# Descriptive Study of Hemophilia in Al-Ramadi City

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## Abstract

**Background:** Hemophilia is hereditary bleeding distorted, and widespread in the world.
**The Objective:** to identify the epidemiological characteristics of sample.
**Methodology:** descriptive of study was conducted in genetic blood disease center in the AL-Ramadi Teaching Hospital for maternity & children during six months period of October to April (2012-2013).The data were collected by reviewing part of registered record in the center.
**Results:** The study included (60) patients with hemophilia registered, (76,7%) was hemophilia A and (23,3%) hemophilia B. Age distribution revealed that the highest affected age group were those from age 6-15 years (33.3%). Gender distribution revealed that (88.3%) were males & (11.7%) were female. Residency distribution revealed that 65% were Rural & 35% were urban. The study showed that (56.7%) of cases were marriages among first cousins, (15%) of cases were marriages among close family or tribe & (28.3%) are marriages unrelated with family.
**Conclusion**: from this study we can conclude that the most common is hemophilia A followed by hemophilia B & the number of newly registered cases is increasing with consanguineous marriages.
**Keywords:** hemophilia, descriptive, al –Ramadi; control blood and drugs.

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## Introduction

Hemophilia is a disease of bleeding distorted genetic the blood from clotting appropriately. People with hemophilia have lack blood protein also called clotting factor which is essential to clot the blood and stop bleeding. Most patients with hemophilia A are dependent on factor VIII replacement therapy, while patient with hemophilia B are dependent on factor IX replacement therapy. According to the World federation of hemophilia, 80 percent of hemophilia patients are influenced with hemophilia A while 20 percent of those patients have hemophilia B. Recent studies showed that approximately 320,000 – 340,000 persons – predominantly. [1] Males are impacted with hemophilia A worldwide. In Egypt which has a population of approximately (80 million) consanguineous marriage are Frequent, therefore recessive characteristic coagulation disorders reach a higher incidence than in many other countries.[2] According to survey from the World Federation of Hemophilia (WFN) 80% of persons with hemophilia in the world are receiving minimal or on treatment at all and often do not survive to adulthood, lately mortality among people with hemophilia decreased largely, this decrease is accrued to increased availability of clotting factors concentrates for the treatment of life impending bleeding episodes and improved management provided by specialized hemophilia treatment centers.[3] In 2009, the World Federation of Hemophilia (WFH) has indentified 153, 251

people with hemophilia throughout the world.[4] The incidence of hemophilia A is1 in 10,000 live births, or 1 in 5,000 male births. B is less common with an incidence of 1 in 30,000 live male births. hemophilia care in Arabic World shows variation from country to country. It varies from a good a available care with presence of specialized hemophilia centers(e.g. Egypt, Jordan) to absence of care at all (e.g. Yemen, Somalia). In the Global survey of World Federation of Hemophilia in 2009, 9702 cases of hemophilia were reported from 13 Arabic countries. [4,5] Of 22 countries of the Arab league, only 13 have at least one hemophilic center. Countries such Egypt, Algeria, Tunisia, Jordan and Syria have good organized programs and more than one hemophilia center. Other countries provide a relatively weak care compared to their financial resources; for example Saudi Arabia, with a population of about 24 million, and 326 reported cases of hemophilia has only one specialized care center for hemophilia.[4]

## Methodology

A descriptive study (cross-sectional study). The study carried out in genetic blood disease center in the AL-Ramadi Teaching Hospital for maternity & children. This hospital is the alone governmental hospital which contain medical center clinic dealing with hemophilia patients who are seeking medical care for the purpose of treatment and follow up. The data collected from the period of October to April (2012-2013).

**Study population**

Include all registered case of hemophilia in the center of hospital of AL- Ramadi for gynecology and children. The sample enrolled (60) patients. Selected by random sampling, which is every 3rd were from a record in the center and filling a special designed questionnaire for this purpose. Patients were classified according to types of hemophilia. According to questionnaire designed for the study and include information about age, sex, residence, weight, type of blood group, Rh and type of hemophilia for the patients.

**Inclusion criteria**

Two types of hemophilia (A.B)

**Statistical analysis**

Data were analyzed by using SPSS statistical software (statistic package of social scientific) version 14.01 to obtain frequency tables and cross tabulation with figures to illustrate the results.

## Results

**Table (1):** Distribution of cases according to age and type of hemophilia.

| age | type of hemophilia | | | | Total | |
|---|---|---|---|---|---|---|
| | hemophilia A | | hemophilia B | | | |
| | N | % | N | % | N | % |
| **≤ 6** | 14 | 23.3 | 5 | 8.3 | 19 | 31.7 |
| **6_15** | 14 | 23.3 | 6 | 10 | 20 | 33.3 |
| **16_25** | 12 | 20 | 2 | 3.3 | 14 | 23.3 |
| **≥26** | 6 | 10 | 1 | 1.7 | 7 | 11.7 |
| **Total** | 46 | 76.7 | 14 | 23.3 | 60 | 100 |

**Table (2):** Distribution of type of hemophilia according gender.

| gender | type of hemophilia | | | | Total | |
|---|---|---|---|---|---|---|
| | hemophilia A | | hemophilia B | | | |
| | N | % | N | % | N | % |
| male | 45 | 75 | 8 | 13.3 | 53 | 88.3 |
| female | 1 | 1.7 | 6 | 10 | 7 | 11.7 |
| Total | 46 | 76.7 | 14 | 23.3 | 60 | 100 |

**Table (3):** Distribution of type of hemophilia according Residency.

| Residence | type of hemophilia | | | | Total | |
|---|---|---|---|---|---|---|
| | hemophilia A | | hemophilia B | | | |
| | N | % | N | % | N | % |
| urban | 16 | 26.7 | 5 | 8.3 | 21 | 35 |
| rural | 30 | 50 | 9 | 15 | 39 | 65 |
| Total | 46 | 76.7 | 14 | 23.3 | 60 | 100 |

**Table (4):** Distribution of type of hemophilia according blood group.

| Blood group | Transfusion | | | | Total | |
|---|---|---|---|---|---|---|
| | Dependency | | Independency | | | |
| | N | % | N | % | N | % |
| A | 4 | 6.7 | 10 | 16.7 | 14 | 23.3 |
| B | 3 | 5 | 8 | 13.3 | 11 | 18.3 |
| AB | 1 | 1.7 | 4 | 6.7 | 5 | 8.3 |
| O | 6 | 10 | 24 | 40 | 30 | 50 |
| Total | 14 | 23.3 | 46 | 76.7 | 60 | 100 |

**Table (5):** Distribution of type of hemophilia according consanguinity marriage.

| consanguinity marriage | type of hemophilia | | | | Total | |
|---|---|---|---|---|---|---|
| | hemophilia A | | hemophilia B | | | |
| | N | % | N | % | N | % |
| **marriages among first cousins** | **26** | **43.3** | **8** | **13.3** | **34** | **56.7** |
| **marriages among close family or tribe** | **7** | **11.7** | **2** | **3.3** | **9** | **15** |
| **marriages unrelated with family** | **13** | **21.7** | **4** | **6.7** | **17** | **28.3** |
| **Total** | **46** | **76.7** | **14** | **23.3** | **60** | **100** |

## Discussion

Inherited bleeding disorders are caused by quantitative and qualitative alteration of either platelets or plasma proteins involved in coagulation and fibrinolysis. The severity is generally related to the degree of the underlying defect. Rapid and reliable definition of these disease is important to allow the adoption of appropriate

compensative or supportive therapies. The study was preconditioned on the observation that in Al-Ramadi, teaching Hospital for maternity & children, genetic diseases do not receive any public health support because they are considered to be rare conditions with low incidence. Furthermore, actual statistics on the demography of genetic disease in the Al-Ramadi population are largely unavailable. The purpose of this study was to generate base line epidemiological information on the status of hemophilia in Al –Ramadi. The present study reveals that commonest was hemophilia A affecting 46(76.7) patients, followed by hemophilia B affecting 14 (23.3) patients. For age presented at diagnosis, the older age was for hemophilia with range from ≤ 6 years to ≥ 26 years, table (1).

In Bacan city, Azerbaijan AURA-MANUEAE.DAVID et al (2005) found that from 6 cases of hemophilia , 5 cases were males and only one case was female and also showed that the cases of hemophilia were coming especially from the urban environment (4) cases and (2) cases were coming from the rural environment . [6,7] These findings similar to distribution of the cases with hemophilia in both gender while distribution of the cases with hemophilia in urban and rural environment disagrees with our study.

In Mansoura, EGYPT Youssef Al Tonbary et al (2010) showed that 44.9% patients of hemophilia were males and 55.1% patients of hemophilia were females. There results disagree with our study.[8] Few published studies in Saudi Arabia, Jordan and Egypt describe the distribution of inherited bleeding disorders in the population .they obtained the distribution of inherited bleeding disorder resembling what has already been established by western countries.[9] The mostly due to the increased rate of consanguinity in the community. Maharashtra, India about 77000 patients with hemophilia A and B increasing numbers of patients from rural area. [10,11,12]

This finding agrees with our study. In Iran H. Mansouri Torghhabeh, et al (2006) found that no relation between ABO blood groups and hemophilia.[13] This finding agrees with our study. The study by Munira Borhany et al on consanguineous marriages in Pakistan have shown frequency of 58.7% in the karachi survey & 62.7% in Pakistan Demographic & Health Survey. [14] In Iran, where the custom of marriages among first cousins is common, recessively inherited coagulation disorders are 3to 5 times more frequent then in western countries. [15]Therefore, in communities where consanguineous marriages are common, there is an increased risk prevalence of many rare bleeding disorders. [16] these studies agree with our study.

## Conclusion

From this study we can conclude that the most common is hemophilia A followed by hemophilia B & the number of newly registered cases increasing with consanguineous marriages. Consanguineous marriage keep all the beneficial & adversely affecting recessive genes with in the family; in homozygous states. These genes express themselves and result in life threatening diseases. Awareness, education and genetic counseling will be needed to prevent the spread of such common occurrence of these bleeding disorders in the community.

## Recommendation

1- Initiation of a first step for a Hemophilia Center in AL- Ramadi city as a result of coordination between Iraq authorities & World Federation of Hemophilia (WFH).
2- Formulation of educational guidelines for hemophiliacs about the nature of the diseases.
3- Organization of a national network &creation of a registry for hemophiliacs.

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