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Community Attitudes and Perceptions towards Voluntary

Blood Donation

A Case Study of Regional Blood Center, Gilgit



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Quaid-i-Azam University
Department of Anthropology
Islamabad - Pakistan
2018

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Thesis submitted to the Department of Anthropology, Quaid-i-Azam University Islamabad, in partial fulfillment of the degree of Master of Philosophy in Anthropology.

Quaid-i-Azam University
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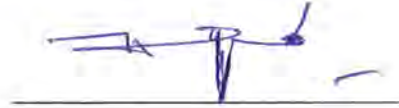
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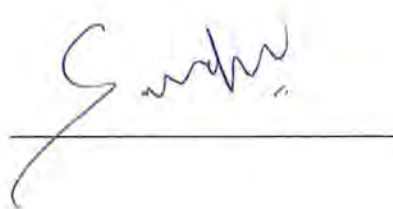
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Mr. Mujahid Ali

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ABSTRACT

Perhaps the most essential fluid for all life is blood and it is not only symbolically rich with metaphor and connotations but also biologically essential. The idea of voluntary non-remunerated blood donation, thus, assumes a tantamount importance. Blood is viewed as a vital body fluid essential for life and blood donation is lifesaving for those who need it. Access to safe and sufficient supply of blood and its product along with the safe blood transfusion services is crucial to any strong health system. Blood can save lives, but can also be a vector for harmful infectious diseases, such as HIV and hepatitis. The provision of safe and sufficient supply of blood is key to any healthy blood transfusion service, while the voluntary non-remunerated blood donors are the safest source of safe blood supply. The rate of voluntary blood donation depends on the knowledge, attitude, practices along with the availability of transfusion facilities.

This study was conducted in Gilgit, Pakistan and utilised an anthropological approach as well as semi-structured, in-depth interviews and focus group discussions with a heterogeneous and diverse sample of the inhabitants of Gilgit.

In Pakistan, 90% of donated blood comes through replacement and paid donation, while only 10% of that is voluntary unpaid donation. This study postulates that blood plays an important role in the culture of these communities. The gap between the supply and demand of blood in Gilgit is huge as only approximately 2-3 percent of blood donation comes voluntarily, while the remaining comes through replacement which happens to be widely practised. The respondents have a very limited understanding of blood transfusion, a highly positive attitude towards voluntary blood donation but very low actual practice. The major reasons are low level of awareness and campaigns, myths and negative perceptions attached with blood and blood donation. While on the other hand, sectarian based segregated human settlement and the exclusion of female blood donors also contributes to widen the gap between blood supply and demand. This study recommends knowledge enhancement campaigns and proper training of medical staff to lessen this gap.

Key words: Transfusion, Voluntary Non-Remunerated Blood Donation, Knowledge, Attitudes and Practices



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1 INTRODUCTION

Blood is symbolically viewed in varieties of contexts and the literature is spread across various fields, such as symbolism, religion, politics, kinship and medical anthropology (Bynum 2007, Copeman 2009, Schneider 1980). Blood is valued due to having many extraordinary qualities. The most substantial quality of blood is its movement within and from the body and its close relation with life. While the excessive loss of blood is linked with death, transfusions of blood are the apotheosis of that which is life-saving. It is not amazing that blood donation is often considered to be an extremely altruistic deed which is recognized with all the ethics of worthy citizenship, family duty and religious giving. The exclusive properties of blood are linked with the properties of movement and flow which bring life (Carsten, 2011).

Blood is essential fluid for functioning of body and this vitality is present in 'blood talk' which gives us with all modes of important meanings of life. Blood can be new, blue, young, hot, cold, bad, good, curdled or boiling. On one's hands, it can be drawn, tasted, sweat, spat, smelt or sought after. To talk about blood is to talk about kinship, temperament, ethnicity, ancestry, and spirituality, as well as human body functions and physiology (Anthony & Bindon, 1997). Mary Douglas (1970) stated that the body offers a variety of metaphors, opportune for thinking or talking about the moral and political issues in our surroundings (Turner, 2003). Further, Douglas (1970) also posits that blood provides a "natural system of symbolizing." Natural symbols, suggests Douglas, convey associations deriving from their organic roots.

Various meaning, emotions and connotations are attached with blood throughout the world; some nations encourages while some discourages the loss of blood. In some societies blood is consider as holy while on the other hand some people consider it as profane. For example, in India 'blood is understood as a source of strength and its loss associated with weakness' (Copeman J. , 2009; Starr, 1998). While in China, 'blood is understood as a vital life force, and its loss reduces one's strength (*yuanqi*), possibly leading to the loss of life' (Holroyd & Molassiotis, 2000; Shan, et al., 2002). Some castes who consider themselves superior avoid donating and receiving blood from other inferior castes in order to avoid the mixing of superior blood with inferior one.

Blood is viewed as a vital body fluid essential for life; it is life itself (Mumtaz, 2009). Blood donation is lifesaving for those who need it. Around the globe, people of all ages need blood transfusion to survive every second of every day. Access to safe and sufficient supply of blood and its product along with the safe blood transfusion services is crucial to any strong health system. Blood can save lives, but can also be a vector for harmful infectious diseases, such as HIV and hepatitis. It is prime responsibility of every government to ensure supply of sufficient and safe blood and prevention of transmission of HIV, hepatitis and other transmissible infections (WHO, 2017). The transfusion of blood needs to be handled carefully.

Blood donations are of three types: paid, family/replacement and voluntary unpaid. Voluntary non-remunerated blood donations are essential for ensuring a sufficient, stable and safe supply of blood. A well-established voluntary non-remunerated blood donation programme can contribute to a significant reduction in the risk for infections such as HIV, hepatitis B, hepatitis C and syphilis (WHO, 2011). The World Health Organization (WHO) emphasizes and encourages the practice of voluntary non-remunerated blood so that by 2020, 100% of blood donations are from voluntary anonymous donors. To attain the blood requirement of any country it requires strong, efficient and safe blood transfusion services along with the willingness of people to contribute blood voluntarily.

1.1 World Wide Situation Analysis of Voluntary Blood Donation

The donation of blood by 1% of the population is generally the minimum need to meet a nation's most basic requirements for blood (WHO, 2010). According to World Health Organization (WHO) an estimation of 112.5 million blood donations were made in the 180 countries in 2017. Of these, 100.6 million were whole blood donations while 11.9 million were apheresis donations. The high income countries which account for 19% of the world population collected 47% of the global donations, while on the other hand low-income and lower middle-income countries with population burden of 42% and 39% respectively collected only 2% and 22% of the global blood donations respectively. The South-East Asia Region representing 26% of global population

collected 15% of global blood donations, while the European Region representing 11% of the world population donated 30% of the global blood donations (WHO, 2017).

The first data of blood donation was collected in 1998-1999, in which only twenty-six countries reported to collect blood from voluntary un-paid blood donors. Most of these were countries that had always had a history of voluntary blood donation. However, in 2001-2001 this number increased to thirty-nine (39) and further rose to 50 during 2004–2005. While, in 2006, an additional four nations achieved the target of 100% voluntary blood donation (WHO, 2009).

In Iran 95% of blood donation are from voluntary non paid blood donation. the blood donation rate is around 22 units/1000 population which is quite satisfactory to prepare sufficient blood for patients in need of blood and its components (Shooshtari & Pourfathollah, 2006). While in Saudi Arabia, the supply of blood has changed dramatically from imported blood, to paid donors and then to the current total dependence on the native population, primarily seventy one percent (71%) voluntary donors, with a minor percentage of twenty-nine percent (29%) non-voluntary (Gader, et al., 2011). Religion is the major motivational factor behind voluntary blood donation in Saudi Arabia as majority of the donors believe that blood donation is their religious duty. A similar diverse attitude towards voluntary blood donation has also been observed in Pakistan.

1.2 Situation Analysis in Pakistan

In Pakistan, only 28 people donate blood for every population of 10000. Replacement and paid donations contribute significantly to blood banks which results in promotion of high risk infectious blood. According to an estimate, in the year 2012 seventy percent (70%) of donation were either replacement or paid donations while fifty percent (50%) of the cases were receiving un-screened blood transfusions (Saleem, et al., 2014). An estimation of 3.5 million units of blood is collected annually (SBTP, 2016 a). Pakistan has high rate of un-screened blood transfusions, which results in spread of many infectious diseases (WHO, 2016).

Amidst few interventions by government in Pakistan blood donation and transfusion services are still very nascent as compared to global practices. For the provision of

adequate and affordable supply of safe blood, the Government of Pakistan initiated blood safety systems reform programme in 2008 (Zaheer H. A., 2012). The first nationally coordinated blood transfusion programme initiated in 2010, still exists in the country at federal as well as provincial levels and is almost at completion of its initial phase (Zaheer & Waheed, 2015). This newly initiated Safe Blood Transfusion Programme aimed to provide safe, efficient and quality assured blood to the citizens of the country. This German supported program concerns the improvement of blood transfusion services in the country by strengthening its organizational and physical structure in accordance with WHO blood safety recommendations (SBTP, 2016 a).

The requirement of blood can be fulfilled by the voluntary unpaid donations but the attitudes, beliefs and level of knowledge associated with blood donation and transfusion may affect the blood transfusion services (Al-Drees, 2008). The availability of blood in blood banks and transfusion institutions is associated with the rate of voluntary unpaid blood donations. This requires installation of modern technology and techniques which can process the blood safely along with the willingness of people to donate blood voluntarily.

In a nutshell, in Pakistan, on one hand the safe blood transfusion services are nascent and still under-development to attain its full coverage. While on the other hand the low rate of voluntary unpaid blood donation is also a big challenge for the authorities.

Sandwiched between the world highest mountain ranges of Karakoram, Himalayas and Hindokush, there is a fairy valley covered with mountains, snow and lakes formerly known as northern areas now called Gilgit-Baltistan. Approximately 1.5 million people belonging to different cultures, traditions, sects and speaking various languages are inhabited in this isolated region. This locality although well-known for hospitality, simplicity and voluntary communal services does not have a centralized blood transfusion system. In very recent past the Regional Blood Center Gilgit was established with support of German Cooperation and SBTP aimed to fulfill the blood requirement of the people. This nascent established blood center is equipped with modern safe blood transfusion technology. But the requirement of blood is not fulfilled due to the low ratio of voluntary blood donation from the public along with many other reasons yet to be discovered. This has been causing many difficulties for the patients who are in need of blood.

In seeking to understand the low blood donation rates in Pakistan, a small body of literature is available focusing on knowledge and attitudes regarding blood donation. Although these studies and literature suggest the low rate of voluntary, non-remunerated blood donation in the country, but they do not provide a detailed understanding of the reasons behind these low rates. A detailed study is the need of the hour to investigate the underlying reasons behind this low rate of voluntary unpaid blood donation.

In order to explore the gap between the blood requirement and its availability, this research studies the cultural value of blood and the symbolic interpretation and connotation of blood in local context. This research explores the gap between the blood requirement and the collection in Gilgit region. Furthermore, it studies the mechanisms currently in practice in the region (hospitals and blood banks) for blood collection, transfusion and donation. The focus of this research studies community's perceptions and attitudes towards voluntary non-remunerated blood donation and the barriers along with the motivational factors within culture which could be utilized to motivate the public for voluntary unpaid blood donation.

1.3 Statement of the Problem

In Pakistan, the provision of blood for patients has always been a problem. 90% of the blood donations are made either by replacement or paid blood donation. For the provision of safe blood transfusion there is dire need of strong and efficient blood transfusion services. For this purpose, the government of Pakistan with support of German government initiated Safe Blood Transfusion Programme aiming to fulfill the blood requirement of the country. In continuation of this project a Regional Blood Center was also established in Gilgit. Although this nascent center is equipped with modern technology in accordance with international standards, but it is unable to fulfill the requirement of blood in the region.

The gap in supply and demand of blood in the region causes many problems for the patients who are in need of blood. The regular practice of replacement blood donation and limited practice of voluntary blood donation in Gilgit is a big challenge for both the authorities and the local people. This research thus investigates the meaning and the value of blood in local context and digs out the reasons behind perceptions and attitudes

of people. This research can contribute to minimizing the gap between supply and demand of blood in the region.

1.4 Hypothesis

- The research assumed that lack of awareness among public results in low voluntary blood donation in Gilgit.

1.5 Objectives

The research is based on the following objectives:

1. To analyze the institutional efficacy relevant to blood donation in the region
2. To evaluate/analyze the role and function of RBC Gilgit in provision of safe blood for patients
3. To record knowledge, attitudes, practices and the reasons behind blood donation
4. To study the significance of blood and determine motivational factors within culture related to voluntary blood donation
5. To recommend a culturally suited sustainable solution to overcome the gap between blood supply and demand

1.6 Significance of the Study

In view of the above back ground, we can say that the significance of my study is manifold. It will not only help me to fulfill the academic needs for achieving my M.Phil. degree but will also provide some additional literature on cultural context and symbolic interpretation of blood and blood talks. Furthermore, it will describe the community's knowledge, attitudes and practices related to blood donation.

The recruitment of voluntary blood donors is significant for any healthy blood transfusion services. Pakistan in general and Gilgit-Baltistan in particular is facing severe shortage of voluntary blood donations resulting in transfusion of many infectious diseases to both donor and receiver. This study is a first attempt to study the blood and transfusion services anthropologically. This will help the people from academia, researchers and other relevant stakeholders to understand the meaning and connotation

of blood in the cultural context of Gilgit. Furthermore, this research will help the policy makers, and relevant authorities to improve the blood transfusion services in the region.

2 RESEARCH METHODOLOGIES

Every scientific discipline has certain set of rules and procedures, which need to be followed for conduction of an effective research. Anthropology is a discipline which has multiple instruments to carry out research. The anthropological field worker must have a number of tools in his/her field kit. The research instruments and various methods of investigation or alternate techniques are helpful for objectifying and standardizing the field worker's perception. Research Methodology is a basic guideline that follows systematic way of conducting research. The topic focused on anthropological aspects of blood and its transfusion, so the most appropriate type was to include both qualitative and quantitative approaches. These anthropological methods, techniques and their applications are given below which I followed during my field work.

2.1 Locale of the Study

The present study was conducted in Gilgit; the provincial capital of Gilgit-Baltistan. Three different settlements (*muhallas*) were selected to conduct field work. These three localities include Khomer, Zulfiqarabad and Old Polo ground area. The purpose to select these three different settlements was to include people belonging from all three major sects; Shia, Sunni and Ismaili.

2.2 Rapport Building

In anthropology building rapport in the community is the first and primary step of where the researcher builds friendly relations with the community particularly with the respondents, make them feel comfortable to interact, which helps to conduct interviews. According to Bailey:

“For a researcher rapport building is one of the most essential tasks after entering into the field that could be most difficult and consuming task in the field work”.

(Bailey, 1952)

Initially it was quite difficult to interact with the targeted respondents, especially voluntary blood donors and female respondents. I made frequently visits to RBC and hospital based blood banks to identify blood donor. My daily based interaction with the community helped me to build rapport and to approach female respondents. The researcher built a good and friendly rapport with the respondents which helped to collect data conveniently.

2.3 Key Informant

Key informants serve as another key source of information particularly regarding various social institutions of the community. The selection of the key informants is is important and need to be chosen wisely. It is essential for the researcher to describe the objectives of his/her research to the key informants so that they can help him obtain valid and reliable data. According to Pelto and Pelto:

“Key informant interviewing is used to the best advantages when it is close and integrated with participant observation”.

(Pelto & Pelto, 1978)

I selected those key informants which have better knowledge about my research topic. Key Informants are those persons who provide valuable data and guidance about your topic. This is another key tool of the researcher in the field which I used in order to get the important information. Key Informants can be formal and Informal. Good Key Informants' are the people who you can take too easily who understand the Information you need and are glad to give it to you and get it for you. Three key informants were selected based on their knowledge and social interaction.

The first key informant was selected from Regional Blood Center (RBC) Gilgit. Among the staff he was most responsible, active and had more knowledge and information about blood transfusion as well as about the community. With help of him, I was able to identify relevant respondents. He also provided information about the blood transfusion services available in the region and the opportunities and barriers associated with blood transfusion services.

Second key informant was selected on the basis of his knowledge about the community and social interaction and activities in the community. He has a broader social circle in

the community and had friendly relations with people belonging to all three sects in Gilgit. He himself had donated blood many times and is socially active in the community.

The third key informant was a female; she was an active member in the community. It is not an easy task to interact with the female members of the society and it was important to study the topic from the perspective of both genders. She helped me to interact with the female respondents.

2.4 Participant Observation

In anthropology, participant observation is used as a key method to collect qualitative data. Since participation in a community lowers social and communicatory barriers between the researchers and researched, it allows the former to obtain valid data. It reduced the gap between the researcher and the respondents. H. Russell Bernard (1994) says:

“Participant observation is the foundation of anthropological research, and yet it is the least well defined methodological component of our discipline.”

(Bernard, 1994)

I used this method during my research. During field work, I met people face to face and observed their activities and noticed the disparity in natives’ theory and practices regarding blood and its transfusion.

“In participant observation, the researcher takes on an active role within the social setting that is being studied. As well as watching, this facilitates listening, conversation, questioning and interviewing, so getting ‘closer to life’.”

(Payne, 2004)

The researcher utilized both methods (participatory and non-participatory observation) to observe the activities. The researcher observed the blood transfusion process in blood banks and RBC. As an observer, I observed the blood transfusion process and the environment in which the blood is transfused. It gave an opportunity to compare the environment and precautionary measures taken during transfusion at hospital based blood banks and the RBC. As a participant observer, I donated blood two times; voluntary and replacement blood donation. As a replacement blood donor, I tried to

understand the cultural value of blood donation and the obligations associated to the relations made through blood donation.

2.5 Sampling

Sampling is the method of anthropological research that refers to drawing a sample from the whole population. My aim in sampling was to draw a representative sample, as it was not possible to get data and information from whole community due to limitation of time and resources. Therefore, I select a representative sample size.

For the present study, thirty respondents were selected. Purposive and convenient sampling techniques were utilized to reach the respondents. With the help of purposive sampling I selected three different *muhallas* (one from each sect), and selected few voluntary donors. While the convenient sampling was used to reach respondents from three respective *muhallas*. Respondents from different age groups, gender, education level, sect, occupation, donors and non-donors were included. The aim was to get data and information from people of different backgrounds.

2.6 Interviews (KIIs, IDIs)

Both formal and informal interviews were conducted during the field work. Three Key Informant Interviews (KIIs) were conducted; one respondent from RBC, one from educational institute and one from a community leader. While, the In-depth Interview (IDIs) were conducted from thirty respondents belonging from different spheres of life.

The respondents for in-depth interviews were selected through convenient sampling technique, while few were selected through purposive sampling. The respondents were asked open ended questions and through informal discussion. Questions were related to their interpretation of blood, cultural value and connotations, relations through blood donation, obligations associated with blood donated based relationship, knowledge, attitudes and practices regarding blood donation. The respondents were also asked questions about the procedures involved in blood transfusion, blood groups and the associated myths and motivational factors related to blood donation.

2.7 Focus Group Discussions

Focus Group Discussions (FGDs) are useful in getting different opinions and information on selected topic in short time. In this method researcher interviews a group of people for getting knowledge so that if one member hides the data the other member can tell that data. Two Focus Group Discussions (FGDs), eight members each, were conducted from the students of Karakoram International University belonging from different regions, sects, gender, caste, tribe and economical background. This helped to collect data from people of different backgrounds.

2.8 Field Notes

While conducting research it is necessary to manage the data every day. It is not easy to remember each and everything, for this purpose field notes are necessary to be written. It is necessary to note each and every event so that information would be available in short time. This helped a lot after the field work when we start writing up thesis. We get easy access to the information by looking in the field notes. It keeps a researcher not only have a personal notes, but make him able to deal with the loneliness, fear and other emotional traumas which can make the field work tenure difficult to bear.

2.9 Case Study

The methodology of case study in actual the real ethnographic field work, it is the intensive research work on one or few units of the society under study of an individual or institution of the society. The method of the case study which is to be studied to get inside of ethnographic sketch of the arena and is the best available data in the archive because with the help of it, the field worker can excess to the minor details of the particular event and can extract the valid information.

Case study technique helps to record events related to the topic and is an important way of getting into depth of interviews of the living individuals. These case studies helped me to understand of my objectives. For the validity of my field work and to get the case studies on right course. I have selected this method as a vital tool in addition of key informants because the importance of the case study can be best explained.

2.10 Triangulation

Triangulation is one of the key elements of mix methodological approach. Each method employed in the study reveal different facets of symbolic reality and therefore, combination of different methods reveals a more substantive picture of reality (Breg, 2001). According to Nueman (2006), it is important to look something from several angles than to look at it one way, and this is called triangulation in social research.

The triangulation is done by three different ways i-e literature, interview and observation. In first stage the results are supported with the available literature from different sources. In the second stage the data is cross checked through interview/FGDs from participants of different backgrounds and finally with the help personal observations.

2.11 Data Analysis

The results of the research are analyzed with the help of computer aided programs. For the analysis of quantitative data, MS Excel and SPSS is used, while the qualitative data is analyzed thematically. Different themes were generated based on data collected and the results are discussed under each theme.

The blood transfusion services in the region are analyzed through SWOT analysis. Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is an assessment of internal strengths and weaknesses and external opportunities and threats. A SWOT analysis has been used to analyzed the efficacy of blood transfusion services in the region.

3 LITERATURE REVIEW

Literature review is compulsory before conducting research. Before going to the field the researcher should be aware of the necessary literature relevant to the topic of his/her research. The review of literature helps the researcher gain an in-depth understanding of the topic. I collected and studied literature from different books, journals, reports, websites and other available material relevant to the topic of my research.

3.1 Anthropology and Blood Donation

Until 1990, the anthropological consideration of blood was mainly focus on its deployment as an idiom of kinship, race, nationalism and on descriptions of its use in rituals. After 2000, with the rising influence of medical anthropology, the study of body, science and technology, the field of anthropology has become widely involved in social practices focusing on blood outside the body; blood transfusion and donation, blood tests, blood spilled as a form of artistic purpose or political protest, artificial blood and many more. The earlier approaches were not dropped. Rather, it became important to look in the ways in which practical actions related to blood and more metaphorical placements of it inflected and influenced one other (Copeman J. , 2017).

The 'substance' as a concept has been extensively used in anthropology of kinship (Salhins, 2011). It is used for all kinds of bodily fluids or tissue-bones, saliva, flesh, blood, milk, organs, semen, female sexual fluid, hair, nail, skin or used in combination. In anthropology, blood is metaphorically used in different connotation in different region of the world. As Schneider argued that "relationships in American culture are constructed out of two orders; relations by law and relation by nature from which further two elements - substance and code – are created. Whereas some relationships – like a life-partner - existed based on of one of these only, "blood relatives" deduced their legality from a mixture of nature and law or substance and code for conduct. It was significant to Schneider's argument that code and substance were clearly discrete and that they could be found separately or in combination (Schneider, 1980, p. 91). While Carsten (2011) is of the view that based on three aspects – visually striking; its presence inside and outside the body in most situations; and its direct association with life - blood may be a particularly apt metaphorical extension. The case of blood also emphasizes how these three different aspects are, in fact, inseparable and support each

other. I return to the special qualities of blood below after considering transfers of other kinds of bodily matter. Further, he argues about the flow of blood as:

“Blood flows are common and minor occurrences, but they can also signal extreme acts of violence, illness, or death. Flows of blood can be intentionally elicited for ritual, medical, or other purposes and can also occur involuntarily. Such flows are thus at once both more everyday than donations of gametes or organs, but also have unique qualities”.

(Carsten, 2011)

Blood is symbolically viewed in varieties of contexts and the literature is spread across various fields, such as symbolism, religion, politics, kinship and medical anthropology (Bynum 2007, Copeman 2009, Schneider 1980). Blood is valued due to having many extraordinary qualities. The most substantial quality of blood is its movement within and from the body and its close relation with life. While the excessive loss of blood is linked with death, transfusions of blood are the apotheosis of that which is life-saving. It is not amazing that blood donation is often considered to be an extremely altruistic deed which is recognized with all the ethics of worthy citizenship, family duty and religious giving. The exclusive properties of blood are linked with the properties of movement and flow which bring life (Carsten, 2011).

Blood is essential fluid for functioning of body and this vitality is present in ‘blood talk’ which gives us with all modes of important meanings of life. Blood can be new, blue, young, hot, cold, bad, good, curdled or boiling. On one’s hands, it can be drawn, tasted, sweat, spat, smelt or sought after. To talk about blood is to talk about kinship, temperament, ethnicity, ancestry, and spirituality, as well as human body functions and physiology (Anthony & Bindon, 1997). Marry Douglas (1970) stated that the body offers a variety of metaphors, opportune for thinking or talking about the moral and political issues in our surroundings (Turner, 2003). Further, Douglas (1970) also posits that blood provides a “natural system of symbolizing.” Natural symbols, suggests Douglas, convey associations deriving from their organic roots.

Blood talks serve as a powerful social meaning as it is linked with life. This environs both the meaning of individual body as well as the broader spiritual, social and political body. As Bond and Cox (2014) argue that “blood metaphors remain very much part of

everyday language for both Aboriginal and non-Aboriginal people, we argue that 'Aboriginal blood talk', more specifically, is located within a contradictory and contested space in terms of its varying meanings, but also in relation to the flow of this talk in private and public spheres as expressed by Aboriginal people and non-Aboriginal people" (Bond & Cox, 2014).

There is a great debate in anthropology about blood group and race; as anthropological studies focus on the characteristics of race. The anthropological idea that races carry distinguishing characters hidden in the blood has put strong hold on the mind of medical and other researchers. Many researchers in new fields have yet not realized that the blood groups are just additional anthropological characters which must take their place along with other known criteria in the study of racial relationship. Summering the debate argues (Wyman & Boyd, 1935) that; "in the debate of race and blood group it is said that the blood groups seems to be older than the present race. We should not regard this as discouraging fact, but rather as an encouraging one. The groups may still have considerable anthropological value, presumable as much as any other one criterion, and by study of them we may possibly hope to get some information about human migration preceding the differentiation of the present races."

In 2005 India recorded the highest number of collection of blood units in single day; 12002450 milliliters unit equal to 67 bathtubs of blood collected and made the record in The Guinness Book of World Records. Blood donation is a form of sacrifice and it is considered as life. Despite following strong caste system differences, the people of India donate a huge amount of blood donations (Copeman J. , 2008).

Copeman conducted research in India and discussed details about the caste system in India. While discussing blood donation services in India he argues that although there is string caste system and religious differences in India but the blood is same.

"How easy it is to look for differences and miss similarities! This was proved when blood tests of more than a hundred women were carried out. Much to their amazement, the women realised that blood groups could differ not only within their own religion or caste but also within their own families, while those they thought had 'bad blood' could in fact have the same blood group as their own."

(Copeman J. , 2008)

Caste system is strictly followed in Indian societies and there is hierarchy in caste system. Many people consider people of lower caste as untouchable and considered them inferior. But when it comes to voluntary non-remunerated blood donation, the caste system is neglected. Furthermore, while interviewing a doctor in India as Copeman recorded the interview in the following words:

“Blood donation is a way to remove casteism because Hindus donate and it is used by Muslims, and vice versa. I am a Brahmin - when I donate it may be used by a lower-caste person. My blood is inside him - it shows there is no difference at all. A patient is a patient, a sufferer. He or she does not have a caste.”

(Copeman J. , 2008)

This shows that voluntary blood donation is a way to remove castesim as blood from lower caste and religion can be transfused to a patient of higher caste and vice versa. Synnott (1993) posits that the body social is both the key symbol of the self but also of society, and the state’s property. Mahon-Daly (2016) postulates that “the Donor Self turns into a hierarchy of parts, to manage the moral and ethical demands on the person when donating, as a result of the medical need for all body parts. Increasingly, blood donors feel they ‘have to give something of themselves’, it introduces the unique concepts of differing selves: The Inner Self, the Liquid and Solid Self relating this to the work of Goffman, as donors seek to rationalize what being a blood donor means for them and their blood.

Various meaning, emotions and connotations are attached with blood throughout the world, some nations encourages while some discourages the loss of blood. In some societies blood is consider as holy while on the other hand some people consider it as profane. For example, in India ‘blood is assumed as a source of strength and its loss is linked with weakness (Copeman J. , 2009; Starr, 1998). While in China, ‘blood is thought as a vital life force, and its loss reduces one’s vitality (*yuanqi*), possibly leading to loss of life itself’ (Holroyd & Molassiotis, 2000; Shan, et al., 2002). Some castes who consider themselves superior avoid donating and receiving blood from other inferior castes in order to avoid the mixing of superior blood with inferior one.

The secret and sacredness of human as well as animal’s life are intimately bound to blood. Blood is of vital importance in almost every major religion of the world; as in

the Bible especially in the Old Testament, blood is a dominant theme. As Kent (2011) claims that the Hebrew term 'dam' for blood is found more than 300 times in the Old Testament. According to him this it is a bloody book full of war tales, violence and blood rituals and despite their visceral description the biblical laws and stories depict respect for life. The blood symbolizes significance of life while, in some communities it also symbolizes death. Machingura & Museka (2016) claim that blood is linked with both life and death as life is viewed as its presence, while death is its absence in the body. Animal sacrifices were also executed as part of the prescription and demonstration to the divine.

The human right to life is one of the main goals of Islamic law (Diizenli, 2005). Islam has attached immense significance to therapy; has given equal rights to all human beings for treatment, and has claims that saving someone's life is same as saving humanity (Güden, Çetinkaya, & Naçar, 2013). "Muslim jurists have ruled it acceptable to donate blood" (Sheikh & Gatrad, 2003). Islam is the religion of peace and harmony and encourages its followers to help others and blood donation is considered as a great virtue.

Blood has been described by anthropologists as a predominantly defiling substance in South Asia. Bayly argues: "throughout India bodily secretions, especially blood, semen, saliva and human wastes, are thought of as being charged with a form of power and energy which may be both menacing and protective" (1989: 127). Copeman suggests the following factors hindering blood donations in India:

1. Prevalent fear of losing strength from donating blood, a belief which is in contrast with modern medicine's stress on blood's rapid self-replenishment.
2. An inclination to consider blood donation as worthy only when there is a precise object in mind (like a relative in need, as in family replacement donation).

(Copeman J. , 2008).

Blood is donated voluntarily, while, on an emotional mood, it is focused to the particular personality whose birthday or death anniversary is being celebrated. In this way, the desired 'centrifugal' substantial course of donation of blood is strengthened by the centripetal foci of such occurrences. The voluntary blood donation's way to m/any depends on variations in guiding perception from many. A particular item is depended

upon to facilitate the abstracted gift. Another objection of unwillingness to donate without an immediate gift is modified by this model of specificity within abstraction.

Different attitudes and perceptions are attached with the blood. Some people encourages while others discourages blood donation. Globally, the knowledge, attitudes and perceptions varies from country to country. As in Nigeria different social and cultural barriers are associated with blood donation resulting difficulties in provision of blood for patients. Misinformation, misconceptions, and lack of knowledge regarding effects and safety of giving blood were the main reasons for above barriers. (Umeora, Onuh, & Umeora, 2005).

In Mayan culture; it is believed that blood is not regenerated; blood is present in limited amount and loss of blood can cause permanent weakness. A person's health is determined in terms the presence of blood such as weak, strong, hot or cold. These characteristics are inherited and are closely related with behavior. It is also believed that the blood determines psychological and physical characteristics of a person along with his/her immunity (Tejada, 2005). While, the emotions also affect the condition of blood such as anger makes blood hot. During pregnancy, menstruation and labour, women are considered in a hot state.

Literature from different researches shows that females are not actively participating in blood donation. Similar studies show that the adult male population mainly participates in the activity of blood donation. Female population constitutes more than half of nation population was low represented in the blood donor drives (Waheed, Azmat, & Zaheer, 2015). This is due to the misconception and myths attached with the blood donation. Another similar study conducted by Gilani, Kayani and Atique from medical and paramedical personnel regarding blood donation stated that; medical doctors donate more blood as compared to paramedics. This shows advance education and more knowledge about blood donation tends to increase the level of awareness regarding blood donation. Further they stated that the reason many did not donate their blood was because no person had ever asked them to give blood. This suggests that even the increased level of awareness on the subject does not result in actual act of donating blood (Gilani, Kayani, & Atique, 2007).

3.2 The process of Safe Blood Transfusion

The purpose of blood donation is to provide safe blood for the patients. This involves selecting the donor having minimum risk of infectious disease. There are certain criteria set by World Health Organization and other Blood Transfusion Services to protect both donor and receiver safety and health by collecting blood only from healthy people. The identification of good health is not easy to task but few related factors may be established from a simple test, observation and brief medical history. Further, for a safe blood transfusion, there are certain prerequisites which need to be followed prior to blood donation which are:

- **Age:** The lower and upper age limit for blood donor is 18 and 65 years respectively.
- **Appearance:** Only donor with appearance of good health, comply with donor selection criteria is accepted.
- **Weight:** It is usually understood that the volume of whole blood donated should not exceed 13% of blood volume: e.g. a donor should weigh at least 45 kg to donate 350 ml ($\pm 10\%$) or 50 kg to donate 450 ml $\pm 10\%$ (67, 68). While, there are no defined upper weight limits for blood donation.
- **Pulse:** A normal pulse rate of 60–100 per minute and a regular rhythm are indicators of good health; many BTS recommend that these are inspected preceding donation.
- **Body Temperature:** A potential donor who is febrile – defined as a core oral temperature more than 37.6°C (71) – is by definition unwell and should be avoided for blood donation.
- **Blood Pressure:** A normal blood pressure (systolic 120–129 mmHg, diastolic 80–89 mmHg) is commonly viewed as an indicator of good health.
- **Time Interval:** The minimum interval between donations of whole blood should be 12 weeks and 16 weeks for males and females respectively. The minimum interval between donations of platelets should be 4 weeks and for donation of plasma it should be 2 weeks.
- **Fluid Intake and Food:** The Blood Transfusion Services must provide 500 ml clean drinking water to donors prior to donation in order to minimize the risk of vasovagal reactions.

- **Gender:**
 - **Pregnancy:** Female donors should be avoided up to 6 months during pregnancy and for adequate time after delivery (or following abortion or miscarriage) and during lactation to allow for the retrieval of iron stores.
 - **Menstruation:** Menstruation is not a valid reason for deferral. However, women with regular excessive menstrual bleeding are having low haemoglobin levels should avoid to donate blood and need to be referred for medical assessment.
- **Medical History:** A comprehensive medical history should be included, using a structured donor questionnaire and interview. The purpose is to identify and defer, either permanently or temporarily, donor with a medical complaint that may cause the donor to immediate or long-term harm, affect the quality and safety of the components of blood or compromise patient health.

Beside the above mentioned recommendations, there are various other disease and health conditions which need to examine before blood donation. The donor and the service providers need to follow the recommendations by WHO and other Blood Transfusion Services in order to minimize the risk of transfusion infectious disease. The medical history of the donor can be assessed by conducted interview prior to blood donation and donor with history of infectious and other diseases mentioned by the Blood Transfusion Services need to be avoided.

3.3 Worldwide Situation Analysis of Blood Donation

According to estimations of WHO the blood donation by 1% of the population is generally the minimum requirement to meet any country's requirement of blood. The requirement of blood is higher in less developed countries due to lake of health facilities and transfusion services. While on the other hand the average donation rate of developing countries is 15 times lower than developed nations. According to reports of WHO globally, more than seventy states had a blood donation rate of less than one percent in 2006. In the WHO's African region, an estimation of about eight million units of blood are required in 2006, but the collection was only 3.2 million units; it is only 41.5% of the blood demand. South-East Asia consists of around 25% of the world's population, but the collection of blood is only nine percent (9%) of the world's

blood supply; only seven million units annually as compare to estimated need for around 15 million units (Sharma, 2000). Ageing populations and stricter donor selection procedures are further reducing the drive of eligible blood donors. Across the world, more than eighty one million blood donations are collected yearly, but only 45% of these donations are made in developed and under-developing states, where eighty one percent (81%) of the world's population reside (WHO, 2009).

The first data of blood donation was collected in 1998-1999, in which inly twenty-six countries reported to collect blood from voluntary un-paid blood donors. Most of these were countries that had always had a history of voluntary blood donation. However, in 2001-2001 this number increased to thirty-nine (39) and further rose to 50 during 2004–2005. While, in 2006, an additional four nations achieved the target of 100% voluntary blood donation (WHO, 2009).

In Iran 95% of blood donation are from voluntary non paid blood donation. the blood donation rate is around 22 units/1000 population which is quite satisfactory to prepare sufficient blood for patients in need of blood and its components (Shooshtari & Pourfathollah, 2006). While in Saudi Arabia, the supply of blood has changed dramatically from imported blood, to paid donors and then to the current total dependence on the native population, primarily seventy one percent (71%) voluntary donors, with a minor percentage of twenty-nine percent (29%) non-voluntary (Gader, et al., 2011). Religion is the major motivational factor behind voluntary blood donation in Saudi Arabia as majority of the donors believe that blood donation is their religious duty.

All blood transfusion services, especially the developing and under-developed nations face a major shortage of blood donations due to lack of voluntary blood donors. One of the major challenge met by all the blood services globally is the increased gap between demand and supply of blood (Safizadeh, Pourdanghan, & Mohamadi, 2009). According to an estimation only ninety two (92) million of donations of blood were made to an estimated 234 million major operations performed in 2013 with 63 million people undergoing surgery for traumatic injuries, 31 million more for treating cancers and another 10 million for pregnancy-related complications (WHO, 2013).

Countries where medical and diagnostic facilities are limited, majority of transfusions are arranged for the handling of complications during childbirth and pregnancy, severe childhood anemia, trauma and the management of congenital blood disorders. For example, only haemorrhage accounts approximately twenty five percent (25%) of the 530000 maternal mortality every year; 99% of these deaths occurs in developing countries. Access to safe and sufficient blood would help to reduce these maternal deaths to one quarter each year. The safe blood transfusion is considered as one of the eight life-saving functions that should be placed in a first-referral level healthcare services providing comprehensive emergency obstetric and neonatal care (WHO, 2007).

Children are at high risk of requirement of blood in malarious areas often exacerbated by malnutrition. In the year 2008, malaria widespread in 109 countries with 45 countries in African region alone. While in 2006, an estimated 247 million malaria cases were reported risking 3.3 billion people, resulting approximately a million deaths; among those 91% deaths were occurred in Africa and 85% were children under five years of age (WHO, 2008).

While on the other hand road accidents accounts 1.2 million deaths and injure/disable around 20 to 50 million people annually. A large proportion of these incidents requires urgent transfusion services during initial 24 hours of treatment; 90 % of these deaths occurs in developing and under-developing countries due to non-availability of blood. Road traffic injuries are considered as the third highest contributor to global burden of disease by 2020 with an increase of 65% in road traffic deaths globally and 80% in low and medium High Development Index (HDI) countries (WHO, 2004).

The timely availability of blood in hospitals and other emergency health care centers is crucial for patient survival. According to an estimation approximately three hundred thousand infants are born with thalassaemia and other sickle-cell disease every year and need regular blood transfusion (WHO, 2006). As the prevalence of these disease is not yet known, therefore there is utmost requirement for regular transfusion especially the frequently affected regions like Mediterranean region, North Africa and Asia.

The teenagers and youth is considered as the safest source of blood and studies suggests to convince the young generation to donate blood. It is recommended for appropriate

awareness strategies to educate adolescents; they are the main target to involve in recruitment as blood donor programmes in order to make it easier to recruit them as soon as they come of age by making them aware of blood donation a long time before they can actually give blood (Zito, Alfieri, Cremonesi, Marconi, & Saturni, 2012).

3.4 Situation analysis of Blood Donation in Pakistan

Voluntary non-remunerated blood donation is considered to be best among all different types of blood donations. The voluntary un-paid blood donations require the motivation of people especially the youth including college and university going students. The safe blood transfusion system in Pakistan has been improved in the recent past years but still there is a lot to do more. There is strong need to increase recruitment of voluntary donors; senior school/college going students as a source of safe blood (Thaver, Masud, & Mariam, 2014). The young college going students are source of the safest group of blood donors, they need to be employed as a source of safe and non-remunerated donations (Rahman, et al., 2003).

In Pakistan, only 28 people donate blood for every population of 10000. Replacement and paid donations contribute significantly to blood banks which results in promotion of high risk infectious blood. According to an estimate, in the year 2012 seventy percent (70%) of donation were either replacement or paid donations while fifty percent (50%) of the cases receiving un-screened blood transfusions (Saleem, et al., 2014). Pakistan has high rate of un-screened blood transfusions, results in spread of many infectious diseases (WHO, 2016). Pakistan as a signatory World Health Assembly resolutions and has envisioned to reach 100% voluntary non remunerated blood donation till the year 2020 (WHO, 2009 a).

Pakistan is facing the severe issue of natural disasters since last two decades, and in such occasion the demand of blood become more high. This requires more integrated blood transfusion services in order to fulfil the blood demand. Zaheer argues; “in the absence of an integrated healthcare system and the presence of a fragmented blood transfusion system, the national response to blood management in disasters is patchy, insufficient and lacks proper coordination” (Zaheer H. A., 2012).

In Pakistan blood transfusion laws and regulation has been established in 1997. The province of Sindh is pioneered in legislation related to blood transfusion by passing legislation titled “Sindh Transfusion of Safe Blood Act 1997” followed by Punjab and North-West Frontier Province by passing similar acts in 1999. While, for Federal Capital and Federally Administered Areas, the Islamabad Safe Blood Transfusion act came out in 2002, whereas similar law was approved by the Balochistan Assembly in 2004. The blood transfusion system reforms in Pakistan is guided and informed by legislative reforms with inclusion of modern patterns following European Union model. This latest and modern template is under process of approval and vetting by national and provincial assemblies. The first Blood Transfusion Authority (BTA) was constituted and operational in Sindh since 1998 which was then amended in 2005. Although the Punjab Blood Transfusion Authority (BTA) was established in 2006, but was functional recently in 2013. While Islamabad Blood Transfusion Authority is one of role model for the entire country and is progressing with time (SBTP, 2015).

Criticizing the adaptation of global safe blood transfusion policies in Pakistan (Mumtaz, Bowen, & Mumtaz, 2012) argues that:

“While contemporary policy asserts that blood donation by voluntary, non-remunerated donors from low-risk population groups is safest, this may not be the most appropriate policy for ensuring an adequate safe blood supply in many other parts of the world. Local belief systems in Pakistan, such as notions of caste-based purity of blood and that donors and recipients get symbolically knitted in a kin relationship, do not align well with the anonymity inherent in the haemato-global assemblages regarding the collection storage and use of blood. In order to ensure a safe blood supply, it is important to base blood procurement policies on local, context-specific belief systems rather than relying on uniform, one-size-fits-all global policies.”

Globally the non-remunerated blood donation by unknown people is encouraged instead of kin based blood donation. This is however, may be a good practice in developed world while in countries like Pakistan where people are interconnected with each other through kin and caste based relations. Majority of blood is donated by relatives in Pakistan and some scholars considered it as a good practice and are of the



view that this kin based blood donation must be encouraged and the policies need to include it.

In Pakistan, systems reforms are in the process of implementation under Safe Blood Transfusion Programme. Computer based management information system is one of the key elements of these reforms. Currently, the blood transfusion sector in the country lacks this modern and useful element of transfusion programme. While, on the other hand transfusion services are not consistently regulating under the existing laws and legislations which results in weak operational structure of Blood Transfusion Authorities and limits the coverage of the existing system. In the whole country, only few blood transfusion establishments are using some basic electronic information system, while these systems are not fully complying with the modern standards of safe blood transfusion services. For safe and efficient service delivery the country need a centralized computer based management information system (Waheed, Kruzik, Knels, & Zaheer, 2015). A study conducted on replacement blood donation in Pakistan suggests:

“The notions of caste-based purity of blood, together with the belief that donors and recipients are symbolically knitted in a kin relationship, place a preference on kin-blood. The anonymity inherent in current systems of blood extraction, storage and use as embedded in contemporary policy discourse and practice was problematic as it blurred distinctions that were important within this society.”

(Mumtaz, Bowen, & Mumtaz, 2012)

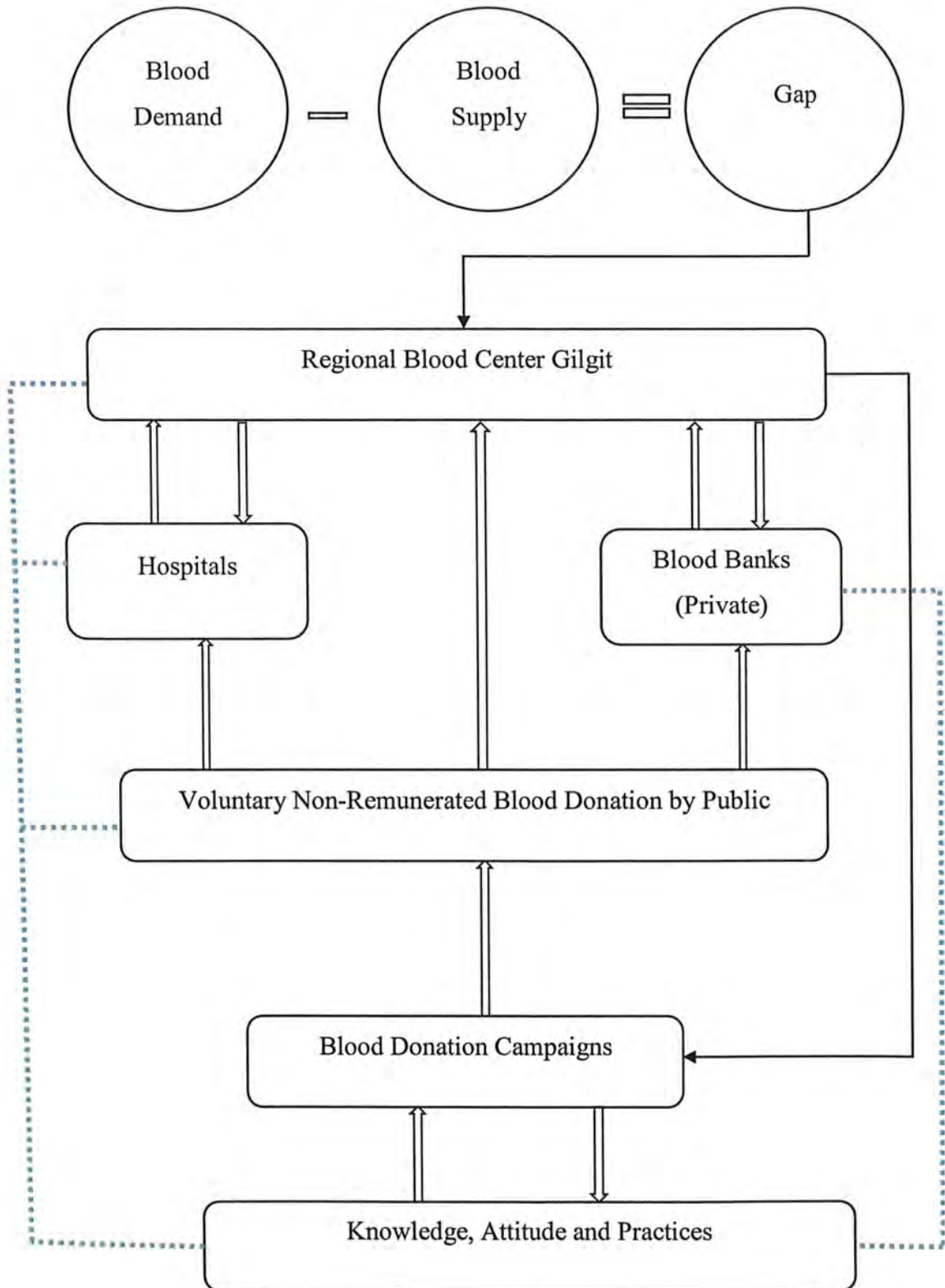
In Pakistan blood donation and transfusion services are still very nascent as compared to global practices. The practice of voluntary unpaid blood donation is by only 10% of people while 90% of the donations are made either by replacement or paid donations. (Asif & Hassan, 2015). For the provision of adequate and affordable supply of safe blood, the Government of Pakistan initiated blood safety systems reform programme in 2008 (Zaheer H. A., 2012).The first nationally coordinated blood transfusion programme initiated in 2010, still exists in the country at federal as well as provincial levels and is almost at completion of its initial phase (Zaheer & Waheed, 2015). This newly initiated Safe Blood Transfusion Programme aimed to provide safe, efficient and quality assured blood to the citizens of the country. This German supported program

concerns the improvement of blood transfusion services in the country by strengthening its organizational and physical structure in accordance with WHO blood safety recommendations (SBTP, 2016 a).

3.5 Conceptual Framework

The conceptual framework for this research is illustrated in the following diagram:

Figure 1: Conceptual Framework



4 AREA PROFILE

4.1 Introduction to Gilgit-Baltistan

Between high mountain peaks of Hindukush, Himaliyas, Karakoram and Pamir there exist a far-off land, formally known as Northern Areas of Pakistan, now called as Gilgit-Baltistan. In the back-drop of these high mountain ranges, humanity survived on in isolated valley, preserving the ancient human cultural and traditions. The tale of this little isolated region is less famous but this tale is no less fascinating as it narrates to a world of extreme importance to the human history. In the words of E.F. Knight, here it is “Where Three Empires Meet” (Knight, 1893). Here is the existence of several cultures, languages, and civilizations; this is a world, no doubt, less known but full of information for man.

Gilgit-Baltistan lies between high mountains, snow-covered peaks and narrow valleys with heights ranging between 300 feet to 28750 feet above sea level, comprising of an area of about 27,188 square miles, lies between 71° and 75 ° E. longitudes and 32° and 37° N. latitude (Dani, 2001). The region borders with China through Xinjiang province in the north, Chitral in the west, and Kalam, Kohistan and Kaghan Vallies of Khyber-Pakhtunkhwa province in the south. In the east are the occupied territories of Ladakh and Kashmir. Large part of Gilgit-Baltistan is uninhabited because of aridity, height and slope resulting decisive limitations for subsistence (Sökefeld, 2014).

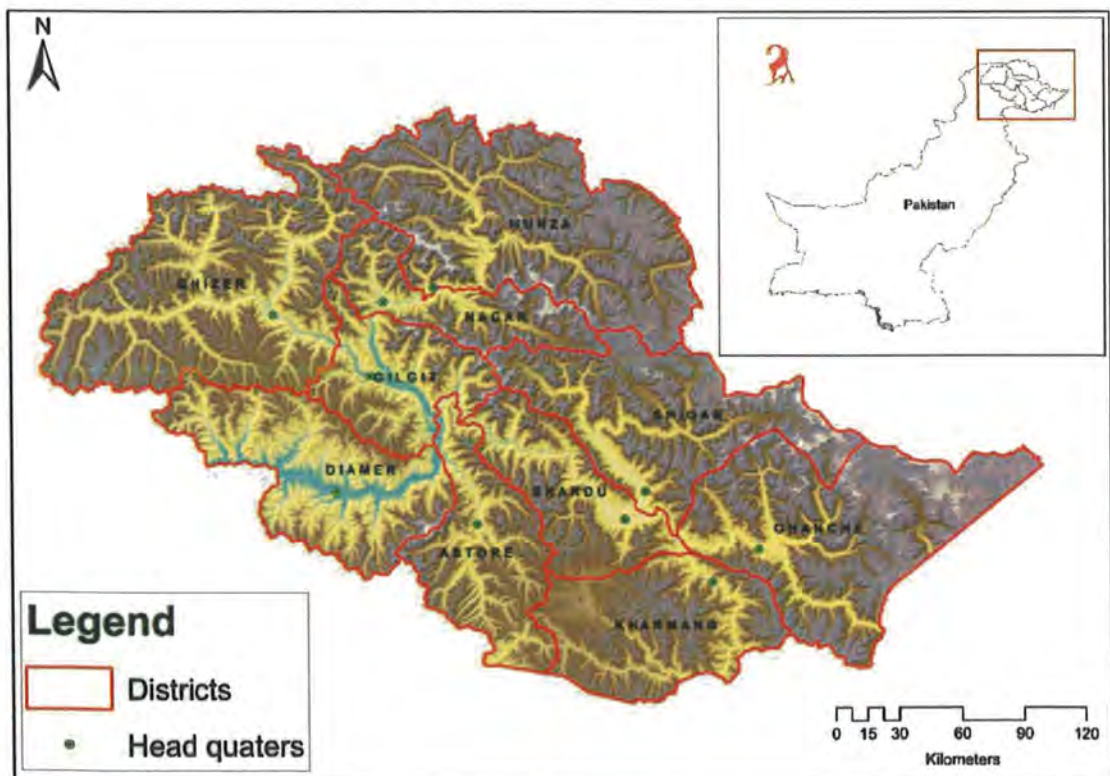
Gilgit-Baltistan is governed under “Empowerment and Local Governance Order 2009” passed by Pakistan’s Legislative Assembly in 2009. Under this order, a provincial assembly heady by Chief Minister and Governor was established. Most of Pakistan’s laws also stand extended to GB including Penal Code, Criminal Procedure Code, Land Revenue Act, Civil Procedure Code and anti-corruption laws and Accountability Courts (IFAD, 2015).

4.2 Population and Administrative Units

According to the census of 1998 (Pakistan), the population of Gilgit-Baltistan was 8,720,000. The census of 2017 recorded a population of 14,920,000 [unofficial results], an increase growth rate of 3.5% per annum. 17.5 % of population is living in urban areas while the remaining 82.5% of the population living in rural areas (UNICEF, 2017).

Gilgit-Baltistan comprise of three divisions; Gilgit, Baltistan and Diamer. There are total ten districts in GB namely, Gilgit, Hunza, Nagar, Ghizer, Astore, Diamer, Skardu, Shigher, Ghanche and Kharmang. Gilgit division comprise of four districts of Gilgit, Ghizer, Hunza and Nagar, Diamer division having two districts namely Astore and district Diamer, while Baltistan division comprise of four districts; Skardu, Shiger, Ghanche and Kharmang. The divisions are headed by Commissioners and districts are administered by Deputy Commissioners.

Figure 2: Map of Gilgit-Baltistan



Source: (Hussain, 2018¹)

Gilgit is the capital of Gilgit-Baltistan and is the highest populated district of the region, while the newly established district of Hunza is the least populated district with approximately fifty thousand souls. Each district is further divided into sub-divisions and tehsils. District wise population distribution of Gilgit-Baltistan is shown in the following table:

Table 1: Population Distribution of Gilgit-Baltistan

S/No	District	Population
1.	Gilgit	330000
2.	Skardu	250000
3.	Diamer	230000
4.	Ghizer	170000
5.	Ghanche	160000
6.	Astore	90000
7.	Shiger	75000
8.	Nagar	70000
9.	Kharmang	55000
10.	Hunza	50000
Total		1492000

Source: Government of GB

4.3 Climate

The climate of Gilgit-Baltistan is cold as compared to other cities of Pakistan. The summers are pleasant while the winters are harsh. In winters, the temperatures fall below freezing point and most of the valleys covers with snow, witnessing very harsh cold temperature. Some valleys in Gilgit division like Nalter, Bagrote, upper parts of Gojal (Hunza), Nagar and Ghizer covered with snow for more than four months. Even some of remote valleys and villages are cut off from the rest of the world due to heavy snow falls. The Gilgit city (the provincial capital of GB) do not witness snowfall, but

¹ This map is prepared on request by Hussain Ali, PhD Scholar, Department of Animal Science, Quaid-i-Azam University Islamabad.

the temperature in the main city also falls below freezing point during the month of December and January. During the winters, life in the upper valley of Gilgit freezes with harsh cold temperature; the mobility of people becomes limited, the schools and other offices closed for two to three months. People use stored and dry foods; dry fruits are used extensively to warmth their blood in the body. According to the local believes, the amount of blood in body becomes low in such low temperature in the high altitude valleys.

The spring in the Gilgit city and adjacent areas start till mid February, and the glory of spring with blossom increase with increase in temperature and touches its peak to the upper valleys till end of March. The spring season is celebrated with joys as the harsh cold weather is now changed and the sun starts to shine. The spring season is dawn of happiness as the snow covered valley start converting to colorful blossoms all around. The cultivation of crops starts with the advent of spring and after many months the snowy valleys converts into green fields of wheat and potatoes.

The glory of spring further flourished with increased in temperature, the valleys gets more green and the crops grows taller and then summers start in the month of June. Weather during summers is low as compared to other parts of the country. The beauty of the valleys gives a different look in summers; the green fields and some high mountains and peaks are still covered with snow and glaciers (higher peaks and mountains are covered with snow and glacier throughout the year). The wheat and potatoes crops are ready for cultivation, fresh vegetables and fruits are now available in almost every household. The fresh vegetables and fruits in summers keeps the inhabitants of these high altitudes valleys healthy and the amount of blood increases in the body. The summer season lasts till end of September.

The month of October and November are the months of autumn. This season has its own beauty; the colors of plants leafs start changing during autumn. The valleys are now showing a painting composed of variety of colors; some yellow, red, pale etc. The crops of maize are harvested, fruits, vegetable and meat is dried and stored for the upcoming winter season. During autumn people are busy to make all necessary arrangements for the upcoming winter season. Unlike spring, winters start earlier in the upper valleys and then descending to the lower plain valleys.

4.4 Languages

The society of Gilgit-Baltistan is diverse in terms of language, religion and ethnicity. Five major regional languages are spoken; Shina, Balti, Khowar, Burushaski and Wakhi. Besides these local languages, we also find speakers of Gujri, Pashtu, Hindko, Punjabi and other languages, who have migrated from other areas of Pakistan into the area. The national language of Pakistan, Urdu, serves as the lingua franca and English plays a growing role as the language of education.

Shina; the Indo Aryan language with different dialects is spoken in widely in different valleys of Gilgit, Ghizer, Astore, Diamer, Hunza, Nagar and some parts of Baltistan region. Brushashki is spoken by the majority of inhabitants of Hunza, Nagar and Yaseen. Balti is spoken in majority parts of Baltistan and Khawar is spoken in some parts of Ghizer district; Gupis, Phander, Ishkomen. Khawar is widely spoken in Gojal; upper parts of Hunza. In Gilgit city one will find speakers of all the above mentioned languages, while Shina is spoken by majority of the population.

4.5 Religion and Sects

Except a small group of mainly Punjabi Christians all people in Gilgit are Muslims. However, they belong to different sects of Islam: Shias, Sunnis, Ismailis, and a small community of Nurbakhshis in Baltistan region. The majority of population in Gilgit-Baltistan follow Shia sect of Islam. Except a small community of Nurbakhshis and few Sunnis, the majority of Baltistan region are followers of Shia faith, the district of Nagar is exclusively Shia population. Majority of the population in district Gilgit and some inhabitants of Astore district are also follower of Shia sect of Islam.

The second highest population in terms of sect are Sunni follower of Islam. The whole population of district Diamer, majority parts of district Astore and some parts of district Gilgit and Ghizer people follow Sunni faith. The majority of population of district Hunza with few Shias and Sunnis belongs to Ismaili faith. The majority of population in district Ghizer are also followers of Ismaili sect of Islam, while the inhabitants of some parts of district Gilgit also follow Ismaili faith.

4.6 Caste and Tribes

People are also divided into patrilineal kinship groups which are often combined into larger qoms (extended kinship groups, “ethnic groups” or “nations”) (Sökefeld, 2014). People in Gilgit-Baltistan are divided into different castes and tribes. The major castes are Doom, Kamins, Syeds, Raja/Mirs and Rono, while the two major tribes of the region are Sheens and Yashkuns. Sheen and Yashkun are the two principle tribes in the region and both of these tribes speaks Shina. and According to Lorimer

“It appears to me not an impossible theory that of the two great sections into which the Shina speaking population is divided, the socially inferior Yashkuns represent the earlier population who probably shared Burushki speaking people, while the Shins were invading and conquering race who imposed on the Yashkuns their language and probably took over from them some of their belief’.

(Lorimer, 1929)

There is a long debate between these two prominent tribes; Sheens and Yashkuns about their origin and superiority. Both of these tribes consider themselves as superior and real inhabitants of the region. Jettmar argues that:

The Shins are often considered superior. Their proper home seems to be the northern part of Yaghestan, namely, the valleys on both sides of the River Indus below Chilas. This area also bears the name of Shindki, "Land of the Shins." The very first explorers proposed to regard the Yeshkuns as descendants of the indigenous population originally speaking Burushaski. They supposed that the Yeshkuns took over the Shina language, when the area was conquered by the Shins, but remained a separate caste. My observations confirm this theory. The toponymy also shows that Burushaski was spoken in the northern part of the Gilgit Agency. Shins as well as Yeshkuns are Europoid, but there are some differences between these groups which indicate in most cases whether a visitor is a Shin or a Yeshkun.

(Jettmar, 1961)

Whatever the case may be these two tribes along with other tribes and castes are presently inhabiting the region. Dhoom and Kamins are the professional drum beaters and are considered lower castes in the region. Syed who are decedents of Holy Prophet and the Rajas and Mirs who ruled the region are considered superior tribes/casts.

4.7 Education

The people of region are more literate and having higher literacy rate as compare to other districts of Pakistan. Both male and female in the research locale are striving to get higher education even within limited sources of income. Government and private schools are situated in every village and valley of the region. Beside government, Aga Khan Education Service is providing educational facilities to the people of Gilgit-Baltistan. Karakoram International University is offering BS and Masters in various subjects and thousands of male and female students enrolled every years.

4.8 Economy

The mountain dwellers of Gilgit-Baltistan are working in different fields of life to fulfil their needs. The major sources of economy are government and private jobs, agriculture and business. The area does not have any large industry so majority of people are doing jobs in various governmental and private sector. The construction of KKH open links of trade to other cities of the country and the neighboring country of China. People of the area are also trading with China through KKH. Gilgit-Baltistan is also famous for the production of fruits and vegetables and many people are engaged with agricultural sector as well.

Gilgit-Baltistan has many tourist destinations which attracts thousands of tourists across the world. The region holds much cultural, archaeological and ecological diversity which makes it popular with visitors. Gilgit-Baltistan used to receive thousands of local and international tourists annually (Hussain, Fisher, & Espiner, 2017). The high inflow of tourist to the region opened many opportunities of earnings for the natives. Many people are engaged with tourism industry; hoteling, transportation, mountaineering and trekking.

Majority of the people in Gilgit prefer to do government jobs, therefore majority of the participants were doing government jobs and were serving in different government

departments. Job opportunities for females are limited, therefore many females who are willing to do job are working as housewives due to limited job opportunities. The literacy rate among the young generation is high and seven participants were students. Some of the respondents were self-employed or doing business, while six respondents were doing jobs in private sectors; banking, NGOs, schools etc.

4.9 Health

The remoteness, harsh climatic conditions along with limited health facilities in the region results in poor health indicators. Children are at more risk in such harsh climatic conditions and limited health facilities. According to Multiple Indicator Cluster Survey (MICS) conducted by UNICEF and government of Gilgit-Baltistan; infant mortality rate is 74 per 1000 live births while under 5 mortality rate is 91.8 per 1000 live births. Furthermore, 44.9% of children (age between 5 and 17 years) are engaged in child labor (UNICEF, 2017).

According to the statistics by health department Gilgit-Baltistan, a total of 499 health centers are available for the whole region. These statistics are of 2015 and no current statistics are available, but however no such major improvement has been done in the health sector in the last three years, except with addition of few health centers in the newly established districts of Nagar, Kharmang and Shiger. Total 17 Basic Health Units (BHUs) are available for the population of approximately 1.5 million (GoGB, 2015). Dr. Amimah Fatima Asif (Lady Doctor serving in GB) described the health facilities in GB as:

“Another grave issue is that the doctor to population ratio in GB is alarmingly disproportionate i.e. 1:4100 whereas the national statistic is 1:1206. This statistical evidence testifies to the stark reality that health care in Gilgit-Baltistan is in an appalling state. Hospital set ups lack standard operating procedure for hospital laundry segregation, collection, and disposal. Additionally, hospital waste management policy is almost nonexistent. Some hospitals also have serious issues of water supply shortage, making patient care, hospital cleanliness and maintaining even basic hygiene extremely difficult.

(Asif A. F., 2017)

The inhabitants of Gilgit-Baltistan are facing many health challenges; both from the harsh environmental condition and limited health facilities. In absence of proper health facilities, majority of the people go to other cities of the country for better treatment which cost much high. In the absence of basic health facilities, safe blood transfusion services are of secondary importance for both the concern authorities as well as for the local people. The hospital based blood banks are providing the services of blood transfusion but the condition and the services by these hospitals based blood banks are not up to the mark. The environment in these blood banks are not hygienic and are not following the modern procedures and practices of safe blood transfusion.

4.9.1 Regional Blood Center

A Regional Blood Center has been constructed and developed with support of German government in Gilgit aiming to fulfil the requirement of blood of the region. This nascent building is equipped with modern technology and is linked with six hospital based blood banks located in different hospitals in Gilgit region; DHQ Hospital Gilgit, DHQ Gakuch, DHQ Chilas, DHQ Astore, Gilgit Medical Center and the hospitals of newly born districts of Hunza and Nagar. This nascent center aiming to serve as a blood procurement and distribution center, purposing to ensure quality system to run relevant activities related to blood transfusion in the region; including mobilization and recruitment of voluntary and regular blood donors, collection, maintaining database, screening, processing, testing, preparation of components, storage and distribution. This Blood Center is among the Regional Blood Centers (RBCs) developed by the German government as part of the first phase of establishing of a nationwide network of 10 modern blood centers and an up-grade of 60 existing hospital based blood banks nationwide. The second phase of the project began this month and will expand in scope and coverage, through continued KfW funding, with the creation of more Regional Centers supporting hospital blood banks².

This Blood Center equipped with the modern technology for blood transfusion aimed to fulfil the blood requirement of the region but so far unable to achieve its target. This center is handover to the government of Gilgit-Baltistan and is functioning under health department GB since 2016. The health department appointed the required staff and were

² <https://www.epos.de/news/current-news/pakistan-new-regional-blood-center-gilgit>

trained by SBTP, but still this center is unable to provide its due services due to various reasons which are discussed in upcoming chapters.

4.9.2 Traditional Healing Systems

The communities of Gilgit-Baltistan had been living in isolation for many centuries. These communities are living in harmony with nature by practicing traditional way of life to cope with the environmental challenges. In absence of modern health facilities, these mountain dwellers have been practicing traditional healing systems and ethno-medicines to cure diseases. The inhabitants of the region, especially the people living in far flung and high altitudes are still practicing traditional and spiritual healing systems.

Shamans locally known as ‘Danyal’ or ‘Bitan’ are still quite famous for spiritual healing among these mountainous communities. A shaman or Danyal is a person who mediates between supernatural deities and humans.

Along with shamanism, many other spiritual healers such as ‘Akhun’, ‘Molvi’, ‘Sheikh’ are also consulted for health cure. These aforementioned spiritual practitioners cure disease with help of Quranic verses. Due to traditional way of life and the limited health facilities in the region, people practiced spiritual healing systems along with ethno-medicines. Many herbals are used as medicines in upper parts of the region.

4.10 Agriculture and Livestock

Since from very beginning, the mountain dwellers of Gilgit-Baltistan were dependent on natural resources for the subsistence. Beside challenging climatic conditions, nature had provided with many opportunities of livelihood. Agriculture, animal husbandry and livestock were used for livelihood since very beginning. People still grow vegetables, crops and fruits for their household utilization. Almost every household possessed their own land for cultivation of crops, vegetables and fruits and domesticate animal and livestock for both subsistence and income generation. A distinct feature of GB is that over 90% of the households own some agricultural land as compared to 52% in rest of the country, while 86.6% of household have farm animals and livestock (IFAD, 2015).

The major agricultural products are wheat, maize, potatoes and other vegetables, while apricot, walnut, grapes, cherries and apples are common fruits widely grown in the region. Although the production of these crop and fruits is low due to traditional ways of agriculture and cultivation practices. According to an estimation 45% for apricot and 10% for potato are lost due to poor post-harvest handling, lack of local processing and value addition and poor access to markets (IFAD, 2015).

4.11 Rites of the Passage

As symbolism can be seen in the ritualistic behavior. Rituals contain symbolic meanings of cultural and religious beliefs which can be expressed by individuals through their social acts. Rituals of any culture and religion express and sustain the corporate identity of social groups. Rituals along with carrying messages of symbolic meanings also regulate and express the relationships in social organization, and symbolize these bonds. Ritual performance symbolizes transitions of status and phase of life, through these rituals new responsibilities used to be handed over to the individuals of the society, and they play new roles acknowledged by the society.

4.11.1 Birth

The inhabitants of Gilgit-Baltistan are living with harmony and cultural traditions and festivals are celebrated with full joy. Relatives, friends, villages and well-wishers participate to be part of both happy and sad moments. The birth of a child, especially that of baby boy, is celebrated according to the local culture and traditions. On the occasion of birth of child (baby boy and particularly first baby boy), relatives, neighbors and well-wishers visit the family to extend their gratitude to the family. The visitors gave gift to the mother of the child; dresses, food and money, while the family entertains the visitors with traditional foods. The visit of people starts from the very first day of the birth till 10th day; although many people also visit after the 10th day but majority of the people prefer to visit within first ten days. On the tenth day, while in some valleys on 7th day, the family of newly born child arranged a traditional meal and invites neighbors and relatives. The mother is also provided with local foods made of desi *ghee* (*mul*) and is cared by other family members.

4.11.2 Marriage

Marriage is one of the important occasion of someone's life, where he/she is getting to start a new relation. Traditionally, marriages are arranged by the elders of the family, but now days love marriages are also common, either in both case parents are involved. Traditionally, parents of groom initiate the marriage; when a son comes to the age of marriage, parents select a girl with consent of their son (in case of love marriage, son indicated his bride), approach the parents of the bride. The parents of bride after discussed in their family, gave a suitable date (indicating yes from their side) to the parents of the groom. The parents along with few other relatives go to the bride's home and give a proper proposal. In presence of relatives from both sides, parents of bride formally accept the proposal. The relatives and parents of groom shake hands of all the relatives present on that occasion as thanksgiving. After that a date is fixed for marriage with consent of both families.

Generally, traditional marriages are celebrated in three days. On the first day, only closed relatives and neighbors gathered and initiate the marriage ceremony with a tradition locally known as "*tao*". *Tao* (*Tawa* in Urdu) is local Shina word used for the iron equipment on which bread (roti) is made; on the very first day, females start making bread (*traditional roti*) on a '*tao*' (*tawa*) (big size tawa, especially prepared for such occasions). All the villagers, relatives, friends and well-wishers are invited (invitations are given few days earlier). The main event starts from the second day, people starts to gathered from the morning, but the event is celebrated at the evening.

The second day is called as "*Dhooban*" or "*Pasho*" meaning turban. In the evening, all guests are served with traditional meal; meat, rice and a local dish made of desi ghee called *sharbat*. A stage is decorated and all male members gather in front of the stage (in some parts of GB, both male and females get together). After the dinner, the groom is dressed with traditional dress; turban (*pasho*) on his head, white shilwar kameez, with a white woolen long coat (*choga*). Groom along with few close relatives (mostly father and maternal uncle) sit on the stage. The event starts with prayers (tilwat) and then all the guests go up to the stage, congratulates the groom and his father and gave gifts (mostly money). After that the groom along with few other relatives (mostly first cousins) visit to the female side and the same is repeated there too. The same tradition is practiced on the bride's side.

On the next and final day, the groom along with many other relatives and friends (now days around hundred people accompanies groom) visit bride's home, where they are served with traditional foods. The bride is also dressed traditionally. Then from the bride, along with bride the same number of people (sometimes few more) go with the bride to the groom's home. They are served with the same traditional food at the groom's place and after having the meal, the people (*baratis*) go back to their homes. The bride along with two or three females (mostly mother's sister and a father's sister and a first female cousin of the bride) stay at the groom's home. They decorate the newly couples room and the next day the accompanied females also go back to their homes. After that relatives and family friends of both groom and bride invites the new couple to their homes one by one and served them with traditional foods. These invitations last for more than a month.

4.11.3 Death

All men are mortal and have to die someday. The departure of any person puts the family, relatives and friends in grief and pain. On the occasion of death, relatives, neighbors, friends and well-wishers gathered to participate in the sorrow of the family. The population of Gilgit-Baltistan are Muslims and the burial of the deceased is done according to the procedure of Islam. The grave yard is dug by the participants (mostly non-relatives) and the death body is buried according to the Islamic rules. A large number of people visit the family for condolence for many days, even the visits last for more than one month. Special prayers are offered for the departed soul.

4.12 Cultural Festival and Tradition

Various cultural festivals are celebrated on various occasions in Gilgit-Baltistan. Some of the major cultural traditions and festivals are described in the upcoming sections.

4.12.1 Novroz

Novroz is a traditional festival celebrated in most valleys of Gilgit-Baltistan especially by Shias and Ismailis. It is celebrated on 21st March every year, and this event is also celebrated in many other countries such as Iran, Afghanistan, Tajikistan, Azerbaijan, and

other central Asian countries. Novroz is the start of spring and is considered as the start of new year. Novroz is celebrated with full joy and happiness and different activities and traditions are practiced on this day.

On the occasion of Novroz festival people of the village gathered in central place which is known as *Biyaak* to celebrate Novroz. *Biyak* is a communal place in the center of any village, usually near the central mosque, *Imambargah* or *Jamat Khana*. This place is designated for communal activities. All the new born children (less than one year of age) are gathered at a *biyak*. The new born babies specially the male children are decorated with new and special dresses. An old man who have more sons carries these babies one by one on his back for few moments and the mother of the child give some cash to this old man. They believed that the old man having more sons have good fortune as he is father of more male children, and by sitting the child on the back of the person (having more male children) will bring another male child to his family. All the mothers participating in this event brings different kinds of dry fruits which is known as "*ushaar*". These dry fruits are then distributed among the participants, and all the people collectively pray for the prosperity of the village and wellbeing of the children (especially male children). This event is celebrated in the morning and the mothers then return to homes for preparation of lunch. Neighbors and relatives are invited on lunch particularly by those families where a male child is born.

After celebrating the ceremony of *dhada*, the youngsters gathered near the main bazar or at the *biyzak* for eggs striking. This is the most interesting tradition for the youngsters and teenagers. Every one having at least one egg in hand, gathers for egg striking. One person hits the egg of another, then the broken egg is given to the other person whose egg is not broken. The striking of egg last till evening, those who have strong eggs will have dozens of broken eggs with him. At the end, the person who broken more eggs with his egg is the winner.

4.12.2 Nasalo

The winters in the mountainous areas of Gilgit-Baltistan are very harsh and the temperature falls below the freezing point. Most of the high valleys witnessed heavy snow falls and access to the nearby city is not accessible and the mobility is limited. In

such conditions, food is mostly stored before winters. Dry fruits and local dishes are exclusively used during winters.

Nasalo is an ancient tradition which is still practiced in the region especially by the inhabitants of higher altitudes. To compete with the harsh climatic conditions, the natives of upper valleys of the region, mostly store food to utilize during winters. On 10th of December every year, every household (majority in upper valleys) slaughter an animal (ox, cow, goat, yak). The meat is then dried in air, stored in a special ventilated room, mostly on the roof top. This dried meat is used during the whole winters; especial local dishes are made to keep the body warm. Local soup (*dawdo*) made up of *nasalo* meat is excessively used during winters. According to the locals, the local dishes made with *nasalo* meat helps them to warm their body and blood.

4.13 Sports and Games

To keep the body healthy and physically fit, the natives of GB use to play variety of games and sports. The widely practiced sports are polo, cricket, volleyball and football. The youngsters mostly play cricket, volleyball and football, especially during winters. These sports help to keep them physically fit and warmth their bodies in low temperature during winters.

Among these sports, polo is of higher importance and is being played since very old. Polo is the local and traditional game, and the people play free style polo. Polo is played on horses, each team consisting of six players. The polo ground is called as "*shawaran*", and polo tournaments are arranged from time to time in different parts of GB. The most excited tournament is held at Shandoor every year; which is known as the highest polo ground in the world. Polo at Shandoor is played between Gilgit and Chitral every year from 7th to 9th July. Both the team practice for this tournament throughout the year. large number of national and international tourist visit Shandoor to witness this tournament. Polo is famously known as "*the king of all games and the game of kings*".

4.14 Natural Resources

Gilgit-Baltistan is rich with natural resources, covering wide range of mountain ranges, glaciers, forests, rangelands and lakes with abundant of wildlife and biodiversity. Out of the total area of 72496 Sq. Km, an area of approximately 33999 Sq. Km (47%) is declared as protected area. 36.4% of the area is covered with mountains including many world highest peaks; K2, Nanga Parbat, Rakaposhi, Mashabroom and many more. A large portion of 24% area is covered with glaciers, the longest glaciers outside of the polar region, home of the world's second highest peak (K2) and four more eight thousanders; Baltora, Siachin, Batora, Hisper glacier etc. 9.4 % of Gilgit-Baltistan is covered with forest, while rangelands comprise of 22% of the total area (Noor, 2015).

Five national parks covering an area of 21605 Sq.Km, 2 Game Sanctuaries 583 Sq. Km, 6 Game Reserves with area of 2001 Sq. Km (Noor, 2015). The Northern parts of Pakistan are famous for having diverse habitat and being rich in faunal diversity. Himalayan ibex (*Capra ibex sibirica*) is one of the ungulates inhabiting these areas. The ibex population in three regions (Gilgit, Diamir and Baltistan) was reported between 9,000 and 10,000 (Raza, et al., 2015).

Gilgit-Baltistan the northern most entity, has been bestowed with plenty of natural resources by Almighty Allah. GB harbors some of highest peaks, largest glacier system (Biafo-Hisper) outside the polar and plenty of wildlife species that are fed by the splendid and lush green pastures, in some cases the sparsely distributed forest patches also provide food and shelter for wild animals e.g., mush deer, while the foot hills of snowcapped mountains also provide food for Himalayan ibex, Markhor and Blue sheep that in turn support Phantom of Asia the “snow leopard”.

4.15 Communication and Other Facilities

Electricity is the need of time for every household, hydro power is the only source of electricity in the region. Almost every household (98%) in GB has access to electricity and all the respondents included in the research had access to electricity in their households. In this age of modernization people are connected to the outsider world through television and mobile communication. According to MICS, 49.3% of the households in GB have at least one television in every household, while all the

respondents of this research had at least one television in their houses. Furthermore, MICS suggests that 92% of the household in the region having at least one mobile phone in the household, while every respondent in the research had at least one mobile phone.

The valleys are connected to the main city through roads; metaled and off-roads. Many upper valleys are connected only via jeep able roads. Local transportation is available from each valley to the capital city of Gilgit.

4.16 Respondent Profile

This section deals with the background information of respondents.

4.16.1 Gender of the Respondents

Male and female are part and parcel of any society and both of the genders play their roles in society. In this research, both male and female members participated, the following table illustrates the distribution of respondents on the basis of gender:

Table 2: Gender of the Respondents

Gender	Frequency	Percentage (%)
Male	20	66.7
Female	10	33.3
Total	30	100.0

Source: Field Data

Out of the total thirty respondents 20 (66.7%) respondents were male, while the remaining 10 (33.3%) of the respondents were females. It was necessary to study the understanding of blood from both male and female perspectives. Thus to have a diverse information, this research included both male and female respondents.

4.16.2 Age of the Respondents

Young people are considered as a source of healthy and low risk donors. The purpose to include respondents of different age group was to study the topic from a diverse age group. The following table shows distribution of respondents with respect to their age group:

Table 3: Age of the Respondents

Age	Frequency	Percentage (%)
16-25	9	30.0
25-35	11	36.7
35-50	9	30.0
Above 50	1	3.3
Total	30	100.0

Source: Field Data

The respondents were belonging to different age groups. Majority of the respondents were aged between

4.16.3 Education of the Respondents

The education level of the respondents is shown in the table below:

Table 4: Education of the Respondents

Education	Frequency	Percentage (%)
Under Matric	2	6.7
Matric	3	10
Intermediate	6	20
Graduate	9	30
Master	7	23.3
Above Master	3	10
Total	30	100

Source: Field Data

Results from the above table illustrates that majority of the respondents (30%) were graduates. 23.2% of the respondents have done Master degrees, 10% were having qualification above masters (MPhil/MS), 20% have done Intermediate (F.A / F.Sc), 10% were matriculates, while only 2 respondents were having qualifications below matric. Majority of the respondents (63.3%) were either graduates or having higher qualifications. This shows that the literacy rate in the region is high.

4.16.4Sect

The distribution of respondent on the basis of sect are shown in the following table:

Table 5: Distribution of Respondents with respect to Sect

Sect	Frequency	Percentage (%)
Shia	10	33.3
Sunni	10	33.3
Ismaili	10	33.3
Total	30	100

Source: Field Data

To study the impact of religious sect on knowledge, attitudes and practices related blood donation, respondents were selected from all the major three sects. All these sects were given equal weightage in this research, therefore an equal number of ten respondents from each sect were selected.

4.16.5 Caste/tribe

The following table shows the distribution of respondents on the basis of tribe and caste:

Table 6: Castes/Tribe of the Respondents

Caste/Tribe	Frequency	Percentage (%)
Syed	1	3.3
Raja/Mirs	5	16.7
Sheen	8	26.7
Yashkun	6	20
Rono	3	10
Brusho	6	20
Other	1	3.3
Total	30	100

Source: Field Data

Majority (26.7%) of the respondents were belonging to Sheen tribe, 20% of the respondents were belonging to Yashkun and Brushu tribes. One female respondent was belonging to Syed caste and 16% of the respondents were from Raja/Mir castes. 3 of the respondents (10%) were from Rono caste while one respondent was not among the mentioned castes or tribes; she was not aware of her caste or tribe.



4.16.6 Language

The following table illustrates the distribution of respondents with respect to language spoken.

Table 7: Language Distribution of Respondents

Language	Frequency	Percentage (%)
Shina	15	50
Brushashki	8	26.7
Balti	1	3.3
Khawar	4	13.3
Wakhi	2	6.7
Total	30	100

Source: Field Data

The results from the above table shows that majority of the respondents were speaking Shina. The research was conducted in Gilgit city where majority of the population speak Shina. Speakers of Brushashki accounts 26.7%, 13.3% of the respondents were speaking Khawar and 6.7% speaks Wakhi, while only one respondent (3.3%) was speaker of Balti.

4.16.7 Average Monthly Income

The study included respondents from different economical classes. For convenient, average monthly income of the respondents were categorized in different ranges. The average monthly income of the respondents is shown in the following table:

Table 8: Average Monthly Income of the Respondents

Average Monthly Income	Frequency	Percentage (%)
Less than 20000	1	3.3
20001-30000	8	26.7
30001-50000	8	26.7
50001-100000	6	20.0
above 100000	7	23.3
Total	30	100.0

Source: Field Data

Results from the above table shows that majority of the respondents were having average monthly household income less than PKR 50000. Among these majority (26.7%) of the respondents were having average monthly household income in between twenty thousand to thirty thousand and thirty thousand to forty thousands. Only one respondents (3.3%) were having average monthly household income less than twenty thousand. While a considerable number of respondents were having income more than one hundred thousand. This shows that people of the region do have enough sources to generate income.

4.16.8 Occupation

Respondents were selected from different occupational groups. The occupations mentioned by the respondents were students, government and private jobs, businesses, housewife while few respondents were unemployed. The following table illustrates occupation of the respondents:

Table 9: Occupation of the Respondents

Occupation	Frequency	Percentage (%)
Unemployed	3	10.0
Student	7	23.3
Govt. Job	7	23.3
Private Job	6	20.0
Business/Self-employed	3	10.0
Housewife	4	13.3
Total	30	100.0

Source: Field Data

The majority (23.3%) of the respondents were either students or were doing government jobs in different government departments. Young people are considered as good and healthy source of blood donors, thus the research included students of young age. Six respondents (20%) were doing private jobs; banks, NGOs, firms, companies etc. While, three of the respondents (10%) were self-employed or either having their own businesses. Three of the respondents were unemployed and dependent on their

families. Four female respondents (13.3%) were housewives and contributing indirectly to the household economy.

4.16.9 Family Structure

Generally, three types of family structures prevail in Gilgit; nuclear, joint and extended family. The family structure of the respondents is illustrated in the following table:

Table 10: Family Structure of the Respondents

Family Structure	Frequency	Percentage (%)
Nuclear	6	20
Joint	23	76.7
Extended	1	3.3
Total	30	100

Source: Field Data

The majority of the respondents (76.7%) were living in joint family system, twenty percent (20%) of the respondents were living in nuclear families. Those living in nuclear family were mostly newly married couples, and were living separated from their families and some couples were having unmarried children with them. While only one respondent was living in extended family structure. Previously, people preferred to live in extended family structure, but the trend is changing and people are shifting towards nuclear families.

4.16.10 Blood Group

The respondents of this research were belonging from different backgrounds. As the research is related to blood donation and it is important to mention blood groups of the respondents. One of the objective of this research is to evaluate the knowledge of respondents related to blood donation. The respondents were asked about their blood groups and the responses are recorded in the following table:

Table 11: Blood Groups of the Respondents

Blood Group	Frequency	Percentage (%)
A-	2	6.7
A+	5	16.7
AB-	2	6.7
AB+	3	10.0
B-	3	10.0
B+	3	10.0
O-	2	6.7
O+	3	10.0
Don't Know	7	23.3
Total	30	100.0

Source: Field Data

It is interesting to know that seven respondents (23.3%) of the respondents were not aware of their blood groups; majority of them were female. Majority (16.7%) of the respondents were having A positive (+) blood group. Overall majority of the respondents were having positive blood groups, out of those, 10% of the respondents were having AB+, B+ and O+ each. Negative blood groups are considered as rare blood groups, two respondents (6.7%) were having A- and three (10%) were having B-. While the blood group O- is considered as the rarest group and only two of the respondents (6.7%) were having O- blood group.

5 KNOWLEDGE, ATTITUDES AND PRACTICES ABOUT BLOOD DONATION

This chapter deals with the meaning, Symbolic interpretation and cultural connotation of blood in the mountainous communities of Gilgit-Baltistan. It also includes different perceptions, knowledge, attitudes, practices and the underlying reasons behind blood donation.

5.1 Cultural Value of Blood

The local word for blood is "*lail*" in Shina and "*multen*" in Brushaski. Blood is considered as a vital body fluid essential for life; rather it is life itself. The presence of blood in body is the symbol of life (if there will be no blood in body, there is no life). One of the respondent described blood as the fuel of life; all body organs functions are based on blood circulation in the body. The amount of blood in the body is related to the strength of a person. The greater the amount of blood in the body, the more strength and energy a person has and vice versa.

Generally, patrilineal relatives are considered as blood relatives, while some considered first cousins from both patrilineal and matrilineal sides as blood relatives. These blood relatives are called "*toom lail*" (own blood) in local Shina language. Blood is valued due to having many extraordinary qualities. The most substantial quality of blood is that its flow within and from the body and is closely linked with life itself (Carsten, 2011).

Blood is embedded in the culture of these mountainous people. Almost every major tradition, festival and activity involves blood. The talks and daily conversation revolve around blood and blood sacrifice. Animals are sacrificed as blood sacrifice on various occasions. From the birth till death every major event, tradition, festival involves blood sacrifice. Animals are sacrificed (as blood sacrifice) as charity (*sadqa*), on various occasions. This blood sacrifice starts with birth of child, especially the first male child, and is done in marriages and on death occasion as well.

When a baby boy is born, an animal is being sacrificed as blood sacrifice. This is mostly done on first day or on the seventh day after the child birth. People believed that this

animal sacrifice is done for the safety and long life of the child. The blood sacrifice of animal prevents the blood loss and life of the child. Blood is viewed as a symbol of life and thus by sacrificing animal blood the blood (life) of the child is safe. The marriages in the region are celebrated with full zeal and zest. The occasion of marriage also involves blood sacrifice of animal. When the bride enters the house of groom, an animal is sacrificed at the door step. The purpose of this blood sacrifice is same as is done during the birth of child. Long liveness and safety of the newly couple is associated with the blood sacrifice of the animal. On various other occasions, animals are sacrificed for the safety of living person but in contrary to that, on the occasion of death, animals are again sacrificed. Here the meaning changes, the purpose of blood sacrifice here is for the peace of the departed soul after death.

The connotations of blood inside the body is different from that of outside of the body. Blood inside the body is considered as the source of strength and sacred whereas, when it comes out of the body it becomes profane and polluted. The blood seced from the body; bleeding, menstruation or during pregnancy becomes polluted. Females during menstruation are polluted and are not allowed to touch holy Quran or to offer prayers, rather she has to abide by religious practices such as fasting as well. After the birth of child, a woman is considered as polluted due to bleeding during delivery and she becomes "*pak*" (clean) after bath. Like human blood, animals blood within the body is considered as clean while when it comes out of the animal body then it becomes profane. The blood of animal from the vein of throat is considered as most polluted and any blood of animal touches human body or dress, then that persons cannot perform religious practices such as *Namaz* and *Roza* unless he/she washes himself/herself it properly.

Cultural festivals and traditions are practiced with full zeal and zest in these mountainous societies and blood plays a vital role in almost every major activity. From religious ceremonies to traditional healing practices, blood sacrifice (animal sacrifice) is done to ensure the safety of the individuals as well as the community. Animals are sacrificed not only on the occasion of *Eid ul Azha*, but is done on various other occasions as well. The animals are not only sacrificed for the safety of humans but is done for the safety of animal and the environment as well. When a person is suffering from illness, an animal is sacrificed and the meat is distributed among the neighbors;

they believed that the blood of the animal will replace the blood (life) of the sick person. If a person had a bad dream, then he/she give charity '*sadqa*' by sacrificing an animal; the family either distributed meat among the neighbors or they prepare food (from the meat of the animal) and invite their neighbors and relatives, after which they pray for the recovery of the sick person. Whenever an individual or a family is facing some difficulty; facing economic problems, debt, or any person is imprisoned, etc. they sacrifice an animal considering that the blood will help to get out of the problem.

Spring is celebrated with full glory, and 23rd of March is considered as the start of spring. *Novroz*; a cultural festival termed as the dawn of spring is celebrated on 23rd of March every year. In many valleys of Gilgit, animals are sacrificed on the eve of *Novroz* at communal level, for the prosperity of the society and for good weather and better quality of the crops. Then a communal meal is prepared from the meat of the sacrificed animal and all members of the villages get together to enjoy the feast and pray for the wellbeing of the community and their property. Similar practices are observed on various other occasions as well; like after start of spring, the villagers collectively clean the water channel which is the main source of irrigation for their village, and on this occasion they also slaughter an animal for the safety of the water channel. The water channel provides water for irrigation for the whole village and during heavy rains, damages to the water channel is caused due to land sliding and thus resulting damaging to land and agricultural crops. By sacrificing an animal at the start of the year, ensuring the safety and pray for less rains. According to the local beliefs, blood is symbol of life and its sacrifice can reduce danger, by giving charity of blood (animal blood) can help to save human blood (life). This not only ends here, people sacrifice animals at the start of construction of new house or building (mosque, imambaragah etc) believing that the blood sacrifice will guard any damage to the building.

Fights and clashes are not very common, but whenever a fight or clash happens between individuals or groups, the intensity of fight is suspected by the blood that has been shed during the fight. The fight and clash in which blood is shed, considers serious. Culturally, the murder of any person is revenged by a murder as people say "blood for blood". The fight and clashes are deal either by Police or by the community elders (Jirga); and the punishment in either case is in accordance with the amount of blood shed and the intensity of the injury.

Shamanism is practiced in these mountainous communities since very beginning. A shaman is a person who mediates between supernatural deities and humans. He/she is traditional health healer and predictor. According to local belief and practices, shamans are inherited; if someone in his/her ancestors was a shaman, then the supernatural deities shifts to his/her offspring even it can be transferred after many generations gap. Initially the shaman behaves differently from others and see some unknown personalities or animals and birds in dreams. Later a master shaman is consulted to train the new shaman. This requires to undergo certain practices and after completing the whole process he/she can become a trained shaman. The final stage to become a shaman is known as “*shati toki*” in local Shia language. On this day, musicians are called to drum a special beat for shamans, hundreds of people gather to witness and participate in the ceremony. The both shamans (trainer and trainee) go into trans after smoking juniper smoke and the people around start chanting and the drummer starts beating the drums. A blue color goat is sacrificed and the new shaman drinks the blood from the throat of the sacrificed goat. After drinking that blood, the deities become happy from the new shaman to complete the required tradition successfully. Thus after taking blood of goat, he/she becomes a trained shaman. And from then onwards, this shaman can cure illness, train new shamans and predicts the future.

5.2 Symbolic Interpretation of Blood

Blood is essential fluid for functioning of body and this vitality is present in ‘blood talk’ which provides us with all manner of important meanings of life. Blood can be new, blue, young, hot, cold, bad, good, curdled or boiling. It can be on one’s hands, tasted, drawn, spat, sweated, smelt or sought after. To talk about blood is to talk about temperament, kinship, ancestry, ethnicity and spirituality, as well as human body functions and physiology (Anthony & Bindon, 1997). Marry Douglas (1970) stated that the body provides a rich source of metaphors, convenient for thinking or talking about the moral and political issues in our surroundings (Turner, 2003).

In these mountainous communities, blood is of higher significance, it is considered as a vital force for life, it is life itself (*lail zindagi han*). It is the source of strength and life; the quantity of blood determines the strength and health of the person. A respondent described blood as an important fluid for life; “its presence is life, and the absence is

death". The more blood in the body, the person has more strength, while those having less blood in body are considered as weak. A healthy person is considered to have more blood and physically weak person have less blood in the body.

Symbolically some characteristics and colors are attached with the blood such as good blood "*mishto lail*", bad blood "*khacho lail*", black blood "*kino lail*", red blood "*lolue lail*", fresh or young blood "*taza lail*" and our blood "*aisay lail*". A young and healthy person have good blood "*mishto lail*" in the body while, the blood of physically weak or bad character person is considered as bad blood "*khacho lail*". A person who is socially not good or having bad character or is doing bad deeds is having bad blood in the body. Any person from a lower caste or tribe and having bad social character (involves in crimes, evils) is said to be having polluted blood (*ganda lail*) in his/her body. A person having good morals and values and belonging to an upper caste is supposed to have good blood in the body. The anger is also associated with blood; a person who becomes angry quickly is considered to have hot blood "*garm lail*".

Various socially important symbolic meanings are associated with blood. The most common quoted is symbolism of kinship with blood. Members of same tribe, caste and *biradari* are said to have one blood (*aik Khoon*), and any relative from patrilineal side is considered as one blood. While some respondents consider first cousins from both matrilineal and patrilineal side as one blood (*aik khoon*) or own blood (*apna khoon*).

Blood talks are common among the people. Blood and blood talks are part of daily conversation of the inhabitants. Blood is viewed as the strength of the body and it is linked with the diet of a person. When a person is taking healthy and local food, he is considered healthy and having more blood in the body. When asked the people's opinion about healthy diet; majority of the respondents counted local foods such as fish, meat, vegetables, fruits, desi ghee as healthy foods which can increase blood in the body. If someone is not taking enough diet, mothers mostly say; 'eat enough ad healthy food so that blood will run in your body'. This means healthy diet is necessary to have sufficient blood in the body. Many other examples of blood talks were observed during the research. Like if someone is defending his/her paternal in front of his/her maternal, then he/she is said to be "*lail se rang pasharey*" (blood will show the color). The relatives from paternal side are given more importance and are considered as their own blood. When a person gets angry on another person and the conversation involves blood

talks such as “*thai lail peyam*” (I will take your blood), this shows the peak of the anger. Many myths are also linked with blood and blood donation. Some people are of the view that blood donation can cause weakness, weak eyesight and white hair. While weight gain is also linked with blood donation by some people.

5.3 Knowledge, Attitudes and Practices

5.3.1 Knowledge

It is important to have certain information and knowledge about blood prior to blood donation. The knowledge and information related to blood was analyzed by asking different questions related to the prerequisite of blood donation. The respondents were asked about their blood group, minimum weight and age required, the safe procedures involved in transfusion of blood, the time and duration of blood donation, blood components, advantages and disadvantages of blood donation.

It is evident from the field that majority of the people in the region do not have necessary information and knowledge about blood and its transfusion. Although most of the respondents were aware of their blood groups but only few of them were having other information related to blood transfusion. The time interval for blood donation is three months but majority of the respondents were not aware of this fact, instead some were saying it to be six months, one year and so on. The people were also not aware of weight, and safe procedures involved in blood transfusion. less educated people and female were having little knowledge and information as compared to educated and male members.

5.3.2 Attitudes

Attitudes of the respondents were tested by asking questions about the possibility of voluntary donation. The attitudes of people were positive as they were ready to donate blood voluntarily irrespective of caste, class, sect and religion. Although it is observed and few of the respondents were reluctant to donate blood to patients of other sects. The main reason behind such behavior was the ongoing sectarian clashes between Shias and Sunnis in the region from the last two to three decades. Among the few respondents who were not willing to donate blood to other sects, one of the respondent told “If I will

donate to save life of any person of the opposite sect, in return they will kill people of my sect, so I prefer not to donate blood to opposite sect, although I will (if needed) donate blood to any patient from Ismaili sect; as we don't have any clash with them." While on the other hand majority of the people showed willingness to donate blood voluntarily irrespective of sect, cast, class or region. They were of the view that "we are donating blood to save life of any person and to save life of any person is to save the whole humanity". Our religion and culture taught us to help others in time of need (irrespective of religion).

5.3.3 Practices

Practices are not always same as attitudes. In this research the respondents showed positive attitudes towards blood donation; majority of them were willing to donate blood irrespective of race, class, caste and sect but their practices were not validating their attitudes. When the respondents were asked whether they had donated blood to a patient of other sect, with some exception, majority did not have any record of donating blood to patient of other sects. On the contrary, people who donated blood to patient of other sects and were happy of their donations. One of the respondents who donated blood to patients of other sects stated "I donated blood to save someone's life and there is no need to investigate his/her sect, caste or class. I donated for the sake of my own satisfaction and to serve humanity". While those who never donated blood to other sects and castes were of the view that "we did not find any opportunity to donate blood to people belonging to other sects, castes and class", "Nobody from other sect approached us for blood donation".

A respondent of about 32 years, belonging to Shia sect and working in a private bank donated blood many times to Sunni patients. He was having a large social circle from different castes, sects, class and professions. He explained his view as "I have a large social circle and friendship ties with people from different spheres. When someone or his family need blood, they approach me; if my blood group (AB+) is same and depending on my availability I do donate blood. Otherwise, I convince my friends and relative who are available to approach hospital and donate blood. I have donated blood to many Sunni patients and now having good relations with them. I have four Sunni *uneelay* (relation through blood donation), and they are like my own brothers and sisters."

Another respondent aged 30, belonging to Sunni sect, working in an NGO donated blood to many Shia patients. He is living near DHQ hospital Gilgit. He expressed his view and experience as:

"I am living near DHQ hospital gilgit, after my office, I used to sit with friends in one of the hotels outside hospital. Many times, relatives of patients, especially belonging to far flung areas, who do not have any relatives and friends in the city ask for blood. I and my friends donate blood frequently to such patients who don't have any relatives and friends in the city. Majority of the patients in DHQ hospital comes from Shia background and I specially donate blood to poor and needy people who do not have any friends and relatives in the city. It is our responsibility to help those who are in need of help. Blood donation is also a kind of charity and thus I am doing this noble cause to serve the humanity and contributing my share by donating blood. Islam teaches us to help others especially the poor and needy and thus I am helping by donating blood. I have donated blood more to patients belonging to Shia sect than my own sect. Religion and sect is nothing to do with blood donation, rather religious believes are personal matters. Blood donation makes bonds between people and through blood donation we can reduce the hatred among the people of Shia and Sunni."

Majority of the blood in hospitals and blood banks in Gilgit comes from replacement blood donation while, hardly one or two percent people donate blood voluntarily. The blood donated by family, relatives and friends is replacement donation. Summarizing the knowledge, attitude and practices related to voluntary blood donation as 'people of the region are having limited knowledge with good attitudes and low practices' towards voluntary blood donations.

5.4 Reasons Behind Knowledge, Attitudes and Practices

Based on the information provided by the respondents it is revealed that people of the region were having limited information and knowledge about blood and transfusion. Education and the media plays vital role in propagating knowledge and information. People get educated from educational institutes and it is the major source of knowledge but no any relevant material is included either in school or college text books. In the age of modernization, media also plays vital role in mass awareness, but no such

information related to blood transfusion is provided by the media. Every household included in the research were having televisions; national and local channels telecast different programs on daily basis but no single respondents witnessed any program related to blood transfusion. The main reason behind lack of knowledge of blood and its transfusion is exclusion of blood education from the curriculum and mass media.

While interviewing respondents and key informants it was revealed that people did not attend any seminar, lecture or any program related to blood transfusion. Those who had knowledge about blood transfusion gained it from different seminars and lectures organized by their respective universities and by different organization during their studies in different cities of the country (not in Gilgit). None of the respondents attended any program in Gilgit neither they were aware of any relevant activities in the city. Every household included in the research were having access to television but none of them or their family member watched any program related to blood transfusion on media (local and national).

Health department GB and Regional Blood Center are the key concerns related to blood transfusion. One of the responsibilities of these key stakeholders is to raise awareness related to blood transfusion, especially voluntary blood donation among the masses. One of the key person attached related to blood transfusion services stated “our department is responsible for the whole process of blood transfusion including blood collection, processing, arrangement of blood camps and raising awareness. We do not have enough resource (human resource) to arrange seminars, lectures and blood camps, we hardly are able to arrange three to four blood camps in the whole year. We have limited number of staff and no specific staff is hired for blood camps, awareness and motivation.” This implies that the lack of blood education and awareness results in lack of knowledge of knowledge among the people.

The people of the region showed willingness to donate blood voluntary irrespective of race, color, caste, class and sect. People are less differentiated in term of economical class rather they are differentiated by caste and sect. Since last half decade people of the region are living with peace and harmony after having sectarian clashes and hatred for many decades. People are linked and having social relations in one way or the other as the population is not much dense. After the break of sectarian clashes, the people of the region started living together with peace and the level of interaction increased. This

results to build peaceful environment in the region and thus increased soft corner for one another.

The main reason behind positive attitude towards voluntary blood donation is the peaceful environment and harmony among the people. As one of the respondent stated “We have lost hundreds of humans in the name of sectarianism and the sectarian clashes have negatively impacted our education, economy, politics and peace of the region. Now the people are aware of that huge loss after hug cost of those clashes. Alhumdulillah, now we are living with peace and harmony. During the sectarian clashes, people were happy after getting news of shooting down any person of the other sect, in short people were happy on human loss of other sects. But now the scenario has been changed, people not only become sad on demise of any person but also help to save lives irrespective of sect. People donate blood to save lives, and this is our culture and this is our religion”.

5.4.1 History of Surgery

Blood and its connotations are not new in these communities but the practice of voluntary blood donation is quite new. Digging out the historical evidences to expose the concept of surgery (for which blood is donated/used), the research revealed that the concept of surgery in the region is not that old. Since very ancient times the people of the region relied on ethno medicines and various traditional healing systems for curing any diseases. Although blood is highly significant in these societies and the concept of blood sacrifice (animal sacrifice) is very old. This region was isolated from the rest of the world for many centuries till the construction of old Silk route; which was used for trade purpose. Later on the construction of world highest paved road Karakoram Highway (KKH) opened the links to various cities of the country and China. This road enabled the region to interact with the outer world and exposed to modern world. With the advent of modernization and access to other major cities of the country, this isolated region started transforming from traditional health care to modern health care systems.

Initially, the health facilities were limited in the region, minor cases were deal in the Gilgit, while for major health problems, people had to travel to different cities of the country, especially to the twin cities of Islamabad and Rawalpindi. With the passage of time, the health facilities improved, and the concept of surgery emerged in the region

probably during 80s. Blood transfusion is required for majority of surgery and thus the blood transfusions also started practiced with surgery. The concept of blood donation was new for the people of the region, thus initially people were reluctant to donate blood as it was not culturally practiced in the area. But with the passage of time, with the increasing requirement of blood for transfusion, people were used to donate blood for their relatives and friends but still the practice of voluntary blood donation is very low.

One of the factor behind low voluntary blood donation is that blood donation and transfusion was not part of the culture of these mountainous communities. Anthropologist believed that the introduction of new practices in any culture face resistance and the such new practices takes more time to amalgamate in a culture. Blood transfusion was not practiced in the culture and is a new phenomenon, while the voluntary non-remunerated blood donation is a recent trend and is not yet widely practiced in the region.

5.4.2 Voluntary Non-Remunerated Blood Donation

World Health Organization recommends the recruitment of anonymous unpaid voluntary blood donors for the safe transfusion of blood. The practice of voluntary non-remunerated blood donation in Gilgit is negligible. According to the data gathered from different hospitals and blood banks in Gilgit, only two to three percent of the blood comes from voluntary unpaid blood donation, while replacement blood donation is widely practiced in the region. While on the other hand, paid blood donation is discouraged in the region and no such case has been reported so far.

The underlying reasons behind the widely practice of replacement blood donation is the closely knitted society. No any case of death is reported which is caused due to non-availability of blood. People of the region have widely social and family ties and can easily arrange blood in case of need. Although few people who have less social network do face difficulties in arranging blood for their patients but however, they also arrange blood either through replacement or voluntary blood donations (rarely).

The concept of voluntary blood donation in the research locale is quite different from the rest of the world. In different part of the world and even the recent trend in developed cities of the country people donate blood voluntary in blood banks, camps

or hospitals. But in Gilgit, the practice of blood donation (although in small scale) is different; when a patient needs blood, the first priority is to contact their relatives and friends and thus arranging blood through replacement blood donation. In case of non-availability of replacement blood, people who need blood do appeal for blood donation outside the hospital, especially from the shopkeepers and people sitting in the hotels near hospitals. Then they easily find a donor (unknown) from the surrounding of the hospitals. This is one type of voluntary blood donation practice in the area, but such practice is very limited; only people from remote areas who have no relatives and less social network in the city appeal for blood donation.

5.5 Religion and Blood Donation

The community behavior towards voluntary blood donation varies with the religious sect. The three major Muslim sects in Gilgit are Shia, Sunni and Ismaili. According to the officials of Regional Blood Center and observation by the researcher, the Shia population in the region are donating blood voluntary more than other two sects. The voluntary blood donation among Shia population is mostly occasion based; in the holy month of Muharram, more blood is donated by Shia community. Blood camps are arranged by different organizations and by Regional Blood Center Gilgit in the month of Muharram. According to the records of RBC, hundred bags of bloods were collected from 1st to 9th Muharram and more than one hundred bags (250 milliliters) of blood was collected on the 10th (*Aushura*) of Muharram. People donate blood in the memory of great sacrifice by Hazrat Hussain (A.S) in the battle of Karballa. These people are also influenced by the blood donation of Shia clerics in Iran and Iraq in the month of Muharram. These collections were the highest blood donations ever in the history of Gilgit.

The Ismaili community is considered an organized and educated community in the region. The concept and practice of voluntarism is different among Ismaili's. They have a team of organized young volunteers (Ismaili Boy scouts) who extend their services on various religious and social events. These volunteers are headed by an experienced and educated member of the community. The practice of voluntary blood donation among Ismailia's is different. The head of the volunteers keeps record of each and every individual volunteer, the blood group and contact information is part of that record.

Whenever any member of the community is in need of any type of blood group, people contact the focal person of the volunteers and he further contacts the relevant volunteer having same blood group and ask him to donate blood. This voluntary blood donation is mostly limited to community level, but during emergency or disasters, these volunteers provide their services as well as blood for the victims.

The practice of voluntary blood donation among Sunni followers is less as compared to the other two sects. The people of the region showed willingness to donate blood voluntarily. The people belonging to Sunni sect donate blood on need base mostly in form of replacement blood donation. Majority of the blood comes from replacement blood donation in the region. The practice of voluntary blood donation is very low, while paid blood donation is zero; as so far no any case of paid donation is reported.

5.5.1 Sectarian Segregation and Blood Donation

Gilgit-Baltistan is inhabited by people belonging to Shia, Sunni, Ismaili and Noor-Bakhsi sects of Islam. The region had witnessed a long interval of sectarian clashes and hatred among Shia and Sunni Sect. Currently, since half a decade, the people of the region are living with peace and harmony but the impact of those sectarian clashes had impacted various spheres of life. The settlements in Gilgit-Baltistan is widely based on sects, even some districts are inhabited by exclusive by one sect and another by different sect (the details are discussed in the previous chapter). The capital city Gilgit is the central hub which connects other divisions and districts of the region. The major health facilities are based in this city. Unlike other cities of the country (where people from different sects live together in single muhalla), the human settlement in the city is widely based on sects. People belonging to same sect live together in one muhalla, while people of other sect are living in another.

The purpose of the description of human settlement in Gilgit-Baltistan generally and in Gilgit city particularly is to draw a background of sectarian segregation and its impact on blood donation. Majority of the health facilities are based in Gilgit city, the two major government hospitals (DHQ and City Hospital) along with Combined Military Hospital (CMH) and Aga Khan Health Center Gilgit are dealing with hundreds of patients and tens of transfusions are done on daily basis. The District Headquarter Hospital (DHQ) is surrounded by Shia population and the City hospital is surrounded

by Sunni population. People from other districts and valleys belonging to Shia sect prefer to visit DHQ hospital to avail health facilities, while people from Sunni background visit City Hospital. CHM and Aga Khan Health Center are accessed by people of all sects, but majority of visitors to Aga Khan Health Center belongs to Ismaili sect, while majority of the visitors to CMH belongs to army backgrounds.

It is a common notion that people living together are having more relations and interactions than with unknowns. The segregated human settlement on the basis of sect results more chances of interaction among people belonging to same sect as compared to people from different sects. Whenever, blood is required for a patient, people call for help in their surrounding; relatives and friends. The segregated human settlement based on sect is one of the reasons that people donate blood more to the patient belonging to same sect.

5.6 Gender and Blood Donation

Women play a vital role in development of any region. The mountainous communities of Gilgit-Baltistan are patriarchal and majority of the decisions are made by male member. However, females play their due role in many decision makings at household level. The educational level of female is high as compare to other regions of the country. Woman in these mountainous communities are considered physically weak and having less blood in the body. Physical weakness, blood loss during menstruation and pregnancy are considered as the major reasons behind low blood in female's body.

The modern standards of blood transfusion and WHO recommendation are same for both male and female with some exceptions. Woman can donate blood if she fulfills the minimum requirement sets for blood donation by blood transfusion services. In Gilgit, the blood donation by female segment of the society is very low (almost zero). Female do not donate blood in the region with only few exceptions. The depiction of woman as weak and having low blood in the body is one of the main reason behind very low participation of woman in blood donation. The research also revealed that females are having less knowledge, attitudes and practices as compare to males.

As, majority of the blood in the region comes from replacement (family and friends) blood donation. As a patriarchal society, the female role is limited and is not allowed

to donate blood (if willing), the consideration of female as weak and having low blood along with less knowledge among females are some major reasons behind low blood donation by females. Only one of the female participant in the research had donated blood, while the remaining all other female participant have not ever donated blood neither they have any plans to donate in future. One of the female stated: *“our males are here to donate blood (when required for family and relatives), so we do not need to donate”*. While another female argument as *“We (females) are already weak and having less blood, so we avoid to donate blood”*. Another one responded as *“in case of any emergency and if none of male members and relatives are present then I will donate blood to save my family member (patient)”*. One of the female (housewife) stated as *“no any female donated blood so far, so I think it is not allowed to donate blood”*. While, another female (educated, student) was of the view that *“our culture does not allow us to donate blood”*. The responses by the females suggests that females are having low blood and the blood donation is considered as a taboo in the culture. Similar attitudes and practices were recorded among the women in Turkey (Dilshad, Tanriover, Hidiroglu, Gurbuz, & Karavus, 2014).

5.6.1 The Only Female Blood Donor: A Case Study

There is a female who had some different thoughts and donated blood once a one year ago. She is 23 years old and doing graduation from a private university in the capital city of Islamabad and was in Gilgit to spend her vacations. She was living with her parents belonging to middle upper class educated family. She described her story as:

“During my college day, when I was student of 2nd year, an awareness session about blood donation proceeding a blood camp was organized by an organization. During the session, the speakers gave a lecture on the importance and advantages of blood donation. I along with few fellows donated blood voluntarily in the camp. Initially, they asked some questions about my health and then, blood was tested and found as AB+, weighted (found fit), checked blood pressure and asked me to lay on a stretcher. A needle was injected in a vein of my arm, the blood started passing out from the vein to an empty bag attached with the needle through a small pipe. I took around fifteen to twenty minutes to fill the bad with my blood. After taking blood, they offered me a packet of juice and asked me to lay for five minutes. I was happy of my donation as it helps to save life of patients and we should donate blood to serve the humanity. I came

back to home and told the story of blood donation to my family. Initially, my mother said “you are already weak so you should not had donated blood” but after a while she encouraged me. My father always encouraged me to do social work and encouraged me for this act of kindness. The main encouragement which I got from my family especially from my elder sister (now she is married and settled in Karachi); she also donated blood during her university life. My elder sister donated blood many times and my father always encouraged her; the encouragement of my father and sister was the main reason which helped me to donate blood. When I was donating blood, I thought for a while about the response from my family and then I remembered the donation by my elder sister and the encouragement which she got from my father, so then I decided to donate blood. Although, the females are weak as compare to males, but if any female fulfils the requirement of blood donation and is not suffering from any illness then she should donate blood. I am planning to donate blood in future as well.”

It is a common notion in the society that female is naturally weak and should avoid blood donation (blood loss). But, this case study depicts a different picture of woman which is different from the non-donor females. Non only the females, but the male members also consider woman as weak and less blood in their body. The story of the above mentioned only female donors negates the common notion of the society. Blood donation requires a healthy person irrespective of gender. Further, the only female donor expressed her views as “*female can donate blood if she is healthy and fulfils the criteria set for blood donation. Our patriarchal society discouraged females to donate blood; the people do not have knowledge about blood donation/transfusion so they are not in favor of blood donations by females. Awareness is much need to enhance blood education in the society*”.

5.7 Relations Through Blood Donation

Replacement blood donation is widely practiced in the region. The people are living with harmony and have close ties with one another. The nature of the inhabitants is always supportive to one another especially in the time of need and the same is practiced for blood donation. Whenever, a person or a family is in need of blood for their patient, they can easily find a donor from their relatives and friends. No any case of death has been reported so far which is caused due to non-availability of blood. This replacement

blood not only fulfils the blood need of the patients but also helps to make a new relation.

Culturally, the blood donor becomes brother or sister to the blood acceptor. In this way a new relation is made and this relation is called "*uneelay*" (symbolic relationship). The blood donor by donating blood (which is symbolically considered as life) is now of higher moral status than the receiver. The blood donor has to be honored accordingly. This symbolic relation requires many obligations from both sides to maintain the relation. The newly relation is treated as a real relation; if the donor and acceptor are of opposite sex, after blood transfusion between these two persons they become brother and sister and cannot marry. The social obligations for receiver are higher as the donor saved his/her life by donating blood.

To maintain the newly born relation, the blood receiver has to invite the donor to his/her home on various occasions. While on the other hand, the donor while accepting the invitation, has to gift something to the receiver and vice versa. It is tradition in these communities that when a person visits another home (relatives or friends), the visitor has to give some gift such as cloths, fruits or any other culturally suited gift. When a new relation is made either by marriages, or through blood donation, the exchange of gift and visit to one another home is quite frequent which tends to strengthen the newly established relationship. In case of blood donation, the receiver invites the blood giver from time to time and entertains him with healthy food. The blood receiver not only invites the blood donor for meals but also extends his/her support from time to time especially in the time of need. The donor by donating blood saved the life of the receiver and now to reciprocate the blood receiver has to help the donor too. In this way the gifts, services and support are reciprocated from time to time in order to maintain the relationship.

During the field work in Gilgit, one of my first cousins was operated during her delivery. We are already like brother and sister but after donating blood the relation became more strong. As a participant observer, I experienced and observed a stronger tie between me and my cousin whom I donated blood. Before, blood donation, I visited her occasionally and we were connected telephonically rarely but after the blood donation the scenario has changed. Now she invites frequently on various occasions and talks more frequently to inquire about me. Not only her, my family members and relatives also expect more;

such as I have to visit her whenever I visit to Gilgit. As a participant observer, I observed the importance of blood donation in the culture.

The concept of blood donation is not an indigenous practice rather it is practiced since last four decades. The roots of blood donation and the symbolic relation after blood donation are linked with the exchange of breast feeding practice which is being practiced since long time. It is an old tradition to breast feed a child of any other parents (orphan, or the mother is sick, or not have enough milk to feed her child) and thus the child becomes son to that woman. People in some parts of the region are still practicing traditional health care systems. If any person having pain in eye or ear, the patient goes to a woman who is breast feeding her child. The woman puts some drops of her breast milk into the eye or ear of the patient and after repeating the same for a day or two the illness is cured. The woman is not allowed to show her breast to a stranger, especially to a male but when it comes to help others, she is allowed to practice to cure someone's illness. Now the woman becomes symbolical mother of the patient (irrespective of age and gender). Blood and milk are considered as sacred and both are vital body fluids. The donation of blood and milk are treated as same way, considering both as vital body fluids.

5.7.1 Case Study

A male respondent age 32, a taxi driver in Gilgit city and had social relations with different people. He has donated blood three time to different people on replacement basis. Now he has good and friendly relations with all the patients whom he donated blood. He donated blood to two females and one male patient.

I am a taxi driver and met new people on daily basis. I have a good social circle in the city, which help me to spend good social life as well as increase customers. Everyone in the society is dependent on one another in one way or the other, and same goes with the blood donation. If I donate blood to save someone's life, someone will help me when I will be in need of blood. Blood donation is a virtue and God help those, who help others. So far I have donated blood to three different people; two females and one male patient.

For the first time I donated blood almost three years ago to a relative of my friend. She was in need of blood during a surgery, and my friend called me to

donate blood. I went to hospital and donated blood, and I was feeling happy to help the patient. After few days, her husband contacted me and invite me to his home. They arranged a good meal for me and introduced to his family. All their family members called me "*uneelu*" (*muh bola bahi*), from there onward we have family terms and she is now like my blood sister. My blood is in her vein and we are now like brothers and sisters. I also invited them to my home, and after that we paid many visits to one another homes. I visit their home frequently, especially on eid days and on my each visit I gave them gifts too and vice versa. Whenever they need to travel somewhere, they call me and sometimes she (sister) travel alone with me; we have trust on each other as we are like brother and sisters. They always expect me to visit their home frequently, and whenever I did not visit them for long time, my sister or her husband call me and ask me to visit them. We are now enjoying family ties and respect each other as family members. We invite one another on various events; eids, marriages etc.

Second time I donated blood almost one and half year ago to one of my female relative. She was in need of blood during her delivery. We were already relatives, but the blood donation strengthened our relation. After blood donation, her mother in law send eggs, desi ghee and fruits every day for a month and invite me to their home frequently. Now I am part of their family, and even they consult me to discuss their family matters. She is also searching for a bride for me; as I don't have any real sister, so she is like a real sister for me. In our culture, sisters choose bride for their brothers, so she is looking it for me. I know she will choose a perfect bride for me and I will accept her choice.

Lastly, I donate blood to my friend's father almost six months ago. They belong to different sect; I donated blood as blood donation is nothing to do with sect or caste. Now he treated me like his own son, even his whole family treats me like a family member. He (father) also invites me frequently to his home, and whenever he meets me in the city, he invites me for lunch or tea. I am happy for my blood donations, as it helped me to build new relations.

6 ROLE OF INSTITUTIONS IN PROMOTING VOLUNTARY BLOOD DONATION

In this section, the available health facilities in the region and the gap between supply and demand of blood are discussed. Further, the factors and role of different actors and institutions responsible to fulfil the gap has been identified and their role and responsibilities has been described in detail. The importance of voluntary non remunerated blood donation along with the associated barriers and challenges faced by the stakeholders are also discussed in this section. Furthermore, an analysis of the current policies and procedures relevant to blood transfusion and the gaps in the policies are identified.

6.1 Gap Between Blood Supply and Demand

According to World Health Organization, the donation by only one percent of the population is enough to fulfil the blood requirement of the region. The major health facilities are located in Gilgit city where major surgeries are done and these surgeries requires blood transfusion. In Gilgit city, major surgeries are done in two government hospitals; District Headquarter Hospital (DHQ) and City hospital, while Aga Khan Health Center is run under Aga Khan Health Services. Tens of operations are done in these hospital on daily bases and these surgeries requires blood transfusion on daily basis.

According to data collected from the above mentioned three main hospitals in Gilgit, an approximately more than ten thousand blood units are required annually. The District Headquarter Hospital (DHQ) being the largest hospital in the region requires more than five thousand units of blood annually while the remaining two hospitals; City Hospital and Aga Health Center Gilgit collectively requires more than five thousand units of blood every year. Different surgeries are done on daily basis in all of these three hospitals.

Data from hospital based blood banks associated with all these three main hospitals and the Regional Blood center shows that almost ninety-eight percent of the blood is arranged by the relatives and friends of the patients through replacement blood donation. only two to three percent of the blood is donated voluntarily while no paid

blood donations are reported in the region. The voluntary blood donation is mostly need and occasion based; mostly voluntary blood donation is collected in the month of Muharram and some people donate voluntarily on need basis.

The roads in the area are paved across the mountains and hilly areas, and road accidents are common. The major hospitals in Gilgit deals with road accidents cases on daily basis, which requires blood on urgent bases. Blood is required in surgeries in pregnancies and other diseases, while on the other hand, the number of thalassemia patients in the region is quite high (no exact records).

6.2 Voluntary Non-Remunerated Blood Donation

The United Nations (UN) under Sustainable Development Goals (SDGs) with recommendations by World Health Organization (WHO) aimed to achieved 100% voluntary non-remunerated blood donation globally by 2010. The situation of voluntary un-paid voluntary blood donation in the region is far away from the target set by WHO and United Nations under Sustainable Development Goals (SDGs). Only 2-3% percent of the blood in the region comes from voluntary un-paid blood donation while the remaining, 97 to 98% is donated through replacement blood donation. This figure is low even as compared to other cities of the country.

The recruitment of young voluntary non-remunerated blood donors is source of safe and healthy blood. The World Health Organization (WHO) and other modern blood transfusion services discourages the practice of replacement blood donation but the transfusion services in Gilgit are almost exclusively based on replacement blood donation. The National Blood Donor Policy statement emphasis on the recruitment of voluntary blood donors, as it states:

“To enhance blood safety and to meet the nation’s demand of blood and blood products, all public and private blood transfusion services will motivate, enroll and retain Voluntary Non-Remunerated Blood Donors from low risk population groups. First time donors (including replacement donors) will be encouraged to become regular voluntary donors. Professional and paid blood donation will be discouraged.”

(SBTP, 2011)

Although there is no any organized recruitment drive for voluntary blood donors, but some people donate blood voluntary on different occasion according to the need. In case of emergencies such as accidents, people donate blood voluntarily. One of the respondent claimed that his father was injured in a blast few years ago and 21 bags of blood was required on urgent basis. People in the hospital and surrounding areas, along with their relatives and friends donated blood voluntarily. When the respondents were asked about donation of blood, the responses are illustrated in the table below:

Table 12: Blood Donation by the Respondents

Response	Frequency	Percentage (%)
Yes	17	57
No	13	43
Total	30	100

Source: Field Data

The results show that majority (57%) of the respondents had donated blood at least once in his/her life. While the remaining respondents (43%) did not donate blood ever. Among these, majority were females; only one female respondents had donated blood while the remaining nine female respondents included in the research have not donated blood so far. The nature of blood donation by the seventeen respondents who donated blood are shown in the following table:

Table 13: Nature of Blood Donation

Nature of Blood Donation	Frequency	Percentage (%)
Voluntary	2	12
Replacement	11	65
Paid	0	0
Voluntary and Replacement	4	23
Total	17	100

Source: Field Data

It is evident from the literature and the official records of blood banks in Gilgit, that voluntary blood donation is very low and this is also endorsed by the results of this

research. Only 2 respondents (12%) donated blood voluntary, while 4 respondents (23%) donated blood on voluntary as well as replacement blood donation. Among these only one voluntary donor was female, while the remaining donors were males. Majority of the respondents (65%) donated blood on replacement basis; replacement blood donation is commonly practice in the region. Furthermore, none of the respondents had donated blood for money and this too has been noticed by the blood transfusion authorities of the region. The commonly practice of replacement blood donation is one of the major reason behind the low level of voluntary blood donation.

6.2.1 Case Study

One of the respondent, aged 35, serving as lab technician at District Headquarter Hospital (DHQ) Gilgit, donated blood voluntarily on different occasion. He is serving in hospital since last twelve years, and also working with Imamia Students Organization (ISO) Gilgit as a voluntary.

I am working in hospital since last twelve years, and served in hospital blood bank for three years. As a professional linked with blood transfusion, we are dealing tens of transfusions on daily basis. This hospital (DHQ) deals with patients from all the districts of Gilgit and Diamer divisions; people of far flung areas visit here for treatment, due to limited health facilities available in their respective villages and districts. I have met many people here who cannot arrange blood for their patients; majority are poor and from remote areas. Beside economic burden for the patients, the non-availability of free blood in the hospital creates more burden and concern for such patients. In such cases, I frequently donate blood to patients and so far I have donated more than thirty times. In case of emergencies or accidents cases, I also contact my friends, relatives and voluntaries of ISO to donate blood. We also arrange blood camps during Muharram and we provide the collected blood to DHQ hospital. The people of the region have positive attitudes and are willing to donate blood, but we need organized campaigns and blood camps to get blood from the people. No such efforts are made by the health department to improve the blood transfusion services in the region. The blood banks in the hospital have a very limited stock of blood, which is only used during emergencies and often people have to use their references to receive free blood from the blood bank. There is very low

practice of voluntary blood donation, while on the other hand our hospitals are using outdated procedures of blood transfusion, which further increases the burden. Majority of the doctors prefer to transfuse whole blood instead of blood components; as modern transfusion services recommend to transfuse blood components.

I donated blood more than thirty times so far, and will continue to donate voluntarily in future as well. First of all, as a human and then a Muslim, it is our prime responsibility to help others in time of need. Our religion and culture always encourages us to help other, and to save a life is to save the whole humanity. Blood donation is a kind of charity (sadaqa) and sacrifice, by helping others I feel happy. Blood donation is also our social responsibility and being a responsible citizen of this country, we should donate blood on voluntary basis. I have donated blood to patients from others sects, caste, tribe and regions. For me, it's the value of life not the value of sect or caste, therefore I donate blood people without inquiring about their religion, sect or tribe. I will continue to donate blood in future, and also convince other to do so; as a single blood donation can save someone's life.

This case study shows that people of the region are willing to donate blood voluntarily, if motivated. There is dire need to raise awareness and motivational campaigns to enhance voluntary blood donation.

6.3 Role of Health Department in Provision of Safe Blood Transfusion

In any provincial setup, the provincial health department is responsible to provide health facilities to the inhabitants of the respective area. The health services in Gilgit-Baltistan are being provided under the umbrella of provincial Health Department. Along with government, other non-governmental organizations such as Aga Khan Health Services and private health service providers are also providing health facilities to the citizens.

The provincial health department headed by Secretary overlooks the function of the department. Under the umbrella of health department GB, various hospitals are

providing health facilities to the citizen of the area. The provincial health department is responsible for the provision of health facilities to the inhabitants of the region. Blood transfusion service is one of the key health facilities which need to be in place in every hospital and blood bank. The provision of safe and sufficient blood supply is key to any blood transfusion service.

The hospital based blood banks in Gilgit are not up to the modern standards. The hospital based blood banks lacks modern technology which can be used to process blood before transfuse to a patient. The blood donor is required to be interviewed related to medical history which is a pre-requisite to blood transfusion, but is not practiced in hospital based blood banks. This may result in transfusion of infectious diseases to the patient. No proper arrangements for cleanness has been observed during the field work.

The recruitment of voluntary blood donor is considered as a part and parcel for safe blood transfusion. This requires mass awareness and extensive campaigns to motivate people to donate blood voluntary. No such efforts have been done so far by the concern authorities, therefore the blood transfusion in the region is mainly dependent of replacement blood donations which is discouraged by World Health Organization. A field team is required for raising awareness and organization of blood camps to enhance voluntary blood donation in the region but the provincial health department neither had a field team nor is part of any future plan.

The international standards and WHO recommend to transfuse blood components instead of whole blood, but the transfusion of whole blood is practice widely in hospitals. One single blood unit can save three lives; whole blood is processed into components of “red blood cells”, “Plasma” and “platelets”. Not all patients require whole blood transfusion rather the blood components can be transfused according to the need of the patient. But whole blood transfusion is practiced in hospitals in Gilgit with minimum usage of blood components. The modern practice of transfusion blood components can save more lives therefore, the doctors need to be trained according to modern and international standards of clinical use of blood.

6.4 Role of RBC

A Regional Blood Center has been constructed and developed with support of German government in Gilgit aiming to fulfil the requirement of blood of the region. This nascent building is equipped with modern technology and is linked with six hospital based blood banks located in different hospitals in Gilgit region; DHQ Hospital Gilgit, DHQ Gakuch, DHQ Chilas, DHQ Astore, Gilgit Medical Center and the hospitals of newly born districts of Hunza and Nagar.

Figure 3: Regional Blood Center Gilgit



Source: (Photo by Author)

This nascent center aiming to serve as a blood procurement and distribution center, purposing to ensure quality system to run relevant activities related to blood transfusion in the region; including mobilization and recruitment of voluntary and regular blood donors, collection, maintaining database, screening, processing, testing, preparation of components, storage and distribution. This Blood Center is among the Regional Blood Centers (RBCs) developed by the German government as part of the first phase of establishing of a nationwide network of 10 modern blood centers and an up-grade of 60 existing hospital based blood banks nationwide. The second phase of the project

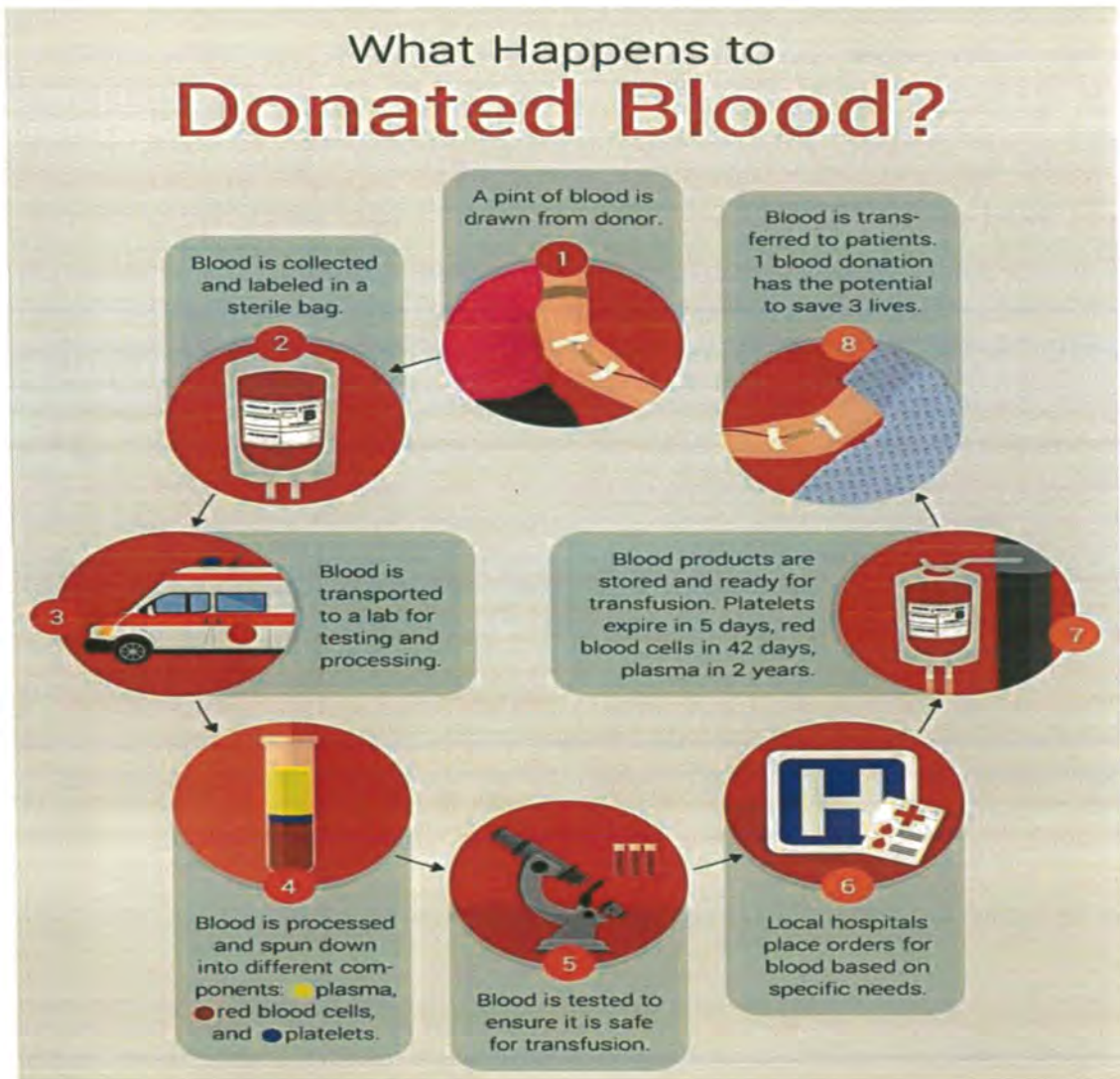
began this month and will expand in scope and coverage, through continued KfW funding, with the creation of more Regional Centers supporting hospital blood banks³.

This Blood Center equipped with the modern technology for blood transfusion aimed to fulfil the blood requirement of the region but so far unable to achieve its target. This center is handed to the government of Gilgit-Baltistan and is functioning under health department GB since 2016. The health department appointed the required staff and were trained by SBTP, but still this center is unable to provide its due services.

One of the prime responsibility of this RBC is to provide blood and its components to all the hospitals linked to it. For the provision of blood and blood components, the RBC requires to recruit voluntary blood donors. The role of RBC Gilgit is to recruit voluntary non-remunerated blood donors through awareness raising and motivation in liaison with educational institutions and involving religious and community leaders. This center has the capacity to process the blood into components, storage of blood and its components, distribution and collection of blood and its components. The processes involved in blood transfusion is shown in the following figure:

³ <https://www.epos.de/news/current-news/pakistan-new-regional-blood-center-gilgit>

Figure 4: The process of Blood Transfusion



Source: (SBTP, 2017)

At the initial stage, the provincial government appointed the required staff for Regional Blood Center Gilgit. The technical staff were trained according to international standards of transfusion services with support of Safe Blood Transfusion Program (SBTP). Those newly hired and later trained technical and other staff were recruited exclusively to serve in this nascent developed regional blood center. But later some of the staff including technical staff were transferred to different hospitals and BHUs without any replacement. This caused deficiency of required staff especially technical staff affecting the function of RBC for the provision of its services. Currently, there are only few technical staff serving in the center.



All regional blood centers across the country including RBC requires a separate field team to organize blood camps and awareness raising. 'Blood Donor Motivator' is a key position for recruitment of voluntary blood donors, along with other technical and support staff are required staff for RBC, but the concern authorities did not recruit any staff for field activities.

The location of Regional Blood Center Gilgit is outside the main city. This also creates problems for both the patients as well as for the donors. Those patients who are in need of blood components are referred to RBC, which is far away from the main hospitals, they have to travel long distance to get the blood components. The building of RBC is almost one Km away from the main road and people have to cover the distance on foot as no public transportation facility is available to reach RBC. The people of the area are even not aware of RBC, only those who had been in need of blood components visited and availed the facilities of RBC. During the research the respondents were asked questions related to RBC but except two, none of them were aware about any such center in the region.

The Regional Blood Center (RBC) is headed by the Manager, who is also serving as Medical Specialist (MS) at City Hospital Gilgit. The Manager hardly visits RBC one or twice in a month; a full time Manger office based in RBC is required to provide his/her services. One of the dilemma of the doctors in the region is that still majority of the doctors prefer to transfuse whole blood instead of components. The region is already facing shortfall of voluntary blood donation, but on the other hand the practice of whole blood donation increases the gap between blood supply and demand. According to the modern practices of blood transfusion services, one unit of blood can be processed into components of 'plasma', 'platelets' and 'red blood cells'. Majority of the patients which minor exceptions requires one or two components of blood; thus one blood donation can save life of three different patients. But the current outdated practice of whole blood transfusion in Gilgit puts further burden on the blood gap in the region.

The RBC have the capacity to provide blood transfusion services to the region. For the provision of better transfusion services, the department of health need to have serious concerns. The recruitment of required staff; field team and other technical staff is a must do job for the government so that the center will provide its due services. The doctors and other technical staff need to be trained so that they can practice the modern

transfusion practices. A full time Manager office based in RBC is much needed to manage and lead the blood transfusion services in the region.

6.5 Role of Educational Institutions

Generally, the provision of health facilities are concerns of health department, but other social institution such as education can play its vital role in raising awareness. Although, there are many health facilities available in the region such as blood transfusion services are available at RBC, but people are not aware of it. This requires mass awareness and education among the people and in this regards, educational sector is the key institution which can play a better role in awareness raising and education the people. The involvement of educational institutions in awareness raising is one of the strategy included in national blood donor policy:

“The National Blood Transfusion Programme, either directly or by liaising with educational institutions or by recruiting implementation partners such as specialized NGOs or private firms, will work on awareness creation about safe blood transfusion, voluntary blood donation, and donor motivation.”

(SBTP, 2011)

The research reveals that the level of knowledge about blood transfusion is low in Gilgit. No blood related material is included in the text books neither, the educational institutions are providing any opportunities which can enhance knowledge about blood and transfusion. Even at university level, no any seminar or lecture related to blood transfusion has been conducted so far.

Two focus group discussions (FGDs) was conducted in the only university of the region; Karakoram International University. Students from various departments and districts were included in the discussions to investigate the knowledge, attitude and practices of the students regarding blood donation. Both male and female participants in the discussions were not having enough knowledge about blood transfusion. only two students from biological science were having enough knowledge about blood transfusion; they taught about blood groups and transfusion in one of their courses. The participants believed that blood is important for life saving. They were aware of the importance of blood donation were not having enough knowledge about blood

transfusion. Majority of the respondents have not donated blood, only three have donate blood; two donated to their relative patients and one had donated to a friend's mother. Majority of the female participants were even not aware of their blood groups, while both of the gender were lacking important information such as minimum age and weight, blood groups, infectious disease, blood components etc. No any respondent from both group were aware of the Regional Blood Center (Gilgit).

The attitudes of the participants were quite high as majority of them claimed that they will donate blood if required. They were of the view that blood societies should be formed in every department of the varsity and blood camps should be arranged so that we can donated blood. The female participants highlighted the cultural myths and taboos associated with female and blood donation. Woman is considered naturally weak and she is not allowed to donate blood. In a male dominant society, we are not allowed to go to hospitals to donate blood. Our brothers and male members and relatives donate blood to the patients in our family and if no any male member is available, then a female can donate blood. They also linked the weakness of a woman with menstruation and pregnancy.

The participants of the discussions were aware of the importance of blood donation but the knowledge and practice of blood donation among the participants were low. The low level of awareness is one of the main reason behind low level of knowledge; the participants claimed that no any seminar, lecture or blood camp has been arranged in the university so far. They also emphasis on the establishment of blood donor societies in the university. The female participants also show willingness to donate blood (in blood camp at university). They also emphasis on arranging lectures and seminars related to blood transfusion to raise the awareness and knowledge among the students. Not only students but the teaching faculty were having similar responses. During an informal discussion with some faculty member of the university, it was revealed that the faculty members were also not having enough knowledge about blood transfusion. One of them responded as "even we don't have enough knowledge about blood, then how can we educated our students". The faculty members also put emphasis on arrangements of seminars and lectures even at university level is must needed to enhance the knowledge of blood among the students and the faculty members.

6.6 Role of Religious Institutions

Religious intuitions play in our country as it holds a key position in our society. In Pakistan, the role of religious institutions is not only limited to religious matters, rather it plays role in many other affairs as well. The religious institutions in Gilgit has been involved in many important affairs of the region. People of the region has always been inclined towards their religion on various religious as well as social matters. Many social development programs are run under the shadow of religious institutions of all the major sects of the region. The Imam Bargah, Masjid and Jamat Khana has always been an influential institutions and has been involved in religious, political and social matters of the people belonging to their respective sect. The national blood donor policy also encourages the involvement of religious leaders in community awareness and campaigns:

“Carry out extensive community awareness campaigns about voluntary blood donation, blood demand and blood use by involving mass media, educational institutions, and religious, political, and ethnical leaders.”

(SBTP, 2011)

It is a common notion in the region that people always look forward to their religious leaders in socio-religious and political matters in the region. The issues and problems of the community are also raised by these religious leaders and the government also consults these religious leaders in many important matters. The religious institutions in the region are more strong as compare to other social institutions.

Voluntary blood donation involves strong motivation and this can be done by any influential force. In Gilgit, religious institution is one of the influential institution which can play its role in variety of ways. The involvement of religious leaders can help to motivate the people to donate blood voluntary. These religious leaders through their religious authority motivates people easily.

During the key informant interview with the Manager Regional Blood Center it came to revealed that they approached the religious leader of Shia sect (Aga Rahat Hussain Al-Hussaini). The RBC authorities have got a positive response from him and in his Friday speech, he encouraged people to donate blood voluntary. In the month of

Muharram, he (Aga Rahat) appealed his followers to donate blood and the blood camp organized by the RBC received more than hundred bags of blood in a single day of Ashura. People donating blood in the blood camp arranged by RBC Gilgit are shown in the following figure:

Figure 5: Blood Donation during Ashura Procession



Source: (Photo by Author)

Like the religious leader of Shia sect, the religious leaders of Sunni and Ismaili sect also have strong influence in their respective sects. These religious institutions can be used as a motivational force to enhance the voluntary blood donation rate in the region. The authorities of RBC are planning to involve the religious leaders of all the three sects to motivate people for voluntary blood donation. This can be proved a good move to enhance voluntary blood donation in the region.

6.7 Role of Media

In the age of modernization, media plays an important role in mass awareness. Almost every household is connected to mass media directly or indirectly. According to Multiple Indicator Cluster Survey (MICS) conducted by department of Planning and Development and UNICEF, almost half of the population (49.3%) have at least one television in their households. The current research is conducted in Gilgit city, where

people have more access to media and all the respondents included in this research were having TV in their households. At least one member of every household included in this research were having mobile phone and have access to social media.

Different national, international and local channels are being watched by the respondents and their family members. The respondents were inquired about any program/TV show related to blood transfusion. All the respondents never witnessed any program, advertisement or campaign either in electronic/print or social media. Some respondents claimed that some of their friends update their status if they or they relatives need blood. Other than that they have never come across any campaign, information or any other relevant material through media including social media.

The authorities of Regional Blood Center are also aware about the importance of media in awareness raising. But so far they have not included media for campaigns and awareness raising, only one or two programs have been broadcasted in local radio. One of the key official working in RBC claimed that voluntary blood donation is not a priority of government and health department and that is a major reason the department is not focusing on RBC. According to him; the higher authorities are not sincere, instead of launching media campaigns, they only publish news in local newspapers about visits of higher official to RBC.

6.8 Role of Private Sector

Beside government, various non-governmental and community based organizations are also working on voluntary blood donation, but the level of participation is very low. Non-governmental organizations such as Pakistan Red Crescent Society and Aga Khan Health Services are also having their existence in the region. Pakistan Red Crescent Society have been arranging blood camps on various localities in Gilgit, but these blood camps are arranged occasionally; especially during disasters and emergencies. Limited number of blood camps are arranged by the aforementioned organization.

Beside these, various community and religious led student organizations are also contributing to enhance voluntary blood donations, but their contribution is also limited. Imamia Student Organization (ISO) is a voluntary, religious based student organization arranged blood camps on various religious occasions. Imamia Student Organization (ISO) arrange blood camps during the month of Muharram and collects

reasonable amount of blood. They have registered volunteers, who donate blood voluntarily on need basis. Islamili Boy Scouts are volunteers belonging to Ismaili sect also have registered volunteers who donate blood to the patient of their community. Both of the organizations are donating blood to the patients of their respective sect (with some exceptions).

6.9 Barriers

The provision of blood to the patient is one of the responsibility of government, and this task is designated to provincial health department. The gap between demand and supply of blood in the region is very high. There are various associated barriers and challenges to the concern authorities to fulfil the need of blood. The major challenges and barriers are highlighted in the following paragraphs:

6.9.1 Institutional Barriers

The provision of blood transfusion services is key responsibility of government and these services are being provided under provincial health department and its subsidiary departments. The people of Gilgit-Baltistan are facing various health challenges and difficulties due to lack of health facilities and the remoteness of the region. The prime focus of health department is to facilitate the citizen within the available resources and natural limitations. Currently, the major concerns of the department are the high infant and child mortality rate, along with other common diseases of the region. In such a scenario, blood transfusion services are secondary importance for the concern authorities, although the poor transfusion services in the region resulting other health issues as well. One of the main barrier to improve the blood transfusion services is that blood transfusion is of secondary importance for both the authorities and the community.

Every government institution and department works under the guidelines of a respective policy and procedures. The blood transfusion policy is still not passed by the legislative assemble. The approval of this policy will help to establish blood transfusion authority and it will also provide guidelines and procedures to improve the blood transfusion services in the region.

The Regional Blood Center is the only blood center in the region which is fully equipped with modern technology in accordance with the recommendation of WHO. This nascent blood center lacks sufficient staff (technical and field staff) to run the center effectively. The center is not provided its due share by the health department; no ambulance or any other vehicle is allocated for the center for blood collection and distribution. The Manger of RBC is assigned additional charge of MS in City hospital, who rarely visits the center and thus affecting the function and management of the center. While on the other hand the widely practice of whole blood transfusion by the doctors tends to increase the burden of blood. The higher authorities are claiming to have serious concerns about blood transfusion services in the region and are working to improve with limited resources.

6.9.2 Cultural Barriers

Beside various institutional barriers, there are some cultural barriers as well. One of the main barrier towards voluntary blood donation is the widely practice of replacement and family/friend base blood donation. The culture and tradition of these societies encourage replacement blood donation, as it helps to make new relationships. While the replacement blood donation is discouraged by the WHO and other transfusion services. This common practice of replacement blood donation is one of the major challenge to transform this practice to voluntary blood donations.

Various myths are attached with blood donation, resulting low voluntary donations. Blood donation is associated with physical weakness, weight gain, white hair etc. Many people believe in such myths hesitate to donate blood. While, the fear of blood donation and the hesitation to donate blood to unknown people also contribute to low voluntary donation. Young and teenagers are not allowed to donate blood as it is believed to have "*kacha*" blood in their vein.

The low participation of female donation is also alarming for the blood transfusion authorities. Various myths and negative perceptions are attached with blood donation by female members of the society. Woman is considered as weak and blood donation by female members is a cultural taboo. Although the ratio of female blood donors across is low but the participation in GB is almost zero. The patriarchal society limited the women in certain defined spheres and blood donation is considered a manly matter.

The segregated human settlement based on religious sect is also one of the main barrier which limits the donor to donate blood to the patients of their respective religious sect. Although majority of the respondents showed willingness to donate blood irrespective of sect, caste or tribe but still there are some people who are reluctant to donate blood to patients of other sect or caste.

6.10 Motivational Factors

Whenever a donor donates blood, there lies some underlying factors which encourages him/her to do so. The blood donation is based on altruism; it's a humanistic act. The cultural value and norms of these mountains communities encourages to help others and considered as a good act. The people of the region are all Muslims, follow Islam and the blood donation in Islam is considered as one of the great virtue. Islam says; "to save one's life is to save the whole humanity". Blood donation is encouraged by the religion and culture as well; as it helps to save some's life. It is believed that if today we save some's life, tomorrow someone will save ours (*aj agr hum kisi ki jan bachaingy tou kal koi or hamari jan bachaye ga*).

The positive attitudes and willingness of people to donate blood is another motivational factor to increase voluntary blood donation. Religious leaders serve as role model for the people. It has been observed that religious leaders have showed positive responses to raise blood donations. During Muharram, a large number of blood is collected by RBC and other blood organizations. Different Pena flex were displaced during *Ashura* procession; where the religious clerics (*mujatahideen*) donated blood were shown. The followers get motivation from these pictures and donate blood voluntarily in the blood camps. Thus religion serves as one of the most important factor which can be utilized to motive people to donate blood voluntarily.

Symbolic relations through blood donations are highly valued in the region. In such relations, the donor is of higher moral and social values. The values of norms of the local culture encourages to donate blood to establish these symbolic relations. Although replacement blood donations are discouraged by WHO, but replacement and family/friend based donations are commonly practiced in the region.

6.11 SWOT Analysis

Strengths, Weaknesses, Opportunities and Threats (SWOT) is a method to analysis the efficacy of any institute. Strength and Weakness are internal factors, while Opportunities and Threats are considered as external influencing forces. The blood transfusion services in the region are quite new and much more is to be done to improve these services. The strengths, weaknesses, opportunities and threats (SWOT) are described are described in the following paragraphs:

Table 14: SWOT Analysis

<p>Strengths:</p> <ul style="list-style-type: none"> • Availability of blood transfusion services • Availability of resources • Regional Blood Center (RBC) 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • VNBRD a secondary priority • Transfusion of replacement blood • Whole blood transfusion • Insufficient staff and facilities in RBC • Lack of public-private partnership • Low usage of modern management tools and techniques • Low level of awareness raising • Influence/nepotism
<p>Opportunities:</p> <ul style="list-style-type: none"> • Positive attitudes of people • High literacy rate • Healthy Environment • Support of SBTP • Presence of Educational Institutions • Positive response from religious leaders 	<p>Threats:</p> <ul style="list-style-type: none"> • Gap between blood supply and demand • Widely practice of replacement blood donation • Lack of policies • Low women participation • Low level of blood related knowledge

6.11.1 Strengths

Strength is an internal factor of any organization, institution or department, which enhance its function. The blood transfusion services are provided under the umbrella of provincial health department Gilgit-Baltistan. The hospital based blood banks and Regional Blood Bank (RBC) Gilgit are functioning are the subsidiary units of health

department which are providing transfusion services. One of the most important strength of transfusion services in the region is the availability of transfusion facilities; especially RBC, which is equipped with modern technology. As a government department, health department possess the resources to enhance the transfusion services; human resource, infrastructure and transportation.

The Regional Blood Center (RBC) and hospital based blood banks are the main contributors to transfusion services. The improvement in service delivery by increasing human resource and awareness raising can help to reduce the gap between blood supply and demand.

6.11.2 Weaknesses

Beside the above mentioned opportunities, various weaknesses are associated with the blood transfusion services in the region. The main weakness noticed in the research is that the Voluntary Non-Remunerated Blood Donation (VNRBD) is not a priority of the higher authorities of health department. One of the official of health department responded as “no any case of death has been reported so far, which has been caused due to non-availability of blood”. The authorities are satisfied with the commonly practiced replacement blood transfusion; which is discouraged by WHO and other modern transfusion services. There are higher chances of spread of many infectious diseases through replacement blood donations. In such practices, both the donor and receiver are at higher risk of transfusion of infectious diseases.

The modern practices recommend the transfusion of blood components instead of whole blood transfusion. But majority of the medical professionals (doctors) still prefer whole blood transfusions. The practice of blood components can reduce the gap between blood supply and demand; one blood can be used for three different patients. On one hand the gap between voluntary blood donation and the demand of blood is high in the region, while on the other hand the transfusion of whole blood further increases the gap between supply and demand of blood.

The Regional Blood Center (RBC) Gilgit, is the only blood center in the region which is equipped with modern transfusion technology. This center lacks, human resources to extend its services. No field staff is hired for raising awareness and arrangements of

blood camps. This center is not provided with any vehicle which can be used for collection and distribution of blood. Furthermore, the health department has not taken any steps to linked and integrate private blood banks and organizations working on blood.

6.11.3 Opportunities

The positive attitudes and willingness of people to donate blood is a key opportunity to enhance voluntary blood donation. Majority of the respondents in the research showed positive attitudes and willingness to donate blood voluntarily if facilitated. This only requires to arrange blood camps from time to time in different localities and establishment of blood donor societies. The teenagers and young people are the major source of fresh and healthy blood, and they can be motivated and recruited as regular voluntary blood donors.

The literacy rate of the region is high as compare to other regions of the country and this is another opportunity for the authorities. The educated people can be motivated easily to donate blood voluntary.

The support of German Government and Safe Blood Transfusion Programme is the biggest opportunity for the region to improve the transfusion services. The technical and professional staff can be trained with the support of SBTP. While the presence of non-governmental organization is also an opportunity. Working in coordination with NGOs, community based organization, volunteer organizations, educational and religious institution can help to improve the voluntary blood donation and transfusion services in the region.

6.11.4 Threats

Beside many opportunities, various threats are also associated with the blood transfusion services in the region. The widely practice of replacement blood donation is one of the biggest threat for both blood transfusion services and the people of the region. The replacement blood transfusion increases the risk of spread of infectious diseases. While on the other hand the low level of blood related knowledge and information is also a threat for the authorities, as this requires more efforts and resources to raise awareness among the people.

The blood related policies are still under discussion in the legislative assembly. The blood policy for the region is yet to be legislated. This is the biggest hurdle to establish Blood Transfusion Authority (BTA) in the region. In the absence of blood transfusion related legislation, the region lacks with proper procedures and guidelines for service delivery.

After the construction of Regional Blood Center (RBC), various technical and non-technical staff were recruited to serve in RBC. By using references and nepotism some staff are transferred to their respective regions and other hospitals. Although all the recruited staff were designated to serve in RBC. Thus such influences further effects the blood transfusion services in the region.

7 CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

Blood is viewed as a vital body fluid essential for life; it is life itself (Mumtaz, 2009). Blood donation is lifesaving for those who need it. Around the globe, people of all ages need blood transfusion to survive every second of every day. Access to safe and sufficient supply of blood and its product along with the safe blood transfusion services is key to any strong health system. Blood can save lives, but can also be a vector for harmful infectious diseases, such as HIV and hepatitis. The safe and sufficient supply of blood donation is key to any healthy blood transfusion services.

Pakistan in general and Gilgit-Baltistan in particular are facing severe shortage of voluntary blood donation. On one hand the blood transfusion services in the region are very nascent, while on the other hand the rate of voluntary blood donation is very low. Replacement blood donation is widely practice in the region.

Culturally, blood plays a significant role in the mountainous communities of Gilgit-Baltistan. Blood talks are common and are used in daily conversations. People of the region are closely knitted in *biradri*, castes and tribes. Symbolically, blood is viewed in variety of contexts; good blood, bad blood, white blood, red blood etc. Various religious and cultural festivals and traditions involve animal sacrifice as a symbol of blood sacrifice.

The people of the region have less knowledge and information about blood its transfusion. The people had shown positive attitudes towards voluntary blood donations, while the practice of voluntary blood donation is very low (only 2 to 3 percent of blood is donated voluntarily). The main reasons behind such trends is the lack of awareness and motivation among the people; no efforts had been made to raise awareness. The close knitted society living with peace and harmony along with the altruistic nature of people tends to have positive attitudes and willingness to donate blood voluntarily. The segregated human settlement based on sects limits the people to donate blood within their own sect. It has been evident from the history that blood transfusion is a recent phenomenon in the region, and blood donation is not a cultural practice, resulting low level of voluntary blood donations.

Woman plays significant role in development of any society. The modern practices of blood transfusion encourage the participation of women in voluntary blood donation. The blood donations by the females in the region is almost none. Various myths and misconceptions are attached with the donation of blood by women. Woman is considered as weak, having less blood in the body as thus need to avoid further blood loss. While on the other hands in a patriarchal society, in the presence of male members, the donation of blood by female is a taboo. Thus the cultural taboos, misconceptions and myths attached with the women tends to low level of participation in blood donation.

The recruitment of voluntary blood donors and safe and sufficient blood transfusion services in the region is not a priority of the relevant authorities. This results in wide practice of replacement blood donation, risking the donors and receivers to spread viral diseases. Hospital based blood banks are still using outdated blood transfusion procedures. The transfusion of blood components instead of whole blood transfusion can reduce the gap between blood supply and demand, but whole blood transfusion is commonly practiced in the region, results in increase the gap between supply and demand of blood.

Regional Blood Center (RBC) Gilgit is the only fully equipped modern transfusion services blood center in the region. This nascent blood center still lacks the required staff to conduct field activities. The blood policy which serve as a foundation to formulate guidelines and procedures for blood transfusion services is still not legislated. The lack of blood related policies in the region also contribute to insufficient blood transfusion services in the region.

7.2 Recommendations

This research studied the cultural interpretations of blood and analyzed the available blood transfusion services in the region. On the basis of the research findings, this research recommends the following recommendations:

- **Awareness Raising:**

Organized and massive awareness raising and motivations is required to enhance the blood related knowledge among the people. This requires to arrange

lectures, seminars and awareness sessions in educational and religious intuitions. Media (local and social), religious and community leaders should be used to raise awareness and motivation among the people.

- **Recruitment of Voluntary Non-Remunerated Blood Donors:**

Recruitment of voluntary blood donors is key to any transfusion service. The recruitment of voluntary young blood donors not only fulfils the blood demand but also serve as a source of safe blood. For the recruitment of volunteer blood donors, blood donor societies need to be established in collaboration with educational institutions, religious institutions, community based and non-governmental organizations. These blood societies need to be registered under health department and regular blood donation camps need to organized from time to time. The conversion of replacement blood donors into voluntary donors can enhance the rate of voluntary blood donation.

- **Inclusion of Female Blood Donors:**

The inclusion of female blood donor through awareness raising and motivation can enhance the voluntary blood donation in the region.

- **Transfusion of Blood Components:**

The transfusion of blood components instead of whole blood transfusion can reduce the gap between blood supply and demand. Majority of health professionals (doctors) in the region prefer whole blood transfusion, while the modern transfusion services recommends transfusion of blood components. The health professional need to be trained in accordance with the modern and WHO recommendations of blood transfusion. This will help to reduce the gap between supply and demand of blood.

- **Strengthening of RBC:**

The Regional Blood Center (RBC) Gilgit is the only blood center which is fully equipped with modern technology of blood transfusion. This center provides transfusion services including blood processing (blood components), storage and distribution of blood and blood components. For better service delivery, this nascent center need to be further strengthened by recruitment of required field and technical staff. Further a full time RBC Manger, office based in RBC should be designated to lead the transfusion services. The center should be provided with a vehicle for collection and distribution of blood.

- **Legislation:**

Blood related legislation is key to any transfusion service to provide guidelines and procedures for service delivery. The formulation of blood policy will help to provide guideline and pathway to provide blood transfusion services for the region. Legislation is required for the establishment of Blood Transfusion Authority (BTA), which will further supervise the blood transfusion services in the region.

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