

Original Research Article

Jehovah's Witness Parents' Experience with Traditional Anaemia Treatment for Children

ABSTRACT

Introduction: The study focused on the experience of Jehovah's Witness parents with traditional treatment for anaemia in children, with the objectives of determining the experience of Jehovah's Witness parents and determining the type of treatment used for anaemia in children.

Methods: This was a qualitative, phenomenological study based on a free, face-to-face interview with 5 Jehovah's Witness parents.

Results: Respondents had experienced recurrent seizures and transfusion at the request of the caregiver, and the traditional treatment was effective and progressed well. Satisfaction was highest at each onset of anaemia attacks. The majority of respondents expected their children to be cured and survive, and they used oral and external solutions as routes of administration.

Conclusion: Jehovah's Witness parents had experience of the traditional treatment of children's anaemia and found it effective.

KEYWORDS: Experience, Parents, Jehovah's Witness, Traditional treatment, Anaemia.

1. INTRODUCTION

Anaemia affects women's health and well-being and increases the risk of adverse maternal and neonatal outcomes, with a predominance in children under 5 years of age. This burden remains silent, i.e. anaemia is neglected and little progress is reported in this area, as its prevalence level worldwide is very high [1].

With this in mind, this study focuses on the experience of Jehovah's Witness parents with traditional treatment for anaemia in children. Indeed, Jehovah's Witness are like everyone else, they have come from different social and cultural backgrounds. Their Bible study brings them a lot, they have problems and weaknesses like everyone else. But their values come from God.

Anemia is the most common form of micronutrient deficiency in the world. The World Health Organization (WHO) estimates that 2 billion people worldwide are affected [2], with 9 out of 10 living in developing countries [3]. In Africa and Asia, anaemia is estimated to be responsible for 3.7% to 12.8% of maternal deaths during pregnancy and childbirth [4].

Poor nutrition and infections cause malnutrition and slow down the psychomotor development of children. Undernourished children are not resistant to various diseases of their age including diarrhoea, verminosis, malaria, kwashiorkor, etc. [2].

According to World Health Organization (WHO) and the United Nations of International Children's Emergency Fund (UNICEF), anaemia is the most common public health problem in the world, affecting all ages [5]. Two billion people worldwide are affected and developing countries pay the highest burden with prevalences of around 60% in pregnant women, 50% in children under 4 years of age and 45% in school children [4].

In a study published in 2015, anaemia affected more than 47% of children under 5 years of age worldwide [2]. This rate is about 40% in South America, 17% in Europe and 64.6% in Africa, representing more than 90 million children. Iron deficiency, which is one of the main causes of anaemia in Africa, profoundly affects the cognitive development of young children and thus impairs their learning ability and their subsequent social and economic integration [6,7].

In West Africa, particularly in Burkina Faso, the prevalence of acute malnutrition, chronic malnutrition and underweight were 11.1%, 35% and 25.7% respectively in 2002 and 33% in 2007. Malnutrition in children under 5 years of age remains a major health problem. Its negative effects on intellectual and physical development, health and life expectancy have been established by several studies [8].

According to WHO estimates, the prevalence of anaemia in Uganda is 64.1% for pre-school children, 41.2% for pregnant women, 26.3% for women of childbearing age and 18.3% for men [9].

In the Democratic Republic of Congo, at least 400,000 children under the age of five live in the Kasai region and these children are at risk of death due to lack of nutritional intake. In this southern region of the Democratic Republic of Congo, these children suffer from severe acute malnutrition. They are at risk of death if health and nutritional care are not provided quickly [10].

A study conducted in 5 general referral hospitals in Kinshasa indicated that the prevalence of anaemia was 88.5%. The sex ratio of boys to girls was 1.3. Fever was the main reason for consultation. Moderate anaemia predominated (62.7%). The mean haemoglobin level in anaemic patients was 8.6 ± 1.7 g/dl (2.3-11.4). Hypochromic microcytic anaemia dominated (48.5%). Malaria was the main pathology (46.3%). The mortality rate of anaemic patients was 5.9% [11].

In Kisangani, as in some other cities in the Democratic Republic of Congo, the health authorities have implemented a national protocol for integrated management of malnutrition, which is one of the main underlying causes of death from infectious diseases in children. The recent nationwide Demographic and Health Survey (DHS) based on the height-for-age index indicates that 46% of children under five years of age suffer from protein-calorie malnutrition [12].

The plight of children has always been a focus of both national and international concern. Many people live under the constant threat of hunger and malnutrition. This is especially true in the tropics and subtropics where many children suffer from acute and moderate malnutrition [3].

Jehovah's Witness do not accept transfusions of whole blood or any of its major components (red blood cells, white blood cells, platelets and plasma). They also do not donate or store their blood for autotransfusion. However, the governing organisation leaves it to the conscience of the faithful to accept certain blood fractions such as albumin, immunoglobulins or haemophilia preparations [13].

According to Wake Up! [14], Jehovah's Witness are also opposed to the early collection of their blood for deferred use, since the blood that is taken out of the body must be poured on the ground.

The decision on the use of certain plasma fractionation products (albumin, immunoglobulins, antithrombin, coagulation factors, etc.) has recently been left to the conscience of the individual [15].

The management of Jehovah's Witness patients is a particular challenge for the surgeon, the anaesthetist and the resuscitator. It is based on a therapeutic contract established in advance and specifying the commitments of each. It requires all the know-how of the caregivers to minimise blood loss and to ensure adequate oxygen transport in an acute anaemic situation. It requires every effort to respect the patient's autonomy, including finding colleagues who are willing to take the decision not to transfuse no matter what. Above all, it requires all health care personnel to respect an order of values that is often at odds with their own. It implies not judging values that one does not share and fighting, even against oneself, for the freedom of thought of everyone [16].

The medical profession now has alternatives to blood transfusion that are accepted by Jehovah's Witness; however, they can only be considered "within the strict framework of planned surgery, under certain defined conditions", while "in the context of an emergency, there are no products available today as an alternative to the transfusion of red blood cells". As a result, opponents of Jehovah's Witness accuse their leaders of having indirectly caused the death of believers following a refusal of this treatment. Jehovah's Witness leaders sometimes present young Witnesses who have died as a result of refusing a transfusion as role models in their magazine [17].

Jehovah's Witness can be difficult to manage in bleeding risk procedures because of their beliefs. The challenge is medical, legal and ethical. The medical challenge is to manage them in the safest way possible. The legal challenge is to respect the specific legal framework, and the ethical challenge is to accept the refusal of a life-saving blood transfusion within the legal framework. Due to the intransigence of Jehovah's Witness, blood-sparing strategies are being developed [18].

Due to the intransigence of Jehovah's Witness and the scarcity of blood products, the evolution of medical knowledge is guiding physicians towards blood saving strategies.

Considering all these developments, our problem has turned around the following specific questions: What is the experience of Jehovah's Witness parents with the traditional treatment of anaemia in children?

It is around this specific questioning that we will dwell throughout this study.

The aim of this study is to determine the experience of Jehovah's Witness parents with the traditional treatment of anaemia in their children in order to contribute with the different strategies that can allow the correction of anaemia in children.

2. METHODOLOGY

2.1. Study design

In the context of this study, in order to gain a succinct understanding of the experience of Jehovah's Witness parents with regard to the traditional treatment of anaemia in their children, we conducted qualitative research of the phenomenological type.

It is a descriptive cross-sectional study as we collected the data once at a time in the study population.

Open-ended interview was a data collection technique. The interview guide and dictaphone were used as data collection and storage instruments.

2.3. Study population and sample

The study population is Jehovah's Witness parents living in the Plateau Médical Neighbourhood of Kisangani, The Democratic Republic of Congo.

The study opted for the network or snowball sample, which consists of asking individuals recruited individually to suggest the names of other people they think should participate in the study.

The sample is composed of 5 Jehovah's Witness parents still living in the Plateau Médical Neighbourhood in the Commune Makiso.

In the qualitative approach, the number of participants is not determined a priori. It is usually dictated by the data situation (redundancy) and the search for different points of view or negative cases, i.e. a saturation in which the data from the interview and even from the questionnaire no longer yielded new information because this was done at the same time as the data collection was progressing.

2.3.1. Selection criteria

1) Inclusion criteria

To be included in our study, the subject surveyed should meet the following conditions:

- Be a Jehovah's Witness parent who has already used traditional treatment for anaemia in children
- Be present at the time of the survey;
- Voluntarily agree to participate in the survey;

- Be able to express themselves in one of the national languages recognised in the Democratic Republic of Congo, notably French, Lingala or Swahili.

2) Criteria for non-inclusion

- Any Jehovah's Witness parent who has never used traditional treatment for anaemia in children;
- Any respondent unable to communicate;
- Any respondent who was absent during the survey;
- Any respondent who did not consent to participate in the survey.

2.4. Data collection process

2.4.1. Method

We used the phenomenological survey method. The choice of this method is justified by the fact that our study is based on subjective knowledge. We study the meaning of certain human experiences through the descriptive analysis of the people who have lived them.

2.4.2. Data collection technique

The technique chosen for the collection of data in this study is the free, face-to-face interview.

2.4.3 Data collection instruments

The interview guide and Dictaphone recorder were used as data collection tools to enable us to collect and store the information needed for this study.

In addition, this interview guide was designed first in French and then translated into Lingala to facilitate data collection from respondents who did not speak French. The Lingala version was given to two independent bilingual experts to assess the accuracy of the translation (French and Lingala versions). The experts made comments which, after amendment, formed the tabulation table.

2.6. Ethical considerations

From an ethical point of view, the approach consisted in seeking the free and informed consent of the Jehovah's Witness parents.

In this regard, the consent form was read to them. At the time of collection, we took the option of explaining the aims and objectives of the work, defining what was expected of the respondent. We tried to answer any questions the respondent might have while explaining the data collection procedures and choosing a quiet place, away from noise, in collaboration with the respondent.

To ensure the confidentiality of the information obtained and thus guarantee the anonymity of the subjects, each one was identified without his or her name being mentioned in the recorder containing information from the survey and after the data had been analysed, we erased the data for security reasons.

Finally, the respondent had the right to refuse to answer any question deemed sensitive and to interrupt our interview at any time.

2.7. Data analysis plan

The analysis was carried out as the data was collected. We proceeded by floating reading the materials (interviews) and then applying the codes described as in vivo codes. The in vivo codes are named using the respondent's language, so that they are as close as possible to the raw data.

The analysis of the data collected in this study was therefore carried out in a systematic way, known as phenomenological reduction, which aims to bring out the hidden meanings inherent in the descriptions that the subjects of the study made of the phenomena studied, which is the experience of Jehovah's Witness parents of the traditional treatment of anaemia in children.

From the themes selected, we identified sub-themes, then categories, and supported them with verbatims.

Once collected in the field, the data were manually analysed taking into account the variables studied.

In the present approach, the data were analysed both categorically and thematically. The following procedure was adopted:

- Listening to the integrity of the recording ;
- Transcribe the interviews in verbatim form;
- Read each of the descriptions carefully in order to develop a "feel" for the data;
- Identify the interviews (sounds), the significant statements and expressions that relate directly to the experiences of Jehovah's Witness parents;
- Formulate meanings for each of the statements or expressions retained
- Eliminate repetitions for each of the statements or expressions retained;
- Eliminate repetition of words (when redundant) and formulate themes and sub-themes;
- Group all meanings into themes;
- Analyse the central themes according to the specific objectives of the research;
- Integrate the results of the analysis into a comprehensive description of the phenomenon;
- Corroborate the theoretical findings of the literature review.

According to Omanyondo [19], theoretical analysis means breaking down in an intellectual and abstract way, critiquing and then reasoning.

3. RESULTS

3.1. Identification elements of the subjects under study

Table 1: Socio-demographic and professional characteristics of Jehovah's Witness parents

Since the names of the parents were not given, the elements derived from the socio-demographic and professional characteristics enabled us to better constitute the codes in order to differentiate between the statements made by the respondents.

Table 1 : **Identification of elements**

Elements identification Respondent	Code	Age (years)	Gend er	Marital status	Education level	Number of children	Residential area
1st respondent	R139D	39	F	Married	Under Graduate	5	Plateau médical
2nd respondent	R229D	29	F	Married	Under Graduate	2	Plateau médical
3rd respondent	R333G	33	M	Married	Graduate	2	Plateau médical
4th respondent	R437D	37	M	Married	Under Graduate	2	Plateau médical
5th respondent	R541G	41	M	Married	Graduate	5	Plateau médical
Total			F =2 M=3	Married :5	Under Graduate: 3 Graduate: 2	16	-

Legend:

- R1- R5: Respondents; F: Female; M: Male; D: Under Graduate; G: Graduate
- R139D: Code assigned to the 1st respondent aged 39 years whose level of education is simply Graduate.

The data collected in the Plateau Médical district showed us that the subjects of the study were composed of five Jehovah's Witness parents, including two women aged 39 and 29 respectively, and three men aged 33, 37 and 41, all of whom were married. Of these subjects, two had five children and three had two.

With regard to the level of education, this survey revealed that three Jehovah's Witness parents had a secondary school education, while two were graduates.

3.2 Comparison of the variables with the objectives of the study

The central theme of this research was "Jehovah's Witness parents' experience of traditional treatment for anaemia in children".

For this purpose, we identified five themes in accordance with the objectives of this research.

The thematic analysis of the above central theme revealed five sub-themes, namely

Sub-theme 1: Jehovah's Witness parents' experience of traditional treatment for anaemia in their children;

Considering the above-mentioned sub-themes, we extracted the categories from which the verbatims are derived:

Sub-theme 1: Jehovah's Witness parents' experience

- Category 1: Circumstance of occurrence of anaemia
- Category 2: Place of diagnosis of anaemia
- Category 3: Experience
- Category 4: Difficulties encountered
- Category 5: Support from brothers.

Table 2. Jehovah's Witness parents' experience

In this box, we highlight the circumstances in which the anaemia occurred, the place where the anaemia was diagnosed, the experience, the difficulties encountered, and finally the support of the brothers in treating the children's anaemia.

Table 2: Occurrence of anaemia

Sub-theme	Categories	Verbatim
Parents' experience Jehovah's Witness	Circumstance of occurrence of anaemia	"... I have five children, four of whom were doing well and the fifth child was the one with anaemia, at birth the child was doing well, but when he was 8 months old he had an anaemia crisis..." R139D
		"... for my child, when he fell ill, I noticed the asthenia, the paleness, that was why I took him to the hospital to diagnose anaemia, ..." R229D
		"... the anaemia was manifested in my child from birth, the first day the child was fine and the day after he had manifested dyspnoea with signs of struggle and cyanosis...". R333G

		"... the child was sick and was treated in a health centre without any change and we were transferred to the General Reference Hospital of Makiso for in-depth analysis and by then we had understood that the child was not well..." R437D
		"... the child presented with fever and diarrhoea and was treated without success, as these signs persisted for several days afterwards, and we noticed that the haemoglobin level had dropped...". R541G
	Area of diagnosis of anaemia	"... for the first time, the child's anaemia was diagnosed at the New Village Paediatric Hospital in Kisangani, which showed a result of four grams/dl ..." R139D
		"... our child's anaemia was detected at the health centre and then we were transferred to the General Reference Hospital in Makiso and it was there that the doctor confirmed that the child had anaemia..." R229D
		"... the finding was made by a nursing staff at the hospital after the crisis which was brutally manifested at home by the cyanosis and the drop in haemoglobin after the results announced by the consultant...". R333G
		"...we were told by the laboratory result after the tests that the child was suffering from anaemia..." R437D
		"...he showed signs of intolerance and we took him quickly to the hospital where the anaemia was detected..." R541G

	Experience in the treatment of anaemia	"... as the child had untimely attacks of anaemia, I had started to treat the disease using traditional treatment..." R139D
		"... I had to treat my child's anaemia from the indications given by the children of other Jehovah's Witness brothers and neighbours where we live..." R229D
		"... my experience in dealing with this situation was from my wife who often had anaemia and whenever she was treated, I had mastered the herbs used for anaemia and how to use them with the different mixtures..." R333G
		"... the child should have a transfusion because he had anaemia. From then on I contacted the brothers to request treatment for the anaemia in order to spare the child from the situation...". R437D
	Challenges encountered for the treatment of anaemia	"... the main difficulty encountered was based on the estimation of the quantity of remedy to be given to the child because the solution was made in containers that were not graduated and it was really difficult to determine in a precise way the dose to be given..." R139D
		"... we had a problem with the conservation of the solutions to be used, because we did not know the strict duration of use of the traditional products that we had always used during anaemia...". R229D
	Support from the Jehovah's Witness brothers	"...when my child fell ill with anaemia, I had received support from the brothers in terms of counselling for the traditional treatment of anaemia and in order not to give up my faith, I still

		believed in the treatment..." R139D
		"... when the doctor asked us to transfuse the child, our brothers showed us solutions from the leaves for the treatment of anaemia, ..." R229D
		"... at the beginning I did not know what to do and I had normally lost hope but I turned to the brothers to ask for their support to treat my child's anaemia..." R333G
		"... the nursing staff had asked to transfuse the child and I had decided to ask for the support of the brothers who already had the knowledge of the traditional treatment for anaemia..." R437D
		"... I had recourse to a brother who had been trained in the traditional treatment of anaemia..." R541G

From this box we deduced that the circumstance of the occurrence of anaemia was not the same for all respondents: at birth, from symptoms and from diagnosis at the health centre. Respondents had received experience of the traditional treatment of anaemia in children from recurrent attacks and from the transfusion requested by the health worker.

4. DISCUSSION

In this chapter we discuss the results of our survey of five Jehovah's Witness parents whose children had an anaemia problem and who had received traditional herbal treatment.

4.1 Experience of Jehovah's Witness parents

4.1.1. Circumstances of the occurrence of anaemia

In this series, we noted that the circumstance of the onset of anaemia was not the same for all respondents: at birth, from the symptoms and from the diagnosis of the health centre.

As confirmed by the various comments relayed by the respondents:

"... I have five children, four of whom were doing well and the fifth child was the one with anaemia, at birth the child was doing well, but when he was 8 months old he had an anaemia crisis..."

It is certainly acceptable that signs of anaemia are detected at infant age, as the condition is much more prevalent in children under five years of age. Several studies confirm this.

According to UNICEF, nearly 195 million children worldwide suffer from malnutrition. This pathology is mainly caused by the absence of essential nutrients, which not only affects growth but also weakens the subject's defences [3].

This situation can be explained by the fact that infants in our environment often have the same year as other ages.

Other aspects mentioned by the respondents are symptoms such as physical asthenia, pallor, fever and diarrhoea. This is supported by the respondents' comments that:

"... for my child, when he fell ill, I noticed the asthenia, the paleness, that was why I took him to the hospital to diagnose anaemia, ..."

"... the child presented with fever and diarrhoea and was treated without success, having seen the persistence of these signs a few days later, we noted that the haemoglobin level was reduced..."

According to Toutain [20], anaemia is manifested by the main signs such as asthenia, pallor is the major tegumentary sign. In addition, signs of intolerance should be noted (dyspnoea such as tachypnoea, cyanosis, fluttering of the wings of the nose, intercostal draught and expiratory whining, etc.).

For Kanga [21], the main signs are fever, signs of haemolysis (splenomegaly, hepatomegaly, jaundice, urine discolouration), haemorrhage, haematuria, malformations, weight loss, oedema, and delay in height and weight gain

The manifestation of the above signs allows the health care provider to make a diagnosis and guide the management of the anaemia.

4.1.2. Place of diagnosis of anaemia

It was shown in this study that the hospital was the ideal place to diagnose the child's anaemia, according to the majority of Jehovah's Witness parents.

"... our child's anaemia was detected at the Health Centre and then we were transferred to the Makiso General Referral Hospital and it was there that the doctor confirmed that the child had anaemia..."

Loriau & al [16] confirm that 83% of doctors at the hospital accept to take care of a Jehovah's Witness and 51% declare that they encounter problems.

For Robert, Kouri and Lemieux [22], it is rather an ultimate situation of respect and acceptance of the other person's will and higher values. When everything has been tried, despite the feelings of helplessness and powerlessness that such a situation leaves us, we must accept the other's search for the absolute and the power of freedom; this is the ultimate mark of human understanding.

In his study on "Between the patient's will and medical necessity", Barbot [23] specifies that, on the other hand, it is necessary to monitor blood loss, limit it and anticipate supplementation. More than 30% of blood transfusions in intensive care are related to blood sampling. Blood sampling should be limited and performed in paediatric tubes.

It is difficult to declare the child anaemic without subjecting him/her to biological examinations, which will determine the type of anaemia to better orient medical management.

4.1.3. Experience

Respondents had experience of traditional treatment of anaemia in children based on recurrent attacks, based on transfusion requested by the health worker.

The multiple crises of anaemia are the first element that marks the experience of Jehovah's Witness parents.

"... as the child had untimely attacks of anaemia, I had begun to treat the disease by resorting to the traditional treatment...".

The Jehovah's Witness parents had received experience on the traditional treatment of children's anaemia from the transfusion requested by the medical staff.

4.1.4. Difficulties encountered

Some difficulties encountered were reported by respondents during the traditional treatment of anaemia in children. For example, the difficulty related to estimating the quantity to be administered to the child and the problem of storing the solutions to be used.

"... the main difficulty encountered was based on the estimation of the quantity of remedy to be administered to the child because the solution was made in containers that were not graduated and it was really difficult to determine in a precise way the dose to be given...".

The main limitation of natural herbal treatment is the determination of the quantity of the dose to be given to the patient.

This was stated by Obaro, who pointed out that the main difficulty of herbal treatments is the non-determination of the doses to be given according to the active ingredients of the drugs [24].

The other problem is how to preserve the products to be used in the case of anaemia.

Faucon, Momeni and Forget [25] in their publication on the "Management of Jehovah's Witness parents during surgical operations with a high risk of haemorrhage" specify that in

emergencies, there are no products available as an alternative to red blood cell transfusion. It is important to be aware of the procedures with bleeding risks in order to anticipate them.

"... we have experienced a problem in relation to the conservation of solutions to be used...".

Some products require cold storage to be effective in administration, as the duration of treatment is an important factor to respect.

4.1.5. Support from brothers on the treatment of anaemia in children

With regard to support, all respondents had to rely on Jehovah's Witness brothers in the traditional treatment of anaemia in children. As the interview we have with the first respondent, expressed in these terms:

"... when the doctor asked us to transfuse the child, our brothers showed us solutions from the leaves for the treatment of anaemia, ..."

The love that characterises Jehovah's Witness brothers and sisters is a foundation of the Christian faith that unites them in Jesus Christ. We believe that the support of a brother would go a long way in improving the health of a child with anaemia.

Wake Up! in its article published in 1993, points out in its study that in such cases, psychiatric help is recommended. On the other hand, Jehovah's Witness parents share their ideas with other people. Their religion is protected by the right to freedom of worship and, more generally, to philosophical freedom [26].

Another respondent continued: *"... the medical staff asked to transfuse the child, so I decided to seek support from the brothers who know about the traditional treatment ..."*.

Jehovah's Witness have particular beliefs that lead them to refuse certain treatments such as blood transfusion or organ transplantation. For us, as nurses, our major role in these cases is to inform the person well and if they refuse, to make sure that this decision is freely consented to. It is always in relation to this principle of voluntary acceptance or refusal that some of the nurse's difficulties with Jehovah's Witnesses may arise [25].

In this situation, we believe that Jehovah's Witness parents in our region support each other in circumventing the use of blood transfusions by using plants in the treatment of anaemia in children.

CONCLUSION

The present study focused on the experience of Jehovah's Witness parents on the traditional treatment of anaemia in children. It was carried out in the Plateau Médical district in the commune of Makiso, with the aim of determining the experience of Jehovah's Witness parents with regard to the traditional treatment of anaemia in children.

To achieve this objective, we considered it useful to use the qualitative and phenomenological method, based on the free, face-to-face interview in the process of collecting data on the experience of Jehovah's Witness parents with the traditional treatment of anaemia in children. To achieve this, the study involved 5 Jehovah's Witness parents living in the Plateau Médical neighbourhood in the Makiso commune.

At the end of our analyses, we arrived at the following results with regard to the experience of the Jehovah's Witness parents: the circumstance of the occurrence of anaemia was not the same for all respondents: at birth, from the symptoms and from the diagnosis at the health centre. Respondents had received experience of the traditional treatment of anaemia in children from recurrent attacks and from the transfusion requested by the medical staff.

Finally, Jehovah's Witness parents had experience of the traditional treatment of children's anaemia and found it effective.

In view of these results, we therefore believe that the Jehovah's Witness parents were right to resort to the traditional treatment of anaemia since the result is satisfactory, the evolution was good and the treatment always produces a good result.

NOTE:

The study highlights the efficacy of " herbal treatment " which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

References

- [1] WHO/Unicef (2010). Sick cell disease: A strategy for the WHO African Region. Report of the Regional Committee for Africa (Vol. AFR/RC60/8). Malabo, Equatorial Guinea: WHO.
- [2] McLean, Cogswell, Egli & al (2009). Worldwide prevalence of anaemia, WHO Vitamin and Mineral Nutrition Information System, Public Health Nutrition.
- [3] UNICEF/WHO (2009). World Health Organization/United Nations Children's Fund Joint Statement, Focus on Anaemia, Towards an Integrated Approach to Effective Anaemia Control.
- [4] Khan & al (2006). WHO analysis of causes of maternal death: a systemic review. Lancet.
- [5] WHO/Unicef (2010). Sick cell disease: A strategy for the WHO African Region. Report of the Regional Committee for Africa. Vol. AFR/RC60/8. Malabo Equatorial Guinea: WHO.
- [6] Fretham, Carlson and Georgieff (2011). The role of iron in learning and memory Adv Nutr.
- [7] Nancy, Krebs, Dexiang Gao, Jane Gralla, Collins, Susan & Johnson (2010). Efficacy and Safety of a High Protein, Low Carbohydrate Diet for Weight Loss in Severely Obese Adolescents. Published: March 22, 2010 DOI: <https://doi.org/10.1016/j.jpeds.2010.02.010>.
- [8] Rian, Plo Kouie, Daignekpo & al (2012). Severe anaemia in infants and children in tropical Africa. Ann. Ped.

- [9] WHO (2012). Haemoglobin concentration for the diagnosis and assessment of anaemia severity. Nutritional information system on vitamins and minerals. Geneva, WHO.
- [10] UNICEF/UNU/WHO (2020). Iron deficiency anemia: assessment, prevention, and control. Geneva, World Health Organization (WHO/NHD/01.3; http://www.who.int/nut/documents/ida_assessment_Prevention_control.pdf, accessed 16 January 2022).
- [11] Malumba and Muhindo (2009). Estimation of the case fatality rate due to anaemia in children under five years of age in Kinshasa referral hospitals. *Ann Afr Med*.
- [12] Diouf, Folquet, Mbofung, Ndiaye & al (2015). Prevalence and determinants of anaemia in young children in Francophone Africa - Implication of iron deficiency. Elsevier Masson. Paris.
- [13] Armelle Guivier (2007). Risks of physical harm to followers of sects, Besançon. University of Franche-Comté, Faculty of Medicine and Pharmacy of Besançon, ("Current Science versus Jehovah's doctrine ").
- [14] Wake up! (1995). "Seminars for the improvement of the relationship between doctors and Jehovah's Witness", 22 March.
- [15] Garraud (2009). The symbolism of blood and blood transfusion among Jehovah's Witness. Editions John Libbey Eurotext. Volume 15, number 6, November-December.
- [16] Loriau, Manaouil, Montpellier, Graser & Jarde (2004). Surgery and transfusion in Jehovah's Witness patients. Forensic focus. Elsevier SAS.
- [17] Streef, Charpentier, Audibert & Laxenaire (2009). Treatment of acute post-traumatic anemia with recombinant human erythropoietin in a Jehovah's Witness. *Annales Françaises d'Anesthésie et de Réanimation*. Volume 15, Issue 8.
- [18] Najand (1996). The experience of Jehovah's Witness, Informed consent and blood transfusion, legal and ethical aspects. Rennes, Editions Ecole Nationale de la Santé Publique (ENSP).
- [19] Omanyodo (2017). Seminar on Scientific Research Methodology (qualitative approach). Master 1 in Maternal and Child Health, ISTM/Kinshasa.
- [20] Toutain (2004). Diagnosis of anaemia in paediatrics: diagnostic approach, therapeutic management. Service d'Hémo-oncologie Pédiatrique du CHU de Rennes.
- [21] Kanga (2006). Epidemiological, clinical, etiological aspects and management of severe anaemia in children at the Gynaecological Obstetric and Paediatric Hospital of Yaoundé. Medical Thesis, Yaoundé.
- [22] Robert, Kouri and Lemieux (1995). Jehovah's Witness and the refusal of certain treatments: 26 R.D.U.S. Problems of form, capacity and constitutionality 131 arising from the Civil Code of Quebec-Canada.

[23] Janine Barbot (2009). Between the patient's wishes and medical necessity. Doctors facing transfusion refusal. In *Journal d'Economie Médicale* 2009/3. Volume 27.

[24] Obaro (2009). Pneumococcal infections and sickle cell disease in Africa: does absence of evidence imply evidence of absence? *Archives of Disease in Childhood*.

[25] Faucon, Momeni & Forget (2017). Management of Jehovah's Witness during surgical procedures with high bleeding risk. *Anaesthesia and resuscitation. Louvain Med* 2017; 136 (10): 562-573.

[26] Wake up! (1993). "Collaboration between Jehovah's Witness and the medical community", 22 November 1993.