you maintain social	1 yes	6	4.9

distance or home quarantine ?	2 no	117	95.1

6. DISCUSSION

There were some studies in other countries like Vietnam studied to assess the knowledge attitude and practice of COVID 19 among chronically ill patients. But there is no any study in Africa and Ethiopia regarding to KAP to ward COVID 19 among diabetic patient and this is the first study in wolkite examining the KAP towards COVID-19 among diabetic patients at WUSTH chronic disease follow up OPD. Therefore, it is the need to assess KAP and provide sources for the coming researchers for these risky human groups.

In this study, most of the diabetic patients that we conducted us researches are males accounting 68.3% and educated and at least more than 48% can read and write. Most of them are from age group of greater than 51 and urban duelers.89.4% the patients are type 2 DM. They heard information from health professionals, television, radio about COVID-19 related issues. And followed by family members' and friends. Almost more than 79.7% of the respondents had positive attitude toward COVID 19 due to the increased amount of the healing of COVID positive patients from time to time.

The result showed that Knowledge and attitude of the participants had 84.89% which is a little higher than knowledge of chronically ill patient studied at Vietnam at the start of this pandemic which was 68.4. This variation may be due to long duration since COVID 19 emerged and continuous health information dissemination is provided in television, mass media, and so on. In china 62.1% and 60.9%of the participant knew the sign and symptom as well as the prevention measure respectively. Where as in our study 78.21 and 88.6% of diabetic patient knew the sign and symptom as well as prevention of this pandemic respectively. This gap is probably due to the education programs were not highly developed in the early period of this pandemic.

Only 63.2% of the participant knew chronically ill patients are at risk of severe infection than the general population. Where as in our study almost all of the patients answered that diabetic patients and old aged patients are at risk. This much variation is due to the fact that at the start of

this pandemic it was difficult to disseminate health information equally. But as time passes health information is incriminated through television, social medias, by health professionals.

In the Bao-Liang study conducted at the start of COVID 19 66.5 %of the participant worried about getting the virus. But in our study 94.3 % of the participants worried that they may probably get infected by the virus. This difference is probably due to giving less attention for the prevention of this pandemic and they thought that although they infected they believe they can heal.

The practice participant in our study we found that only 31.7 of the participant wear mask while leaving home. Where as in the study done at china 8 months back surprisingly 98.3%percent of the participant's wear face mask. And 40.4 % of the participant had good hand washing practice in the same study at china. In our study only 31.7% of the participants wash hands regularly. This gap is probably due to the media coverage of COVID 19 is substituted by other internal chaos i.e. television, radios, friends. are talking about other issues like war.

Our study show that the participants had good knowledge about COVID 19 but had poor practice toward the prevention of COVID 19.

7. CONCLUSIONS

The findings showed the majority of respondents had good knowledge and positive attitude toward the prevention of COVID 19. (based on blooms cut of point) but, respondents had very reckless practices toward prevention of COVID 19. Only 31.7% of them wear face mask while leaving home and wash hand regularly.

8. RECOMMENDATION

Based on the finding of the study the following measures are recommended:

- Health education should be given how they should perform regularly at diabetic OPD by health professionals regarding to the probable bad outcome of COVID 19 for chronically ill patients.
- This poor practice toward the prevention of COVID 19 should be improved and surveillance should be strengthening by governments, health professional to the practice of COVID preventive strategies like wearing mask, hand washing and social distance.
- FMoH should give special attention for chronically ill patients

For the patients

- Every diabetic patient should apply and follow the government's the WHO recommendations to control the distribution of the pandemic

For Researchers

Further study on KAP toward COVID-19 and its associated factors with multiple measurements is needed to expand upon and resolve these issues

9. LIMITATION OF THE STUDY

- Our study lacks similar studies done especially in developing countries university students and study used studies conducted in hospitals for comparisons of findings
- In addition, there is lack of patient flow during our data collection time
- Since the study design was cross-sectional the study filed to show cause effect relationships

10. Annex.

WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE

DEPARTMENT OF PUBLIC HEALTH

Consent

Hello! My name is _____. I am collecting data from patients having regular diabetic follow up at WUSTH for the study being conducted by Graduating Students with public health in Wolkite University. I kindly request that you lend me your attention to explain about the study and how you have been selected as study participant.
STUDY TITLIE; knowledge, attitude and practice towards COVID 19 among diabetic patients at WUSTH

purpose: to assess knowledge, attitude and practice towards COVID 19 in order to improve patient's quality of life. It is also important to fulfills a requirement for the degree of public health (PH)given by Wolkite University.

Risks: The risks of being participating in this study are very minimal, only taking a few your minutes.

Benefit: At this moment you may not get any direct benefit by being involved in this study but the information you provide is very important to solve problems in COVID 19 pandemic.

Confidentiality: Your name will not be written in this form and the information you give is kept confidential.

Rights: Participating in this study is fully voluntary. You have the right to declare not to participate in this study and you have the right to with draw from participating at any time If you do not want to answer, all or some of the questions you do have the right to do so. However, your willingness and support to answer all of the questions was appreciated. This interview will take around 20 minutes.

Thank you

Would you participate in responding to questions in this questionnaire?

Yes _____ No_____

A questionnaire on assessment of Knowledge, Attitude and Practice towards COVID 19 among diabetic patients visiting Wolkite University specialized teaching Hospital, Southern Ethiopia 2021

Name of Data collector _____Signature of Data collector: _____Date: _____

Part I. Socio demographic and clinical characteristics questions

1.1 Age in year_____

1.2 Sex 1 M 2 F

1.3 Educational level 1. Illiterate 2. Read & write 3. 1ry & 2ry school 4. diploma above

1.4 Marital status 1. married 2. single 3. divorced 4. widowed

1.5 Occupation 1. Government-employee 2. Non-government-employee 3. Merchant 4. Daily labor 5. Housewife 6. Other, specify

1.6 Residence 1. Urban 2. Rural

1.7 Monthly family income _____Eth.Birr

1.8 Type of DM 1. Type 1 2. Type 2

1.9 Duration of DM in years 1. _____

Part II: Knowledge regarding COVID-19

2.1 Have you heard about the COVID-19 1. Yes 2. No

2.2 What are the source of information regarding COVID-19 1. Television 2. radio 3. friend 4. relative 5. family 6. health professional 7. Social media 8. News paper

2.3 How is COVID-19 spread? 1 Through inhaling droplets of infected person while coughing/Sneezing 2. Touching contaminated surfaces 3. Contact with infected

animals 4. Through eating infected animal products (e.g., meat, milk) 5. Close contact with an infected person 6. I don't know

2.4 What are the common symptoms of COVID-19? 1. Fever 2. Dry cough 3. Sore throat 4. Shortness of breath 5. Fatigue

2.5 What to do to prevent COVID-19? 1 Wash hands with water and soap 2. Avoid touching the eyes and nose with unclean hands 3. Avoid contacts with infected people 4. Using masks at public gathering 5. Maintaining social distant 6. Maintaining self-quarantine

2.6 Who is most at risk for COVID-19 infection? 1. Old aged persons 2. Pregnant women 3. Children 4. Individuals with cancer, diabetes, chronic respiratory diseases.

2.7 Which of the following describes COVID-19 treatment? 1. Supportive care 2. Vaccine 3. Antibiotics 4. I do not know

Part III: Attitude regarding COVID-19

3.1 Do you think you may probably get infected with COVID-19 1. strongly agree 2. agree 3. neutral 4. Strongly disagree

3.2 As a diabetic patient, do you believe it is very important to be concerned about COVID-19 1. strongly agree 2. agree 3. neutral 4. Strongly disagree

3.3 If you get infected with COVID-19, will you accept isolation in isolation facilities 1. strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

3.4 Do you believe hand hygiene is important in controlling the spread of COVID-19 1. strongly agree 2. agree 3. neutral 4. disagree 5. strongly disagree

3.5 Do you believe wearing face mask is important in controlling the spread of COVID-19 1. Strongly agree 2. Agree 3neutral 4. Disagree 5. strongly disagree

3.6 Do you believe individuals with COVID-19 related symptoms should inform to health care authorities 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

3.7 Do you think that health education can help prevent COVID-19 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

3.8 Do you believe all diabetic patients with COVID-19 resulted in death 1. Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly disagree

Part IV: Practice regarding COVID-19

4.1 Do you use tissues or handkerchiefs during coughing/sneezing or cover with bent elbow? 1.Yes 2. No

4.2 Do you wash hands frequently using water and soaps? 1. Yes 2. No

4.3 Do you avoid touching nose, eyes and mouth with un cleaned hands? 1.Yes 2. No

4.4 Do you wear face mask frequently when leaving home? 1.Yes 2. No

4.5 Do you avoid handshaking, hugging and kissing? 1.Yes 2. No

4.6 Do you maintain social distance (or home quarantine)? 1.Yes 2. No

4.7 Do you eat healthy food focusing on outbreak? 1.Yes 2. No

Thank you very much for your cooperation

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