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COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF OBSTETRICS AND GYNECOLOGY

KNOWLEDGE, ATTITUDE, PRACTICE, WILLINGNESS AND ASSOCIATED FACTORS TOWARDS VOLUNTARY BLOOD DONATION AMONG ATTENDANTS OF OBSTETRICS AND GYNECOLOGY PATIENTS

BY: BEDASA ELIYAS (MD, OB/GYN- RESIDENT)

THESIS SUBMITTED TO THE DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, COLLEGE OF HEALTH SCIENCES, JIMMA UNIVERSITY IN PARTIAL FULFILLMENT FOR THE REQUIREMENTS OF THE CERTIFICATE IN OBSTETRICS AND GYNECOLOGY SPECIALITY

MARCH, 2015

JIMMA, ETHIOPIA

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BY: BEDASA ELIYAS (MD, OB/GYN RESIDENT)

ADVISORS;

FITSUM (MD, ASSISTACE PROFESSOR OF OB/GYN)

DESALEGN MASSA (BSc, MPHE, Lecturer)

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JIMMA, ETHIOPIA

ABSTRACT

Background: *Hemorrhage is the major cause of maternal death worldwide. This problem is more prevalent in developing countries including Ethiopia. Therefore, availability of adequate blood supply and timely transfusion has paramount importance in reducing maternal deaths. In this aspect, assessing knowledge, attitude, practice, future willingness and associated factors towards voluntary blood donation among attendants can contribute in alleviating the scarcity of blood for transfusion.*

Objective: *to assess knowledge, attitude, practice, willingness and associated factors towards voluntary blood donation in obstetrics and Gynecology patients' attendants in JUSH*

Methods and materials: *The study was conducted in Obstetrics and Gynecology wards of JUSH from June to November, 2014. Descriptive cross sectional study design was used. Selected attendants of obstetrics and gynecology patients according to inclusion criteria were included in the study. The sample size was calculated by using single population proportion formula, assuming there was a large population but that we did not know the variability in the population. To get the desired information for the study, semi-structured interview questionnaire was employed. The data was coded, cleaned, edited, and fed to computer and analyzed using SPSS version 20. All variables with P<0.25 during bivariate logistic regression analysis were used for multivariate logistic regression analysis. P value < 0.05 was declared as statistically significant. Results were presented using frequency tables, figures and texts.*

Results and Discussion: *From 424 study participants, 335(79%) had good knowledge level, 320(75.5%) had favorable attitude and 85(20%) had practice of blood donation. Respondents with good knowledge level on blood donation are 7.37 times more likely to donate blood than those with poor knowledge level (AOR=7.374, 95%CI: 1.671, 32.538). Favorable attitude has significant positive association with practice of blood donation (AOR=3.586, 95%CI: 1.324, 9.715).Female respondents are 0.57 time less likely to donate blood when compared with males (AOR=0.570, 95%CI: 0.330, 0.988). Respondents who donated blood previously has strong willingness for farther donation when compared with non donors (AOR=5.495, 95%CI: 2.086, 14.418). Multiple misconceptions and wrong beliefs on blood donation were identified among non donors.*

Conclusion and Recommendation: *Majority of the study participants have good knowledge level and favorable attitude towards blood donation but Practice of blood donation is low. Multiple misconceptions were identified affecting practice of voluntary blood donation. It needs continuous education for correction of misconceptions and wrong beliefs to improve the practice of blood donation.*

Key words: *voluntary blood donation, blood transfusion, knowledge, attitude, practice, maternal death*

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ACRONYEMS

KAP – Knowledge Attitude and Practice

WHO – World Health Organization

JUSH – Jimma University Specialized Hospital

CEMOC – Comprehensive Emergency Obstetric Care

MMR – Maternal Mortality Ratio

ERCS-NBBS-The Ethiopian Red Cross Society National Blood Bank Services

PPH- Post Partum Hemorrhage

SPSS- Statistical Package of Social Sciences

SSA- Sub Saharan Africa

VNRBD- voluntary, non-remunerated blood donors

SD-strongly disagree

A-agree

U-undecided

D-disagree

SA-strongly

VD-voluntary blood donation

CHAPTER 1: INTRODUCTION

1.1 Background

Every day, approximately 800 women die from preventable causes related to pregnancy and childbirth and 99% of all maternal deaths occur in developing countries. Up to 80% of these maternal deaths are directly due to five complications: haemorrhage, sepsis, hypertensive disorders of pregnancy, obstructed labor and complications of abortion. Although reliable information about the individual medical causes of maternal mortality is scarce, especially in sub-Saharan Africa, haemorrhage continues to be the leading cause of maternal mortality worldwide, accounting for 34% of maternal deaths in Africa, 31% in Asia, 21% in Latin America, and 13% in developed countries. Half of the maternal deaths from severe bleeding in the world occur in sub-Saharan Africa and about 65% of these deaths occur in the postpartum period. A major reason why so many women die from haemorrhage is because once bleeding starts death can occur in around 2 hours compared with 10 hours for eclampsia and 72 hours for obstructed labor. Rapid access to adequate and safe supplies of blood for transfusion is therefore absolutely critical to prevent deaths due to obstetric haemorrhage. Although efforts have centered on prevention of postpartum hemorrhage by administration of uterotonics and active management of the third stage of labor, women continue to die of inadequate blood banking. In sub-Saharan Africa, it is estimated that 26% of maternal hemorrhagic deaths are a direct consequence of the lack of blood transfusion services, and globally up to 150,000 pregnancy-related deaths could be avoided each year if women had access to safe blood [1,2]

Therefore, access to safe blood is critical in comprehensive emergency obstetric care and for reducing maternal mortality. Many countries have inadequate blood supplies, and this disproportionately affects women and children in need of life-saving blood transfusions. Although preventative measures aimed at reducing postpartum hemorrhage and treating underlying anemia and infectious diseases are critical, they are insufficient for obstetric hemorrhage. In the developed world, blood is most frequently used in surgical procedures or to treat advanced medical diseases such as chemotherapy-related anemia. However, in the developing world, where blood and transfusion services are often lacking, obstetric complications are the leading indication for transfusion. Blood transfusion is recognized as one of the eight essential components of comprehensive emergency obstetric care (CEmOC), which

has been shown to reduce rates of maternal mortality. Efforts to reduce the number of maternal deaths from hemorrhage should address both the availability of blood and transfusion services.

Although the ability to perform caesarean sections and to provide blood transfusions is key components of comprehensive emergency obstetric care, improving the effectiveness of blood transfusion services has been relatively neglected. The total shortfall in blood supply for developing countries is estimated to be 40million units/year. Only 39% of the world's blood supply is donated in developing countries although they have 82% of the global population. Sub-Saharan Africa has the lowest quantity of blood donated for transfusion per person in the world; it is not known how many maternal deaths in Africa could be prevented by better blood supplies.

In many developing countries, and especially in sub-Saharan Africa, transfusion services are provided by individual hospitals. Women admitted with haemorrhage have to find a 'replacement' donor from among their family members and may resort to using a paid donor. The hospital screens potential donors for infections and checks blood groups and compatibility of donors and recipients. This replacement system results in significant delays in obtaining suitable blood for transfusion and puts additional burden on families at a time of emotional and financial stress. Overall, 80% of blood for transfusion in sub-Saharan Africa comes from replacement donors. Centralized, national systems that collect blood only from voluntary non-remunerated blood donors from low-risk populations are the recommended model for transfusion services but they are complex to organize and more expensive than hospital-based systems. Centralized services have therefore only been implemented in a few African countries and, with a few exceptions; their sustainability is dependent on external funding. [3-17]

Despite the known facts about the advantages of blood from voluntary non-remunerated donors, due to the above mentioned reason, African Countries including Ethiopia are depending on replacement donors from patient's families and friends. In Ethiopia, patient attendants (Families or friends) can be used as both replacement and voluntary donors but there are different factors preventing these individuals from blood donations. Therefore, we need to have understanding on their knowledge; attitude practice and related factors, on blood donation to have this part of the community participate in live saving activity (blood donation).

1.2 Statement of the problem

Hemorrhage is one of the common causes of maternal morbidity and mortality**.** In sub-Saharan Africa, where blood supply is critically inadequate, severe haemorrhage is a leading cause of maternal deaths. Each year more than 528 000 women worldwide die from complications of pregnancy and childbirth. The maternal mortality ratio (MMR) per 100 000 live births is estimated to be 920 in Africa, 330 in Asia and 10 in Europe.[3,14] Up to 80% of these maternal deaths are directly due to five complications: haemorrhage, sepsis, eclampsia, rupture of uterus (obstructed labor) and complications of abortion. Although reliable information about the individual medical causes of maternal mortality is scarce, especially in sub-Saharan Africa, haemorrhage during labor, delivery and postpartum accounts for one-third of all obstetric deaths in the world and is the leading cause of maternal deaths in Africa (34%) and Asia (31%) [8, 11, 15]. In Ethiopia, hemorrhage accounts for15-20% of maternal death. In Jimma university specialized Hospital review done from 2002-2006 maternal mortality ratio 888.5 per 100,000 live births, from this obstructed labor and its complication(uterine rapture) accounts for 34.5% followed by puerperal sepsis and abortion(26.4% and 14.9%) respectively[18]. Half of the maternal deaths from severe bleeding in the world occur in sub-Saharan Africa and about 65% of these deaths occur in the postpartum period. The package of interventions recommended for prevention and treatment of postpartum haemorrhage, includes oxytocic drugs, blood transfusion, manual removal of placenta, uterine compression sutures and, if required, hysterectomy. A major reason why so many women die from haemorrhage is because once bleeding starts death can occur in around 2 hours compared with 10 hours for eclampsia and 72 hours for obstructed labour. Rapid access to adequate and safe supplies of blood for transfusion is therefore absolutely critical to prevent deaths due to obstetric haemorrhage. The total shortfall in blood supply for developing countries is estimated to be 40 million units/year. Only 39% of the world's blood supply is donated in developing countries although they have 82% of the global population [3, 8, 9, 15]. The donation of blood by voluntary non-remunerated blood donors is recognized as being crucial for the safety and sustainability of national blood supplies. Systems based on replacement donation by the family and friends of patients requiring transfusion are rarely able to meet clinical demands for blood while paid "donation" poses serious threats to the health and safety of the recipients as well as the donors themselves.

While some countries have well-established systems of voluntary blood donation, the majority are still dependent to varying degrees on family/replacement donors and sometimes on paid donors. Building a sustainable base of safe blood donors requires a long-term approach that requires not only the establishment of an effective voluntary blood donor program but also improved public awareness and acceptance of the importance of blood donation as a social norm. WHO estimates that blood donation by 1% of the population is generally the minimum needed to meet a nation's most basic requirements for blood; the requirements are higher in countries with more advanced health care systems .In the WHO African region, blood requirements were estimated at about 8 million units in 2006, but only 3.2 million units were collected – about 41.5% of the demand.

The Ethiopian Red Cross Society National Blood Bank Services (ERCS-NBBS) is the sole organization providing blood bank services across the country since its establishment in 1962, with its central blood bank located at Addis Ababa, and eleven regional blood banks including Jimma branch. The Country's blood demand is estimated to be 80,000 to 120,000 units per year. The Ethiopian Red Cross Society National Blood Bank Service cannot meet this demand at present due to lack of enough regular voluntary blood donors. The Jimma branch of ERCS-NBBS, which gives services for South Western part of the country mainly through JUSH, has big problem in collecting and providing adequate blood due to scarcity of regular voluntary donors. This has big impact on the effort to reduce maternal mortality in the Region. Until now little has been done to assess the knowledge, Attitude and practice of the community towards voluntary blood donation. Therefore, assessing KAP of patient attendants, who are from different parts of the community, may help in identifying some of the barriers on voluntary blood donation. This will help in identifying areas of focus for activities which will be taken during community mobilization for blood donation. This in turn, will contribute to the effort which is being undertaken to decrease maternal death.

CHAPTER TWO: LITERATURE REVIEW

2.1 The blood donor in sub-Saharan African review showed that in many countries of SSA, family and replacement donors are predominant reaching over 70% of blood donor populations in most instances. These are either relatives or friends of the family, and in some instances are 'undercover' paid donors, brought in to cater for their relative's blood needs. Clearly, such donors present a greater risk than voluntary, regular, non-remunerated blood donors (VNRBD) and should be discouraged as much as possible. However, VNRBD are scarce in SSA, where they represent less than 50% of blood donors in 15 countries of the 38 investigated.

In Africa 75–80% of the blood for transfusion still comes from replacement hospital-based donors. WHO advocates for 80–100% voluntary donations and for the organization of centralized transfusion. Doing away with the family replacement donors would be desirable but should not worsen the insufficient blood supply. Replacement donors are in the majority because they are readily available and cheaper to obtain, whereas supply based on a voluntary donor system is more expensive for many countries like Ethiopia. Some controversy exists about there being insufficient voluntary donations. Countries need to find ways of maintaining sufficient blood supply and improving blood safety from the available replacement donors. In brief, the reason why replacement donors remain the main source of blood in SSA is that it costs less to procure and fits well with the African culture of extended family support. Several studies within the African context suggest that the African blood donor is mostly young. In Kenya, mean age of 28·9 ± 8·5 years among their blood donors; in Burkina Faso, mean of 28 ± 7·9 years. In other countries of East/Southern Africa, the mean ages reported are less than 28 years. These mean ages are 10–15 years less than those observed in European countries. For example, in 2003 the proportion of blood donors under the age of 35 was less than 50% in France, Belgium and the United Kingdom, and less than 45% in Switzerland and Finland .This difference may be explained by the fact that the voluntary donor programmes in Africa tend to be centered on secondary school and university students.

Knowledge, attitudes and practices surveys of blood donation in developing countries done by International Society of Blood Transfusion in 2012 shows all of the studies that included donor demographics found that male gender and a higher level of education were positively associated

with donation [15–17, 20, 21, 24–27], with the sole exception of the Moldova study that found a greater prevalence of donation among women [9]. In Iran, men were found to be six times more likely to donate than women [27], and a full 98% of all donors surveyed in Nigeria were men [21].

2.2, Of the studies that specifically compared knowledge level between donor and non-donor populations, all found that donors tended to know more than non-donors about the need for and process of blood donation, [9, 23, 26]. While the donor population in Saudi Arabia had more knowledge of age requirements than non-donors, overall 94% of respondents believed that individuals over 45 years of age could not donate blood. Surveys in Iran, Togo, and Trinidad and Tobago also reported donors being more knowledgeable than non-donors; however, the surveys did not contribute numerical data [16, 28, 29].

2.3 Different survey reported some degree of misconception about the blood donation process, although the specific misconceptions varied. The most common misconception in Iran, Moldova and South Africa was the belief that the blood donor has a high risk of getting infected through the process of donating [9, 27, 30].

The most common false belief noted among both women in Iran and university students in Chile was that blood banks sell donated blood to patients [20, 28]. 73% of Bangladeshi respondents believed that blood donation causes physical weakness [19]. Overall, the extent and type of misinformation present in the surveyed population varied extensively among studies. Most studies found an overall positive attitude towards blood donation among respondents. While no studies reported an overall negative perception of the blood donation process, four of five surveys reported that a substantial portion of the population was not willing to donate blood in Bangladesh, Nigeria, South Africa and Tanzania [17, 19, 21, 30].

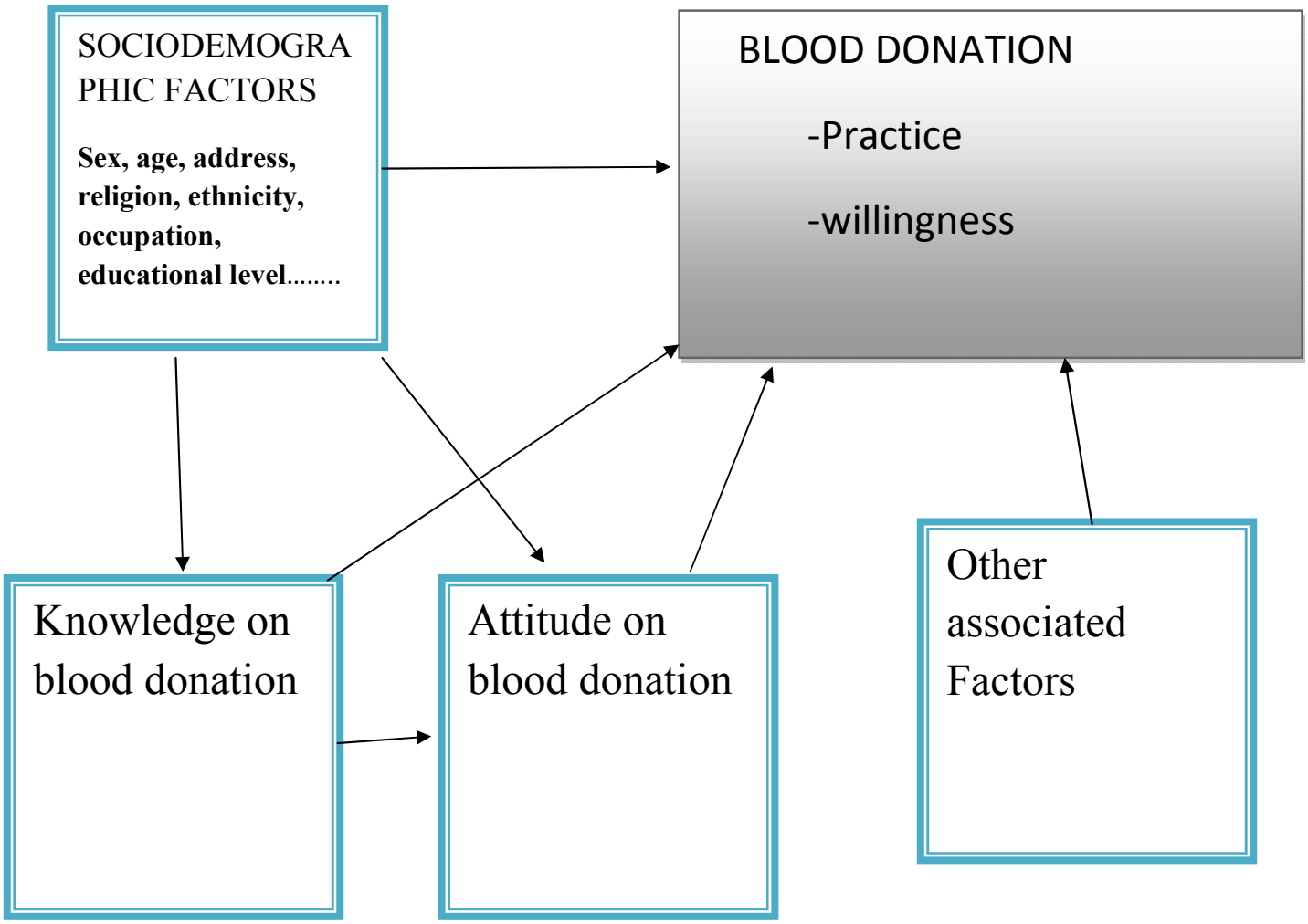
2.4 Fear was the most common reason for those not donating blood across all surveys. Fear of physical harm or infection was the most common deterrent among non-donors in nine of the eighteen surveys [9, 15, 17–19, 21, 28–30]. Just over 90% of those surveyed in China reported a fear of pain upon needle insertion [26]. Fear of being infected by HIV was the most common fear in both Nigeria and Tanzania [17, 21]. The women in Iran most commonly cited fear of infertility and hepatitis [28]. Nearly half of those surveyed in Bangladesh, Thailand, and Trinidad

and Tobago expressed fear of needles [16, 18, 19].Other significant deterrents to donating blood among non-donors were the following. The individual was already sick or anemic [20, 27], the individual did not know where to donate blood [19], the blood collection site was too far away [10, 20, 27, 28], and the individual did not have time [18, 27, 28, 30]. University students in both Chile and Bangladesh expressed concern about the sterility of the collection instruments [19, 20]. Interestingly, non-donor respondents in Pakistan, Saudi Arabia, and Trinidad and Tobago all indicated that the primary reason they had not donated blood was because no one had ever asked [16, 22, 23]. Religion and culture were substantial prohibitive factors in China, Nigeria and Togo.

Among non-donors, (97, 6%) in Chile, (94, 8%) in China and (79, 8%) in Trinidad and Tobago indicated they would be motivated to donate if a friend or family member was in need [16, 20, 26]. The common motivating factor for donation in all surveys is the appeal to altruism, listed as the most common reason for donating in Brazil, Burkina Faso, Haiti, Iran, Moldova, Pakistan and Uganda [9, 10, 15, 23–25, 28]. In the Moldova KAP survey, the most commonly identified way to motivate an individual to donate blood would be to ask them personally, and the most effective media message identified was 'You can save someone's life' [9]. The Haiti KAP survey found that a sense of community altruism would be the most effective motivator to encourage blood donation [10]. In addition, 93% of respondents in Bangladesh and 92% of respondents in Togo had a negative perception of remunerated donation [19, 29]. A notable exception to this trend is found in the surveys in Tanzania and Nigeria, in which respondents indicated that they would be unlikely to give blood without an incentive.

Conceptual Frame Work

The concepts in this Frame work were developed after review of different literatures, standard books, Guidelines and organized according to the major categories.



2.1 Significance of the study

Developed countries with well-structured health systems and blood transfusion services based on voluntary blood donation are generally able to meet the demand for blood and blood products.

In contrast, in developing and transitional countries like Ethiopia, chronic blood shortages are common. WHO estimates that blood donation by 1% of the population is generally the minimum needed to meet a nation's most basic requirements for blood; the requirements are higher in countries with more advanced health care systems. In the WHO African region, blood requirements were estimated at about 8 million units in 2006, but only 3.2 million units were collected – about 41.5% of the demand. This shortage of blood has major effect on the effort of reducing maternal mortality, which is caused by hemorrhage. This is true in Ethiopia and specifically in JUSH. Until now, no or little has been done to assess the knowledge, attitude, practice, barriers and motivating factors towards voluntary blood donation, in our community.
Therefore, this research has paramount importance in assessing these factors in attendants of patients admitted to Obstetrics and Gynecology wards of JUSH. The finding will significantly contributes in guiding the way we approach patient attendants during counseling for blood donation and for interventions of identified barriers to blood donation practices. By doing so, the willingness and practice of patient attendants and other community members on blood donation will improve, which has direct contribution in reducing maternal mortality. The research may also be used as a base for further study in this area.

CHAPTER THREE: OBJECTIVE

3.1 General Objective

- To assess knowledge, attitude, practice, willingness and associated factors towards voluntary blood donation among obstetrics and Gynecology patients' attendants in JUSH

3.2 Specific Objective

1. To assess knowledge of obstetrics and Gynecology patients' attendants in JUSH, on voluntary blood donation
2. To assess attitude of obstetrics and Gynecology patients' attendants in JUSH, on voluntary blood donation
3. To assess the practice of obstetrics and Gynecology patients' attendants in JUSH, on voluntary blood donation
4. To assess willingness and factors related to voluntary blood donation among obstetrics and Gynecology patients' attendants in JUSH

CHAPTER 4: METHODS AND MATERIALS

4.1. Study Area and period

The study was conducted in obstetrics and Gynecology wards of Jimma University Specialized Hospital (JUSH) which is located 357kms Southwest of Addis Ababa. Jimma university specialized hospital is found in Jimma zone of Oromia regional state. It is one of the oldest teaching hospitals in the country giving services to people living in Jimma zone and serving as a referral hospital in the South-West Ethiopia. It is also serving as a clinical post graduate specialty teaching hospital for Obstetrics and Gynecology, Internal Medicine, Pediatrics & Child Health since 2005 and for Ophthalmology, and in Surgery since 2007. Department of Obstetrics and Gynecology has two wards (Gynecology and obstetrics), one MCH clinic, one Gynecologic OPD, one family planning clinic and referral clinics (Gynecology Oncology, Benign Gynecologic Diseases, and High risk Pregnancy). It has eight consultant Obstetricians & Gynecologists and 35 residents from year I – III

4.2. Study Design

Descriptive cross sectional study design was used

4.3. Population

4.3.1. Source population

All attendants of obstetrics and gynecology patients during the study period

4.3.2. Study population

Selected attendants of obstetrics and gynecology patients during the study period

4.4. Inclusion criteria

All patient attendants with age between 18 and 65years

Attendants with no known disease condition precluding them from blood donation, interested to participate and available during data collection were included in the study

4.5. Exclusion criteria

- All attendants with age less than 18 and greater than 65years
- Attendants known to have disease condition precluding them from blood donation
- Attendants unwilling to participate in the study were excluded and
- patient attendants who are Jehovah witness followers were excluded

4.6. Sample size determination

The sample size was calculated by using single population proportion formula, assuming there is a large population but that we did not know the variability in the population, therefore, assume p=0.5 (maximum variability).

Confidence level of 95% (e =0.05, Z=1.96) and ±5% precision were used

The resulting sample size was calculated by the following Equation;

$$\boldsymbol{n = \frac{z^2 pq}{e^2}}$$**=385**

Where;

- **n** = is the sample size (the desired sample size when target population is greater than 10,000)
- $\mathbf{Z^2}$ = is the abscissa of the normal curve that cuts off an area α at the tails (1 - α equals the desired confidence level, e.g., 95%) or standard normal deviation, set at1.96, correspond to the 95% confidence interval
- **e** = is the desired level of precision/margin of error
- **p**= is the estimated proportion of an attribute that is present in the population (p=50%), and q is 1-p.
- Finally 10% was added for non-responses.
- Based on this the final sample size become 424

4.7 Sampling technique

- ✓ For all patients who admitted to maternity or Gynecology ward during the study period, a single attendant fulfilling inclusion criteria was selected
- ✓ For a patient having more than one attendant fulfilling inclusion criteria, one attendant was selected by lottery method.
- ✓ The data collection was from June-November, 2014.

4.8. Study variables

4.8.1. Independent variables

- ✓ socio-demographic factors
  - Age
  - Educational status
  - Address
  - Marital status
  - Monthly family income
  - Religion
  - Ethnicity

4.8.2 Dependent variables

Knowledge, attitude, practice and willingness of blood donation

4.9 Operational definition

Knowledge =Study participant who scored >60% out of the knowledge assessment score components of the questionnaire was considered to have good knowledge on blood donation.

Attitude=Study Participant who scored above the mean of attitude scoring scale was considered to have positive attitude on blood donation.

Practice=study participant who previously donated blood at least once was considered to have practice of blood donation.

Willingness- study participant who has intension to donate blood when asked said to have willingness

4.10. Data collection instruments and procedures

4.10.1. Data collection instrument

Semi structured questionnaire was developed after review of relevant literatures, and adapted to local situation and arranged according to the particular objective it can address. The prepared questionnaire has four parts:

Part I: Socio demographic information= 9 items

Part-II: Knowledge on blood donation= 11items

Part III: Attitude on blood donation= 11 items

Part IV: Practice and willingness on blood donation= 9 items

4.10.2 Data collection procedures

Data was collected through face to face interview of the study participants using semi structured questionnaire by two trained Midwifery nurses one each from maternity and gynecology ward.

4.11 Data Quality

The questionnaire was pre-tested on 10 participants two weeks before the actual data collection, possible amendments were done accordingly and those cases were not included in the study. Two days intensive training was given for data collectors by principal investigators on how to fill the questionnaire and review the documents. The filled questionnaire was checked every day for completeness by principal investigator and corrections were given for data collectors before the next day data collection.

4.12 Data processing and analysis

The data was coded, cleaned, edited, and fed to computer and analyzed using SPSS version 20. Bivariate and multivariable logistic regression analyses were done to identify the odds of independent variables. All variables with $P<0.25$ during bivariate binary logistic regression analysis were candidate for multivariable binary logistic regression analysis to see the independent effect of dependant variable on the outcome variable and significant value was declared at $P< 0.05$. Results were presented using frequency tables, graphs, charts and texts. Final interpretation, discussion and recommendation were made based on the findings.

4.13 Ethical consideration

The research was conducted after approval by Jimma University College of public health and medical science ethical clearance board. Verbal informed consent was obtained from every study participants before the interview by explaining the objective of the research. They were also briefed that the study has no harm or pose any risk except it may take time to respond. All the information collected from the study participants were handled confidentially through omitting

their personal identification, conducting the interview in private place and the data was used for the research purpose only.

1.14 Dissemination of result

The result was be submitted to the department of obstetrics and gynecology, Jimma University College of public health and medical science, JUSH and presented on scientific presentation auditorium. Further effort will be made for publication on local and international peer reviewed journals.

1.14 Limitations of the study

The study was conducted in tertiary and teaching Hospital patient attendants, so it may not be a representative of general population

CHAPTER FIVE: RESULT

5.1 Socio-demographic Characteristics

Out of the total 424 attendants participated in the study; questionnaires from all participants were used for analysis making the response rate 100%.

From the total respondents more than half, 273(64.4%) were out of Jimma town and the rests 151(35.6%) were from the town. Male accounts for 257(60.6%) of the total study participants and the majority 238(56.1%) of respondents were in the age range of 21-30 years with the mean age of 30.54 and SD of ± 14.99. Concerning ethnicity of study participants, Oromo comprises 287(67.7%) followed by Amhara 66(15.6%). **Table 1** shows the socio-demographic characteristics of the study participants.

Table 1: Socio-demographic characteristics of obstetrics and gynecology patient attendants participated in the study, June 1-November 30/2014, JUSH, South West Ethiopia

No	Sociodemographic characteristics	Frequency (n=424)	Percent (%)
1	**Address of the respondents**		
	▪ Jimma	151	35.6
	▪ Out of Jimma	273	64.4
2	**Sex**		
	▪ Male	257	60.6
	▪ Female	167	39.4
3	**Age of respondent**		
	▪ <21	35	8.3
	▪ 21-30	238	56.1
	▪ 31-40	124	29.2
	▪ Greater Than 40	27	6.4
	▪ **Mean Age**	**30.54±14.99**	
4	**Ethnicity**		
	▪ Oromo	287	67.7
	▪ Amhara	66	15.6
	▪ Tigre	5	1.2
	▪ Dawro	31	7.3
	▪ Gurage	14	3.3
	▪ Others**	21	5.0
5	**Religion**		

	▪ Orthodox	140	33.0
	▪ Muslim	235	55.4
	▪ Protestant	49	11.6
6	**Occupation**		
	▪ Farmer	155	36.6
	▪ Civil Servant	100	23.6
	▪ Merchant	83	19.6
	▪ Student	61	14.4
	▪ Other*	25	5.9
7	**Educational status**		
	▪ Cannot Read And Write	91	21.5
	▪ Read And Write Only	146	34.4
	▪ Grade 1-8	73	17.2
	▪ Grade 9-12	74	17.5
	▪ College And Above	40	9.4
8	**Marital status**		
	▪ Married	311	73.3
	▪ Unmarried	113	26.7
9	**Monthly family income**		
	▪ Less Than 500	146	34.4
	▪ 500-1000	96	22.6
	▪ 1001-1500	30	7.1
	▪ 1501-2000	68	16.0
	▪ Greater Than 2000	84	19.8

Other* -Daily laborer, NGO Employees others**-Wolaita, Somali

5.2 Level of knowledge on blood donation

Individual responses of the respondents on knowledge assessment questions were counted to get the cumulative level of knowledge. Accordingly, 335(79%) of the study participants have good cumulative level of knowledge on blood donation and 89(21%) have poor knowledge level. Concerning specific component of knowledge on blood donation, 395(93.2%) of the respondents have heard about blood donation or transfusion, main sources of information being medias and friends. Majority of the patient attendants, 370(87.3%) know that source of blood for transfusion is only human being and 390(92%) of respondents have knowledge on blood transfusion saving lives. Relatively low number of patient attendants 310(73.1%) responded daily laborer can donate blood and high number 405(95.5%) know Governmental employee can donate blood.

Majority of them, 343(80.9%) and 260(61.3%) does not have knowledge on frequency of blood donation per year and minimum weight required for donation respectively**. Table: 2** show participants' responses on knowledge assessing questions.

Table 2: Obstetrics and Gynecology patient attendants responses to knowledge assessment questions, June 1/2014-November 30/2014, JUSH, South West Ethiopia

No	Knowledge assessment question	Correctly responded		Incorrectly responded	
		n	percent	n	percent
1	Hearing about blood donation/transfusion	395	93.2	29	6.8
2	Having source information on blood donation	395	93.2	29	6.8
3	Source of blood for transfusion	370	87.3	54	12.7
4	Knowledge on blood transfusion saving lives	390	92.0	34	8.0
5	**Knowledge on individuals who can donate blood**				
	Farmer	335	79.0	89	21.0
	Merchant	387	91.3	37	8.7
	Government employee	405	95.5	19	4.5
	Student	342	80.7	82	19.3
	Daily laborer	310	73.1	114	26.9
	Others *	224	52.8	200	47.2
6	Frequency blood donation per year(interval)	81	19.1	343	80.9
7	Weight requirement for blood transfusion	164	38.7	260	61.3
8	Age requirement for blood donation	228	53.8	196	46.2
9	Volume of blood donated at once	110	25.9	314	74.1

*= all health individuals, car drivers

More than one-third of the study participants222 (41.1%) know that blood donation as well as transfusion could be required for pregnancy related blood loss and 13(2.4%) do not know any condition in which blood is needed**.** Concerning their response to specific question on health condition in which blood donation is precluded, 208(38.7%) responded HIV/AIDS and 161(30%) responded anemia. Figure: 2 and 3 show responses on indications of blood transfusion and conditions in which blood donation is not acceptable respectively.

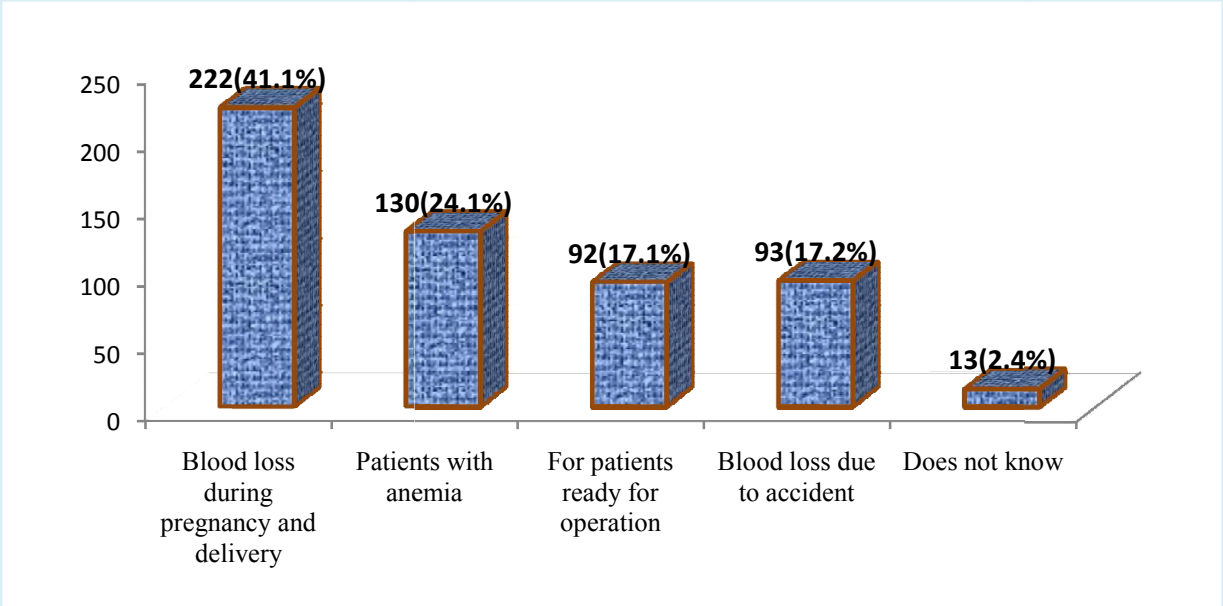


Figure 1: Obstetrics and Gynecology patient attendants' response on conditions in which blood transfusion is needed

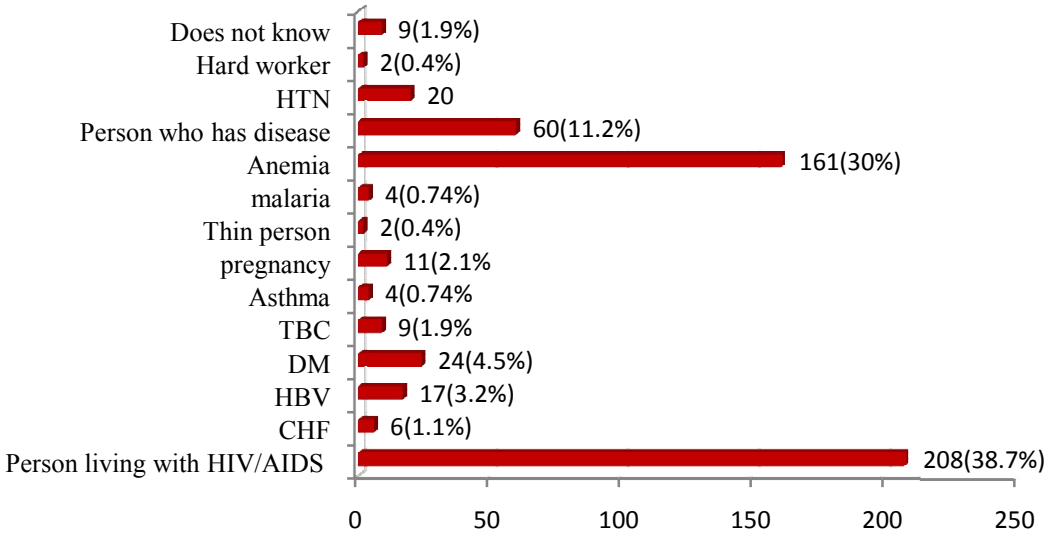


Figure 2: Obstetrics and Gynecology patient attendants' response on conditions in which blood donation is precluded

5.3 Factors Associated with knowledge on blood donation

Bivariate analysis showed a statistically significant association of level of knowledge on blood donation with address, educational status, occupation, marital status, monthly income and religion of respondents.

After controlling for the effects of potentially confounding variables using multivariate logistic regression, occupation, Educational status and monthly income were found to be statistically significant predictors of level of knowledge. Governmental employee are 7.4 times more likely to have good knowledge level on blood donation when compared with farmers (AOR=7.443, 95%CI: 1.197, 74.49) and students are 6.9 times greater than farmers in having good knowledge on blood donation (AOR=6.987, 95%CI: 1.705, 28.635). Earning greater than 2000 birr per month (AOR=4.551, 95%CI: 1.294, 16.007) have significant association with having good level of knowledge on blood donation when compared with respondents having monthly income of less than 2000 Birr. **Table: 3** shows respondents level of knowledge and factors associated with knowledge on blood donation

Table 3: Factors associated with knowledge level of Obstetrics and Gynecology Patient attendants on blood donation, June-November/ 2014,JUSH, south west Ethiopia

Characteristics	Level of knowledge		COR(95% CI)	AOR(95%CI)	P-value
	Good (n=335)	Poor (n=89)			
Educational status					
Cannot read and write	38 (11.3%)	53 (59.6%)	1	1	
Can read and write	124 (37.0%)	22 (24.7%)	7.86(4.25, 14.55)		
Grade 1-8	62 (18.5%)	11 (12.4%)	7.86(3.66, 16.88)		
Grade 9-12	72 (21.5%)	2 (2.2%)	50.21(11.5, 98.3)	3.99(1.98,8.01)	000
College and above	39 (11.6%)	1(1.1%)	54.39(7.16, 41.4)	2.75(1.05,7.05)	0.039
Occupation					
Farmer	85(25.4%)	70 (78.7%)	1	1	
Governmental employee	98 (29.3%)	2(2.2%)	40.35(9.61, 17.51)	7.44(1.20,74.5)	0.029
Merchant	72 (21.5%)	11 (12.4%)	5.39(2.65, 10.95)		
Student	58 (17.3%)	3(3.4%)	15.92(4.78, 53.01)	6.99(1.71,28.64)	0.007
Others	22 (6.6%)	3(3.4%)	6.04(1.74, 21.02)		
Income(in Birr)					
Less than 500	103 (30.7%)	43 (48.3)	1	1	
500-1000	62 (18.5%)	34(38.2%)	0.76(0.44, 1.32)		
1001-1500	17(8.1%)	3(3.4%)	3.76(1.08, 13.05)		
1501-2000	63(18.8%)	5(5.6%)	5.26(1.98, 13.98)		
Greater than 2000	80 (23.9%)	4(4.5%)	8.35(2.88, 24.23)	4.55(1.29,16.01),	0.018

5.4: Attitude towards blood donation

Based on cut of point set in the operational definition, using all questions prepared to assess attitude of respondents, 320(75.5%) of the study participants had favorable attitude and the rest 104(24.5%) had unfavorable attitude towards blood donation. Majority of the study participants, 388(91.5%) believe that blood donation and transfusion save lives and about two - third of the participants 285(67.2%) think blood donation is their responsibility to help others. From the entire study participants 99(23.3%) believe there should be gift or payment for blood donation. **Table: 4** shows responses of study participants to attitude assessing questions.

Table 4: Obstetrics and Gynecology patient attendants' attitude on blood donation, June – November/2014, JUSH, south-West Ethiopia

Characteristics	SD	D	UD	A	SA
1. Blood transfusion saves life	5(1.2%)	7(1.7%)	24(5.7%)	118(27.8%)	270(63.7%)
2. Blood donation is responsibility of humanity	13(3.1%)	65(15.3%)	61(14.4%)	138(32.5%)	147(34.7%)
3. Patient attendant should be asked for blood donation	15(3.5%)	51(12%)	43(10.1%)	167(39.4%)	148(34.9%)
4. Both male and female can donate blood	18(4.2%)	31(7.3%)	55(13%)	158(37.3%)	162(38.2%)
5. Both rural and urban community can donate blood	13(3.1%)	42(9.9%)	34(8%)	166(39.2%)	169(39.9%)
6. Blood donation can affect health condition of a donor	131(30.9%)	109(25.7%)	69(16.3%)	81(19.1%)	34(8%)
7. Blood donation should be for only families / relative	157(37%)	123(29%)	39(9.2%)	63(14.9%)	42(9.9%)
8. There should be payment/ gift for blood donation	135(31.8%)	124(29.2%)	66(15.6%)	67(15.8%)	32(7.5%)
9. Blood donation depends on occupation of a donor	153(36.1%)	108(25.5%)	41(9.7%)	89(21%)	33(7.8%)
10. Hospitals have enough blood for transfusion	93(21.9%)	80(18.9%)	111(26.2%)	102(24.1%)	38(9%)
11. Volunteers are assessed for fitness before donation	4(0.9%)	12(2.8%)	35(8.3%)	122(28.8%)	251(59.2%)

5.6: Factors affecting attitude towards blood donation

To identify factors affecting attitude or attitude predictors both bivariate and multivariate analysis were done on different selected variables. Those variables having significance level (p-value ≤ 0.25) in bivariate analysis were selected for multivariate analysis. Accordingly, Address, age, occupation, Educational status, marital status, income and knowledge on blood donation have association with attitude of participants towards blood donation by bivariate analysis. To

control confounding factors multivariate analysis was done for the above variables and only educational status, marital status and knowledge on blood donation could maintain their independent association with attitude of respondents towards blood donation. Unmarried respondents are 6.5 times more likely to have favorable attitude towards blood donation when compared with married respondents (AOR=6.56,95%CI:2.23,19.37).Having educational level 9-12 grades(AOR=4.87,95%CI:1.34,17.76) and having good knowledge level on blood donation(AOR=10.87,95%CI:5.56,21.48) have significant association with hiving favorable attitude towards blood donation when compared with having educational level of less than grade nine and low knowledge level on blood donation. **Table: 5** shows factors affecting attitude of patient attendants towards blood donation.

Table 5: Factors affecting attitude of Obstetrics and Gynecology patient attendants towards blood donation, June –November/2014, JUSH, southwest Ethiopia

Characteristics	Attitude		COR(95%CI)	AOR(95%CI)	P value
	Favorable (n=320)	**unfavorable (n=104)**			
Educational status					
Cannot read and write	41(12.8%)	50(48.1%)	1	1	
Can read and write	112(35.0%)	34(32.7%)	4.02(2.28, 7.06)		
Grade 1-8	57(17.8%)	16(15.4%)	4.35(2.17,8.67)		
Grade 9-12	70(21.9%)	4(3.8%)	21.34(7.18,63.4)	4.87(1.34,17.76)	0.016
College and above	40(12.5%)	12(2%)	12.23(3.23,21.32)	2.12(1.21,12.23)	0.012
Marital status					
Married	215(67.2%)	96(92.3%)	1	1	
Unmarried	105(32.8%)	8(7.7%)	5.64(2.64,12.04)	6.56(2.23,19.37)	0.001
Knowledge level					
Good knowledge level	294(91.9%)	41(39.4%)	17.38(9.91, 30.47)	10.87(5.56,21.48)	0.000
Poor knowledge level	26(8.1%)	63(60.6%)	1	1	

5.7: Practice of blood donation

From all the study participants 85(20%) of them had history of blood donation at least one time. Majority of the donors 58(68.24%) were for family member or friends and 27(31.76%) of them donated voluntarily. None of the donors mentioned remuneration or other reason for blood donation.

Reasons for donation, frequency of donation, problems during and after donation and future willingness were also assessed for study participants. Accordingly, 71(83.5%) and 14(16.5%) of the donors donated blood once and more than one times respectively. Main health problems faced by few donors 11(12.9%) during and after donation include sweating, dizziness and headache. (See Table: 6)

Table 6: practice, frequency of donation, reasons for donation, problems faced during and after donation and future willingness of obstetrics and gynecology patient attendants on blood donation, June-November/2014,JUSH, south west Ethiopia

Variable	Frequency (n)	Percentage (%)
1. Ever donated blood		
Yes	85	20.0
No	339	80.0
Total	424	100.0
2. Frequency of donation		
One time only	71	83.5
More than once	14	16.5
3. Problem during and after donation		
Yes	11	12.9
No	74	87.1
4. Reason for previous donation		
For family /friend	58	68.2
Voluntary	27	31.8
5. Willingness to donate if asked		
Yes	293	69.1
No	131	30.9

5.8: **Reasons listed by previous non blood donors**

Common reasons listed by previous non-donors include, having blood deficit to donate 100(32.8%) being a farmer and not having enough blood for donation 36(11.8%) no body needed blood from once family member 42(13.8%), and lack of information about blood donation 32 (10.5%).(See table: 7).

Table 7: Reasons mentioned by previous non blood donor obstetrics and gynecology patient attendants, June-November /2014, JUSH, south west Ethiopia

SNO	Reasons	Frequency(n)	Percent (%)
1	I have blood deficit my self	100	32.8
2	No one needed blood from my family	42	13.8
3	Farmer does not have enough blood for donation	36	11.8
4	Does not have enough information	32	10.5
5	Nobody asked me	16	5.3
6	No reason	14	4.6
7	Fear of injection	13	4.3
8	Lack of availability of blood bank nearby	9	2.9
9	Did not think about it	7	2.3
10	Does not know where to donate	6	1.9
11	Thought affects health of donor	6	1.9
12	Sick usually	5	1.6
13	Under weight	5	1.6
14	Told to be un fit	4	1.3
15	Busy	4	1.3
16	Did not get the chance	2	0.7
17	No balanced diet	2	0.7
18	Female cannot donate	1	0.3
19	Heard blood sold from hospital	1	0.3

5.9 Factors affecting practice of blood donation

To identify factors affecting practice of respondent's blood donation, both bivariate and multivariate analysis were done on different selected variables. Those variables having significance level (p-value ≤ 0.25) in bivariate analysis were selected for multivariate analysis. Accordingly, sex, age, knowledge level and attitude of respondents towards blood donation could maintain their independent predictors of practice of blood donation. Being female (AOR=0.57, 95% CI: 0.03, 0.98) and age above 40 years (AOR=0.19, 95%CI: 0.04, 0.96) decrease the odds of respondents on practice of blood donation when compared with age less than 21 and male sex respectively. Respondents having good knowledge level (AOR=7.37, 95%CI: 1.67, 32.54) and favorable attitude towards blood donation (AOR=3.59, 95%CI: 1.32, 9.72) have 7.37times and 3.59 times more likely to have practice of blood donation when compared with those having poor knowledge level and unfavorable attitude respectively (see **Table: 8**)

Table 8: Factors affecting practice of blood donation among obstetrics and Gynecology patient attendants, June-November/2014, JUSH, south west Ethiopia

Characteristics	Practice of blood donation		COR(95% CI)	AOR(95% CI)	P-value
	Yes (n=85)	No(n=339)			
Age in years				1	
Less than 21	12 (14.1%)	23 (6.8%)	1		
21-30	43 (50.6%)	195 (57.5%)	0.42(0.19,0.96)		
31-40	28 (32.9%)	96 (28.3%)	0.56(0.25, 1.26)	**0.19(0.04,00.9)**	**0.048**
Greater than 40	2 (2.4%)	25 (7.4%)	0.15(0.03,0.76)		
Sex					
Male	59 (69.4%)	198 (58.4%)	1	**1**	
Female	26 (30.6%)	141 (41.6%)	1.62 (0.97, 2.69)	**0.57(0.33,0.99)**	**0.043**
Knowledge level					
Good knowledge level	83 (97.6%)	252 (74.3%)	14.33(3.45, 59.4)	**7.37(1.67,32.54)**	**0.008**
Poor knowledge level	2(2.4%)	87 (25.7%)	1	**1**	
Attitude					
Favorable	80(94.1%)	240(70.8%)	6.60(2.59,16.78)	**3.59(1.32,9.72)**	**0.012**
Unfavorable	5(5.9%)	99(29.2%)	1	**1**	

5.10 Willingness of future blood donation

From all the study participants (including those having and not having history of blood donation), 293(69.1%) of them have willingness to donate blood if asked while 131(30.9%) of them do not have willingness to donate. From all respondents previously donated, 80 (94.12%) of them have willingness to donate more while 5(5.88%) of them responded not having willingness to donate. Common reasons listed by respondents who do not have willingness for future blood donation includes not having enough blood for donation, affect once health, farmer cannot donate and to give only for family member. (See **Table: 9** for reasons listed by respondents not having willingness to donate blood in the future)

Table 9: Reasons listed by obstetrics and gynecology patient attendants for not having willingness to donate blood in the future, JUSH, June -November/2014

SNO.	Reasons	Frequency(n)	Percent (%)
1	Does not have sufficient blood	94	66.2
2	Is farmer and cannot donate	32	22.5
3	Affect my health	16	11.6
4	Fear of injection	10	7.1
5	Give only if family member needs it	10	7.1
6	Does not have good nutrition	8	5.6
7	Lost blood during previous deliveries and cannot donate	6	4.2
8	I am supporting my family and cannot donate	6	4.2
9	I have hard work and cannot donate	4	2.8
10	I pay for it if needed	4	2.8
11	I will think over it	2	1.4

5.9 **Factors affecting willingness of blood donation**

To assess factors affecting willingness of the study participants towards blood donation both bivariate and multivariate analysis were done on different selected variables. Variables having association with willingness of respondents on blood donation by bivariate analysis were selected for multivariate analysis to control confounding factors. Accordingly, income permonth greater or equal to 500 birr (AOR=2.80, 95%CI: 1.88, 5.38), good knowledge level on blood donation (AOR=3.57, 95%CI: 1.88, 6.76), favorable attitude towards blood donation (AOR=3.98,95%C:2.20,7.21) and previous practice of blood donation(AOR=5.49,95%CI:2.09,14.41) were found to significantly increase participants' willingness of blood donation when compared with income less than 500, poor knowledge level, unfavorable attitude and no previous practice of blood donation . **Table: 10** show factors affecting willingness of blood donation.

Table 10: Factors affecting obstetrics and Gynecology patient attendants willingness to donate blood, June-November /2014, JUSH, South west Ethiopia

Characteristics	Willingness to donate blood		COR(95%CI)	AOR(95%CI)	P- value
	Yes (n=293)	No(n=131)			
Income(in Birr)					
Less than 500	79 (27%)	67 (51.1%)	1	1	
500-1000	65 (22.2%)	31 (23.7%)	1.78(1.04, 3.04)	2.79(1.46,5.37)	0.02
1001-1500	25 (8.5%)	5 (3.8%)	4.24(1.54, 3.04)	1.77(1.23,11.59)	0.021
1501-2000	53 (18.1%)	15 (11.5%)	2.99(1.55, 5.79)	1.78(0.85,3.75)	0.125
Greater than 2000	71 (24.2%)	13 (9.9%)	4.63(2.36, 9.09)	2.50(1.18,5.37)	0.017
Knowledge level					
Good knowledge level	266 (90.8%)	69 (52.7%)	8.85(5.24, 14.9)	3.57(1.88,6.76)	0.00
Poor knowledge level	27 (9.2%)	62 (47.3%)	1		
Attitude					
Favorable	258 (81.1%)	62 (47.3%)	8.20(5.02, 13.4)	3.98(2.19,7.21)	0.00
Unfavorable	35 (11.9%)	69 (52.7%)	1		
Previous donation					
Yes	80(27.3%)	5(3.8%)	9.47(3.74, 23.9)	5.49(2.09,14.42)	0.001
No	213(72.7%)	126(96.2%)	1		

CHAPTER SIX: DISCUSSION

Knowledge, attitude and practice surveys provide a context-specific evidence base for development of informational material, communication strategies and interventions to promote voluntary non-remunerated blood donors, an essential component of a safe blood supply in any setting, more importantly in reducing maternal mortality caused by hemorrhage.

In this study, an attempt has been made to assess the levels and factors associated with knowledge, attitude and practice as well as future willingness of Obstetrics and Gynecology patient attendants on blood donation, in JUSH. Generally, more than two-third of the study participants have good knowledge level 335(79%) and favorable attitude 317(75.5%) towards blood donation while less than one-fourth 85 (20%) has practice of blood donation. Majority of the donors were for family member or for friends58 (68.2%).Different misconceptions and reasons were presented by study participants hindering them from voluntary blood donation.

Considering the overall knowledge level of study participants on blood donation,335(79%) of them have good knowledge level which is slightly lower than knowledge level reported by study done at Addis Ababa university on health science students which is 83%(25). This could be due to difference in study population (Health science students versus patient attendants). This is higher than studies conducted among health science students of India which ranged from 35.7%-53% [28-30]. Majority of the respondents have heard about blood donation and transfusion 395(93.2%) and 390(92%) of them know that blood donation can save live. Relatively low percentages of responders have knowledge on prerequisites for blood donation, frequency of donation per year 81(19.1%), minimum age required 228(53.8%) and volume of blood donated at once 110(25.9%).This is comparable with studies done in Moldova, Bangladesh and Burkina Faso, in which low percentage of study participants know specific pre requirements for blood donation(16,17,23) . Previous donors have good knowledge level when compared with non donors 83(97.6%) and 252(73.3%) respectively. This finding agrees with different research reports in which donors have better knowledge on blood donation than non donors (10, 13, 20)

Sociodemographic factors like better educational status(respondents who learned up to grade nine and above), governmental employee or student in occupation as well as better monthly income (greater than 2000EBIRR) have statistically significant association with better knowledge level on blood donation. These can be explained by having better information access

at working place or at home from different sources of information like media and clubs on blood donation.

In this study, majority 320(75.5%) of respondents have favorable attitude towards blood donation. This is slightly lower than studies from university students of Bangladesh (82%), Urban population of Iran (97.5%), High school students of south Africa (80%) but greater than study report from Tanzania general population(69.7%) (7, 29, 30,32). The difference could be due to difference in study population and sample size as well as sampling techniques. Being unmarried, educational level of grades 9and above and having better knowledge on blood donation found to have statistically significant association with favorable attitude towards blood donation. The reasons could be, unmarried respondents were mostly students with better information access which is same for respondents having grades 9 and above. Other studies like in Iran urban population study (7) also showed strong link between knowledge on blood donation, attitude and practice of blood donation.

From all study participants, 85(20%) of them had history of blood donation at least once while more than two-third, 58(68.24%) of the donors were for family or relatives (replacement donors). The percentage of previous donors in this study is lower than study findings in china done on rural population (27.6%), Iran Urban population (37.9%) and Tanzania (26.4%) but greater than study done in Haiti (6.1%).Concerning the contribution of replacement donors it is greater than most of the study findings above. (7, 9, 23,26). WHO recommends 80-100% of the donors should be voluntary donors due to safety problem with replacement donors. But surveys in sub-Saharan Africa still show the contribution of replacement donor accounting greater than 70% of blood donors mainly due to problem with system or cultural barriers against voluntary donation. In general, this study shows the practice of blood donation in the study participants is low and mainly of replacement donors even if they have relatively good knowledge level and favorable attitude. There are different reasons and misconceptions presented by study participants for their low practice which include, farmers cannot donate, not having sufficient blood for donation, fear of health problem after donation and thinking blood donation should be for only family members. These are almost similar with reasons presented in different study reports except study from Moldova and South Africa in which fear of getting infection during donation was mentioned as main reason for not donating.(7, 9,23,27)

Being male, age less than 21 years, having good knowledge level and having favorable attitude have strong association with practice of blood donation. This could be due to beliefs in the community that considers female cannot donate blood and age less than 21 years are common donors as recruiting for blood donation in the country mainly focuses on high school and university students. Good knowledge level and favorable attitude has strong association with practice of blood donation which agrees with other study findings (16,28,29)

Concerning future willingness of blood donation, more than two-third of respondents, 293(69.1%) has willingness to donate, if asked in the future. Reasons and misconceptions listed by study participants who do not have willingness to donate blood 131(30.9%), are almost similar with reasons of non-previous donors. Factors strongly associated with willingness to donate blood in the future are income permonth of greater than 500.00 birr, knowledge, attitude and previous practice of blood donation. From previous donors 80(94.1%) are willing to donate more which justices the misconception previous non donors have when compared with donors. Respondents with better income have better access to information sources like Medias which increased their willingness for donation.

This study was done on Obstetrics and Gynecology patient attendants in teaching Hospital. Therefore, it could be difficult to generalize the result to the community. It would better to have community based study for better understanding of KAP and associated factors on blood donation in the population.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

Conclusion

1. Majority of the study participants have good knowledge level and favorable attitude towards blood donation
2. Practice of blood donation is low
3. Majority of blood donors were replacement donors
4. There were different misconceptions and lack of understandings identified for low practice and low willingness of blood donation
5. Respondents with better information access have good knowledge level, favorable attitude, better practice and future willingness to donate blood.
6. There was significant association between knowledge, attitude, practice and willingness of study participants on blood donation.

Recommendations

To JUSH

- ✓ There should be regular teaching session in the Hospital for patient attendants on blood donation
- ✓ Misconceptions about blood donation should be well addressed in different lessons concerning blood donation
- ✓ Voluntary donors need to be encouraged
- ✓ Should have nearby blood bank to minimize distance barrier to voluntary donors

To Jimma Blood Bank office

- ✓ Should develop strategy by which the community can have better knowledge and attitude that can be changed to practice of voluntary blood donation
- ✓ Should focus on solving problem of misunderstandings about blood donation
- ✓ Should have strategy by which it can retain its rare voluntary blood donors and convert the majority replacement donors to voluntary donors

To Jimma mass media-

- ✓ Should have regular programs that well address the community on voluntary blood donation
- ✓ Should focus on correction of the wrong perceptions towards blood donation

- ➢ Community based research is needed for better understanding of KAP and other associated factors on blood donation in the community at large.

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QUESTIONNAIRE

Jimma university Faculty of Medical Sciences, Department of Obstetrics and Gynecology, Questionnaire Format on knowledge, attitude, practice and associated factors on voluntary blood donation among obstetrics and Gynecologic patients' attendants, JUSH, Jimma, South West Ethiopia, 2014.

Consent form

Good morning/Good afternoon/Good evening. My name is_____. I am midwife /doctor professionally and now collecting data from Attendants of patients who was admitted to Obstetrics and Gynecology wards for the research being conducted by Dr. Bedasa Eliyas (final year obstetrics and genecology resident) on Knowledge, Attitude, Practice and Associated factors on voluntary blood donation . You are selected to be one of the participants in the study. The study will be conducted through interview. Your name and other personal identifiers will not be recorded on data collection format and the information that you give us will be kept confidential and will also be used for this study purpose only. If a report of the result is published, only summarized information of the total group will appear. The interview takes 15 minutes and is voluntary and you have the right to participate, or not to participate or to refuse at any time during the interview. You will not face any problem if you do not agree to the information to be asked and you will not be also denied of getting any medical services from the hospital. Your participation on this study helps to understand the knowledge, Attitude, Practice and associated factors on voluntary blood donation in our community. The output of the study will be used in improving the level of voluntary blood donation, which has paramount importance in reducing maternal deaths. If you have any questions about this study you may ask me or the principal investigator Dr. Bedasa Eliyas (Mobile: 0913193735)

- Are you willing to participate in the study?
  1. Yes 2. No
- Interviewer who certified that the informed consent has been given verbally from the respondents

Name_____ Signature _____ Date _____

- Completeness checked by:

Name _____ Signature_____ Date_____

PART I- SOCIODEMOGRAFIC INFORMATIONS

1. Address……
2. Sex
   - Male
   - female
3. Age in years…….
4. Ethnicity
   - Oromo
   - Dawro
   - Amhara
   - Gurage
   - Tigre
   - Others (specify)

5. Religion of the respondent
   - Orthodox
   - Protestant
   - Muslim
   - Others (specify)……..

6. Occupation
   - Farmer
   - Merchant
   - Civil servant
   - Others (specify)…….

7. Educational status
   - Cannot read and write
   - Formal education (specify)……..
   - Read and write only

8. Marital status
   - Married
   - Divorced
   - unmarried
   - Widowed

9. Income per month ……

PART-II KNOWLEDGE ON VOLUNTARY BLOOD DONATION

1. Have you ever heard about blood donation/transfusion?

 Yes No

2. If your response to question NO-1 is YES, what is your source of information?

(Please mention)……..

3. Do you know that blood transfusion saves lives of mothers?

 Yes No No idea

4. If your response to question number 1 is "YES" what are the conditions in which blood transfusion is needed?

1……

2…….

3……

5. Where is the source of blood for transfusion?

 Human being
 Other animals
 Provided by Government
 Sold to patients by Hospital
 Others (specify)……

6. Who can be blood donor? (More than one response is possible)

 Farmer
 Merchant
 Governmental employee
 Students
 Daily laborer
 Others (specify)-----

7. What is the volume of blood donated at a time?

 More than half a liter
 Less than half a liter
 No idea

8. How frequent can a person donate blood per year? ----------

9. What is the minimum body weight required to be blood donor? ----------(in kg)

10. What is minimum age required to be blood donor? ----------(in years)

11. What are the health conditions precluding from blood donation? (Please mention)

1. ……..
2. …….
3. ……..
4. ……..
5. …….

PART-III ATTITUDE ON VOLUNTARY BLOOD DONATION

Ser. No-	Attitude questions	Strongly disagree	disagree	undecided	agree	Strongly agree
1.	Do you think blood transfusion saves live?					
2.	Do you think blood donation is your responsibility to help humanity?					
3	Should patient attendants asked to donate blood?					
4	Can Both male and female donate blood?					
5.	Can both rural and Urban community donate blood?					
6	Does Blood donation affects health condition of a donor?					
7	Do you think blood donation should be for only families and relatives?					
8	Do you think there should be payment or gift for blood donation?					
9	Do you think blood donation depends on occupation of a donor?					
10	Do you think Hospitals have enough blood for transfusion?					
11	Do you think volunteers are assessed for fitness before donation?					

PART-IV PRACTICE ON VOLUNTARY BLOOD DONATION

1. Have you ever donated blood?
   - ☐ yes
   - ☐ no
2. If "yes" to number 1,
   - 2.1. When did you donate? .....
   - 2.2. How many times did you donate? ----------
   - 2.3. Why did you donate?
     - ☐ Family or friend needed it
     - ☐ voluntary
     - ☐ Remuneration
     - ☐ to know screening status for free
     - ☐ Other, specify……
   - 2.4. did you experience any problem during and after donation, please list if any

     ……
     ……
     ……..……
3. If "NO "to number 2, please mention reasons

   ……
   ……
   ……
4. Will you donate if called up on or reminded to do so?
   - ☐ Yes
   - ☐ No
5. . If your response to number 4 is NO" please mention reasons.

   ……
   ……
   ……

Data collector……

Signature……..

Date……..