

UNIVERSITY OF IBADAN

CHILD MORTALITY IN ANCIENT ROME AND MODERN IBADAN

BY

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CERTIFICATION

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DEDICATION

I dedicate this thesis to God Almighty who sent His son Jesus Christ to die for mankind thereby, reconciling man to God.

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LIST OF ABBREVIATIONS USED IN THIS WORK

Afr J Med Med Sci	African Journal Of Medicine And Medical Sciences
AHR	American Historical Review
AIDS	Acquired Immune Deficiency Syndrome
AJP	American Journal of Philology
AUM	Acute Uncomplicated Malaria
CIL	Corpus Inscriptionum Latinarum
CQ	Classical Quarterly
DNA	Deoxyribonucleic Acid
EPA	Environmental Protection Agency
FESTAC	Festival of Arts and Culture
GNP	Gross National Product
HIV	Human Immuno Virus
HTR	Health Transition Review
IITA	International Institute for Tropical Agriculture
IQ	Intelligence Quotient
JHM	Journal of the History of Medicine
JPR	Journal of Population Research
JRS	Journal of Roman Studies
JTMH	Journal of Tropical Medicine and Hygiene
JTP	Journal of Tropical Pediatrics

MDGs	Millennium Development Goals
NI	New Internationalist
PEM	Protein Energy Malnutrition
PHCN	Power Holding Company of Nigeria
PS	Population Studies
SM	Severe Malaria
TF	Tertian Fever
UN	United Nations
USAID	United States Agency International Development
VAD	Vitamin A Deficiency
West Afr J Med	West African Journal of Medicine
WHF	World Health Forum
WHO	World Health Organization

ABSTRACT

High records of occurrences of child mortality were documented in ancient Rome and in modern Ibadan. Available studies on ancient Rome focused on the effect of female infanticide on the population, and those on modern Ibadan, concentrated on the effects of cerebral malaria on children below the age of 5. However, these studies ignored the comparative possibility of health situations in both societies despite their related experiences. This study, therefore, compared the causes of child mortality (ages 0-5) in both societies.

The study employed historical and comparative methodologies to highlight the factors that caused child mortality in both societies. Sources utilised on ancient Rome were volume X of the *Corpus Inscriptionum Latinarum*, from which gender distribution of mortality and chronological age of children were gleaned. Data were also extracted from classical and contemporary authors. For modern Ibadan, information was gathered from medical literature and newspaper reports. The data were subjected to content analysis.

The factors which brought about child death in ancient Rome and modern Ibadan were similar, but they occurred in varying degrees of magnitude. Respiratory tract infections such as pneumonia, acute bronchitis, asthma, and tonsillitis caused child mortality in both societies. Air-borne and water-borne diseases such as tuberculosis, cholera, typhoid, measles and diarrhea killed children below age 6. These diseases were often aggravated by malaria. Dysentery and inflammatory bowel diseases such as enteritis also accounted for children's death. Other diseases that included jaundice, malaria, convulsions, neo-natal tetanus, meningitis, severe malnutrition, severe birth syphxia, ulcers and gangrene also caused child mortality in both societies. Maternal illiteracy, superstitious beliefs, social deprivation, and poverty were the social and economic factors which permitted child mortality in the two civilisations. In both societies, children less than 3 were worst affected by these diseases due to their vulnerability. In ancient Rome, neo-natal death resulting from venereal diseases such as gonorrhoea and syphilis were transferred from mother to child at birth, but this death was rare in modern Ibadan since people were informed of the disease in modern Ibadan than in antiquity. Lead poisoning, superstitious beliefs and social deprivation caused death in both societies. In ancient Rome, social deprivation ranked highest,

followed by superstitious beliefs and lead poisoning because of government's enthusiasm about the empire's consolidation. In modern Ibadan, superstitious beliefs caused more death than lead poisoning and social deprivation due to the people's belief system. While malaria and tuberculosis killed thousands of children than other diseases in ancient Rome, neonatal tetanus, prematurity and low birth weight, neonatal septicaemia and severe birth sphyxia ranked highest in modern Ibadan. They ranked highest in antiquity and Ibadan respectively due to weather conditions and people's ignorance of the diseases.

Child mortality in ancient Rome and modern Ibadan was caused by tropical diseases, sexually transmitted infections and respiratory tract infections. Thus, child mortality was a social challenge in both societies. Further studies could examine the divergence and convergence in the medical approaches applied to infant diseases in ancient Rome and modern Ibadan.

Key words: Child mortality, Epitaphium, Ancient Rome, Modern Ibadan, Diseases.

Word Count: **493**

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CHAPTER ONE

INTRODUCTION

1.0. Statement of the Problem

References to child mortality in the works of Classical authors are accidental. These works do not examine closely the factors responsible for child death. Modern authors on ancient Rome also view the various causes of child death in passing. Not one of these authors set out to document diseases and other factors responsible for child mortality in antiquity. The aim of this study is to examine causes of child mortality in ancient Rome and supplement ancient sources with Latin child funerary inscriptions.

In ancient Rome, because of the extent of the power (*patriae potestas*) of the male head of the household (*paterfamilias*), children had few, if any, rights throughout the Roman Empire, and little attention has been paid to children in contemporary scholarship. Most research focus on the family (which include not only the natal family, but also the conjugal, extended, and foster family and slaves) and genealogies and relationships within the family. It becomes necessary therefore to supplement epigraphic evidence with ancient literary sources on child mortality in antiquity. Latin child funerary inscriptions utilized in this work are sourced from the 10th volume of the *Corpus Inscriptionum Latinarum*. The first part of this volume contains inscriptions found in Roman Campagna and Latium Adiectum, while the second part includes inscriptions discovered on the islands of Sardinia, Corsica and Sicily. In antiquity, records of events were kept as required by the administration of the state, but records of birth and death of children in the empire were not documented in official records. As a result, there are no records kept for the purpose of further studies. Therefore these Latin inscriptions prove very useful in the elucidation of child mortality in ancient Rome. Erecting epitaphs for the departed was an aspect of the culture of ancient Romans. Burial was an important facet in the lives of these people, even from the prehistoric peoples of Italy. Historians, Epigraphists as well as Archaeologists have been able to explain the cultures of the Pallafitte, the Terremare, the Villanova, the Etruscans and other peoples who populated Italy prior to the incursion of the Romans through

evidence found at burial sites.¹ The importance of these epitaphs cannot be overemphasized. Although some scholars have argued that epitaphs or inscriptions do not give proper statistics of mortality in antiquity,² they are unambiguous facts that can and indeed aid in the elucidation of child death in the Greco-Roman world.³ For ancient Rome this work will cover generally, the period between the 5th century B.C. and the 7th century A.D. It will concentrate more on the period between the 2nd century B.C. and the 2nd century A.D. The reason is that there is more evidence from both epigraphic and literary sources. The literary works include those of Thucydides, Tacitus, Celsus, Galen, Soranus, Pliny the Elder, Columella, Vitruvius, Varro, Tertullian, Philo Judaeus and Marcus Aurelius.

In modern Ibadan, the State's Ministry of Health does not possess data or records of death of children of ages 1-5 from 1980 to 2005. But there are records of birth and death of neonates from all the ten local governments of Ibadan. The Ministry of Health sends out field workers to accumulate data of birth and deaths of new born babies. Hospitals also send their data to the secretariat.⁴ These pieces of information throw some light on the birth and death rate of neonates. Research which has been carried out by medical practitioners, authors and columnists on causes of child mortality in modern Ibadan is scanty.

However, not one of these authors, researchers and columnists has documented altogether diseases and other reasons responsible for child death in Ibadan. This work will examine diseases and other factors responsible for child death in modern Ibadan in the periods between 1980 and 2005. Of all the extant works on child mortality, no author has documented side by side the factors responsible for child death in both ancient Rome and modern Ibadan. This study aims to do that. In so doing it will examine ancient Roman authors and Latin epitaphs documenting deaths of children between ages 0 and 5. It will determine

¹ Boak, A. E.R., 1935, *A History of Rome to 565 A.D.* pg 8-44, London, Routledge Publishers explains that from burial sites the culture, and even food consumed by the people could be deciphered. Sometimes the skeletons discovered also revealed the physique of these inhabitants.

² Engels, D., 1980, The Problem of Female Infanticide, *Classical Philology* 75: 112-120. Harvard University Press.

³ See King Margaret, Commemorating Infants on Roman Funerary Inscriptions, *The Epigraphy of Death* pg118, Studies in the History and Society of Greece and Rome, ed by G.J., Oliver, Liverpool University Press and Ikurite's, 1973, Notes on Mortality in Roman Africa pg 59, *Museum Africum*. West African Classical Association in conjunction with the Department of Classics, University of Ibadan.

⁴ The Records officer at the Ministry of Health, Oyo State Secretariat, Ibadan, attests to this.

diseases and other factors responsible for child death in ancient Rome and modern Ibadan. And it will compare the causes of child death in both ancient Rome and modern Ibadan.

This study makes a significant contribution to scholarship in examining and documenting diseases and other factors responsible for child mortality in antiquity and modern Ibadan. It will be an addendum to knowledge on family values in antiquity and in modern Ibadan. It will also motivate further research in the area of identifying, in modern names, ancient diseases and correlating both the ancient and modern.

Ancient Roman Empire had her share of everything and anything that a society endures. Some of the issues experienced in antiquity are evident in the everyday activities and lifestyle of the people in modern Ibadan.

Though two thousand years distant in time, Ancient Rome is still relevant to our debates and assumptions today because . . . Rome was the starting point for some of the standard historical narratives about the evolution of the family and State that inform our modern assumptions.¹

Ibadan metropolis like ancient Rome has experienced and tackled various political, economic, social, religious and health issues. It is a place where rival classes struggled for power; a place in which the major changes, structural, institutional and ideological, in the larger society produced fundamental reactions affecting the structure of social and political behavior.²

Ibadan (Yoruba: *Ìbàdàn* or fully *Ìlú Èbá -Òdàn*, the city at the junction of the savannah and the forest) is the capital of Oyo State. It is located in southwestern Nigeria, in the southeastern part of Oyo State. With a population of 2,338,659, and a total area of 1,190 sq mi (3,080 km²), Ibadan is the largest metropolitan

¹Saller Richard, 2004, *Family Values in Ancient Rome* pg 1-2, sourced on 23rd Feb., 2007 from <http://fathom.lib.uchicago.edu/1/777777121908/>

²Labinjoh J., 1991, *Modernity and Tradition in the Politics of Ibadan: 1900-1975*, p 2, Ibadan, Nigeria.

geographical area in Nigeria. It is also the third largest city in Africa after Cairo and Johannesburg¹.

There are eleven Local Governments in Ibadan Metropolitan area which consists of five urban in the city and six semi-urban local governments in the less city². The five urban local governments are; Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West. The six semi urban are; Akinyele, Egbeda, Ido, Lagelu, Ona Ara and Oluyole local governments.³

Since inception in 1829, Ibadan has witnessed population growth and modernization. Ibadan became a major trading centre after it became a British protectorate in 1893.

1.1. Expected Outcome

It is expected that at the end of this research, several factors that led to child mortality in ancient Rome and modern Ibadan will be identified. Latin epigraphy should have a much more solid database at the Department of Classics, University of Ibadan. It is an area that is little looked into for now. At the end of this work more materials on Latin and Greek epigraphy should be available to other researchers who may develop interest in this area.

1.2. Methodology

This work adopts a methodology that combines historical evidence and comparative perspective. Ancient Rome was the seat of power in antiquity. It was the city par excellence. People moved to Rome because it was a city where opportunities abounded for anyone who desired success and eventual steps up the social ladder. She had a long history attached to many aspects of her society; issues relating to politics, economics, religion, cultural practices, health and social mobility. The population of ancient Roman Empire is pegged between 4 and 5 million people.⁴ Modern Ibadan with a population of 2,338,659 and eleven local governments is a metropolitan city and has always drawn attention. It was the capital of southern and Western Nigeria and her history presents an appealing tale

¹ Ibadan, <http://en.wikipedia.org/wiki/Ibadan>, retrieved on 6th May, 2013.

² Tomori M. A. "Ibadan Metropolitan Area and the Challenges to Sustainable Development" retrieved from <http://macosconsultancy.com/Ibadan%20metropolitan.html> on 6th May, 2013

³ Ibid

⁴ <http://makinapacalatxilbalba.blogspot.com/2009/01/population-of-ancient-rome-in-popular.html>

of commercial rise from the period of colonization even to date. Ancient Rome and Ibadan share social cultural principles, political ideologies and permitted the organizations of different religious sects. Therefore, it becomes necessary to adopt a methodology that is both historical and comparative.

Sources utilized include literary and epigraphic documentation and in the case of Ibadan, interactive interviews.¹ Latin epitaphs commemorating children less than 6, classical and contemporary literatures on ancient Rome, as well as documentation treating child mortality in modern Ibadan are consulted. This historical approach may also facilitate further studies that aim at adapting ancient solutions of child mortality to modern times. Latin epitaphs are translated into the English language and analyzed. Works of Classical and modern authors on ailments that have led to death are examined. Works of researchers concerning child mortality in modern Ibadan from 1980 to 2005 are also analyzed.

The first chapter presents the introduction of this study. It gives an overview of the entire thesis. It states the problem to be solved, the expected outcome and the methodology employed in the study. The second chapter reviews the various literatures utilized in the course of this study. The third chapter treats the probable causes of child mortality in ancient Rome. The fourth chapter examines some Latin funerary inscriptions commemorating children between ages 0 and 5 in ancient Rome. The fifth chapter elucidates causes of child death in modern Ibadan from the period 1980 to 2005, and the sixth chapter compares ancient Rome and modern Ibadan and concludes the thesis.

1.3. A Brief History of Ancient Rome and Ibadan Land

Ancient Rome

Ancient Rome was a civilization that thrived and endured for about 1200 years. According to legends ancient Rome was founded by Romulus and Remus descendants of the Trojan prince Aeneas. They were sons of the Vestal virgin, Rhea Silvia the daughter of Numitor, therefore, grandsons of this Latin King of Alba Longa. The king forced Rhea Silvia to become a Vestal Virgin for the Vestal Virgin were meant to be chaste until death. The main reason was that she would not be given in marriage to a man and she would not procreate. The king felt she

¹ Oral interviews make up a minute percentage of data compiled for this study.

might give birth to sons who might grow up to become his rivals. Contrary to his plan, Rhea Silvia was raped and impregnated by the god Mars and gave birth to twins who were considered demy gods. The king then hatched a plan to annihilate the children and so asked someone, perhaps Faustulus, a swineherd, to expose the boys. Faustulus left the twins on the river bank where a she-wolf nursed them, and a woodpecker fed and guarded them until Faustulus took them into his care again. The two boys were well educated by Faustulus and his wife, Acca Larentia. They grew up to be strong and attractive.

*"They say that his name was Faustulus; and that they were carried by him to his homestead and given to his wife Larentia to be brought up. Some are of the opinion that Larentia was called Lupa among the shepherds from her being a common prostitute, and hence an opening was afforded for the marvelous story."*¹

The boys needed their own kingdom and settled in the area in which they had been raised, but the two young men couldn't decide on the exact site and started building separate sets of walls around different hills: Romulus, around the Palatine; Remus, around the Aventine. There they took auguries to see which area the gods favored. On the basis of conflicting omens, each twin claimed his was the site of city. An angry Remus jumped over Romulus' wall and Romulus killed him. Rome was therefore named after Romulus. "A more common account is that Remus, in derision of his brother, leaped over the newly-erected walls, and was thereupon slain by Romulus in a fit of passion, who, mocking him, added words to this effect:" So perish every one hereafter, who shall leap over my walls." Thus Romulus obtained possession of supreme power for himself alone. The city, when built, was called after the name of its founder."²

Rome eventually became a haven for indigent, exiled and unwanted people. Rome had many of such men but lacked women. Therefore, in order to secure wives for her men folk, Romulus travelled far and wide in order to obtain marriage alliances with other peoples. He did not succeed. Therefore, the Latins invited the Sabines to a festival and stole their maidens. This is known as the rape of the Sabines. As a result, the Latins and the Sabines became amalgamated.

¹Livy, *The Rise of Rome, Books 1–5*, 1998, translated from by T.J. Luce, 1998. Oxford University Press.

²Livy, *The Rise of Rome, Books 1–5*, 1998, translated from by T.J. Luce, 1998. Oxford University Press.

Vergil's¹ version tells us that Aeneas was destined by the gods to found a new Troy and after many adventures, Aeneas and his son arrived at Laurentum on the West Coast of Italy. Aeneas married Lavinia, the daughter of Latinus the king. In honour of his wife, Aeneas founded the town of Lavinium. Ascanius, the son of Aeneas built a city which he named Alba Longa. Alba Longa was the hometown of Romulus and Remus, who were separated from Aeneas by about a dozen generations. These myths surrounding the founding of Rome are discussed extensively by other Classical and modern authors.

Historically, at about the 8th century B.C., located by the Mediterranean Sea, she began her growth on the Italian Peninsula. This city expanded and became one of the largest empires in the ancient world.² The Roman civilization came under several political dispensations. It began as a monarchy. And when the kings were expelled from Rome, it became a Republic in 509 B.C. and then an autocratic empire in the first century B.C. It had control over Southern, Northern, Western and parts of Eastern Europe, Asia Minor and North Africa through conquests and her policy of assimilation.

This society influenced the Western world, to a large extent, in government, law, politics, engineering, art, literature, architecture, technology, warfare, religion and language. The *res publica* is an inspiration for modern republics.³ Under the Republic Rome's conquests stretched beyond the Mediterranean. It extended from the Atlantic to Judea and from the mouth of the Rhine to North Africa.⁴ As a result of the campaigns of Julius Caesar's Rome claimed France, the Netherlands and Belgium. Portugal, Spain, Greece and Egypt also came under Rome through the efforts of Julius Caesar. The Parthians in Pontus and Zela in the Middle East were conquered by Rome. Syria, Israel, Western Turkey and Northern Libya were added to Rome through the efforts of Julius Caesar. Due to several civil wars during the era of the Republic, the Empire began to experience decline.⁵ The hundred years of strife which ended with the battle of Actium left the Roman Republic, exhausted and helpless, in the hands of

¹ Vergil, *The Aeneid*, translated by John Dryden. Retrieved from <http://classics.mit.edu/Vergil/aeneid.7.vii.html>

² Chris Scarre, 1995, *The Penguin Historical Atlas of Ancient Rome*, London.

³ Mortimer N. S. Sellers, 1994, *American republicanism: Roman ideology in the United States Constitution*, Pg. 90. New York.

⁴ http://en.wikipedia.org/wiki/Ancient_Rome

⁵ Hadfield Andrew, 2005, *Shakespeare and republicanism*, p.68, Cambridge University Press.

one wise enough and strong enough to remold its crumbling fragments in such a manner that the state, which seemed ready to fall to pieces, was prolonged for another five hundred years. This wise and strong man was Octavius or Augustus Caesar. He established the political structure that was to be the basis of the Roman imperial government for the next four or five centuries¹. Many other Emperors ruled the Roman Empire after Augustus. The Roman Empire constantly came under attack from without and suffered incessant internal instability. Consequently, the Western part of the Empire became divided into independent kingdoms in the 5th century A.D. The Eastern part which was much more stable than the Western part endured for another millennium until it was finally conquered by the Turkish Ottoman Empire. This period, that is the medieval period of the Empire is known by historians as the Byzantine Empire.

Ibadan Land

Ibadan was, according to legend established by Lagelu the commander-in-chief of the army of Ile-Ife. He first settled with his people at Awotan in Apete. When certain people mocked the *egungun* masquerade at Eba-Odan by disrobing it, Sango, the Alaafin of Oyo ordered that Eba-Odan be destroyed. Lagelu and those who survived the attack took refuge on a hill and lived on *oro* fruits. They later migrated to another settlement, Ibadan. Ibadan was established in 1829. After the fall of Oyo between 1826 and 1827, many people took refuge in this city, Ibadan, and by 1850 the population had increased to about 250,000.

Ibadan political system was different from many others. There was no office of the Oba, rather four high offices were created. They were *Iba* or *Baal'le*; he was the civil head of town. Then the *Balogun* later *Basorun*, he was the head of the military. Next was the *Seriki* second in command to the *Balogun*, it was also a military office. The last office was that of the *Iyalode*, a very powerful office of women leader.

Under the leadership of Oluyole, Ibadan played an important role in Yoruba land. Oluyole fought and won several wars. These wars include; Ibadan versus Ijebu, Ibadan versus Owu, Ibadan versus Ife and Ibadan versus Egba. After the war with the Egbas, Ibadan controlled many Egba towns. As a result, Oluyole

¹ Mary Beard, *BBC History*, *BBC*, March 29, 2011

became the *Areago* of Ibadan and later was titled the *osi-ona-kankan-fo* of Yoruba land. Because Ibadan was able to drive the rampaging Fulanis away from Igbomina, Oshogbo, and protect Ekiti and Akoko from threats from the Fulanis, Ibadan became the leader over the Yoruba. For by 1840, Ibadan soldiers, having defeated the Fulanis, pushed them back to Ilorin.

After the Ijaye war of 1860-61, Ibadan established her military supremacy over Yoruba land. Prominent Ibadan rulers of the 19th century include; Basorun Oluyole, Basorun Ibikunle, Basorun Ogunmola, Basorun Latosisa and Iyalode Efunsetan Aniwura. Ibadan continued to wage war with other Yoruba people. In 1877, Ibadan warred with Egba/Ijebu because they attacked Ibadan traders returning from Port Novo. In 1878, the Ijesa/Ekiti attacked despotic Ibadan indigenes in their territories. This called for war which lasted for sixteen years. These and many wars raged on. The Yoruba fought one another frequently and ferociously to such an extent that British colonialists were confounded.¹ These wars raged on until 1886, when peace began to return to Ibadan. It happened through the efforts of the Church, spearheaded by Samuel Johnson, Charles Phillip and Maloney, Lagos State governor.

By 1900, the history of Yoruba land changed. Ibadan retained her dominance over Yoruba land and became the political and administrative head of Yoruba land.²

¹ Ayandele., E.A., 1979, *The Yoruba Civil Wars and The Dahomian Confrontation*, in Ayandele E.A, *Nigerian Historical Studies* p 52-64, London.

² Apart from authors cited with regard to Ibadan, information was retrieved from <http://yorupedia.com/subjects/yoruba-from-19th-to-date/after-the-fall/>

CHAPTER TWO

LITERATURE REVIEW

2.0. Introduction

In the course of this study various sources are used. They include the *Corpus Inscriptionum Latinarum* (CIL), ancient authorities such as Thucydides, Cato, Varro, Vitruvius, Livy, and Horace. Celsus, Seneca, Pliny the Elder, Persius, Josephus the Jewish Historian, Juvenal, Tacitus, and Aulus Gellius proved useful. Others are Galen, Tertullian, Columella, Marcus Aurelius Antoninus, Augustine, Lactantius, and Paul of Aegina. Commentaries and articles on ancient Rome and contemporary Ibadan by modern scholars are also consulted.

2.1. The CIL

The first volume of the *Corpus Inscriptionum Latinarum* (CIL) was first published in 1853 under the leadership of Theodor Mommsen. Several volumes followed. The CIL is being updated by the Berlin-Brandenburgische Akademie der Wissenschaften. Presently, there are altogether seventeen (17) volumes of the CIL in about seventy parts recording about one hundred and eighty thousand (180,000) inscriptions¹ collected from various parts of ancient Roman Empire.

The CIL is a very useful source for aspects of the history, social and economic life of the people. These inscriptions include those commemorating children in the Roman Empire. However these epitaphs put up for children, do not indicate the causes of child mortality.

2.2. Classical Authors

The works of classical authors such as Thucydides,² Cato,³ Varro,⁴ Vitruvius,¹ Livy,² Horace,³ Celsus,⁴ Seneca,⁵ Pliny the Elder,⁶ Persius,⁷ Josephus

¹ Corpus Inscriptionum Latinarum 2. Durchgesehene und aktualisierte Auflage Deutsch – English, 2007, *The Corpus Today: A Review*, pg 25, Berlin-Brandenburgische Akademie Der Wissenschaften.

²c 460-c 400B.C

³ 234 BC – 149 BC

⁴ 116 B.C. – 27 B.C.

the Jewish Historian,⁸ Juvenal,⁹ Tacitus,¹⁰ and Aulus Gellius¹¹ are of varying value. Others include Galen,¹² Tertullian,¹³ Columella,¹⁴ Marcus Aurelius Antoninus,¹⁵ Tertullian,¹⁶ Augustine,¹⁷ Lactantius,¹⁸ and Paul of Aegina a Byzantine physician in the 7th Century A.D. They demonstrate various aspects of the society that relate to child mortality in ancient Rome.

The Twelve Tables of the Law¹⁹ (449 B.C.) were written so that plebeians could easily memorize them. However, they are not a comprehensive statement of all law; they are various forms of definitions of various private rights and procedures. The original text has been lost. They were destroyed when Rome was burnt down by the Gauls under Brennus in 390 B.C.²⁰ Only excerpts survive today and it is very useful in providing links to causes of child mortality in antiquity. Later authors such as Cicero quoted from the Twelve Tables of the Law while substantiating infanticide which was a cause of child death in ancient Rome.

This study relies heavily on the *Hippocratic Writings*²¹ (430B.C.-330 B.C.). The *Hippocratic Writings* explains the roles played by the elements, superstition and religion with regard to child death in the 5th and 4th century B.C. in ancient Rome. Consequently, it is an authoritative source for causes of child death in antiquity.

¹ ca 70 – ca 50 B.C

² 59 B.C

³ 55 B.C.

⁴ 25 B.C.

⁵ ca4 B.C.-A.D. 66

⁶ A.D 23–A.D. 79

⁷ A.D. 34

⁸ A.D. 37 – A.D. 100. The Works of Flavius Josephus, *Against Apion*. Cambridge: Harvard University Press.

⁹ A.D. 55

¹⁰ 124 A.D.

¹¹ Aulus Gellius was born between A.D. 125 and 128

¹² He was born in about A.D. 129 and died in about A.D. 216. He probably documented his literary works between 168 and 169 A.D.

¹³ 160 A.D.

¹⁴ 1st century A.D

¹⁵ Marcus Aurelius was a co-Emperor of Rome and also a writer. He lived and reigned as emperor in about 161 - 180 A.D.

¹⁶ Tertullian lived in the ancient city of Carthage in about 200 A.D

¹⁷ 354-430 A.D.

¹⁸ 3rd to 4th century A.D.

¹⁹ *Duodecim Tabularum Leges*, in *Fontes iuris Romani antiqui I*, ed. Georg Bruns et Otto Gradenwitz Tübingen, 1909. Sourced Dec. 2008, from http://www.hs-augsburg.de/~harsch/Chronologia/Lsante05/LegesXII/leg_ta00.html

²⁰ http://en.wikipedia.org/wiki/Twelve_Tables sourced 20th March, 2009.

²¹ The Hippocratic Writings, translated by Chadwick J. And Mann W.N., ed with introduction by Lloyd G.E.R., 1978, Penguin Books, London.

Marcus Porcius Cato¹ (234 BC – 149 BC) known as Cato the Elder presents in his work a miscellaneous collection of rules of husbandry and management as well as sidelights of country life. He advises that leaded cauldrons are better preferred to earthen cauldrons while preparing mustum. His advice was heeded, lead poisoning became gradually effective and child death was not far to seek. Vitruvius also discusses the importance of consuming potable water conveyed through earthen pipes rather than leaded pipes. These authors provide hints with regard to lead poisoning as a factor responsible for child mortality in antiquity.

The Roman Poet Quintus Horatius Flaccus² otherwise known as Horace (December 8, 65 BC - November 27, 8 BC), gives very insufficient information on child death in antiquity. His Epodes which belong to the iambic genre of ‘blame poetry’, was written to shame fellow citizens and goad them into a sense of their social obligations. He satirizes corruption, societal ills, bad governance and ignorance of people in the society. Horace mentions an attack of the quartan fever on a child whose mother is ignorant of its effect. From his writings, malaria as a cause of child death can be deduced.

Livy³ writes the history of Rome in the first four books from its foundation to the Gallic invasion in 390. Portions of his work with regard to the plague that depopulated the city allude to a cause of child death. The works of Marcus Vitruvius Pollio (ca 70 – ca 50 B.C) a Roman writer, an architect and an engineer is used in this study.⁴ Although his work is on architecture, causes of child death can be gathered from it.

The works of the medical practitioner Celsus,⁵ is a primary source on diet, pharmacy, surgery, causes of child death and related fields and it is one of the best sources concerning medical knowledge in the Roman world. Galen⁶ and Soranus⁷

¹ *Marcus Porcius Cato: On Agriculture and Marcus Terentius Varro: On Agriculture*, 1935, translated by William Davis Hooper, revised by Harrison Boyd Ash. Oxford.

² Horace: *Satires and Epistles*, Perseus: *Satires, Horace, Book II, Satire. 3, 281-295*, 1973, a verse translation and notes by Niall Rudd, Penguin Books, London.

³ Livy, *The Early History of Rome, Books I-V*, translated by Audrey De Selicourt, 1973, Penguin Books, England.

⁴ Marcus Vitruvius Pollio *De Architectura (VIII.6.10-11)* sourced in December 2007 from <http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Vituvius/9.html>

A. Cornelius Celsus, *De Medicina*, Book III.3:3-6, translated by Spencer W.G., Loeb Classical Library.

⁶ Galen, *The Therapeutic Method: Books 1 & 2 (De methodo medendi)*, 1991, edited and translated by R.J. Hankinson. Clarendon Press, Oxford.

⁷ Soranus, *Gynaecology*, 2:18-20, translated by Temkin O.G., 1948, Oxford.

are sources for documenting causes of child mortality in antiquity which are not found in the CIL. They mention various diseases and social conditions such as malaria, tuberculosis and wet nursing that led to child death in antiquity. They provide insights into causes of child mortality during the periods 25 B.C. to 161 A.D.

Aspects of the work of Philo Judaeus¹ (20 A.D.) a Jewish writer treats infanticide and its ills. Marcus Terentius Varro² mentions the effects of mosquitoes and how to deal with them in order to be malaria free even in antiquity. This aspect of his work throw light on malaria, even as a cause of child death. Gaius Plinius Secundus³ popularly known as Pliny the Elder (A.D 23- August 25, AD 79), provide useful information on causes of child mortality. He mentions a cure for the deadly quartan fever that affects old and young, male and female. The Satires of Aules Persius Flaccus⁴ (Persius) and D. Iunius Juvenalis⁵ also provide inadequate information. However, they can be relied upon as they demonstrate cultural practice of the people with regard to care and love shown towards a child fit to live.

Tacitus' *Histories*, a portion of the *De Ira* written by Seneca, the moralist, and a portion of the *Apology* by Tertullian a Christian writer (c A.D 160) mention infanticide, a cultural practice of abandoning unwanted babies which of course, caused the death of such children. Aspects of the *Meditations* of the Roman Emperor, Marcus Aurelius Antoninus (161 - 180 A.D), who himself died in the Antonine plague is another important source, though fragmentary.

Lucius Junius Moderatus Columella,⁶ of the 1st century A.D., does not specifically write on child death, but like Pliny the Elder, Columella provides hints that do not go further than Pliny. However, Josephus the Jewish Historian also a writer in the first century A.D, document causes of child death in antiquity.

¹ Philo. *The Special Laws*. 1968. Translated by F. H. Colson. London: William Heinemann Ltd.

² Marcus Terentius Varro, *De Re Rustica*, Book I.12:2-3, 1934, translated by W.D. Hooper and H.B. Ash, 1934, Loeb Classical Library.

³ Retrieved in Jan 2008 from http://en.wikipedia.org/wiki/Pliny_the_Elder

⁴ Horace: Satires and Epistles, *Perseus: Satires, Satire. 2: 31-38, pg 214*, 1973, a verse translation and notes by Niall Rudd, Penguin Books, London.

⁵ Juvenal, the Sixteen Satires, VI: 602-604, pg 52, 1998, Translation with an Introduction and Notes by Peter Green. Penguin Classics, England.

⁶ *Columella: On Agriculture* XII.19.1, 19.6, 20.1, 21.1, 1954, translated by E. S. Forster and Edward H. Heffner, Loeb Classical Library.

The above classical authors provide evidence and hints on child mortality in ancient Rome. In these works causes of child mortality, more often than not, are mentioned in passing. From others, factors responsible for child death can be inferred. However writers in the early Christian era speak and write about some cultural practices of the people which do not portray Christian values. Their literary works in the forms of letters and epistles are of immense value as they provide facts about these cultural practices and superstitions that caused child death in the first and second centuries A.D. Classical authors not mentioned supplement the works above and they are acknowledged below in footnotes as well as the bibliography. None of them set out to write specifically about child death in ancient Rome.

2.3. Modern Commentaries on Ancient Rome

Otto Seeck¹ (1910), Gilliam² (1961), Littman and Littman³ (1973), McNeill⁴ (1976), Smith, C.A.⁵ (1996), and Hass Charles,⁶ while depending on ancient sources, especially, *The Meditations* of Marcus Aurelius, treat the plagues that exterminated people; old and young in antiquity even during the reign of Marcus Aurelius as Emperor of Rome.

Macdonnell⁷ (1913), Williamson⁸ (1978), Boswell⁹ (1984), Harris¹⁰ (1994), Milner¹¹ (1998), Cadwell¹² (2004), Dianne R. Moran,¹³ argue and propose views

¹ Otto Seeck, 1910, *Geschichte des Untergangs der antiken Welt*, 3rd ed., I: 398-405. Stuttgart.

² J. F. Gilliam, 1961, The Plague under Marcus Aurelius, *American Journal of Philology* 82, 228-29

³ Littman, R.J. and Littman M.L., 1973, Galen and the Antonine Plague, *The American Journal of Philology*, Vol. 94, No. 3, pp. 243-255, The Johns Hopkins University Press.

⁴ McNeill, William H. 1976, *Plagues and Peoples*, Bantam Doubleday Dell Publishing Group, Inc., New York.

⁵ Smith, Christine A., 2006, *Plague in the Ancient World: A Study from Thucydides to Justinian*. <http://www.loyno.edu/~history/journal/1996-7/Smith.html> Retrieved 6th October, 2007

⁶ Hass Charles, *The Antonine Plague*, <http://lib.bioinfo.pl/pmid:17195627>

⁷ Macdonnell W.R, 1913, *On the Expectation of Life in Ancient Rome, and in the provinces of Hispania and Lusitania and Africa*, *Biometrika*, Vol. 9, No. ¾, pp 366-380, Boimetrika Trust.

⁸ Williamson, Laila, 1978, Infanticide: An Anthropological Analysis. *Infanticide and the Value of Life*, pg 61-75, ed., Marvin Kohl. Prometheus Books, New York.

⁹ Boswell John Eastburn, 1984, Expositio and Oblatio: The Abandonment of Children and the Ancient and Medieval Family, *American Historical Review* 89, 12

¹⁰ Harris, W.V, 1994, Child-Exposure in the Roman Empire, *The Journal of Roman Studies*, Cambridge University Press.

¹¹ Milner, Larry S. 1998, *Hardness of Heart Hardness of Life: The Stain of Human Infanticide*, Kearney, NE: Morris Publishing.

¹² Cadwell, John C, 2004, *Fertility Control in the Classical world: Was there an Ancient Fertility transition?* *Journal of Population Research*.

¹³ Dianne R. Moran, *Infanticide*, <http://www.deathreference.com/Ho-Ka/Infanticide.html>

on deliberate population reduction, longevity and cultural practices. Their views and assumptions on infanticide in the Graeco-Roman world provide useful links that aid in establishing causes of child mortality in ancient Rome.

Montgomery¹ (1971), Nriagu² (1983), Eisinger Josef³ (1982), Jack Lewis⁴ (1985), and Eisinger Josef et al⁵ (1987), discussing the preponderance and usefulness of lead, as vessels (especially among aristocrats) assume that may have contributed to the death of children under 5 years of age. These authors believe that lead so poisoned the aristocrats themselves that they became incapable of discharging their duties. Therefore, the fall of the ancient empire of Rome was inevitable. Scarborough⁶ (1984) is one contemporary author who corroborates Litman and Litman, but disagrees with them that lead led to the fall of ancient Rome. These sources are useful; they supplement classical authors' information on the hints they provide as to reasons for child death in ancient Rome.

The *Wikipedia*,⁷ Vazifdar⁸ (2007), *HealthScout*⁹ and others are internet sources that provide information on lead and lead poisoning. They establish the importance of the metal and its devastating effects. They also ascertained the source of lead and means of contamination. Although some of these sources have little or nothing to do with child death in antiquity, they nonetheless supplement classical and contemporary authors' works in understanding, to a great extent, the impact that lead may have had on citizens, especially children under 6 years of age, in ancient Rome.

Donald Engels¹⁰ (1980) mentions that female infanticide could hardly have been practiced in antiquity and provides calculations to support his theory.

¹ Montgomery Dan, 1997, Lead, Floride, the Roman Empire and the Decline of Academic Achievement in the United States. Sourced from <http://sonic.net/kryptox/enviro/lead/romans.htm>

² Nriagu Jerome O., 1983, Saturnine Gout Among Roman Aristocrats: Did Lead Poisoning Contribute to the Fall of the Empire? *New England Journal of Medicine*, 308, 660-663.

³ Eisinger Josef, 1982, Lead and Wine: Eberhard Gockel and the *Colica Pictonum*, *Medical History*, 26, 279-302.

⁴ Lewis Jack, 1985, Lead Poisoning: A Historical Perspective (EPA Journal), Ohio, USA.

⁵ Eisinger J., Patterson C.C., Shirahata H., Ericson J.E., 1987, *Lead in Ancient Human Bones and Its Relevance to Historical Developments of Social Problems with Lead*.

⁶ Scarborough John, 1984, *The Myth of Lead Poisoning Among the Romans: An Essay Review*. *Journal of the History of Medicine*, 39, 469-475.

⁷ Lead Poisoning, sourced in June 2006 from http://en.wikipedia.org/wiki/Lead_poisoning

⁸ Vazifdar Lena, 2007, Retrieved 28th April, 2008 from <http://www.divinecaroline.com/article/22182/26720-toxic-truth-lead-poisoning/2>

⁹ <http://www.healthscout.com/ency/407/287/main.html>, retrieved April 2008

¹⁰ Engels Donald, 1980, *The Problem of Female Infanticide in the Graeco-Roman World*, *Classical Philology* 75: 112-120. Cambridge University Press.

However, to disagree were Golden¹ (1981) and Harris William² (1982), as they theoretically and historically explain that female infanticide was practiced. The aforementioned works prove quite useful for this study. These authors, no doubt, establish another cause of infant mortality in ancient Rome. With them, French Valerie³ suggests that in the event of poor midwifery the chances of survival of both mother and child are very slim. French suggests that child mortality rate is higher among the poor than among the rich.

Concerning Latin Inscriptions, Lawrence Keppie's (1991)⁴ main contribution is in understanding Latin inscriptions and being able to decipher signs and symbols that are common to inscriptions. The theme of his book is not on child death, rather he treats abbreviations, *praenomen* among others, which are common place in inscriptions and which help in breaking down and explaining inscriptions commemorating children and adults in ancient Rome.

Rogan John (2006)⁵ makes Reading Roman Inscriptions not only easy but interesting as well. He explains Latin epigraphy and makes clearer Roman inscriptions by categorizing them. And so inscriptions recognized include Imperial inscriptions, inscriptions denoting senatorial and equestrian ranks, inscriptions found on tombstones dedicated to one deity or the other and inscriptions that inform about the army, local government, commerce and trade and provincial administration. The central theme is learning to understand these various inscriptions especially where the names have been abbreviated and where signs and symbols are noted. And so from *Reading Roman Inscriptions*, one can learn to decipher inscriptions commemorating children as a means to an end in the question of child death in antiquity. Also, Brian K Harvey's *Roman Lives: Ancient Roman Lives as Illustrated by Latin Inscriptions*, explicates the importance of Latin inscriptions in understanding social and economic situations of the populace. King⁶ (2000) does not make references to causes of child death in antiquity. However,

¹ Golden, Mark, 1981, *Demography and the Exposure of Girls at Athens*, Phoenix 35: pp 316-331.

² Harris V. William 1982, The Theoretical Possibility of Extensive Infanticide in the Greco-Roman World, *The Classical Quarterly* 32. No. 1. 114-116. Cambridge University Press.

³ French Valerie, 1986, Midwives and Maternity Care in the Roman World, *Rescuing Creusa: New Methodological Approaches to Women in Antiquity*, *Helios*, New Series, 13(2), pp. 69-84).

⁴ Keppie Lawrence, 1991, *Understanding Roman Inscriptions*, The John Hopkins University Press, Baltimore.

⁵ Rogan John, 2006, *Reading Roman Inscriptions*, Tempus Publishing Limited, Great Britain.

⁶ Margaret King, 2000, *Commemorating Infants on Roman Funerary Inscriptions*, *The Epigraphy of Death*, ed., G.J. Oliver, Liverpool University Press.

she considers the use of epitaphs as evidence for Roman reactions to the death of an infant child.

Lefkowitz¹ (1992) generally informs about different aspects of the family especially those relating to women. In this book the original sources are assembled. Quotations from the original sources include topics relating to male child preference, wet-nursing and its intricacies, and childbirth among others. Sources quoted include the Oxyrhynchus papyrus, Soranus, Galen, Celsus, and Seneca. This book is useful as a source on classical authors who document, however fragmentary, causes of child death in antiquity.

Taking a closer look at the demography of Ancient Rome, Parkin² (assuming that life expectancy was between 20 and 30 years) relies on comparative evidence in order to choose an illustrative model for Roman mortality. An aspect of his work alludes to child mortality. Scheidel's³ (1996) demonstrates the most methodologically sophisticated analyses of ancient population. In the last chapter he uses early Christian epitaphs to establish seasonal mortality in different parts of the empire such as Rome, Egypt and Carthage. King⁴ (2000) and Christopher Price⁵ (2004) rely on the CIL and classical authors such as Tacitus, the Twelve Tables of the Law, Cicero and Seneca, to substantiate their arguments on reactions to infant death, infanticide and its ills. They both provide information on child mortality in ancient Rome.

Gigante Linda⁶ assumes that, between 100 and 200 A.D., about 95% of the people with their children lived in poverty. Describing the economic and social conditions of these citizens she mentions some social factors as causes of child death.

¹Lefkowitz Mary R., 1992, *Women's Life in Greece and Rome, A source book in translation*, 2nd Edition, The John Hopkins University Press, Baltimore.

²Parkin Tim G., 1992, *Demography and Roman Society*. Baltimore and London: The Johns Hopkins University Press.

³Scheidel Walter, 1996, *Measuring Sex, Age and Death in the Roman Empire: Explorations in Ancient Demography*. Journal of Roman Archaeology, Supplementary Series 21. Ann Arbor. Pp. 184

⁴Margaret King, 2000, *Commemorating Infants on Roman Funerary Inscriptions*, The Epigraphy of Death, ed., G.J. Oliver, Liverpool University Press.

⁵Christopher Price, 2004, http://www.christiancadre.org/member_contrib/cp_infanticide.html

⁶Gigante Linda, *Diseases and Death in ancient Rome*, sourced in Jan. 2006 from <http://www.innominateociety.com/Articles/Death%20and%20Disease%20in%20Ancient%20Rome.htm>

2.4. Sources on Ibadan

Schultz¹ (1980), Feachem² (1981), Puffer, R.R. and C.V. Serrano³ (1973), World Health Organization⁴ (1978) and Shi Anqing⁵ (1999) are useful for evaluating and documenting causes of child mortality in modern Ibadan. These sources, with the exception of Shi, do not mention causes of infant mortality in Ibadan, but their opinions and findings are similar to situations that lead to child death in Ibadan.

Adamson⁶ (1986), a Newspaper Columnist, substantiates his essay with Caldwell⁷ (1979). They both note that education plays an important role towards a decline in infant mortality in Ibadan.

The works of Harpham et al⁸ (1988), Timaeus, Ian M. and Louisiana Lush⁹ (1995) and Stephens, Carolyn¹⁰ (1996), mention briefly similar reasons such as the role the community; urban and rural need to play with regard to the health of people; importance of social amenities in communities and how these, if not persistently sought after and installed, cause child mortality in Ibadan

Falade and Lawoyin¹¹ (1999), Ayoola et al¹² (2001), Lagunjun, et al¹ (2006), Oyedeji G.A.² (2006), and Osinusi, K.³ (2007), variously focused on one or

¹ Schultz, 1980, Interpretation of Relations among Mortality, Economics of the Household, and the Health Environment. *Proceedings of the Meeting on Socioeconomic Determinants and Consequences of Mortality*, Mexico City, June, 19-25, 1979, Geneva: World Health Organization.

² Feachem, 1981, The Water and Sanitation Decade, *Journal of Tropical Medicine and Hygiene*. Vol 84 (2).

³ Puffer, R.R. and C.V. Serrano. 1973. *Patterns of Morality in Childhood*. Pan American Health Organization, Washington, D.C.

⁴ World Health Organization, 1978, *Main Findings of the Comparative Study of Social and Biological Effects on Perinatal Mortality*, World Health Statistics 31(3).

⁵ Shi, Anqing, 2000, How Access to Urban Portable Water and Sewerage Connections Affects Child Mortality, *World Bank Policy Research Working Paper* No. 2274. (This research by Shi was carried out on 237 cities in 100 countries, Ibadan and Onitsha are included in the 237 cities.)

⁶ Adamson Peter, 1986, *Why Reading Keeps Children Alive*, New Internationalist, issue 164, October 1986. Retrieved in September 2008 from <http://www.newint.org/issue164/reading.htm>

⁷ Caldwell J.C., 1979, Education as a Factor in Mortality Decline An Examination of Nigerian Data, *Population Studies*, Vol. 33, No. 3, pp. 395-413, Population Investigation Committee.

⁸ Harpham, Trudy, Tim Lusty, and Patrick Vaughan' 1988, *In the Shadow of the City: Community Health and the Urban Poor*. Oxford University Press.

⁹ Timaeus, Ian M. and Louisiana Lush. 1995, Intra-urban Differentials in Child Health. *Health Transition Review* 5. No.2:163-190.

¹⁰ Stephens, Carolyn, 1996. Healthy Cities or Unhealthy Islands? The Health and Social Implications of Urban Inequality. *Journal of Environment and Urbanization* 8. No.(2):9-30.

¹¹ Falade G., Lawoyin T., 1999, Features of the 1996 cholera epidemic among Nigerian children in Ibadan, Nigeria, *Journal of Tropical Pediatrics*, 45 (1): 59-62.

¹² Ayoola O.O., Orimadegun E.A, Akinsola A K, Osinusi K, 2001, *A five-year review of childhood mortality at the University College Hospital, Ibadan*. West African Journal of Medicine; 24 (2):175-179.

two factors such as cholera epidemic and measles as causes of under five mortality in Ibadan. Also, Rossington C.E.,⁴ Bamgboye, E.A., and Familusi, J.A.,⁵ (1990), Akinyole et al⁶ (2004), Akinyele⁷ (2005), Orimadegun et al⁸ (2006) and Orimadegun, et al⁹ (2008), are dependable sources. They all carried out intensive research in documenting that the environment, measles and malnutrition are some of the factors responsible for infant mortality in Ibadan in different periods.

McLaren D.S. et al¹⁰ (2001), Maziya-Dixon B. et al¹¹ (2004) and Ogunyemi Dele of the Daily Champion¹² (2008) focus on Vitamin A Deficiency and protein energy malnutrition as factors that hamper the health and well being of under fives and lead to their death, in Ibadan. In the same vein, Sommer et al¹³ (1986), WHO¹⁴ (1992), WHO¹⁵ (2001), Ajaiyeoba¹⁶ (2001) and Akinyinka O.O, et al¹

¹ Lagunju I.A., Orimadegun A E, Oyedemi D G, 2006, *Measles in Ibadan: a continuous scourge*. *Afr J Med Sci.*, 34 (4):383-7.

² Oyedeji G.A, 2006, Easing The Burden Of Diseases, *Theme: Medical Training In The 21st Century And Its Relevance To Developing Countries*, Faculty Of Clinical Sciences Week Lecture University of Ibadan.

³ Osinusi Kikelomo, 2007, Environment and Child Health, *Archives of Ibadan Medicine Vol 8, 2*

⁴ Rossington Christine E., Environmental aspects of child growth and nutrition: A case study from Ibadan, Nigeria, <http://www.springerlink.com/content/j411340633671u40/>

⁵ Bamgboye EA, Familusi J.B, 1990, Mortality pattern at a children's emergency ward, University College Hospital, Ibadan, Nigeria. *African Journal Of Medicine And Medical Sciences*, 19(2):127-32.

⁶ Akinyole, I.O., Amire, F.T. Ajayi, O.A., Sanusi, R.A., 2004, Profiles: A nutritional advocacy tool for Nigeria. *Technical Committee of ANG Working Group IITA/USAID*.

⁷ Akinyele, O., 2005. Poverty, Malnutrition and the Public Health Dilemma of Disease. *University of Ibadan Postgraduate School Interdisciplinary Research Discourse*. Ibadan.

⁸ Orimadegun A.E, 2006, Increasing Burden of Childhood Severe Malaria in a Nigerian Tertiary Hospital: Implication for Control, *African Journal of Medicine and Medical Sciences*. 35(2) 132-145.

⁹ Orimadegun A.E, Akinbami, F.O; Tongo, O.O; Okereke, J. O, 2008, Comparison of Neonates Born Outside and Inside Hospitals in a Children Emergency Unit, South West of Nigeria, *Pediatric Emergency Care*. 24(6):354-358. June 2008.

¹⁰ McLaren DS, Frigg M., 2001, *Sights and life Manual on Vitamin A Disorders (VADD)*, 2nd edition, Task Force Sight and Life, Basel, Switzerland.

¹¹ Maziya-Dixon B, Akinyele IO, Sanusi RA, Oguntana EB, Harris E., 2004, *Vitamin A Status of Children under 5 in Nigeria: Results of the Nigeria Food Consumption and Nutrition Survey*. Presented at the XXII International Vitamin A Consultative Group (IVACG) Meeting, Vitamin A and the Common Agenda for Micronutrients, 15–17 November 2004, Lima, Peru.

¹² Ogunyemi Dele, Daily Champion, August 2008, *Nigeria: Malnutrition, Major Cause of Child Mortality*, retrieved in Sept 2008 from <http://allafrica.com/stories/200808260290.html>

¹³ Sommer A, Tarwotio I, Djunaedi E, 1986, Impact of Vitamin A Supplementation on Childhood Mortality- A Randomized Controlled Community Trial. *The Lancet* Vol 1:1169-1173.

¹⁴ Food Agriculture Organization. World Health Organization. 1992, *World declaration and plan of action for nutrition*. International Conference on Nutrition. Rome, Italy, Food Agriculture Organization

¹⁵ World Health Organization, 2000, *Nutrition for Health and Development: a Global Agenda for Combating Malnutrition*, Geneva, Switzerland, WHO.

¹⁶ Ajaiyeoba A.I., 2001, *Vitamin A Deficiency in Nigerian Children*, African Journal of Biomedical Research, Vol 4, NO 3, 107 -110, Ibadan Biomedical Communication Group.

(2001) in corroborating the afore-mentioned authors discuss the risk factors in lack of vitamin A in children under five. They are important literary works on the health and wellbeing of children under six years of age.

Child health in the Tropics, edited by D.B. Jelliffe makes interesting reading on child death in Ibadan. Erinosh O.A² tackles the sociological and psychological aspects of health, theories of diseases and research methods in the field of health.

2.5. Conclusion

Many of the authors that have been mentioned in this study explicate various issues and causes of infant mortality and child health generally, but none of them addresses the question of child mortality in ancient Rome and modern Ibadan in its totality, but their various views, their painstaking research on different aspects of health in both antiquity and Ibadan all contribute in varying degrees to an attempt to present a consistent picture and shed light on child mortality in ancient Rome (4th century B.C. – 6th century A.D/) and modern Ibadan (1980 – 2005).

¹ Akinyinka O.O, Usen S.O, Akanni A., Falade A.G., Osinusi K., Ajaiyeoba I.A., Akang E.E., 2001, *Vitamin A Status of Pre-School Children in Ibadan (South West, Nigeria), Risk Factors and Comparison of Methods of Diagnosis*, West African Journal of Medicine, Jul – Sep; 20 (3): 243-8
² Olayiwola. A. Erinosh, 1998, *Health Sociology*, Sam Bookman Educational and Communication Services, Ijebu-Ode, Nigeria.

CHAPTER THREE

CAUSES OF CHILD MORTALITY

3.0 Ancient Rome

Introduction

Causes of child death in ancient Rome range from diseases to superstitious and religious beliefs, chemical poisons, infanticide and social deprivation. The diseases include; malaria fever, ophthalmia, plague,¹ dysentery, asthma, wasting diseases, racking pains, feebleness of the limbs, privation of bodily senses and vexing assaults of unclean spirits. Others include; jaundice, bladder complaints, piles, ulcer, leprosy, dropsy, paralysis, epilepsy and scurvy.²

Classical authors mention different kinds of diseases. Apuleius³ refers to cataracts; Tertullian⁴ refers to utter blindness and other diseases of the eye. Augustine⁵ also refers to eye diseases.

Apart from the fact that a good number of ailments resulted in death as a result of lack of medical facilities, there was a widespread belief among the people that demons brought diseases upon humans. As a result, patients were not given scientific cure and so a large number of deaths could not be prevented.⁶

¹ This embraces all diseases suffered by a large number of persons. However, Livy (The Early History of Rome, 1960, translated by Aubrey De Selincourt, Penguin Books), Marcus Aurelius, 1991, ("Meditations" IX.2. Translated by George Long, <http://classics.mit.edu/Antoninus/meditations.mb.txt>), Lucian Samosata, (Volume II, Alexander – The Oracle Monger, 36, pg 228. Translations by H. W. Fowler and F. G. Fowler, 1905, Oxford: The Clarendon Press.), Cyprian of Carthage, (On the Mortality (or Plague), 14:1-7. Translated by the Rev. Ernest Wallis. <http://www.ewtn.com/library/PATRISTC/ANF5-15.TXT>). and Dio Cassius, (Cassius Dio, Roman History, Book 71:2.4, 1914 through 1927, translation by Earnest Cary. Loeb Classical Library, Harvard University Press), while discussing the effect of this disease simply mention it as plague. From the description of the effect of the disease, especially in Livy, it is possible that the people were affected by small pox.

² These diseases are indicated in the works of various classical authors, particularly the *Hippocratic Writings*.

³ Apuleius, *Florida 17, 2001*, Translated by Harrison S.J., Hilton J.L., Vincent Hunink, Oxford University Press.

⁴ Tertullian, *Res., Mort.. 4*. Sourced from <http://www.tertullian.org/latin/latin.htm> on 28th April 2008.

⁵ St. Augustine of Hippo, *Civ Dei*, xxii, 8, *Contra Iulianum* 3, 162, translated by Portalié, Eugène, 1907, *The Catholic Encyclopedia*. Vol. 2. New York: Robert Appleton Company.

⁶ The sacred disease indicated in the *Hippocratic Writings*, is believed by the people to have been brought upon them by supernatural beings.

In spite of all these, there were cases of cure for some of these diseases. In the 5th century B.C, Herodotus¹ tells of some North African tribes whose medication of goat's urine sprinkled on their children resulted in cure for epilepsy. Similar medication is known in Nigeria. Among the Yorubas, it is cow urine. Among the Awka Ibo and the Idoma, goat urine mixed with palm oil is taken orally.² In Pliny the Elder, a mixture of honeysuckle (*lonicera*) and wine alleviates the tertian or quartan fever.³

Oric Bates mentions malaria fevers. The itinerant Arabs in Roman Africa who could be under the attack of this killer disease, found a preventive measure; which was to suspend their nomadic life-style until the seasons when the disease was less prevalent.

. . . owing to the prevalence of malaria fevers at certain times of the year, many of the nomad Arabs will not enter Siwah in autumn for fear of that sickness.⁴

Oric Bates⁵ also observed that ophthalmia and syphilis⁶ which were common were diseases that were widespread. He also noted that plague and cholera almost depopulated towns, but their mode of life which was nomadic, saved them from plague and cholera epidemics.

Hope (2007)⁷ asserts that poor sanitation, disease, famine, malnutrition and warfare are some factors that caused death in ancient Rome.

This chapter will examine malaria, consumption, paralysis, diseases common to the weather, infanticide, lead poisoning, plague, superstitious/religious beliefs and social deprivation as causes of child mortality in ancient Rome.

¹ Herodotus iv. 187, 1975, *The Histories*, translated by Aubrey De Selincourt, Penguin Books.

² Ojoade, J.O., 1973, Health in Roman Africa pg 69, *Museum Africum*, West African Classical Association in conjunction with the Department of Classics, University of Ibadan.

³ Elder Pliny, Natural History, xxii 49, 1945, translated by H. Rackham Loeb Classical Library.

⁴ Bates Oric, 1970, *The Eastern Libyans* pg25, Frank Cass and Company Limited, London.

⁵ Bates Oric, 1970, *The Eastern Libyans* pg25, Frank Cass and Company Limited, London.

⁶ Homosexuality was practised in ancient Roman Empire; sexual affairs with young boys, especially by men of repute, was common. Although the ages of these young boys range from 8 to 16, it is highly probable that this activity was done on children about five years of age. Therefore, there is the possibility that children who were victims of such practise may have contacted syphilis a sexually transmitted disease and this disease may have caused their death.

⁷ Hope Valerie, 2007, *Death in Ancient Rome* pg 3, The Open University, UK.

3.1 Malaria

Plasmodium falciparum, the most virulent of the four species of human malaria is the disease that the Romans suffered from the most due to the presence of extensive marshy areas in the valleys of the River Tiber and along the coast. These marshy areas in the river valleys resulted from the jamming of streams by soil that were washed down from the hills and thus became a breeding ground for mosquitoes.¹

Of the diverse and copious diseases that plagued ancient Romans, malaria was the most dangerous. It exterminated both old and young including fetuses. Malaria (which was loosely termed fever(s) at that time also) had appeared in the writings of Hippocrates, who is also known as "The Father of Medicine" and probably the first malariologist by 400BC. These fevers which are the tertian, quartan, quotidian, nocturnal and irregular fevers are mentioned and they point unmistakably to malaria. The *Hippocratic Writings*² distinguishes the intermittent malaria fever from the continuous fever of other infectious diseases, and also notes the daily, every-other-day, and every-third-day (*quotidian*, *tertian* and *quartan*) rise in temperature. *The Hippocratic Writings* mentions the splenic change in malaria. Hippocrates also relates the fever to a particular time of the year, to the weather and to the location of patients.³ There was also *causus* (ardent fever). They are all malaria in nature and are caused by *plasmodium falciparum*. *The Dictionary of Cell and Molecular Biology – Online* affirms that "P. vivax causes the tertian type, P. malariae the quartan type and P. falciparum the quotidian or irregular type of disease, the names referring to the frequency of fevers."⁴

Irrespective of the type of plasmodium that caused fevers, none of the fevers were less harmful than others. In their intense form they all led to death. In the words of the doctor of the *Hippocratic Writings*, "All the diseases described caused death . . ." (Epidemics I. 10)

¹ Boak, A.E.R., 1921, *History of Rome to 565 A.D* pg 5, London, Routledge Publishers

² The Hippocratic Writings, *Epidemics 1:6*, translated by Chadwick J. And Mann W.N., ed with introduction by Lloyd G.E.R., 1978, Penguin Books, London.,

³ In various parts of the entire Book I and Book III of Epidemics as well as The Aphorism, the fevers were related to the time of the year, the location of patients and especially to the weather.

⁴ *The Dictionary of Cell and Molecular Biology – Online!* sourced on 25th February 2008 from www.mblab.gla.ac.uk/~julian/dict2.cgi?3849

Below is one of the medical cases that were documented by the doctor. Included in this case-note are some of the descriptions of the effects of various fevers described in *The Hippocratic Writings*. However it is highly probable that the cases mentioned in *The Hippocratic Writings* represent a minute fraction of the cases that occurred in antiquity. In *Epidemics I*, fourteen cases are described while in *Epidemics III* twenty-seven cases are noted making a total of forty-one cases illustrated. These seem infinitesimal compared to the vast population of ancient Romans.

During the autumn and on into the winter there were cases of continued fever, in a few cases *causus*, diurnal and nocturnal fevers, roughly tertian and exact tertian fevers, quartans and fevers of no regular form. There were many cases of each of the fevers . . .

Causus was the least frequent of these fevers and those affected by it suffered the least. . .

The tertian fevers were more common than *causus* and more troublesome. . .

The quartan fevers showed, in many cases, their quartan nature from the start. In not a few cases, however, they emerged as quartans only on the departure of other fevers and ailments. . .

There were many cases of quotidian, nocturnal and irregular fever; they lasted a long time whether the patients were confined to bed or not. . . Often the disease was accompanied by convulsions, especially in the case of children. . .

The worst most protracted and most painful of all the diseases then occurring were the continued fevers. These

showed no real intermissions although they show paroxysms, in the fashion of tertian fevers, one day remitting slightly and becoming worse the next. They began mildly, but continually increased, each paroxysms carrying the disease a stage further. A slight remission would be followed by a worse paroxysms and the malady generally became worse on the critical days. Although all patients suffering from these various fevers showed shivering fits at irregular times, such fits were least frequent and most regular in patients with these continued fevers. Again, the fevers generally were attended with many fits of sweating but in cases of continued fevers they were infrequent and brought harm rather than relief. In continued fevers too the extremities were chilled and could only be warmed with difficulty, and insomnia was followed by coma. In the fevers generally, digestion was disturbed and difficult but this was most marked in these cases of continued fever. In them too, the urine was either (a) Thin, raw and colourless, becoming slightly more concocted at a crisis, (b) thick, but cloudy rather than forming sediment or (c) of small quantity, bad and forming a raw sediment. Urine of this last variety was the most serious. Cough accompanied the fever . . . (Epidemics I. 6-11).

All the diseases described caused death, but the greater number was among those suffering from these continued fever and especially children, including infants, older children (eight and ten year olds) and those approaching puberty.

(Epidemics I. 10)

Citing this long passage from *The Hippocratic Writings* is deliberate. This is because it is necessary to demonstrate how deleterious malaria was to people in

the ancient Empire of Rome especially children less than six. Malaria was so harmful that it had side effects such as insomnia, indigestion, convulsion and cough. All these brought general discomfort to the body system. Although some survived, the majority of the people who were infected with these various forms of malaria infections died.

There is also the need to demonstrate one case of the forty-seven cases recorded in *The Hippocratic Writings* in order to reveal the doctor's perception of the process of malaria fever and its effect. Patients' names and ages are usually noted. However the age of the patient mentioned in the case below is not shown. The patient may have been a child less than six. He had convulsions. The doctor in the *Hippocratic Writings* confirms that more often than not, children who were infected with malaria fever usually had convulsions.

Erasinus lived near the gully of Bootes. He was taken ill after dinner and passed a disturbed night. The first day was restful; was distressed during the night.

Second day: all symptoms more pronounced, delirium at night.

Third day: painful, more delirium.

Fourth day: worst of all so far, did not sleep at all at night. Visual hallucinations, delirium. These were followed by even more marked disturbances, feelings of fear and his illness was very severe.

Fifth day: in the early morning he became lucid and quite regained consciousness of his wits. But some time before noon, he became mad and could not be restrained; extremities cold and somewhat livid. Suppression of urine, He died about sunset. He had fever throughout the illness accompanied by sweating. The hypochondrium was distended and contracted only with pain. The urine was dark containing suspended globular particles which did not form sediment on standing. His bowels remained open and he passed solid stools. Thirst throughout was not

excessive. He had many convulsions accompanied by sweating at the time of death.¹

The above case represents so many other cases of this nature in the ancient empire. It also suggests that the patient was infected with the quotidian fever, which is synonymous to malaria. Also malaria affected his upper abdomen causing it to swell and possibly his kidney, making him to pass urine that contained particles. The ailment not only destabilized the patient but at a point in time rendered him mental. The whole body system of the patient was in disarray; and he could neither help himself nor be helped.

Marcus Terentius Varro (116 B.C. – 27 B.C.), the Roman scholar whom Julius Caesar named director of the imperial library, attributed some diseases to the swamps, which one may assume to be malaria infections. It seems probable that these diseases were caused by mosquitoes, which, as Varro writes, are “animaculae which cannot be seen with the eyes,”² suggesting among others, malaria.

Perhaps, there may be certain creatures other than mosquitoes that breed in swamps which cannot be seen by the eyes. These may be sand flies whose bites are painful and very itchy, but sand flies are not known to be carriers of the *plasmodium falciparum* virus that causes malaria. However it seems certain that Varro is referring to mosquitoes which breed in swampy areas and which are so tiny that they are not easily seen with the eyes. Varro makes clear that it is better to abandon places that attract such infections or find a way to work around them. It seems probable that this advice was adhered to by some people if one is to consider that in ancient Rome inheriting a farm was not an everyday event and not everyone was lucky enough to inherit one. Therefore if someone did inherit one, rather than abandon it for problems such as mosquitoes and the malaria they bring, Varro advises that one should build in a manner that suggests that the builder must understand the nature or direction of winds. A point to consider here is that many people in ancient Rome may not have been educated enough to understand the nature or direction of winds. Therefore, they would rather build as much as they knew or obtain rented accommodation wherever they found one.

¹ Epidemics Book I. VIII

² Marcus Terentius Varro, *De Re Rustica*, Book I.12:2-3, 1934, translated by W.D. Hooper and H.B. Ash, 1934, Loeb Classical Library.

Agrius' advise to either sell or abandon the farm, and another advice by Scrofa that Fundamnius should rather build on a well ventilated place, especially that from Scrofa, are not different from what we know today from medical practitioners, with regard to the control of malaria in our environment. The problems that mosquitoes cause are enormous and ultimately deadly.

The satires of the Roman poet, Quintus Horatius Flaccus (December 8, 65 BC - November 27, 8 BC) portray the culture of the people in ancient Rome. In the third satire of Book II Horace pinpoints the quartan fever while satirizing the superstition of an ignorant mother. However, the theme of Horace's satire is not child death in ancient Rome, but this aspect of his satires below provides clues to child mortality in the ancient empire.

“O Lord who givest and takest away our heaviest sorrows,”
(a mother is praying for her son, who has been five months
in bed)

“If my boy succeeds in shaking off the quartan fever he
will stand naked in the Tiber on the morning of the day
which thou dost appoint for fasting.”

If thanks to luck or the doctor the patient is saved from his
critical condition, the crazy mother will hold him in the
freezing water and kill him by bringing back his fever.

And what destroyed her reason? Superstition, pure and
simple.¹

By about 30 A.D., Celsus refers to and describes two types of tertian fevers as well as other types of fever which are malaria fever. He refers to the tertian, quartan and the quotidian fevers. These fevers are malaria in nature. The *De Medicina* gives exclusively a pragmatic view of these fevers, the clinical picture, and the practical remedy of these fevers.

¹ Quintus Horatius Flaccus, Book II, Sat. 3, 281-295. A verse translation and notes by Niall Rudd, 1973, Penguin Books, London.

Ex his una cotidiana, altera tertiana, altera quartana est. Interdum etiam longiore circuitu quaedam redeunt, sed id raro fit.

Et quartanae quidem simpliciores sunt. Incipiunt febres ab horrore, deinde calor erumpit, finitaque febre biduum integrum est: ita quarto die revertitur.

Tertianarum vero duo genera sunt. Alterum eodem modo, quo quartana, et incipiens et desinens, illo tantum interposito discrimine, quod unum diem praestat integrum, tertio redit. Alterum longe perniciosius, quod tertio quidem die revertitur, ex quadraginta autem et octo horis fere triginta et sex per accessionem occupat (interdum etiam vel minus vel plus), neque ex toto in remissione desistit, sed tantum levius est. Id genus plerique medici ἡμικριταῖον appellant.

Cottidianae vero variae sunt et multiplices. Aliae enim protinus a calore incipiunt, aliae a frigore, aliae ab horrore. Frigus vero, ubi extremae partes membrorum inalgescunt, horrorem, ubi corpus totum intremit. Rursus aliae sic desinunt, ut ex toto sequitur integritas; aliae sic, ut aliquantum quidem minuatur ex febre, nihilo minus tamen quaedam reliquiae remaneant, donec altera accessio accedat; ac saepe aliae . . . vix quicquam aut nihil remittant sed continent.

Of fevers, one is quotidian, another tertian, a third quartan. At times certain fevers recur in even longer cycles, but that is seldom.

Now quartan fevers have the simpler characteristics. Nearly always they begin with shivering, then heat breaks out, and the fever having ended, there are two days free; then on the fourth day it recurs.

But of tertian fevers there are two classes. The one, beginning and desisting in the same way as a quartan, has merely this distinction, that it affords one day free, and recurs on the third day. The other is far more pernicious; and it does indeed recur on the third day, yet out of forty-eight hours, about thirty-six, sometimes less, sometimes more, are in fact occupied by the paroxysm, nor does the fever entirely cease in the remission, but it only becomes less violent. This class most practitioners term hemitritanon. Quotidian fevers, however, vary and have many forms. For some begin straightaway with a feeling of heat, others of chill, others with shivering. I call it a chill when the extremities become cold, shivering when the whole body shakes. Again, some desist so that complete freedom follows, others so that there is some diminution of the fever, yet none the less some remnants persist until the onset of the next paroxysm; and others often run together so that there is little or no remission, but the attacks are continuous.¹

The above shows, that Celsus must have spent a great deal of time studying these fevers and became well informed about them. These fevers caused by *plasmodium falciparum* killed people especially children. Although Celsus did proffer treatment for these fevers it is highly probable that it was not that effective.

Pliny (XXII 49) mentions the use of a toad to treat the tertian or quartan fevers. Pliny also writes that the item, Honeysuckle (*lonicera caprifolia*) dissolved in white wine and taken for thirty days also cured the tertian and quartan fevers. (NH XXX. 42).

It is estimated that twenty-five percent of children in ancient Rome died before their first birthday for several reasons but children between ages 0 and 10

¹ A. Cornelius Celsus, De Medicina, Book III.3:3-6, translated by Spencer W.G., Loeb Classical Library.

died from malaria infections.¹ Lanciani (1888) suggests that malaria may have become prevalent in antiquity, especially at the period when volcanic activities ceased. In the words of Luciani, “there can no longer be any doubt that malaria invaded the volcanic regions the very minute they ceased to be volcanic.”² In ancient Rome there were altars dedicated to various deities. Among these altars is one dedicated to the goddess of fever.

Near the modern railway station I have found, myself, an altar dedicated to Verninus, the god of microbes: and . . . in the very centre of the Roman forum, there was an altar sacred to Cloacina, a goddess of typhoid, I suppose.³

From the above one may conclude that typhoid fever which goes side by side with malaria fever, was prevalent in the ancient Empire, and so altars were erected to the god of microbes and the goddess of typhoid, believing that these deities would cure the fevers. A point to note here is that malaria had been in existence before the volcanic activity in question.

In his studies of inscriptions from CIL VI and CIL VIII, Macdonell (1913), presents broad conclusions on life expectation in antiquity: life expectation in Africa was higher than in Rome. Evidence from inscriptions “brings out very clearly the extreme unhealthiness of ancient Rome, and on this point it agrees with the literary evidence.” And as for Roman Africa he concludes that “conditions were much more favourable to longevity than in Rome and Hispania.”⁴ For in Rome, living conditions for the poor majority was very low. The people especially children suffered from contagious diseases as well as fevers.

Russel J.C. (1985) attributes the Antonine plague of the second century A.D to *plasmodium falciparum* and suggests that extremely high adult mortality in

¹ Eve D’Ambra (2007), *Roman Women*, Cambridge Introduction to Roman Civilization pg 66, Linda Gigante, *Death and Diseases in Ancient Rome*, sourced in Jan. 2006 from <http://www.innominatesociety.com/Articles/Death%20and%20Disease%20in%20Ancient%20Rome.htm>

² Lanciani Rodolfo, 1888, *Ancient Rome in the Light of Recent Discoveries*, Macmillan London pg 109.

³ Lanciani Rodolfo, 1888, *Ancient Rome in the Light of Recent Discoveries*, Macmillan London pg 111.

⁴ Macdonell W.R, 1913, *On the Expectation of Life in Ancient Rome, and in the provinces of Hispania and Lusitania and Africa. Biometrika, Vol. 9, No. 3/4, pp. 366-380, Biometrika Trust*

ancient Rome was consequent on malaria infections. If malaria infection was responsible for high adult mortality, then it must follow that child mortality would not have been less.

Soren reports that in 1998, a research team from the University of Arizona excavated a Roman villa on a hillside called Poggio Gramignano, near the town of Lugnano in Teverina¹ in southern Umbria, Italy. This villa was built in about 15 B.C when Augustus was Emperor. At the time it was built it was massive and impressive and it was fitted out with elegant mosaic-paved quarters and it was located on the hillside. Because the building was established on jerky or shaking substratum, it began to crack rendering the building useless in the mid third century A.D. By the mid 5th century A.D., the building had been converted to a cemetery exclusively for infants. It was in this building that the skeletal remains of fetuses, neonates and those of two or three year old children were discovered. Soren assumes that the burial suggests the possibility of an epidemic leading to the deaths of these children. In attempting to discover the probable cause of death, he asserts that *Brucella* a bacteria which can infect dairy products and *Toxoplasma gondii* which can also be found in uncooked red meat could cause fetuses to abort. In spite of the effects of these bacteriae, he claims they were not potent enough to cause such an epidemic. And so in describing the process and effects of malaria, he believes that only *plasmodium falciparum* commonly known as Blackwater Fever has the capacity to wreck such havoc² with regard to the skeletal remains excavated at Lugnano in Teverina.

A mosquito transmits the disease by drawing out parasite-tainted blood from one individual and depositing the parasites in another. The parasite invades the liver eight to twelve days after the bite, and multiplies to hundreds of parasites, which enter the blood stream, attacking red blood cells and invading them in a three- to four-day

¹ Lugnano in Teverina is in the flood plain of the Tiber, or more accurately, and safely, on the top of a hill overlooking it, on the road from Amelia (11 km southeast) to Guarda, Baschi and Orviete, (9 km, 18 km and 28 km northwest, respectively. Sourced on the 5th of March 2008 from http://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/Europe/Italy/Umbria/Terni/Lugnano_in_Teverina/Lugnano_in_Teverina/home.html.

² Soren David, 2003, Can Archaeologists Excavate the Evidence of Malaria? *Archaeology of Epidemic and Infectious Diseases*, vol 35: (2) 193-209. Routledge London.

synchronized cycle. The process, which can clog capillaries and affect the kidneys and spleen, produces symptoms which include, initially, anorexia, headache and nausea. As the disease progresses, the individual experiences paroxysms, chills and fever, severe headache, nausea and vomiting, and severe gastric pain, and exhibits an emaciated and gaunt appearance. There may be tertiary (three-day) cycles of symptoms or a daily fever. The victim is left anaemic and weak, with an enlarged spleen. The disease can be fatal, especially when the blood vessels are occluded by masses of infected red blood cells. It is particularly lethal to infants and can cause aborted foetuses in pregnant mothers, for it can lead to intra-uterine death of the foetus and toxæmia or blood poisoning for the mother.¹

From the above passage, the “tertiary cycles” suggest somewhat that which fit the description of what the Romans called the tertian fever.

Another reason Soren would believe that the deaths were probably caused by *plasmodium falciparum* was the discovery of other items at the burial site. Among the objects was a toad which was placed on the body of an infant. He buttresses his point by quoting from Pliny’s *Natural History XXII.49* which refers to these objects as remedies used to treat the tertian or quartan fever (of malaria). The toad may have been placed on the body of the infant with the hope that the child would be healed but the child died and the toad was buried with the infant. It was also likely that the fever was so severe that it also killed the toad and so the toad was buried with the child. Another item discovered at the burial site was a considerable measure of honeysuckle known as *lonicera caprifolia*, the ancient *periclymenon*. Soren believes that the cause of death was malaria because, as indicated above, Pliny advises that it should be dissolved in white wine and taken for thirty days in order to cure the tertian or quartan fevers. (NH XXX. 42). Soren affirms that honeysuckle was used to cure a medical condition known as

¹ Soren David, 2003, *Can Archaeologists Excavate the Evidence of Malaria?* *Archaeology of Epidemic and Infectious Diseases*, vol 35: (2) 193-209. Routledge.

splenomegaly or enlarged spleen, and this medical condition can be caused by *plasmodium falciparum malaria*. Because honeysuckle flourishes in summer he suggests that the epidemic may have occurred in later July or August, principal time for malaria epidemic.

However this new theory about malaria being the probable cause of death of the fetuses, the neonates and the two or three year old children whose skeletal remains were discovered at Lugnano in Teverina, stirred up some controversy and came under attack. To disagree, Marshall Becker of the West Chester College and a forensic anthropologist, claims that the infant cemetery was a normal graveyard which showed no suggestion of malaria as a number of diseases could have led to the death of the infants. As a result of these arguments, Robert Sallares, a molecular biologist from the University of Manchester, who was undertaking new developments in DNA analyses, took specimens of the bones discovered at this graveyard. In applying new contemporary scientific techniques in biomolecular biology to human skeletal remains excavated from this archaeological site of Lugnano in Teverina,¹ Umbria, Italy, he compared the specimens of the bones from the site with bones of children in our contemporary times that have been exposed to *plasmodium falciparum malaria*. The results showed that the children at Teverina did succumb to the most virulent of malaria, *plasmodium falciparum*.²

Sallares (2002) identifies about two hundred species of malaria, but only four attack humans. The four identified species of this parasite causing malaria in human, include; *plasmodium vivax*, *plasmodium falciparum*, *plasmodium ovale* and *plasmodium malariae*.³ *Plasmodium falciparum* is transmitted by the female anopheles mosquito. Soren (2003) mentions *plasmodium malaria* and *plasmodium vivax* as species of malaria that affected people in Lugnano, and claims that they were not quite as severe and probably endemic.⁴

¹ Lugnano in Teverina is in the flood plain of the Tiber, or more accurately, and safely, on the top of a hill overlooking it, on the road from Amelia (11 km southeast) to Guardia, Baschi and Orvieto, (9 km, 18 km and 28 km northwest, respectively). Sourced on the 5th of March 2008 from http://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/Europe/Italy/Umbria/Terni/Lugnano_in_Teverina/Lugnano_in_Teverina/home.html.

² Sallares Robert, 2002, *Malaria and Rome, A History of Malaria in Ancient Italy*, Oxford University Press.

³ Sallares Robert, 2002, *Malaria and Rome, A History of Malaria in Ancient Italy*, Oxford University Press.

⁴ Soren David, 2003, *Can Archaeologists Excavate the Evidence of Malaria? Archaeology of Epidemic and Infectious Disease, Vol. 35, No. 2*, pp. 193-209, ed. Peter Mitchell, Taylor & Francis, Ltd.

Among other diseases also responsible for child death in ancient Rome is consumption otherwise known as tuberculosis.

3.2 Consumption

This malady exterminated children. In *The Hippocratic Writings*, (Epidemics I), consumption attacked its victims especially from early summer to winter.

During the period beginning in early summer and lasting into the winter, many patients with long standing consumption took to their beds, for in many cases in which the diagnosis had been dubious, it was then confirmed. Some whose constitution showed a tendency towards consumption first began to suffer from the disease at that time. Many died including most of the latter, and of those who took to their beds, I doubt if any survived even a moderate time. Death occurred more quickly than is usual in such cases. Other diseases, even the longer ones and those accompanied by fever, proved neither serious nor fatal . . . only consumption was fatal and caused a large number of deaths.¹

3.3 Paralysis

It is also described in the *Hippocratic writings*. This disease seemed to have been prompted by hot weather

Thence, until the [rising of] Arcturus, the summer was hot. This hot spell began suddenly and was both continuous and severe. There was no rain and the elesian winds blew.

¹ The Hippocratic Writings, *Epidemics I*, pg 88, translated by Chadwick J. And Mann W.N., ed with introduction by Lloyd G.E.R., 1978, Penguin Books, London.

About the time of Arcturus, southerly rains began and continued until the equinox.

Under such circumstances, cases of paralysis started to appear during the winter and became common, constituting an epidemic.¹

It seemed probable that paralysis prompted by the weather worked in synergy with *causus* (ardent fever). Celsus² also mentioned paralysis and its consequences.

3.4 Diseases Common to the Weather

Many diseases were prevalent in different seasons³ in ancient Rome and they did play a part in causing child mortality. *The Hippocratic Writings* states that various diseases occur in the different weathers of ancient Rome and some of these diseases prove to be fatal. “Damp mild winter followed by a dry spring causes miscarriage in pregnant women approaching term and when parturition is accomplished the babies are weak and sickly resulting in immediate death (neonatal deaths) or if they survive they are thin and fall ill frequently.”^{4, 5} Also, in winter, diseases such as “pleurisy, pneumonia, lethargy, catarrh, cough, pain in the chest, pains in the side and loins, headache, vertigo and apoplexy all occur”⁶ New born infants suffered from “aphthae, vomiting, cough, insomnia, nightmares, inflammation of the umbilicus and discharging ears.”⁷ With teething came “painful gums, fevers, convulsions and diarrhea. As the children grew older diseases such as “tonsillitis, deflexions of the vertebrae of the neck, asthma, stone, infections with round worms and ascaris, pedunculated warts, priapism and scrofulous swellings in the cervical glands”⁸ attacked them and caused mortality.

¹ The Hippocratic Writings, *Epidemics I. III*, translated by Chadwick J. And Mann W.N., ed with introduction by Lloyd G.E.R., 1978, Penguin Books, London.

² A. Cornelius Celsus, *De Medicina*, Book II, 8:40, translated W.G. Spencer, 1938, Loeb Classical Library

³ In the Aphorisms diseases which are common to the different seasons are mentioned.

⁴ Aphorisms Section III, pg 214

⁵ A. Cornelius Celsus, *De Medicina*, Book II.8: 14 translated translated W.G. Spencer, 1938, Loeb Classical Library.

⁶ Aphorisms Section III, pg 215

⁷ Aphorisms Section III, pg 215

⁸ Ibid

A dry summer with northerly winds and a wet autumn with southerly winds were associated with ailments such as, “winter headaches, coughs, hoarseness, running at the nose and wasting.”¹ All the aforementioned ailments, especially when they work in synergy with the fevers, caused child mortality in antiquity.

An autumn devoid of rain and with northerly winds came with “dry ophthalmia acute fevers, running noses and melancholy.”² Many of the summer ailments occurred in autumn and other diseases that occurred in autumn were “quartan fevers, irregular fevers, diseases of the spleen, dropsy, consumption, strangury, enteritis, dysentery, pains in the hip, sore throats, ileus, epilepsy and melancholy.”³

In spring and full summer “children and young people do best, in summer and up to a point in autumn, the old do best, while winter suits best those between these two groups.”⁴ And “it is in autumn that diseases tend to be most acute and most likely to prove fatal.”⁵ In other words, many children were more likely to die from diseases that occurred in autumn. It is important to note that “every disease occurs at all seasons of the year but some of them more frequently occur and are of greater severity at certain times.”⁶

Common diseases of the spring included “madness, melancholy, epilepsy, hemorrhages, sore throats, catarrh, hoarseness, coughs, leprosy, vitiligo, ulcerative eruptions, tumours and arthritis.”⁷ Summer produced “continued fevers, causus, tertian fevers, vomiting, diarrhea, ophthalmia, earache, ulcers in the mouth, gangrene of the genitalia and heat spots.”⁸ These diseases attacked and killed people, young and old, in ancient Rome.

Rainy periods produced “chronic fevers, diarrhea, gangrene, epilepsy and sore throats. Consumption, ophthalmia, strangury and dysentery”⁹ were peculiar to drought. All of these diseases caused child mortality. Diseases such as ophthalmia, strangury, dysentery and epilepsy caused child death when they worked in synergy with chronic fevers and consumption. The doctor writes; “All the diseases

¹ Ibid

² Ibid

³ Ibid

⁴ Aphorisms Section III, pg 215

⁵ Aphorisms Section III, pg 213

⁶ Aphorisms, section III, 19, pg 215

⁷ Ibid

⁸ Ibid

⁹ Aphorisms Section III, pg 214

described caused death, but the greater number was among those suffering from this continued fever and especially children, including infants, older children (eight and ten year olds) and those approaching puberty.”¹

In spite of all these diseases there were instances when people were cured by the doctor of whatever disease they were infected by. However in the Aphorisms the doctor concludes with the following:

What drugs will not cure, the knife will, what the knife will not cure, the cautery will; what the cautery will not cure must be considered incurable.²

3.5 Infanticide

Another factor responsible for child mortality is infanticide. Infanticide was a widespread and accepted practice in the Greaco-Roman world. As a matter of fact, the practice of infanticide was justified by *The Twelve Tables of the Law* (451-450 B.C.). *The Twelve Tables of Roman Law* held: “*cito necatus tamquam ex XII tabulis insignis ad deformitatem puer.*”³ “As it were, from the twelve tables of law, a deformed boy was instantly killed.” Cicero (106-43 B.C.) quoting from the same *Twelve Tables of the Law* affirms in his *De legibus*, “We drown children at birth who are weakly and abnormal.”⁴ For the Romans infanticide was not considered a crime. A letter taken from an Oxyrhynchus papyrus (1 B.C.) written by a husband to his wife corroborates the practice of child exposure and abandonment. As long as they thought it was not necessary to keep such infants alive, they were exposed. Hilarion writing to his sister Alis without any qualms of conscience commanded:

. . . If – good luck to you! – you bear offspring, if it is a male, let it live; if it is a female, expose it. . .

¹ The Hippocratic Writings *Epidemics, Bk 1, pg 93.*

² The Hippocratic Writings *Epidemics Aphorisms Section VIII.* translated by Chadwick J. And Mann W.N., ed with introduction by Lloyd G.E.R., 1978, Penguin Books, London.

³ *Duodecim Tabularum Leges*, in *Fontes iuris Romani antiqui I*, ed. Georg Bruns et Otto Gradenwitz Tübingen, 1909, sourced Dec., 2007 from http://www.hs-augsburg.de/~harsch/Chronologia/Lsante05/LegesXII/leg_ta00.html

⁴ M. Tulli Ciceronis *De legibus, Libri Tres.* <http://www.thelatinlibrary.com/cicero/leg.shtml>

The 29th year of Caesar. Pauni 23.¹

The only aim for this yet-to-be-born was that it should be condemned to death by exposure if it was born, not a deformed female, but a female.

The *Special Laws*, written by Philo Judaeus (20 A.D.) a Jewish writer proves beyond doubt that child mortality via infanticide was a common practice in antiquity. Philo speaks against it, condemning peoples of other cultures for this infamous unjustified practice.² He laments:

Some of them do the deed with their own hands; with monstrous cruelty and barbarity they stifle and throttle the first breath which the infants draw, or throw them into a river or into the depths of the sea, after attaching some heavy substance to make them sink more quickly under its weight. Others take them to be exposed in some desert place, hoping, they themselves say, that they may be saved, but leaving them in actual truth to suffer the most distressing fate. For all the beasts that feed on human flesh visit the spot and feast unhindered on the infants, a fine banquet provided by their sole guardians, those who above all others should keep them safe, their fathers and mothers.³

He goes on to say that one may attempt to consider and justify the killing of an adult by bringing up so many excuses for the act of murder which is against the law but the killing of an infant child who is innocent of offences should not even be considered. He supports the Mosaic Law (the Law of Moses) which imposes the death penalty on anyone who carries out the practice of infanticide.

¹ Sourced from Lefkowitz Mary R., 1992, *Women's Life in Greece and Rome*, A source book in translation; 2nd Edition, The John Hopkins University Press, Baltimore.

² Philo Judaeus, *The Special Laws*. III, XX.117, Volume VII, pp. 118, 551, 549, 1968, translated by F. H. Colson, William Heinemann Ltd, London.

³ Philo Judaeus, *The Special Laws III, XX, 114-115*, 1968, translated by F. H. Colson, William Heinemann Ltd, London.

Justin Martyr¹ (100-165 A.D.) an early Christian Apologist and canonized a saint after his death, wrote against the practice of infanticide:

But as for us, we have been taught that to expose newly-born children is the part of wicked men; and this we have been taught lest we should do any one an injury, and lest we should sin against God, first, because we see that almost all so exposed (not only the girls, but also the males) are brought up to prostitution. And as the ancients are said to have reared herds of oxen, or goats, or sheep, or grazing horses, so now we see you rear children only for this shameful use; and for this pollution a multitude of females and hermaphrodites, and those who commit unmentionable iniquities, are found in every nation. And you receive the hire of these, and duty and taxes from them, whom you ought to exterminate from your realm. And any one who uses such persons, besides the godless and infamous and impure intercourse, may possibly be having intercourse with his own child, or relative, or brother. And there are some who prostitute even their own children and wives, and some are openly mutilated for the purpose of sodomy...²

The *Histories* of Tacitus (AD 124), confirms and even supports infanticide. While speaking against the customs of the Jews such as circumcision, frowning at any association with foreigners as abominable, Tacitus condemns the Jews because they did not partake in the act of infanticide.

¹ He is also known as Justin the Martyr, Justin of Caesarea, Justin the Philosopher, in Latin his name reads Iustinus Martyr or Flavius Iustinus sourced in February 2009 from http://en.wikipedia.org/wiki/Justin_Martyr.

² Justin Martyr, *The First Apology Chapter XXVII, Guilt of Exposing Children*, sourced February 2009 from <http://www.earlychristianwritings.com/text/justinmartyr-firstapology.html>

. .they take thought to increase their numbers; for they regard it as a crime to kill any new-born child.¹

Observed in the text below by Tertulian a Christian writer in A.D 200 are criticisms against the practice of infanticide, abortion and any kind of murder. He actually considers very malicious, murder through drowning and through exposure and abandonment. He speaks firmly against the afore-mentioned practices and advises people to desist from such acts.

[6] Sed bestiarum, inquitis. Hoc, opinor, minus quam hominis? An hoc turpius, quod mali hominis? certe tamen de homicidio funditur. O Iovem Christianum et solum patris filium de crudelitate! Sed quoniam de infanticidio nihil interest sacro an arbitrio perpetretur, licet parricidium homicidio intersit, convertar ad populum.

Quot vultis ex his circumstantibus et in Christianorum sanguinem hiantibus, ex ipsis etiam vobis iustissimis et severissimis in nos praesidibus apud conscientias pulsem, qui natos sibi liberos enecent?

7] Siquidem et de genere necis differt, utique crudelius in aqua spiritum extorquetis aut frigori et fami et canibus exponitis. Ferro enim mori aetas quoque maior optaverit.

[8] Nobis vero semel homicidio interdicto etiam conceptum utero, dum adhuc sanguis in hominem delibatur, dissolvere non licet. Homicidii festinatio est prohibere nasci, nec refert natam quis eripiat animam an nascentem disturbet. Homo est et qui est futurus; etiam fructus omnis iam in semine est.

6] But since in the case of infanticide it matters nothing whether it be committed under religious sanctions or out of

¹ Tacitus, Histories 5.13. Translated by C.H. Moore, Loeb Classical Library, Harvard University Press.

mere caprice (although it does matter whether it is parental child-murder or manslaughter), I will appeal to the people. How many of those who stand around panting for the blood of the Christians,—how many, think you, of yourselves even, magistrates most just and severe against us, shall I prick in their consciences, who are in the habit of strangling the children born to them?

[7] Since there is a difference, too, in the kind of death, surely that is the more cruel method by which you squeeze out their breath under water, or expose them to cold and hunger and the dogs; for an adult, too, would choose death by the knife in preference.

[8] But to us, to whom murder has once for all been forbidden, it is unlawful even to destroy the fetus in the womb whilst the blood is still forming into a human being. Prevention of birth is premature murder; nor does it alter the question whether one takes away a life already born, or destroys one which is in process of formation. That also is a human being, which is about to become one, just as every fruit exists already in the seed.¹

Lactantius, also a Christian writer, between the late third century and early fourth century A.D. comments that parents strangle their own children, or expose them to their fate if they are too pious for such. Lactantius worrying about these infants affirms that, even if they are picked up by other people and survive the probability that they would be brought up in brothels and slavery was high.² Here, Lactantius is corroborating Justin Martyr.

After his conversion in about 320 A.D., Emperor Constantine the Great enacted two laws against child murder. The first law was to remove temptation to commit infanticide. To this end he provided funds out of the imperial treasury for

¹ Tertulian Apology 9:6-8, Translated by Bindley T. Herbert, M.A., 1890, Merton College, Oxford. Parker And Co. 6, Southampton-Street, Strand, London and Broad-Street, Oxford.

² Lactantius, *Divine Institutes Book V.15.*, trans. Anthony Bowen and Peter Garnsey, 2003, Liverpool: Liverpool University Press.

parents who were over-burdened with children. The second law accorded all the rights of property of exposed infants to those who had the charity to save and nurture them.¹

The wide-spread practice of infanticide, or exposure and abandonment in the Greaco-Roman world definitely contributed to child mortality. Children disposed of were considered unfit to live. In ancient Rome the *patria potestas* of the father empowered the father to expose a child he deemed unfit to live. Indeed, Sparta as far back, instituted a council of elders whose responsibility was to inspect newly born babies and decide which was fit to live. A baby born weak or with serious congenital deformities, was exposed and left to die.² In Sophocles' (5th century B.C) *Oedipus Rex*, Oedipus was exposed and left to die because of the prophecy from the Delphic oracle, which pronounced that he would kill his father and then marry his mother. He was exposed to die because he was considered an aberration. The exposure led to the fulfillment of the prophecy.

Macdonell mentions "*strict selection in childhood*" among others as one of the reasons for a high rate of life expectation for Ancient Africans beyond 40 years.³ This "*strict selection in childhood*," presupposes the practice of infanticide, which as Williamson, an Anthropologist, writes, was a common feature in well studied ancient cultures of the world. Little wonder it was widely practiced in ancient Rome.

Infanticide has been practiced on every continent and by people on every level of cultural complexity, from hunter gatherers to high civilizations, including our own ancestors.

Rather than being an exception, then, it has been the rule.⁴

It is pertinent to note that babies who were victims of infanticide were not mourned, therefore putting up epitaphs for such children was out of the question. Attempts were not made towards ensuring that babies born weak survived,

¹ Infanticide sourced in January 2009 from <http://www.newadvent.org/cathen/08001b.htm>

² French Valerie, 1986, Midwives and Maternity Care in the Roman World, *Rescuing Creusa: New Methodological Approaches to Women in Antiquity*, *Helios*, New Series, 13(2), pp. 69-84).

³ Macdonell W.R, 1913, On the Expectation of Life in Ancient Rome, and in the provinces of Hispania and Lusitania and Africa. *Biometrika*, Vol. 9, No. 3/4, pp. 366-380, Biometrika Trust.

⁴ Williamson, Laila, 1978, Infanticide: An Anthropological Analysis, *Infanticide and the Value of Life*, ed. Marvin Kohl, Prometheus Books, New York.

probably because of the relationship between parents and children. Dixon (1988) argues that relationships with parents were often formal and unemotional therefore, it was easy to dispose of unwanted infants.¹

The Columbia Encyclopedia defines infanticide as, “the putting to death of the newborn with the consent of the parent, family, or community.”² Infanticide is synonymous to exposure and abandonment. Boswell (1984) defines abandonment as “voluntary and permanent relinquishing of control over children by natal parents or guardians, whether by leaving them somewhere, selling them, or legally consigning care and control to some other person.”³ In other words, he writes that exposition is not necessarily infanticide; it is more of putting out the child and hoping that the child would be picked up by strangers. If that happened, then the *epositio* should not be defined as infanticide, rather, it should be defined as an act that relinquished responsibility of the child from the parents to strangers. In the same vein, Harris (1994) makes a distinction between exposer A and Exposer B, where the former was one who hoped for the rescue of the infant and the later looked towards the death of the child.⁴

Dianne R. Moran, affirms that evidences from both historical and contemporary data indicate that 10 – 15 percent of all babies were killed by their parents.⁵ However, the girl infant suffered more from infanticide, as there was a high rate of female infanticide practiced in ancient Rome. Milner (1998) claims that the saying that, “*Everyone raises a son, including a poor man, but even a rich man will abandon a daughter,*” was a common Roman expression.⁶ Boswell and Harris suggest economic reasons for the practice of female infanticide in the sense that a dowry was required from females to their prospective husbands. It was probably common with the vast majority of the low income earners.

¹ Dixon Susanne, 1988, *The Roman Mother*, Norman and London: University of Oklahoma Press.

² *The Columbia Encyclopedia*, sixth Edition, 2008, sourced in June 2008 from <http://www.highbeam.com/The+Columbia+Encyclopedia,+Sixth+Edition/publications.aspx>

³ Boswell John Eastburn, 1984. *Expositio and Oblatio: The Abandonment of Children and the Ancient and Medieval Family*, *American Historical Review* 89, 12

⁴ Harris, W.V, 1994, Child-Exposure in the Roman Empire, *The Journal of Roman Studies* 84, 9, Cambridge University Press.

⁵ Dianne R, Moran, *Infanticide*, <http://www.deathreference.com/Ho-Ka/Infanticide.html>

⁶ Milner, Larry S. 1998, *Hardness of Heart Hardness of Life: The Stain of Human Infanticide*. Kearney, NE: Morris Publishing.

Donald Engels (1980) declared that infanticide (exposure of infant children) was of “*negligible importance*” to the people.¹ He claims that female infanticide could not have been common in many cultures as well as the Greco-Roman world. He depends on “. . . a few, demographic principles concerning ancient human populations, and these show a high rate of female infanticide was impossible.”² He claims that the ratio of newborn babies is about 1 female to 1.05 males, and that the natural increase of a population depends on the difference between its birth rates and death rates. He assumes that life expectancy in antiquity was quite low, less than thirty, but greater than twenty. With these principles Engels gives a calculation which shows that the birth and death rates in antiquity would be between 34 and 50 per 1000 per year, with an average of about 40 per 1000 per year of birth and death rates. Engels then explains that with the above principles and calculations, it was highly unlikely that female infanticide was practiced in the Greco-Roman world. Detailing the consequences of female infanticide, he gives the example that if one-fifth of the females born a year were killed, it would have two effects on the population. The first being that the death rate would change to about 44 per 1000 per year, and the second effect would occur between forty-five to forty-nine years later. At this time, the first generation of girls who survived the scourge would have reached the age of menopause and there would only be four-fifths of these women. Therefore, there would be a reduction in the number of children born in the next generation by this one-fifth of women. The birth rate would be reduced to 32 per 1,000 per year and raise the death rate to 44 per 1,000 per year. He suggests that this would give a negative rate of natural increase of 12 per 1,000 per year, so that the population would be reduced by half in only 57.75 years, and by three-quarters in 115.5 years and finally down to seven-eighths in only 173.25 years. Engels supposes that even if the death rates increased to about 40 and 50 per 1,000 per year the demographic consequences of a high rate of female infanticide would be catastrophic. Engels

¹ Engels Donald, 1980, The Problem of Female Infanticide in the Greco-Roman World, *Classical Philology* 75: 112-120.

² Engels Donald, 1980, The Problem of Female Infanticide in the Greco-Roman World, *Classical Philology* 75: 112-120.

then concludes that a rate of about ten percent of female infanticide in the Greco-Roman society was highly unlikely.¹

With Engels' conclusion one is tempted to agree that infanticide, predominantly female infanticide, could not have been practiced in antiquity. However, the truth of the matter is that it was practiced. Facts from classical authors make nonsense of Engels' calculations and conclusion. If Engels had not disregarded the ample information supplied by classical authors and other ancient sources on child exposure and abandonment, his thought on infanticide and its impact on the population may have been different.

William Harris (1982)² also disagrees with Engels. He states that Engels' thoughts on the practice of female infanticide in the Greco-Roman world have been misleading. He argues that Engels' dependence on the works of authors whose works border on demography and population study covering the periods of antiquity, was not presented in his (Engel's) report. For these authors have all stated that female infanticide was practiced in many ancient societies. Harris wonders why Engels would conclude that female infanticide could not have occurred in the Greco-Roman world. Harris states that the practice had considerable effect on the population. He also substantiates his opinion from results of his other studies as well as studies of other Classicists whose works border on the demography of ancient Greece and Rome. They include those of Harris, V.W. (1980),³ Duncan-Jones, R.P (1980), Brunt, P.A. (1971),⁴ and Pomeroy, S. B. (1975).⁵ Having gone through the aforementioned works, Harris concludes that the extensive practice of infanticide especially female infanticide in the Greco-Roman world had considerable "demographic, economic and psychological" effect on the society.⁶

Golden (1981) also disagreeing with Engels attests to the practice of female infanticide in several ancient societies including those of the Greco-Roman. He

¹ Engels Donald, 1980, The problem of Female Infanticide in the Greco-Roman World, *Classical Philology* 75: 112-120.

² Harris V. William 1982, The Theoretical Possibility of Extensive Infanticide in the Greco-Roman World, *Classical Quarterly* 32, NO 1, 114-116. Cambridge University Press.

³ Harris W.V., 1980, Towards a Study of the Roman Slave Trade, *Memoirs of the American Academy in Rome* 36 pp. 123-4.

⁴ Brunt, P.A., 1971, *Italian Manpower, 225 B.C.-A.D. 14* pg 148-54, Oxford.

⁵ Pomeroy, S. B., 1975, *Goddesses, Whores, Wives, and Slaves*, pp 140, 164-5, 228, New York.

⁶ Harris V. William 1982, The Theoretical Possibility of Extensive Infanticide in the Greco-Roman World, *Classical Quarterly* 32, NO 1, 114-116. Cambridge University Press.

affirms that, “a study of ethnological reports on three hundred and ninety-three (393) widely scattered cultures shows that one hundred and seventy-nine (179) commonly and twenty-nine (29) occasionally practiced infanticide, predominantly of girls.”¹

Cadwell² states that literary sources, tombstones inscriptions as well as remains from skeletons have all been utilized by Classicists to prove that there was a reduction in population because of a deliberate control of family numbers through contraception and infanticide or child exposure.

According to Christopher Price (2004),³ ancient Romans and Greeks were pagans therefore, practicing infanticide was unproblematic, but the advent of Christianity brought to the fore the evils of infanticide. Some of the measures adopted by Christians in attempting to put an end to the practice of infanticide included; rescuing and adopting babies exposed, and strictly making sure that their members did not partake in the practice. Price concludes that Christianity contributed greatly to the opposition of infanticide and its eventual prohibition.

In sum, infanticide was widely practiced in the Greaco-Roman world and was generally accepted. Infanticide also had considerable effects on the population of ancient Roman territories. It seems probable that since it was common, the authorities did not worry about its effect on the population. Perhaps it was better to have a solid base of a healthy populace than to have a large number of incapacitated and unhealthy citizens. And so unhealthy and deformed babies were abandoned or exposed to die. It is estimated that twenty (20) to forty (40) percent of babies were exposed in the later Roman Empire.⁴ It is pertinent to note here that in spite of this practice, parents loved new born babies and took care of them as it is observed in the satires of Persius,⁵ where the description is shown of the dotting grandmother who smears the baby with prophylactic spit.

¹ Golden, Mark, 1981, *Demography and the Exposure of Girls at Athens*, 35: pp 316-331, Phoenix.

² Cadwell, John C, 2004, Fertility Control in the Classical world: Was there an Ancient Fertility Transition. *Journal of Population Research*.

³ Christopher Price, 2004, http://www.christiancadre.org/member_contrib/cp_infanticide.html

⁴ <http://www.deathreference.com/Ho-Ka/Infanticide.html>

⁵ Horace: Satires and Epistles, Perseus: Satires, *Persius, Satire 2.31-37*, pg 214, 1973, a verse translation and notes by Niall Rudd, Penguin Books, London.

3.6 Lead Poisoning

Of the various causes of child death in ancient Rome, lead poisoning is one. Lead is a metal that was in high demand in ancient Rome because of its usefulness in the production of many items necessary for daily use ranging from industrial to architectural and domestic application. Continuous contact with this deadly substance results in slow but sure deterioration of human body system.

In the mid-second century B.C, Nicander in the *Alexipharmaca* (II.74ff) gives a description of lead poisoning. He writes: “*there is a gleaming, deadly white lead whose fresh colour is like milk which foams all over.*”¹ Nicander also portrays the following as the effect of lead: low temperature, a foaming mouth, terseness of the tongue, a throat that is dry as well as a dry retching, hallucinations, and a crushing fatigue. Paul of Aegina, a Byzantine physician in the 7th Century A.D, also mentions lead and its effect. He comments:

I am of the opinion that the colic affection which now prevails is occasioned by such humours; the disease having taken its rise in the country of Italy, but raging also in many other regions of the Roman empire, like a pestilential contagion, which in many cases terminates in epilepsy, but in others in paralysis of the extremities, while the sensibility of them is preserved, and sometimes both these afflictions attacking together.²

It seems probable therefore that on many occasions when people, children and adults were infected with paralysis and epilepsy, the illness started as colic infection and was caused by lead poisoning. It probably was not common knowledge by the 4th and 3rd century B.C. that lead poisoning was taking its toll on people especially children through intense colic infection. Therefore, children who were infected with colic were in actual fact infected with lead poisoning, for more

¹ Nicander, *Alexipharmaca*, II.74-74, sourced in Hune 2008 from <http://penelope.chicago.edu/grout/encyclopaedia.romana/wine/leadpoisoning.html>

² *The Seven Books of Paulus Aegineta* (III.64), translated by Francis Adams, 1844, Penguin Books, London.

often than not the disease degenerated to paralysis or epilepsy as the case may be and eventually, death.

Marcus Vitruvius Pollio who was a Roman writer, an architect (ca 70 – ca 50 B.C) and an engineer, in *De Architectura* indicates an awareness of the danger of lead by Romans. He gives explanations on the destructive effects of water found near lead mines as well as its effect on the human body system (VIII.3.5, 6.11). He suggests the use of earthen pipes in place of lead pipes to convey water. He states that the water conveyed in earthen pipes has a better flavour than that conveyed in lead pipes.

habent autem tubulorum ductiones ea commoda. primum in opere quod si quod vitium factum fuerit, quilibet id potest reficere. etiamque multo salubrior est ex tubulis aqua quam per fistulas, quod plumbum videtur esse ideo vitiosum quod ex eo cerussa nascitur, haec autem dicitur esse nocens corporibus humanis. itaque quod ex eo procreatur <si> id est vitiosum, non est dubium quin ipsum quoque non sit salubre.

exemplar autem ab artificibus plumbariis possumus accipere, quod palloribus occupatos habent corporis colores. namque cum fundendo plumbum flatur, vapor ex eo insidens corporis artus et in diem exurens eripit ex membris eorum sanguinis virtutes. itaque minime fistulis plumbeis aqua duci videtur, si volumus eam habere salubrem. saporemque meliorem ex tubulis esse cotidianus potest indicare victus, quod omnes structas cum habeant vasorum argenteorum mensas, tamen propter saporis integritatem fictilibus utuntur.

Water conducted through earthen pipes is more wholesome than that through lead; indeed that conveyed in lead must be injurious, because from it white lead is obtained, and this is said to be injurious to the human system. Hence, if

what is generated from it is pernicious, there can be no doubt that itself cannot be a wholesome body.

This may be verified by observing the workers in lead, who are of a pallid colour; for in casting lead, the fumes from it fixing on the different members, and daily burning them, destroy the vigour of the blood; water should therefore on no account be conducted in leaden pipes if we are desirous that it should be wholesome. That the flavour of that conveyed in earthen pipes is better, is shewn at our daily meals, for all those whose tables are furnished with silver vessels, nevertheless use those made of earth, from the purity of the flavour being preserved in them.¹

If the people heeded this warning, lead poisoning may not have occurred in ancient Rome. Obviously Vitruvius knows what he is warning about. He takes his time to study lead and its deadly effects on people, especially people whose daily occupation was working with lead. From the above quotation, Vitruvius proves beyond reasonable doubt that lead poisoning may have had considerable effect on the populace including children.

In the same vein, Celsus supports the use of rain water. Because rain water has little contamination, he agrees to its use as "*Aqua levissima pluvialis est . . .*"² (Rain-water is the lightest. . .) meaning that it contains little or no impurities, but just water in its purest form, therefore, it is most suitable to the body's health, and can be regarded as exceptionally good if it is conveyed through earthen pipes into covered cisterns. The ancients had an awareness of the poisonous nature of lead. Therefore they may have adopted various methods of avoiding its use as much as was possible.

¹Marcus Vitruvius Pollio *De Architectura* (VIII.6.10-11). sourced in December 2007 from <http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Vituvius/9.html>

²A Cornelius Celsus, *De Medicina*, II.18.12, translated by Spencer, W.G., 1938, Loeb Classical Library.

Pliny¹ states that lead (*plubum*), a by-product of silver mining was obtained from galena ore which was crushed and smelted. Although diseases such as colic, gout, dropsy have been associated with lead poisoning,² there is no evidence from *The Hippocrates Writings* that these diseases were caused by lead poisoning.³ However, there is the need to understand that Hippocrates practiced medicine between the 4th and 3rd centuries B.C long before Pliny, Columella and Cato began to write. It seems probable then that Hippocrates and the other philosophers of his day were yet to discover the poisonous nature of lead or the deadly effect of lead on the human body system.

Another possible channel of lead poisoning was through the consumption of *defrutum* or *sapa*, a product of unfermented grape juice (*mustum*) boiled to concentrate its sugar. *Defrutum* was used as a sweetener for sour wine or wine that has almost lost its nutritious or alcoholic value and also as a preservative. When *mustum* is boiled and reduced to one half then it is called *defrutum* and when it is boiled and reduced to one third of its volume, then it is called *sapa*. *Defrutum* or *sapa* gets contaminated by lead in the process of metamorphosis from *mustum* to *defrutum* and from *defrutum* to *sapa*. More often than not the boiling was done in pots made of lead. Cato, Columella and Pliny describe the process. In *De Agri Cultura*, the directions for reducing must are proffered by Cato. "Boil must in a copper or lead vessel, over a slow fire, stirring constantly to prevent scorching; continue the boiling, until you have boiled off a half."⁴ On the other hand, Columella gives a detailed description of its preparation.

Some people put the must in leaden vessels and by boiling reduce it by a quarter, others by a third. There is no doubt that anyone who boiled it down to one-half would be likely to make a better thick form of must and therefore more profitable for use. . . But, before the must is poured into the

¹ Pliny, NH XXXIII.95, 159. (1945) translated by H. Rackham, Loeb Classical Library.

² Dan Montgomery, 1971, Lead, Florida, the Roman Empire and the Decline of Academic Achievement in the United States. Sourced in Feb., 2006 from <http://sonic.net/kryptox/environ/lead/romans.htm>.

³ Waldron H.A. 1973, Lead Poisoning in the Ancient World, *Journal of Medical History*, 17, 391-399.

⁴ Marcus Porcius Cato, *De Agri Cultura*, CVII, 1935, translated by William Davis Hooper, revised by Harrison Boyd Ash, Loeb Classical Library.

boiling-vessels, it will be well that those which are made of lead should be coated inside with good oil and be well-rubbed, and then the must should be put in. . . The vessels themselves in which the thickened and boiled-down must is boiled should be of lead rather than of brass; for, in the boiling, brazen vessels throw off copper-rust and spoil the flavour of the preservative. . . Must of the sweetest possible flavour will be boiled down to a third of its original volume and when boiled down, as I have said above, is called defrutum.¹

While writing on the production of wine concentrates, Pliny advises that in order to obtain the best of concentrates, *mustum* should be cooked with vessels made of lead.

Also boiled-down must and must of new wine should be boiled when there is no moon, which means at the conjunction of that planet, and not on any other day; and moreover leaden and not copper jars should be used, and some walnuts should be thrown into the liquor, for those are said to absorb the smoke²

If the advice to cook *mustum* in leaden vessels was adhered to, then it must follow that a gradual process of lead poisoning through this item may have been possible, considering the fact that *mustum* was used as a condiment for food as well as a sweetener, even for wines. The *Natural History* provides evidence that links this issue to child death in ancient Rome.

However, Scarborough notes that the boiling period was short therefore *mustum* could not have been contaminated by the lead pots that were used in the boiling. He also suggests that one should read some of the texts carefully, and that in so doing, one would notice that a preference for copper and bronze objects are mentioned and as a result of that advice, ancient Romans utilized bronze cauldrons

¹ Columella: *On Agriculture* XII.19.1, 19.6, 20.1, 21.1, 1954, translated by E. S. Forster and Edward H. Heffner (Loeb Classical Library)

² Pliny NH XIV.136, 1945, translated by H. Rackham (Loeb Classical Library)

rather than lead vessels. But, Gout postulates that copper and bronze also were contaminated by lead in the process of production. Quoting from Pliny's Natural History XXXIV.160 and XXXIV 95 respectively, he declares that copper vessels coated with *stagnum* (a lead alloy), gives the contents a more agreeable taste and prevents the formation of destructive verdigris. And also, the best bronze was alloyed with ten percent lead and tin.

Eisinger and Patterson et al. discovered that *mustum* reduced to *defrutum*, that is one-third of its volume, contained more or less 1000 milligrams of lead per litre.¹ Heeding Columella's recommendation (XII.20.3), which is a mixture of one *sextarius* of *defrutum* with one amphora of wine, or of Cato's, (XXIV) would produce a concentration that would certainly induce lead poisoning. Nriagu presupposes Rome's aristocrats as well as their children to have been exposed to it. The children consumed water from pipes made of lead as well as diluted wine,² the aristocrats consumed both water from leaden pipes and about two litres of such wine on a daily basis. Children and parents were poisoned by lead, since children were less resistant, child mortality was inevitable. The parents were poisoned by lead content-water and wine, the results being internal weakness characterized by ineffective governance which, according to some contemporary authors, brought about the eventual fall and total collapse of the ancient empire of Rome.

An anonymous Roman Hermit in the mid second century A.D. describes the result of lead poisoning with poetic vividness:

Hence gout and stone afflict the human race;
Hence lazy jaundice with her saffron face;
Palsy, with shaking head and tott'ring knees.
And bloated dropsy, the staunch sot's disease;
Consumption, pale, with keen but hollow eye,
And sharpened feature, shew'd that death was nigh.

¹ Patterson C.C., Shirahata H., Ericson J.E., 1987, Lead in Ancient Human Bones and Its Relevance to Historical Developments of Social Problems with Lead, *Journal of the Science of the Total Environment*, 61, 167-200.

² Celsus in *De Medicina* 3: 32, 13, 14, while discussing issues that pertain to age, he advises that children should not fast as long as adults; children and the aged should bathe with warm water and also children should be given diluted wine, while adults should drink undiluted wine. It is highly probable that this advised was adhered to because it was coming from a medical practitioner and also children were wont to be present when adults drank wine.

The feeble offspring curse their crazy sires,
And, tainted from his birth, the youth expires.¹

Indeed the 'youth,' the child, tainted from his birth, expires.

The *Wikipedia* gives a concise and interesting description of lead poisoning as well as its effects.

Lead poisoning is a medical condition, also known as saturnism, plumbism or painter's colic, caused by increased blood lead levels. Lead may cause irreversible neurological damage as well as renal disease, cardiovascular effects, and reproductive toxicity. The symptoms of chronic lead poisoning include neurological problems, such as reduced cognitive abilities, or nausea, abdominal pain, irritability, insomnia, metal taste in oral cavity, excess lethargy or hyperactivity, headache and, in extreme cases, seizure and coma. There are also associated gastrointestinal problems, such as constipation, diarrhea, vomiting, poor appetite, weight loss, which are common in acute poisoning. Other associated effects are anaemia, kidney problems, and reproductive problems. A direct link between early lead exposure and extreme learning disability has been confirmed by multiple researchers and child advocacy groups.²

The above descriptions of lead poisoning are indeed frightening. If they are anything to go by, certainly, people in antiquity must have greatly suffered from its effect especially children. Lead is very poisonous, adults are vulnerable, but children are most susceptible. They are easily attacked because their nervous systems and brains are still developing.³ When

¹ Lead poisoning by an anonymous Roman hermit, Translated by Humelbergius Secundus, 1829

² Lead Poisoning, sourced June 2006 from http://en.wikipedia.org/wiki/Lead_poisoning

³ <http://www.healthscout.com/ency/407/287/main.html>, retrieved April 2008

...ingested or inhaled, it enters the bloodstream and inhibits the production of hemoglobin, which is needed by red cells to carry oxygen, and locks onto and inactivates essential enzymes in the brain and nervous system. Lead's toxicity is 10 micrograms, or greater, per deciliter of blood. Blood levels as low as 10-15 micrograms per deciliter can be associated with diminished intelligence, impaired behavioral development, impaired hearing, and inhibited growth.¹

Vazifdar (2007) claims that the toxicity of lead had been identified and documented about 2000 B.C and that lead poisoning came to be known as the ailment of the wealthy in ancient Rome. The Romans, as demonstrated above, used lead for the production of many materials such as pot, wine urns, plumbing, cosmetics as well as enhancing the colour and taste of wine.² Vazifdar mentions the following as some of the symptoms of lead poisoning:

Insomnia, lack of energy, sluggish feeling, loss of appetite and weight, anemia, colic, constipation, weakness in muscles; increased aggressive and hostile behavior, increased irritability, headaches, nausea and vomiting, seizures, weakness of muscles, coma, lowered IQ in children, learning difficulties in children and kidney problems.³

According to Jack Lewis, a former Editor of the Journal of the Environmental Protection Agency (EPA) in the United States of America, ancient Romans were aware of the effects of lead; they knew it could lead to insanity or even death. They were also aware of its usefulness. To the ancient Romans lead was the father of all metals and it was associated with the god, Saturn, who ate up

¹ <http://www.healthscout.com/ency/407/287/main.html>, retrieved April 2008

² Vazifdar Lena, 2007, Retrieved 28th April, 2008 from <http://www.divinecaroline.com/article/22182/26720-toxic-truth-lead-poisoning/2..>

³ Vazifdar Lena, 2007, Retrieved 28th April, 2008 from <http://www.divinecaroline.com/article/22182/26720-toxic-truth-lead-poisoning/2>

his young.¹ The Longman Dictionary of Contemporary English defines saturnine as *looking sad and serious, especially in a threatening way*. Saturnine was a word used to describe someone whose temperament had become gloomy, cynical and taciturn due to lead intoxication.

The use of lead was copious and it was accessible to almost everyone. It was used as a spermicide for birth control. Soranus in his *Gynecology* (I.19.61) advises that in order to prevent conception, the mouth of the uterus should be smeared with white lead. Celsus (ca 25 B.C – ca 50 A.D) and Claudius Galen (ca AD 129 to ca A.D. 216) writing in his *De Antidotis*, (XIV.144), both provide an antidote for poisoning by white lead (V.27.12b). Lead was also used in producing powder and mascara. It was used, as shown above, as a condiment for food seasoning. It was used as a wine preservative to impede fermentation. The piping system that supplied water to the vast majority of the populace of ancient Rome and her environs became a reality as a result of lead.

The word plumbing has its root in the Latin *plumbum* which means lead. Montgomery (1971)² argues that people especially aristocrats and their families who had access to water from pipes and consumed the soft water, especially of the kind that had sat on lead pipes overnight, were in actual fact consuming poison; lead poison, one of whose effects is apathy. The children in these families may have been worse hit. It is Nriagu, a geochemist (1983)³ who comes to the conclusion that one of the major causes of the decline of the Roman Empire was lead poisoning mentioned above. In corroborating Nriagu, Montgomery suggests that aristocrats who were the Leaders of the society, exhibited poor leadership and management skills due to chronic lead poisoning which impaired intelligence and behavioural abilities. According to him, children of people especially aristocrats were likely to be underachievers and infants suffered more death.^{4, 5}

¹ Jack Lewis, (1985), Lead Poisoning: A Historical Perspective (EPA Journal), Ohio, USA.

² Dan Montgomery, 1971, Lead, Floride, the Roman Empire and the Decline of Academic Achievement in the United States.

³ Nriagu Jerome O., 1983, Saturnine Gout Among Roman Aristocrats: Did Lead Poisoning Contribute to the Fall of the Empire? *New England Journal of Medicine*, 308, 660-663.

⁴ Dan Montgomery, 1997, Lead, Floride, the Roman Empire and the Decline of Academic Achievement in the United States. Sourced from <http://sonic.net/kryptox/environ/lead/romans.htm>

⁵ However, Scarborough a Pharmacist and a Classicist does not agree that lead caused the fall of the ancient empire of Rome. He claims that ancient authorities were aware of lead as poison, but the poisoning was not endemic. Also, in reviewing a book *Lead and the Fall of Rome* written by Nriagu, Scarborough postulates that it was “full of false evidence, miscitations, typographical errors, and a blatant flippancy regarding primary sources that the reader cannot trust the basic

3.7 Plagues

In antiquity there were records of plagues that affected the people. Livy documented plagues that occurred at two different periods in ancient Rome. The first of this plague recorded by Livy occurred from 463 to 462 B.C. The plague was so devastating that majority of the soldiers who were affected could not take up arms to defend the city against the invading enemy. The plague sent the consul Aebutius to his untimely grave and also left his colleague Servilius, in a “lingering state.”¹ Livy writes, “. . . her strength gone and with no one to lead her, Rome lay helpless. Only her tutelary gods could save her – and her own abiding Fortune.”²

There was the plague and epidemics recorded by Thucydides (c 460-c400), an Athenian General, a historian and a political critic, who himself was a victim of this deadly plague. It is called the Athenian plague and it occurred between 430 and 426 B.C. in Athens and probably spread to Rome. This plague claimed the life of Pericles of Athens and the lives of many people without discriminating between young and old.

The second plague which Livy describes as serious epidemics occurred in 435 and lasted through to 432 B.C. It seems probable that what Livy describes as “serious epidemics” is the Athenian plague which may have spread to Rome. These serious epidemics claimed the lives of very many soldiers and civilians. Livy writes that this second plague occurs when Gaius Julius and Lucius Verginius are consuls. The effect of this plague destroyed all enterprise. Raids and thoughts of aggressive operations were not considered because of its effect. People of all classes were affected. It also encouraged raids from the invading enemy who came from Fidenae. It took the *generalissimo* and military strategy of Aulus Servilius Dictator to beat and completely defeat the enemy. Livy records in 432 that the epidemics grew worse, therefore men were distracted from political agitations. As a result of the epidemic, a temple was vowed to Apollo in order to secure public health. The reason was to placate the wrath of the gods so that the epidemics

arguments"(Scarborough John, 1984, The Myth of Lead Poisoning Among the Romans: An Essay Review. *Journal of the History of Medicine*, 39, 469-475,)

¹ Livy, *The Early History of Rome*, Books 3, 3.6 pg 190, translated by Audrey De Selicourt, 1973, Penguin Books, England.

² Livy, *The Early History of Rome*, Books 3, 3.6 pg 190, translated by Audrey De Selicourt, 1973, Penguin Books, England.

would be abolished and the populace healed. It seems probable that the people believed that the plague was caused by supernatural beings.

. . . but in spite of all both men and cattle died and there were terrible losses in town and country. The farmers, too, were falling sick, and in fear of famine delegations were sent to buy grain in Etruria and the Pomptine, and finally as far as Sicily.¹

While Livy discusses the effect of both plagues, he does not mention the effect on children. The reason is obvious. Livy is writing about politics, war and consolidation of the ancient empire of Rome. However it is easy, from this history, to infer that while this plague claimed the lives of consuls, soldiers, men, cattle and even farmers, the lives of children could not have been spared by this plague.

Other plagues are the Antonine, the Cyprian and the Justinian plagues. The Antonine plague occurred between 165 and 180 A.D when Marcus Aurelius was Emperor. The Antonine plague claimed the lives of two Emperors, Lucius Verus (AD169) and his co-Regent Marcus Aurelius Antoninus (AD 180). In his *Meditations* Marcus Aurelius writes that the plague was less deadly than the corruption of the intellectual aspect of the existence of man. If the intellectual aspect of man was corrupt, depravity would set in and the harm that would emanate from it would have devastating effects more than what the plague could ever muster. He was not in actual fact treating the plague and its intricacies; rather he was looking at the falsehood and wickedness of man which he believed were far worse than the plague that was affecting the populace during this period.

It were the more desirable lot, to depart from among men, unacquainted with falsehood, hypocrisy, luxury, or vanity. The next choice were, to expire, when cloy'd with these vices, rather than continue among them: and does not even experience, yet, persuade you to fly from amidst the plague? For a corruption of the intellectual part is far more a plague than any pestilential distemper and change of this

¹ Ibid, Book 4: 4.25 pg 296.

surrounding fluid which we breathe. The one is only a pestilence to animals, as they are animals; but the other to men, as they are men.¹

Marcus Aurelius probably had access to the best of doctors, yet he could not survive the attack of this plague, a medical care which no other person or child could have.

Dio Cassius² the Roman Historian writes that the disease broke out again nine years later and claimed the lives of about two thousand people.

Lucian of Samosata (c A.D 125 –c A.D. 182) was an Assyrian,³ a rhetorician and a satirist. He is noted for his witty and scoffing nature. While describing the character of Alexander of Abonoteichus (born in c 105 A.D), as that of a false and fraudulent prophet, he mentions the Antonine plague. He states that people especially commoners believed in Alexander's magic which was nonetheless ineffective against the plague while also pinpointing peoples' carelessness in dealing with the plague because of their belief in Alexander and his antics. His record of desolate houses suggests that the occupants, both adults and children, were wiped out irrespective of the so called magic chant supplied by the false prophet and which was hung in front of such houses.

His finger once in the Italian pie, Alexander devoted himself to getting further. Sacred envoys were sent all over the Roman Empire, warning the various cities to be on their guard against pestilence and conflagrations, with the prophet's offers of security against them. One oracle in particular, an autophone again, he distributed broadcast at a time of pestilence. It was a single line:

Phoebus long-tressed the plague-cloud shall dispel.

¹ Marcus Aurelius, 1991, "*Meditations*" IX.2. Translated by George Long sourced from the Internet Classics Archive at <http://classics.mit.edu/Antoninus/meditations.mb.txt>

² Cassius Dio, *Roman History, Book 71:2.4*, Translation by Earnest Cary. Loeb Classical Library, Harvard University Press, 1914 through 1927.

³ Parpola Simo, Helsinki, 2003 Assyrian Identity in Ancient Times and Today, *Journal of Assyrian Academic Studies*. p. 17. <http://www.aina.org/articles/assyrianidentity.pdf>.

This was everywhere to be seen written up on doors as a prophylactic. Its effect was generally disappointing; for it somehow happened that the protected houses were just the ones to be desolated. Not that I would suggest for a moment that the line was their destruction; but, accidentally no doubt, it did so fall out. Possibly common people put too much confidence in the verse, and lived carelessly without troubling to help the oracle against its foe; were there not the words fighting their battle, and long-tressed Phoebus discharging his arrows at the pestilence?¹

The Cyprian Plague occurred about 259 A.D. and it was documented by Saint Cyprian, the Assyrian. He was a Bishop and a Christian writer. This plague of Cyprian, a pandemic, probably of smallpox, broke out in A.D. 251 in Rome and even had devastating effects on the people in Roman Carthage. The plague is named after Saint Cyprian. He not only witnessed it but also vividly documented it as well. It is believed that about 5,000 people died everyday in Rome.² Below Saint Cyprian describes the plague and its devastating effects. This is a plague that definitely decimated the population at Rome during this period. In later verses of this volume, he affirms that the plague affected everyone, pagan, Christian or Epicurean; boys, girls and adults. The description below proves that it had a painful effect and its victims were a sorry sight to behold.

This trial, that now the bowels, relaxed into a constant flux, discharge the bodily strength; that a fire originated in the marrow ferments into wounds of the fauces; that the intestines are shaken with a continual vomiting; that the eyes are on fire with the injected blood; that in some cases the feet or some parts of the limbs are taken off by the

¹ The Works of Lucian of Samosata, *Volume II, Alexander – The Oracle Monger*, 36, pg 228. Translations by H. W. Fowler and F. G. Fowler, 1905, Oxford: The Clarendon Press.

² Plague of Cyprian, sourced in June 2009, from http://en.wikipedia.org/wiki/Plague_of_Cyprian

contagion of diseased putrefaction; that from the weakness arising by the maiming and loss of the body, either the gait is enfeebled, or the hearing is obstructed, or the sight darkened;--is profitable as a proof of faith. What a grandeur of spirit it is to struggle with all the powers of an unshaken mind against so many onsets of devastation and death! what sublimity, to stand erect amid the desolation of the human race, and not to lie prostrate with those who have no hope in God; but rather to rejoice, and to embrace the benefit of the occasion; that in thus bravely showing forth our faith, and by suffering endured, going forward to Christ by the narrow way that Christ trod, we may receive the reward of His life and faith according to His own judgment!.¹

Pontius of Carthage, also a Christian writer, wrote the biography of Saint Cyprian shortly after Cyprian's death in about A.D. 259. He gives a vivid account of the effect of the plague on its victims in Carthage. Pontius' description is much more vivid than that of Cyprian. It brings to the fore how lethally this disease was. Works of other classical authors corroborate this fact. It is quite clear that Cyprian and Pontius did not set out to write about causes of child mortality, but these excerpts clearly show that one can infer that this plague caused child mortality in ancient Rome between the 2nd and 3rd centuries A.D. A disease that could destabilize and kill many people as is noted in the passage below, would not be sparing of the lives of children less than six.

Afterwards there broke out a dreadful plague, and excessive destruction of a hateful disease invaded every house in succession of the trembling populace, carrying off day by day with abrupt attack numberless people, every one from his own house. All were shuddering, fleeing,

¹ Cyprian of Carthage, *On the Mortality (or Plague)*, 14:1-7. Translated by the Rev. Ernest Wallis, Ph.D., <http://www.ewtn.com/library/PATRISTC/ANF5-15.TXT>.

shunning the contagion, impiously exposing their own friends, as if with the exclusion of the person who was sure to die of the plague, one could exclude death itself also. There lay about the meanwhile, over the whole city, no longer bodies, but the carcasses of many, and, by the contemplation of a lot which in their turn would be theirs, demanded the pity of the passers-by for themselves. No one regarded anything besides his cruel gains. No one trembled at the remembrance of a similar event. No one did to another what he himself wished to experience.¹

The Justinian plague on the other hand happened between 500 and 650 A.D² when Justinian was the emperor of the Byzantine Empire. This plague affected Asia Minor, Africa and Europe.

Otto Seeck³ argues that more than half of the population of the ancient empire perished. Littman and Littman (1973), having studied information about the Antonine plague maintain that the plague was an outbreak of hemorrhagic small pox.⁴ McNeill also states that the plague was an outbreak of small pox⁵. Other modern authors suggest that it was either an outbreak of small pox or of measles which caused severe devastation on the population.

Smith (1996) writes that the Antonine plague was introduced into the Italian Peninsula by soldiers, who were returning from Seleucia. He claims that this plague wiped out a whole town. In other words, every inhabitant of this town, male and female, boy and girl, infants inclusive did not outlive the disease. Smith concludes that the plague destroyed about one third of the Roman population.⁶

¹ Pontius of Carthage, *Life of Cyprian*, sourced in June 2009 from http://en.wikipedia.org/wiki/Plague_of_Cyprian

² The plague indeed lasted for fifty years. A report with this caption: *Italy: Plague victims discovered after 1500 years*, sourced from the Adnkronos e-news website attests to it. The website is <http://www.adnkronos.com/AKI/English/CultureAndMedia/?id=1.0.2059849995>

³ Otto Seeck, 1910, *Geschichte des Untergangs der antiken Welt*

⁴ Littman, R.J. and Littman M.L., 1973, Galen and the Antonine Plague, *American Journal of Philology* 94 : 254-55.

⁵ McNeill, William H. 1976, *Plagues and Peoples*. Bantam Doubleday Dell Publishing Group, Inc., New York, NY

⁶ Smith, Christine A., 2006 *Plague in the Ancient World: A Study from Thucydides to Justinian*. <http://www.loyno.edu/~history/journal/1996-7/Smith.html> Retrieved 6th October, 2007

Hass suggests that from the description of the diseases with regard to the Antonine plague, it was an outbreak of small pox.¹ He writes that the plague killed innumerable number of people. Gillian² agrees that this plague is a significant factor in the decline of the population of ancient Rome, but suggests that as a factor in the decline of the population other authors have greatly exaggerated. However, he suggests a plausible estimate of about two percent or one million deaths.

The Athenian, Antonine, Cyprian and Justinian plagues played their roles as killers of peoples, sackers of cities and most importantly, causes of child mortality in ancient Rome.

3.8 Superstitious/Religious Beliefs

Ancient Romans were known to be superstitious and this superstition may have led to child death. We have seen above in Horace who believes that if that woman's child is healed by luck or the hard work of the doctor, she would carry out her vow to the god whom she believed had cured her son. That singular action would lead to the death of the child. For it is unhealthy to put a young child out in the cold and in effect bring back the fever that had earlier been cured. Hippocrates also speaks of the sacred disease which is also known as epilepsy; a disease he believed was termed sacred by witch doctors, quacks and charlatans who thought the disease was brought upon people by the gods. Since they believed it was caused by the gods, rather than administer the proper remedy, sacrifices were offered in the name of religion, therefore deaths, especially those of children, were recorded. Lanciani has also provided evidence that suggest that people in antiquity worshipped deities of diseases probably because they thought it was better to deal with diseases from a spiritual stance. Therefore, they set up altars to the god of microbes and the goddess of typhoid, believing that worshipping these beings would also prevent or cure the diseases. Therefore, the need for scientific cure was not in high demand and hence resulting in a large number of deaths that could have been prevented.

¹ Hass Charles, *The Antonine Plague*, <http://lib.bioinfo.pl/pmid:17195627>

² J. F. Gilliam, 1961, The Plague under Marcus Aurelius, *American Journal of Philology* 82, 228-29

Although the Romans were a religious set of people, their religion did not approve the killing of children in order to appease gods or goddesses. But child sacrifice is known in other cities such as Carthage. Classical authors such as Plutarch,¹ Tertullian,² Diodorus Siculus,³ allude to child sacrifice in Carthage, although some modern historians and archaeologists disagree (on the accuracy or authenticity of child sacrifice in Carthage).⁴

3.9 Social Deprivation

In ancient Rome, parents neglected their children and left them in the care of wet nurses. Soranus⁵ a medical practitioner in the 1st century A.D advised that mothers should breastfeed their own children for this would produce optimal results, especially for the children. Where there was a deficiency in this kind of care child mortality was bound to occur.

Also Pliny the Elder complained of doctors who had become careless in their attitude towards the good health of the people.

Atque haec omnia medici — quod pace eorum dixisse liceat — ignorant. parent nominibus: in tantum a conficiendis medicaminibus absunt, quod esse proprium medicinae solebat. nunc quotiens incidere in libellos, componere ex iis volentes aliqua, hoc est inpendio miserorum experiri commentaria, credunt Seplasiae omnia fraudibus corrumpenti. iam quidem facta emplastra et collyria mercantur, tabesque mercium aut fraus Seplasiae sic excitetur!⁶

¹ Plutarch, *De superstitione* 171. 13, *The Loeb Classical Library* 1928, sourced from http://penelope.uchicago.edu/Thayer/E/Roman/Texts/Plutarch/Moralia/De_superstitione*.html

² Tertullian, *Apologeticus IX: 4* translated by Alexander Souter, *The Loeb Classical Library*. Sourced from

http://www.tertullian.org/articles/mayor_apologeticum/mayor_apologeticum_07translation.htm

³ Siculus, Diodorus, *The Library of History, Vol 1, Book XX.14*, translated by Oldfather, C.H. 1935, *The Loeb Classical Library*. Harvard University Press.

⁴ *Human Sacrifice*, http://en.wikipedia.org/wiki/Human_sacrifice retrieved 28th September 2008.

⁵ Soranus, *Gynaecology*, 2:18-20, translated by Temkin O.G., 1948, Oxford.

⁶ Elder Pliny, *Natural History* 34.25.108., 1945, translated by H. Rackham, Loeb Classical Library.

But of all these facts the doctors are ignorant, if they will permit me to say so, – they are governed by names; so detached are they from the process of making up drugs, which used to be the special business of the medical profession. Nowadays, whenever they come on books of prescription, wanting to make up some medicines out of them, which means to make trial of the ingredients in the prescriptions at the expense of their unhappy patients, they rely on the fashionable druggists' shops which spoil everything with fraudulent adulterations, and for a long time they have been buying plasters and eye-salves ready made; and thus is deteriorated rubbish of merchandise and the fraud of the druggist' trade put on show!¹

Pliny the Elder is decrying the doctors of his time. These doctors had become ignorant of their duties, rather than get involved in the process of making drugs; they depended on drugs obtained from druggists' shops which had already been adulterated. The doctors were fraudulent because they encouraged this fraudulent practice by patronizing the druggists. The doctors then dispensed these drugs to their "unhappy" patients. Whether the patients were aware or not did not make any difference. They received this unfair treatment from doctors. The above criticism from Pliny confirms reckless abandon by the doctors towards their profession with dire consequences to their patients old and young.

Even then, the poor were not able to afford the services of midwives or medical doctors. Trained midwives were few in antiquity. Therefore, child mortality occurred. In the words of Valerie French:

It seems probable, therefore that the rates of . . . infant mortality in the Greaco-Roman world varied with the socio economic class of the family and with the family's

¹ *Elder Pliny, Natural History 34.25.108.*, 1945, translated by H. Rackham, Loeb Classical Library.

choice between traditional folk medicine and professionalized obstetric care.¹

Sanitation in ancient Rome was very poor, especially for the low income class, which was about 95% of the population. Private drains, which were the responsibilities of the property owners, were neglected and kitchens were located near the household latrines. These latrines were little more than culverts or cesspits. People emptied their rubbish on the streets and since there were no cleaning services, the overcrowded neighborhoods were putrid and beleaguered with flies and dogs, which spread diseases.² Also, the public baths, where everyone bathed both the sick and the healthy, was a place where diseases spread. Doctors recommended the bath for their patients because they believed in its potency and its therapeutic value.

Considering the overcrowded neighborhoods, the poor sanitation and of course malnutrition, the mortality rate of the people especially children would be high. And so, plagues claimed the lives of many people. Indeed, social deprivation is the key factor that caused child mortality.

3.10 Deprivation by Parents

In ancient Rome, it seemed a normal phenomenon to employ wet nurses to look after new born babies. A woman writes about a daughter who had just put to bed. She just did not want her daughter to breast feed. It could be consequent on the idea that she thought that breast feeding was not good for the mother of the baby or it must have just been the norm, especially among women of high social standing.

¹ See Valerie's French Midwives and Maternity Care in the Roman World, "Rescuing Creusa: New Methodological Approaches to Women in Antiquity," *Helios*, New Series 13(2), 1986, pp. 70, sourced on 28th Jan., 2007 from <http://www.indiana.edu/~ancmed/midwife.HTM>

² Gigante Linda, 2004, *Death and Diseases in Ancient Rome*, University of Louisville. Sourced in Jan. 2006 from <http://www.innominate society.com/Articles/Death%20and%20Disease%20in%20Ancient%20Rome.htm>

. . . I hear that you have forced her to breast feed. If you wish let the baby have a wet nurse. I do not want my daughter to breast feed . . . ¹

The letter below demonstrates qualities to look for when hiring a wet nurse.

. . . Chose a proper and clean wet nurse, a modest woman who is inclined neither to drowsiness nor to drunkenness. Such a woman can make the best judgments about how to care for children appropriately, particularly if she has milk to nourish them and is not easily persuaded to sleep with her husband, for it is in this that she has an important part, foremost and prefatory to the whole of the child's life . . .

The wet nurse should not be temperamental or talkative or uncontrolled in her appetite for food but orderly and temperate, practical, not a foreigner but a Greek . . .

She should not give him (baby) continual baths; it is better to have occasional temperate ones. Along the same lines, the atmosphere around the baby should have an even balance of hot and cold, and his housing should be neither too airy nor too close. Moreover his water should not be too hard nor too soft, nor his bed too rough, rather it should be comfortable on his skin.²

These qualities seem important considering the well being of the child. However it seems probable that more often than not the wrong wet nurses got the job. There were wet nurses who often got drunk, who were ill-tempered, who were not considerate, who were talkative, who did not look after the babies as they

¹ Letter from a woman whose daughter had just had a baby. Egypt Mid. 3rd Century. A.D (London Papyrus 951) sourced from Lefkowitz Mary R., Fant, Maureen B., 1992, *Women's Life in Greece and Rome A source Book in Translation*, The John Hopkins University Press, Baltimore.

² Hiring a Wet Nurse. Italy, 3rd/2nd Century B.C (Thesleff, pp. 123-4) sourced from Lefkowitz Mary R., Fant, Maureen B., 1992, *Women's Life in Greece and Rome A source Book in Translation*

should, who were given to drowsiness, who had uncontrolled appetites among all the vices that a wet nurse should not possess. Babies, who were entrusted to wet nurses with these deficiencies above, had no good chance of survival.

And as Soranus, (1st Century A.D) advised:

To be sure all things being equal, it is better to feed the child with maternal milk, for it is more suited to it, and the mothers become more sympathetic towards the offspring, and it is more natural to be fed from the mother after parturition just as before parturition. But if anything prevents it one must choose the best wet nurse, lest the mother grows prematurely old, having spent herself through the daily suckling.

One should choose a wet nurse not younger than twenty nor older than forty years, who has already given birth twice or thrice, who is healthy, of good constitutions, of large frame and of good colour . . .

She should be self controlled, sympathetic and not ill-tempered, a Greek and tidy . . .

She should be in her prime because younger women are ignorant in the rearing of children and their minds are still somewhat careless and childish . . .

She should be healthy because healthful and nourishing milk comes from a healthy body . .

The wet nurse should be self-controlled so as to abstain from coitus, drinking, lewdness and any other such pleasure and incontinence . . .

She should be sympathetic and affectionate . . ¹

The above letter from Soranus and the other letters above suggest one important matter which is that breast feeding the child by the biological mother

¹¹ Soranus Gynaecology 2 18-20 Translated by Temkin O.G. John Hopkins University Press.

increases chances of survival of children. Another factor is that it creates bonds and a strong relationship between mothers and babies and increases the intelligence quotient of babies. It seems highly probable that in situations where there were lack of these and much more, the death of the child occurred. To buttress this point, modern authors¹ view this idea of wet nursing from the perspective that child mortality may have occurred because parents distanced themselves from their children and left them in the care of wet nurses. They think that parents did not desire to become attached to their children because the parents thought children had little chances of surviving before age five. The parents gradually became attached to them when it became obvious that the children life's expectation was high. And so wet nursing may have been a common phenomenon especially among the upper class.

And with Aulus Gellius,

. . . I pray you, woman, let her be completely the mother of her own child. What sort of half-baked, unnatural kind of mother bears a child and then sends it away? To have nourished in her womb with her own blood something she could not see and now that she can see it not to feed it with her own milk, now that its alive and human, crying for its mother's attention? Or do you think', he said, 'that women have nipples for decoration and not for feeding their babies? . . .

'Why in heaven's name corrupt that nobility of body and mind of the new born human being, which was off to a fine start, with the alien and degraded food of the milk of a stranger? Especially if the person you use to supply milk is, as is often the case, from a foreign and barbarian nation, or if she is dishonest, or ugly, or

¹ Schediel, Rawson, Bradley, etc all suggest this fact as one among others that probably led to child death in ancient Rome.

immodest, or unchaste, or a drinker; usually the only qualification for the post is that of having milk . . .¹

Graxia Alexandria nursed her children with her own breasts.²

3.11 Conclusion

The causes of child mortality in antiquity include malaria, consumption, paralysis, dropsy, cough, jaundice, cholera, wasting diseases, racking pains, agonies of thirst; hunger, feebleness of limbs, privation of bodily senses and epilepsy. Of all the above diseases mentioned fevers predominantly caused child death. Others causes of child death include infanticide, lead poisoning, plagues, superstitious and religious beliefs and social deprivation.

¹ Aulus Gellius, *Attic Nights* 12.1 translated by Rolfe, J.C., 1927, The Loeb Classical Library. Cambridge.

² CIL VI, No. 19128.

CHAPTER FOUR

CHILD MORTALITY IN IBADANLAND

4.0 Introduction

In the first chapter above a brief introduction on the origin and growth of Ibadan land has been established. Ibadan land is an autonomous phenomenon, the exploration of whose historical, cultural economic and political ramifications is not only intellectually exciting, but also contributes immensely to our understanding of the larger society.¹ The growth of this city has brought luxuries and opportunities² and these attractions have caused the city to grow at a rate that may have become difficult to manage, such that matters regarding health of people especially children have constituted serious challenges.

This chapter will treat in some details the most important causes of child mortality in Ibadan from 1980 to 2005. Works of contemporary authors will be consulted and cited in the course of discussions.

4.1. Lack of Access to Potable Water and Effective Sewerage System

In Ibadan, predominantly in the dense and unplanned parts of the city, there is, to an extent, a lack of access to potable water, lack of effective waste disposal management system and lack of effective sewerage connection. These have indeed caused a glut of illnesses that have led to death, especially among children under five years of age. A study by Shi Anqing (1999),³ demonstrates factors that influence child mortality in 237 cities in 100 countries. Ibadan and Onitsha are two of the 237 cities in 100 countries indicated in that research. Shi used a 1993 city level data from Global Urban Indicators,⁴ to prove that lack of access to potable water, as well as lack of effective sewerage connection cause child

¹ Labinjo, J (2002): Ibadan and the Phenomenon of Urbanization in Ibadan; a Historical, Cultural and Socio-Economic Study of an African City in G.O. Ogunremi (Ed.),

² Tomori M. A. "Ibadan Metropolitan Area and the Challenges to Sustainable Development" retrieved from <http://macosconsultancy.com/Ibadan%20metropolitan.html> on 6th May, 2013.

³ Shi, Anqing, 2000, *How Access to Urban Potable Water and Sewerage Connections Affects Child Mortality*, World Bank Development Research Group, World Bank Policy Research Working Paper No 2274, Social Science Electronic Publishing, Washington D.C, United States.

⁴ This is a product of the United Nations Center for Human Settlements (UNCHS).

mortality. In other words, if a high percentage of the populace in Ibadan has access to potable water and effective sewerage connection, then child mortality rate would be reduced. In the same vein, if the government participates fully in delivering potable water and effective sewage connection, Ibadan 62 per 1000 child mortality rate¹ would be drastically reduced.

Osinusi (2007) writes that twenty percent of the over one billion people of the world who lack access to clean water live in sub-Saharan Africa and that 2.4 billion people lack access to proper waste disposal.² Since about 50%³ of Ibadan's population lack access to potable water, people are left with the option of obtaining water from unhygienic sources. The consequence is an increase in debilitating illnesses such as typhoid fever and cholera, and, therefore, an increase in the rate of child death in Ibadan.

One of the unhygienic sources which people obtain water from is water vendors. Although, Water Tankers' Operators claim they obtain the water they vend from hygienic sources, it is a well known fact that majority of them collect water from nearby streams. The water from streams is contaminated by bacteriae that cause infectious diseases that lead to child death. It is to avoid such mortality that nursing mothers are strongly advised not to feed their babies with water, but to breast feed them exclusively for the first six months.⁴

In a conversation with Popoola Oluwafemi, a medical practitioner at the University College Hospital Ibadan, he explains that nursing mothers are advised to desist from feeding their babies with baby milk formula, and other food items until the babies are four months old. The reason is that many illiterate women are likely to utilize water collected from wells and other unhealthy sources to feed their babies without purifying it. The children soon get infected with diarrhea or cholera, which, according to Popoola Oluwafemi, are leading causes of child mortality in Ibadan.

¹ Shi, Anqing, 2000, *How Access to Urban Potable Water and Sewerage Connections Affects Child Mortality*, World Bank Development Research Group, World Bank Policy Research Working Paper No 2274, Social Science Electronic Publishing, Washington D.C, United States.

² Osinusi Kikelomo, 2007, Environment and Child Health, Archives of Ibadan Medicine vol 8, 2

³ Ibid

⁴ This does not negate the fact that nursing mothers should naturally breast their babies exclusively for the first six months because breast milk contains all the necessary nutrients a baby needs for that period.

As a matter of fact, Popoola Oluwafemi further explains that a high incidence of child death recorded at the University College Hospital between 1980 and 1990, resulted from diarrhea and cholera. Majority of the children who succumbed to these diseases belonged to illiterate mothers. These women are not knowledgeable about the dangers involved in utilizing water obtained from unhealthy sources.

Other unhygienic sources where people collect water from, are wells and nearby streams. Although water from deep wells is pure, the case is different when the wells are in overcrowded areas of Ibadan in which the housing is typically in bad conditions. People obtain water from these sources, especially when they cannot afford buying water from water vendors. Many people who use water from these sources do not purify it. Therefore it becomes easy for children to get infected with water-borne diseases.

Another point to consider is that majority of the people in Ibadan who lack access to potable water and effective sewerage connections also lack other infrastructures such as effective sanitation services, adequate housing conditions, free education, regular power supplies and free medical services for children less than 6. These are infrastructures that should cushion the effects of health and economic challenges facing the people. These sets of people who live in the densely populated areas of Ibadan such as Oje, Bere, Mokola and Sango are worst hit. And Shi concludes: people who live in cities enjoy clean and potable water as well as other infrastructures such as needed for survival. And people who live in rural areas lack infrastructures such as effective sanitation services, adequate housing conditions, free education, regular power supplies and free medical services for children less than 6. Therefore, their health is negatively affected. This is to say that although Ibadan is a city; some of these densely populated and unplanned areas in Ibadan can be compared to rural areas, in terms of the unavailability of social amenities such as pipe-borne water and electricity.

The World Health Organization¹ shows that lack of access to potable water in sub-Saharan Africa, and other continents, is known to be a cause of child death.

¹UN-Habitat Collaborative agencies: WHO (World Health Organization)/ UNDESA (United Nations Department of Economic and Social Affairs), 2003, *Cities: Competing Needs in an Urban Environment*, pg 160-187. Earthscan Publications, London.

Puffer, R.R. and C.V. Serrano (1973)¹ also demonstrate that a high percentage of households in Latin American cities with cases of child death do not have access to potable water supply. The World Health Organization² (1978), Schultz³ (1980) and Feachem⁴ (1981) link access to potable water, effective sewerage system and child mortality. These are causes of child mortality, in Ibadan.

4.2. Environment

The environment can have negative impact on the health of the child in various ways. Last (2001) defines the environment “as all the physical, chemical and biological factors external to the human host and all related behaviors, but excluding those natural environments that cannot be reasonably modified.”⁵ The World Health Report⁶ informs that the greatest environmental factors that affect child health, apart from safe drinking water and sanitation include air pollution. Also the WHO⁷ affirms that many households in developing countries depend on unprocessed biomass fuel, which includes wood and coal. These contribute to environmental factors that cause child mortality in Ibadan. Osinusi (2007)⁸ shows that indoor cooking with this unprocessed biomass fuel, often takes place in poorly ventilated areas: hence, indoor pollution. In addition, Osinusi further shows that indoor kerosene burning “leads to the accumulation of volatile organic compounds and polyaromatic hydrocarbons which are injurious to health.”⁹ These are situations that occur in Ibadan every day. Children (under five) are most vulnerable.

Other environmental factors which cause child mortality in Ibadan, are lead content paints and lead content gasoline. Children are more exposed to leaded

¹ Puffer, R.R. and C.V. Serrano. 1973. *Patterns of Morality in Childhood*, Pan American Health Organization, Washington, D.C.

² World Health Organization. 1978. Main Findings of the Comparative Study of Social and Biological Effects on Perinatal Mortality. *World Health Statistics* 31(3).

³ Schultz, T. P. 1980. *Interpretation of Relations among Mortality, Economics of the Household, and the Health Environment*. World Health Organization, Geneva..

⁴ Feachem, R. 1981. The Water and Sanitation Decade. *Journal of Tropical Medicine and Hygiene*, Vol 84 (2).

⁵ Last J.M, 2001, A Dictionary of Epidemiology, 4th edition. New York: Oxford University Press, International Epidemiological Association

⁶ World Health Report, 2002, Reducing risks, Promoting Healthy Life. Geneva, World Health Report

⁷ World Health Report, 2002, Reducing risks, Promoting Healthy Life. World Health Report, Geneva.

⁸ Osinusi Kikelomo, 2007, Environment and Child Health, *Archives of Ibadan Medicine* Vol 8, 2

⁹ Osinusi Kikelomo, 2007, Environment and Child Health, *Archives of Ibadan Medicine* Vol 8, 2

paints than leaded petrol. Adebamowo et al (2006)¹ show that children are at greater risk of exposure to leaded paints than leaded petrol in Nigeria. Having measured lead levels of locally produced paints from nineteen samples, they discover that lead levels in paints are high. Children are wont to put items in their mouth. They peel dry paints from walls and chew them. Leaded paints and gasoline have been completely phased out in many developed countries of the world but not in Nigeria. Until lead free paints are produced locally, child mortality would continue to occur in Ibadan.

Osinusi² emphasizes that leaded gasoline is responsible for about 90% of airborne lead pollution in countries where it has not been banned. In Ibadan, only high content leaded gasoline is used; and yet there is a dearth of the resources needed to evaluate the percentage of lead in the environment. Also, no law has been passed to phase out completely lead content gasoline in Ibadan. Corroborating Adebamowo et al, Anetor (2008)³ also affirms that leaded gasoline is in use in Ibadan. He shows that high lead content has been discovered in fish sold in Nigeria markets. Lead is known to contribute to hypertension and reproductive disorders. It is also an endocrine disruptor. It reduces intelligence quotient. It causes anemia; shortens longevity; causes hearing loss; compromises immunity and causes congenital malformation. It also causes deficit in growth and development.⁴ Although some of these ailments have been mentioned in the third chapter of this thesis in regard to Rome, it is necessary to restate them here. Lead is very poisonous. If it gets into the body system, death is inevitable. When lead poisoning occurs, it is usually difficult to diagnose and put a finger on it until it has done its damage. Leaded petrol contributes greatly to lead exposure in general. In 1980, Africa contributed 5% worldwide. In 1996 its contribution increased to

¹ Adebamowo E.O, Agbede O.A, Sridhar M.K.C., Adebamowo C.A., 2006, An Evaluation of Lead Levels in Paints for Residential Use Sold in the Nigerian Market. *Indoor and Built Environment*, Vol. 15, No. 6, 551-554.

² Osinusi Kikelomo, 2007, Environment and Child Health, *Archives of Ibadan Medicine* vol 8, 2

³ Anetor, J.I., 2008, *Lead Exposure from use of Lead Petrol in Nigeria*, A presentation at a one-day symposium on Environmental lead exposure organised by The Institute for Advanced Medical Research and Training (IMRAT).

⁴ Anetor J. I., 2005, . Decreased total and Ionized Calcium Levels and Haematological Indices in Occupational Lead Exposure as Evidence of Endocrine Disruptive Effect of Lead. *Journal of Occupational and Environmental Medicine*. 9:15-21

20%.¹ Anetor concludes that about 90 percent of Nigerian children are exposed to lead poisoning.² Therefore lead poisoning has caused and is still causing child mortality in Ibadan.

4.3. Cholera

Falade and Lawoyin (1999)³ carried out a study which shows that cholera leads to child mortality. This is evident in the 1996 cholera epidemic. They agree that of the cases of cholera seen, 95 percent were children of people who lived in the unplanned, densely populated areas of Ibadan. They believe that the provision of clean and potable water to the residents of these areas should help in no small way to arrest the spread of cholera. Studies have also shown that child mortality rates are less in privileged areas.⁴ Residents who live in planned and sparsely populated areas of Ibadan, such as the Old and New Bodija enjoy better social facilities and of course better health conditions than people who live in places such as Oje, Bere and other unplanned, densely populated areas of Ibadan. Some Residents who live in these planned and sparsely populated areas have private boreholes and wells providing clean and potable water. They also acquire pumping machines for effective water circulation in their homes. Those having wells keep the water clean with purifying agents. They even boil the water before drinking it. The story is usually the opposite in densely populated areas. Wells that are in such places are polluted with dirty bathroom slippers, chewing sticks, toothbrushes and silt. Water from them is not boiled before drinking.

¹ Anetor, J.I., 2008, *Lead Exposure from use of Lead Petrol in Nigeria*, A presentation at a one-day symposium on Environmental lead exposure organised by The Institute for Advanced Medical Research and Training (IMRAT).

² Anetor, J.I. & Adeniyi F.A.A. (2000). Lead poisoning in Africa: A silent epidemic. *Journal of African Science*. Vol. 1, pg 28.

³ Falade G., Lawoyin T., 1999, Features of the 1996 cholera epidemic among Nigerian children in Ibadan, Nigeria, *Journal of Tropical Pediatrics*, 45 (1): 59-62.

⁴ Timaeus, Ian M. and Louisiana Lush, 1995, Intra-urban Differentials in Child Health. *Health Transition Review* 5. No.2:163-190. Stephens, Carolyn, 1996, Healthy Cities or Unhealthy Islands? The Health and Social Implications of Urban Inequality, *Environment and Urbanization* 8. No.(2):9-30. Harpham Trudy, Tim Lusty, and Patrick Vaughan. 1988. *In the Shadow of the City: Community Health and the Urban Poor*, Oxford University Press.

4.4. Measles

In Ibadan measles also account significantly for child death. Lagunjun et al (2006), examined the period January 2000 to December 2004, to determine change/s in the pattern of this disease. They reviewed record of cases admitted into the Oni Memorial Hospital in Ibadan on account of measles and discovered that the annual occurrence of the disease from 2000 to 2002 was fairly consistent but by the year 2003, there was an obvious increase. Between 2000 and 2004, of the 667 patients admitted for measles, majority of them (74.1%) were children under 2 years of age. Others, (25,9%) were infected by the disease before 9 months of age, the stipulated time for measles vaccination.

With measles came other complications such as “bronchopneumonia, protein-energy malnutrition, tuberculosis, keratopathy, otitis media, heart failure and tension pneumothorax.” Of the 667 admitted, fifty-six patients who died constitute a death rate of 8.4%. Lagunju et al categorically states that, of patients who died from measles, children under two years of age and children who were malnourished were in the majority. In conclusion, they suggest that immunization policies should be reviewed, immunization practices should be strengthened, and living standards should be improved.¹ These would aid in the eradication of measles, and of course, a sharp reduction, in child death. More research should be carried out to make it possible to immunize children who are less than nine months. My own child was infected with measles before nine months.

4.5. Malnutrition

A study carried out by Rossington² reveals that Protein Energy Malnutrition (PEM) is a major health problem among children who reside in the Oje area of Ibadan. The study considers the effects of economic, demographic and socio-cultural factors on the growth and nutrition of a small group of children. The children are aged between one and five years and they belong to poor families in

¹ Lagunju I.A., Orimadegun A E, Oyedemi D G, Dec., 2005, Measles in Ibadan: a continuous scourge. *African Journal Of Medicine And Medical Sciences*,34(4):383-7.

²Rossington Christine E., Environmental aspects of child growth and nutrition: A case study from Ibadan, Nigeria, <http://www.springerlink.com/content/j411340633671u40/>

Ibadan. Also, Bamgboye and Familusi¹ studied the trends and levels of pediatric death at the children emergency ward of the University College Hospital (UCH) at Ibadan. They demonstrate that between 1978 and 1986, Malnutrition and low birth weight among neonates also led to their death. They also mention, alongside malnutrition; measles, tetanus, jaundice, gastroenteritis and bronchopneumonia as diseases that led to child death.

Akinyole et al (2004) discovered that sixty percent of child deaths in Nigeria are related to Protein Energy Malnutrition (PEM) making it the greatest single cause of child mortality. They write, "if no action is taken, PEM will be the underlying cause of about 2.5 million child deaths between now and the year 2015. This is about 700 deaths everyday in the next 5 to 6 years, which is five times the estimated number of child deaths that are attributable to HIV/AIDS over the same period of time."² Akinyele³ (2005) also believes that as a result of malnutrition people who are infected by HIV/AIDS tend to succumb quickly to the disease. Children under five, succumb easily to these situations especially if malnutrition is involved. However Akinyole et al and Akinyele suggest that economic poverty, poverty of information, which in other words is lack of information necessary to inhibit the spread of HIV/AIDS, abet mortality.

4.6. Apathetic Attitude of Health Workers

Oyedeji (2005) submits that when health workers become efficient, their efforts would have considerable effect on what he terms the 5Ds which include Death, Disease, Disability, Discomfort and Dissatisfaction. It seems probable that this attitude is correlated to wrong attitude to work. That is, health workers reporting late for duty; and not carrying out their duty with all sense of responsibility and conscientiousness. Visiting some hospitals in Ibadan four or five years back, the nonchalant attitude of health workers was conspicuous. Since the patient could not do anything about it, they tended to appease the workers by offering some financial inducement to get better attention. Patients who could not

¹ Bamgboye EA, Familusi J.B, 1990, Mortality pattern at a children's emergency ward, University College Hospital, Ibadan, Nigeria. *African Journal Of Medicine And Medical Sciences*, 1990 Jun;19(2):127-32.

² Akinyole, I.O., Amire, F.T. Ajayi, O.A., Sanusi, R.A., (2004). *PROFILES: A nutritional advocacy tool for Nigeria. Technical Committee of ANG Working Group IITA/USAID.*

³ Akinyele, O., 2005, *Poverty, Malnutrition and the Public Health Dilemma of Disease.* University of Ibadan Postgraduate School Interdisciplinary Research Discourse. Ibadan.

give remained at the mercy of these workers. However, this attitude seems to be changing, thanks to recent administrative efforts by Chief Medical Directors of various hospitals, where these practices have hitherto been prevalent.

4.7. Lack of Genuine Concern

Oyedeji maintains that there is a need to carry out certain activities to lift the burden that diseases have placed on us. One of his suggestions is that everyone should be genuinely concerned about the problems of diseases and child death in Ibadan. We should emulate developed nations in the aspect of disease control, and hospitals should become more involved in effective medical training. Medical practitioners and other health workers should get involved in training others especially, unorthodox medical practitioners. Information necessary for good health should be disseminated to everybody.¹ If concerted efforts are made to ease the burden of diseases, then more children would be saved in Ibadan and in Nigeria as a whole.

4.8. Out-of-Hospital Births

Orimadegun, et al (2008) carried out a study on out-of-hospital births. They collected data on the place of birth, morbidity and outcomes of all neonates admitted into the Emergency Ward of the University College, Ibadan. They discover that of the 541 babies admitted, 61.8% are delivered outside hospitals while 38.2% are delivered in hospitals. Children born outside hospitals are categorized and the percentages of these categories are given as follows; babies born in religious houses 46.7%; those delivered in residential homes, traditional birth attendants homes and on the way to the hospitals, 38.0%, 8.4%, and 6.9% respectively. Orimadegun et al also show that out-of-hospital births are significantly associated with complications such as hypothermia, perinatal asphyxia, hemorrhage, cephalhematoma, prematurity and neonatal tetanus. These complications lead to child death. They also assert that more than half of these out-of-hospital deliveries are handled by untrained personnel and facilities. They claim that illiterate women and those from the lower social class are more likely to

¹ Orimadegun A.E, Akinbami, F.O; Tongo, O.O;.Okereke, J. O, 2008, Comparison of Neonates Born Outside and Inside Hospitals in a Children Emergency Unit, South West of Nigeria, *Pediatric Emergency Care*. 24(6):354-358.June 2008.

deliver their babies out of hospital. In comparing neonates born outside and inside hospitals in Ibadan, Orimadegun, et al, conclude that the neonatal mortality in the out of hospital group of 12.6% is significantly higher than that obtained in the hospital birth group of 6.3%.¹

It is important to note here that it is not only illiterates and women in the lower social class that deliver their babies outside hospital settings. A lot of literate women in the middle social class also employ the services of these out-of-hospital birth attendants and midwives. There is therefore the need for effective monitoring and retraining of birth attendants and midwives in this out-of-hospital group, in order to save the lives of babies born outside hospitals.

It is known that many expectant mothers, especially those of lower classes prefer the services of traditional midwives who utilize traditional or local methods in treating their patients, rather than go to a medical centre. It is known that some of the medications prescribed by many of these traditional midwives, are extensively herbal, and pharmacologically beneficial to patients². Traditional healers cannot be ignored. They enjoy large patronage for they have been a part of the Nigerian society from time immemorial. Barriers between modern and traditional health providers are fast breaking down and so attempts to prevent people from patronizing traditional medical practitioners are bound to fail. Therefore they need to be monitored and retrained to reduce child death.

4.9. Table 1

Babies admitted	541
% of Babies born outside hospitals	61.8%
Number of Babies born outside hospitals	334
Deaths	68
% of deaths	12.6%
% of Babies born in hospitals	38.2%
Number of Babies born in hospitals	207

¹ Orimadegun A.E, Akinbami, F.O; Tongo, O.O; Okereke, J. O, 2008, Comparison of Neonates Born Outside and Inside Hospitals in a Children Emergency Unit, South West of Nigeria, *Pediatric Emergency Care*. 24(6):354-358.June 2008.

² Erinsho O.A, 1998, *Health Sociology pg 64*, Sam Bookman Educational and Communication Services, Ijebu-Ode, Nigeria.

Deaths	34
% of deaths	6.3%
Total death	102
% of total death	18.9
Total survivors	439
% of total survivors	81.9

The table demonstrates that babies born outside hospitals were more in number as against those born inside hospitals. Furthermore, babies born outside hospitals constitute the larger number.

4.10. Malaria

Malaria is known to be a killer disease. Orimadegun et al (2008) carried out a study at the University College Hospital, Ibadan (UCH). The study is to determine the effects of malaria (*plasmodium falciparum*) on children in particular and the society in general. They found that from 2000-2005, severe malaria cases constitute 11.13 percent of 16,031 admissions, with 89.1 percent being children below 5 years of age. Of all the severe malaria cases, cerebral malaria is 19.17 percent. They also show, from malaria, a yearly mortality rate ranging from 8.7 percent to 13.2 percent, with significant increase from 2000-2004. And of all pediatric deaths, malaria accounts for 12.14 percent. And significantly associated with deaths from malaria are age (less than 2 years), hypoglycaemia and respiratory distress.¹ In conclusion therefore, they suggest that it may be necessary to update the strategies on malaria control as it contributes not only to child death, but also affects, adversely, the economy and other aspects of development in the society.

4.11. Poverty

Apart from diseases, other social factors are also responsible for child mortality in Ibadan. One of such is poverty. Nigeria is ranked as among 13 poorest nations in the world. Seventy percent of her citizens live in poverty and

¹ Orimadegun A.E, 2006, Increasing Burden of Childhood Severe Malaria in a Nigerian Tertiary Hospital: Implication for Control, *African Journal of Medicine and Medical Sciences*. 35(2) 132-145.

37.5 percent live in extreme poverty.¹ Many families are so poor that they can barely eat three square meals a day. They also eat unbalanced diet, which leads to kwashiorkor, a fatal disease common among children of the poor. Poor people have to purchase local herbs from markets in the Ibadan metropolis to treat diseases because they cannot afford to pay for drugs prescribed by orthodox medical Practitioners. The general term for the herbal preparation is *agbo*.² *Agbo* herbal medications are cheap and are severely limited and no effect in curing many diseases that affect children such as neonatal septicaemia, severe birth sphyxia, malignancies, congenital heart disease, post neonatal tetanus infantile cholestasis, neonatal tetanus and HIV/AIDS.

Agbo Jedi is used to cure dysentery and diarrhea. A type of *agbo* is used to treat meningitis; another, for sickle cell anemia; another, for measles and so on. One particular *agbo* is said to be a cure for all the diseases. This, of course, is not true. In spite of these, unorthodox medicines enjoy large patronage from members of the society, especially the poor. According to Oyedeji the poor health status in Nigeria is aggravated by “the old diseases refusing to go” and “the old poorly controlled diseases fighting back and with new incursions, and new emerging threats.”³ These old diseases that have refused to go are neonatal tetanus, meningitis, cholera, typhoid fever and dysentery. Supporting his theories with those of Ayoola, et al, (2005) he mentions measles, malaria, meningitis, severe malaria, pneumonia, septicaemia, severe malnutrition, gastroenteritis, severe anaemia, tuberculosis, neonatal jaundice, sickle cell anaemia, renal diseases, congenital malformation, hepatitis, congenital heart disease, post neonatal jaundice, infantile cholestasis and HIV/AIDS as causes of childhood deaths.⁴

¹ Nigeria, Are there new types of regulatory partnership in Nigeria that could enable poor people to obtain safe and effective treatment for Malaria?

<http://www.futurehealthsystems.org/country/nigeria.htm>. Retrieved on December 11th 2008.

² *Agbo* is a collection of several herbs used for treating various ailments. It has its traditional name in every dialect that is spoken in Nigeria. A few is mentioned here. The yorubas call it *agbo*. The Ibo s call it *ogu iba*. The Ishan man calls it *ikhumhun esan*

³ Oyedeji G.A, 2006, “*Easing The Burden Of Diseases*” Faculty Of Clinical Sciences Week Lecture University of Ibadan

⁴ Oyedeji G.A, 2006, “*Easing The Burden Of Diseases*” Faculty Of Clinical Sciences Week Lecture University of Ibadan

4.12. Other Causes of Childhood Deaths

Ayoola et al (2001) carried out a five-year period research. This research was done in the six wards of the Pediatric unit of the University College Ibadan, between the period January 1996 and December 2000. The purpose of the study was to describe causes of childhood deaths and also measure the health of children.

From the table below Ayoola et al demonstrate causes of child death, the number of cases of death and the percentage starting from the principal causes to the minor one.

Table 3

4.13. Principal Causes of Childhood Deaths in Ibadan from 1996-2000

Causes of Death	Number of death	Percentage
Neonatal Tetanus	163	13.8
Prematurity and low birth weight	136	11.5
Neonatal Septicaemia	124	10.5
Severe Birth sphyxia	124	10.5
Meningitis	87	7.3
Severe Malaria	73	6.2
Pneumonia	56	4.7
Septicaemia	55	4.6
Severe Malnutrition	52	4.4
Measles	42	3.5
Malignancies	41	3.5
Gastroenteritis	31	2.6
Severe Anaemia	29	2.4
Tuberculosis	28	2.4
Neonatal Jaundice	26	2.2
Sickle Cell Anaemia	26	2.2
Renal Diseases	13	1.1
Congenital Malformation	12	1.0
Hepatitis	11	0.9

Congenital Heart Disease	10	.8
Post Neonatal Tetanus	10	.8
Burns	7	.6
Acquired Heart Disease	6	.5
Infantile Cholestasis	5	.4
HIV/AIDS	4	.3
Other Neurologic Infection	3	.3
Metabolic Disorder	3	.3
Rabies	2	.2
Kerosene Poisoning	3	.3
Drug reactions	3	.3
Pyomyositis	2	.1
Total	1185	100.0

Source: Ayoola, Orimadegun, Akinsola, Osinusi 2006

Of the 12,522 children admitted, 1,185 deaths were recorded. This figure brought the mortality rate to 9.5%. From the research, it was discovered that there was no marked increase in death rates in the periods under study. However 48.8 % of death occurred within 24 hours of admission, while neonatal deaths made up 50.8 % of the 1,185 total numbers of deaths. Ayoola et al noted that the major causes of death were, “neonatal tetanus, prematurity and low birth weight, neonatal septicaemia, severe birth asphyxia, meningitis, severe malaria, pneumonia, septicaemia, severe malnutrition, and measles.” They also observed that children who died from sickle cell anaemia were those above 5 years of age. In conclusion, they agreed that majority of the deaths occurred in neonates and these deaths could have been prevented.¹

In a debate between the University of Ghana and Ibadan, Acquah² explicates the United Nations Millennium Development Goals as eight goals meant for

¹ Ayoola O.O, Orimadegun E.A, Akinsola A K, Osinusi K, 2001, A five-year review of childhood mortality at the University College Hospital, Ibadan. *West African Journal of Medicine*: 24 (2):175-9.

²Acquah Samuel Jude, 2006/2007, *The UN Millennium Development Goals are a Reality and Not a Myth*. Retrieved on 11th December 2008, from

sustainable development. These eight goals are contained in the Millennium Declaration which was adopted unanimously by the 189 members of the United Nations in September 2000. Reducing child mortality was among the eight goals to be achieved by 2015. While declaring that these MDGs can be achieved in Africa, Acquah agrees that the Acquired Immune Deficiency Syndrome (AIDS), diarrhea, malaria, measles and respiratory diseases will continue to lead to child death. He also maintains that these diseases can be prevented and or be remedied by simple low-cost methods.¹ The MDGs affect almost every facet of the health of the people especially children. Except the necessary equipment and facilities are put in place in Ibadan, achieving the above eight goals, especially the fourth goal, which is reducing child mortality, may be slow and complicated.

4.14. Vitamin A Deficiency (VAD)

Vitamin A deficiency is another factor responsible for child death. VAD is said to be the leading cause of preventable sight impairment and blindness in children of less than five years of age. A child could become blind and die within a year due to VAD. McLaren et al (2001) affirm that VAD increases the risk of severe illness and death from common childhood diseases especially measles and diarrhea.²

Reporting for the Daily Champion of 26th August, 2008, Dele Ogunyemi clearly stated that the Oyo State Commissioner for Health, Dr. Isaac Babalola addressed an audience at Ikereku in the Akinyele Local Government Area of Ibadan at the launch of Vitamin A awareness campaign. The Commissioner admitted that malnutrition which accounts for 60% and Vitamin A Deficiency (VAD) which also accounts for 25.1% of death are the major causes of under-five death. Dr. Babalola showed that one out of five children does not live until age five. He attributed 70% of this malady to childhood diseases which include malaria, acute respiratory tract infections, pneumonia, diarrhea, measles and

http://ugdebate.scientificghanaian.com/index.php?view=article&catid=34%3Aspeeches&id=45%3Ajude&option=com_content&Itemid=53.

¹Acquah Samuel Jude, 2006/2007, *The UN Millennium Development Goals are a Reality and Not a Myth*. Retrieved on 11th December 2008, from

http://ugdebate.scientificghanaian.com/index.php?view=article&catid=34%3Aspeeches&id=45%3Ajude&option=com_content&Itemid=53.

² McLaren DS, Frigg M., 2001, *Sights and life Manual on Vitamin A Disorders (VADD)*, 2nd edition, pg 24, *Task Force Sight and Life Magazine*, Basel, Switzerland.

malnutrition. Dr. Babalola stressed that the greater the intake of vitamin A in children, the greater their chances of survival. The Commissioner also demonstrated that research had shown that improving the “Vitamin A status of children of 6-59 months dramatically increased their chances of survival by reducing all the causes of mortality by 23 per cent; reducing measles mortality by 50 per cent and reducing diarrhea mortality by 33 percent.”¹

Maziya Dixon, Busie B. et al carried out a study on food consumption nutrition survey in Nigeria in order to formulate strategies that would address VAD. The main objective of their study is to examine VAD status in children less than five years. They discover that the size of children with VAD differ among the agro ecological zones of the country; 31.3% in the dry savanna, 24.0% in the moist savanna, and 29.9% in the humid forest and VAD in children less than 5 years is 25.6% in the rural sector, 32.6% in the medium sector,² and 25.9% in the urban sector. As a result they assert that Vitamin A Deficiency (VAD) is a major health problem in developing countries, Nigeria inclusive. Children less than 5 and pregnant women are the most vulnerable. They also show that VAD is the primary reason for visual impairment and blindness. These are medical conditions that are preventable. They discover that VAD's prevalence is higher in the rural areas than in urban areas, the reason being probably, higher urban income, enlightenment and access to better social infrastructure. They conclude that although progress is being made towards the reduction of VAD, there is a need to accelerate efforts at combating this VAD in Nigeria with the intention of bringing it under control.³

Humphrey et al (1992) calculate approximately that VAD may be responsible for as many as 1.3–2.5 million deaths annually worldwide.⁴ Rice et al reveal that about twenty to twenty four percent of child death resulting from measles, diarrhea and malaria can be ascribed to VAD.⁵ Beaton G.H et al (1993)

¹ Ogunyemi Dele, Daily Champion, August 2008, *Nigeria: Malnutrition, Major Cause of Child Mortality*, retrieved in Sept 2008 from <http://allafrica.com/stories/200808260290.html>

² An area that cannot be described as rural or urban.

³ Maziya-Dixon B, Akinyele IO, Sanusi RA, Oguntana EB, Harris E., 2004, *Vitamin A Status of Children under 5 in Nigeria: Results of the Nigeria Food Consumption and Nutrition Survey*. Presented at the XXII International Vitamin A Consultative Group (IVACG) Meeting, Vitamin A and the Common Agenda for Micronutrients, 15–17 November 2004, Lima, Peru.

⁴ Humphrey JH, West KP Jr, Sommer A., 1992, *Vitamin A Deficiency and Attributable Mortality among under-5-year olds*. Bull World Health Organ. 1992;70:225–32

⁵ Rice AL, West KP Jr, Black RE. *Vitamin A Deficiency*. Available from: <http://www.who.int/publications/cra/chapters/volume1/part2/en/index.html>

also suggest that if the Vitamin A status in young children in developing countries is improved then child death rate could be reduced by twenty to fifty percent.¹ The WHO (2001)² estimates that 250,000–500,000 who are vitamin A deficient become blind every year, and about a half of them dies within a year of becoming blind.³ The WHO also shows that VAD increases the risk of problems such as iron deficiency, anaemia in women and children, and thereafter increases growth deficits in young children.

Akinyinka et al (2001) assert that VAD and PEM (Protein Energy Malnutrition), which share similar aetiological factors; are public health problems among malnourished as well as well-nourished Nigerian children, particularly those less than 3 years of age. Their study include a survey of 128 well-nourished and 230 malnourished pre-school children in order to determine the factors “associated with increased risks of VAD . . .” They discover that 29.3% and 70.8% of well-nourished and malnourished children respectively had incidences of VAD, and that the danger of VAD is increased following measles, a history of persistent diarrhea and wasting.⁴

Ajaiyeoba (2001)⁵ writes that there is high prevalence of VAD in under privileged communities in the world. He assumes that the deficiency of VAD in Nigeria may cause an increase in blindness, child morbidity and mortality. Urgent action need to be taken by the government of this country to bring this disease under control. Ajaiyeoba is also able to determine the prevalence of VAD in four geographic zones of the country; Northeast, Northwest, Southeast and Southwest. The result shows that there is prevalence of VAD among children in these zones except in the Southeast zone where the prevalence is the lowest. The reason attributed to this is that palm oil which is high in vitamin A is consumed regularly

¹ Beaton GH, Martorell R, Aronson KJ, Edmonston B, McCabe G, Ross AC, Harvey B., 1993, *Effectiveness of vitamin A supplementation in the Control of Young Child Morbidity and Mortality in Developing countries*. Nutrition Policy Discussion Paper 13: Administrative Committee on Coordination-Subcommittee on Nutrition, Geneva, Switzerland, WHO.

² World Health Organization, 2000, *Nutrition for Health and Development: a Global Agenda for Combating Malnutrition*, Geneva, Switzerland, WHO.

³ Food Agriculture Organization. World Health Organization. 1992, *World declaration and plan of action for nutrition*. International Conference on Nutrition. Rome, Italy, Food Agriculture Organization

⁴ Akinyinka O.O, Usen S.O, Akanni A., Falade A.G., Osinusi K., Ajaiyeoba I.A., Akang E.E., 2001, Vitamin A Status of Pre-School Children in Ibadan (South West, Nigeria), Risk Factors and Comparison of Methods of Diagnosis, *West African Journal of Medicine*, Jul – Sep; 20 (3): 243-8.

⁵ Ajaiyeoba A.I., 2001, Vitamin A Deficiency in Nigerian Children, *African Journal of Biomedical Research*. Ibadan Biomedical Communication Group, Vol 4, Numb 3, 107 -110.

by people in this zone. The study also shows that children between 60 and 71 months are most susceptible to VAD, probably because at this time, the vitamin A which was stored up during breastfeeding period would have been exhausted.¹ This study demonstrates that VAD working with diarrhea, measles and malnutrition increase the risk of child mortality at that age.

Sommer et al (1986) assert that if a diet is supplemented with vitamin A, there will be a reduction in child mortality which is caused by VAD related illnesses.² Food items such as oranges and sweet potatoes are rich in vitamin A and so children should be fed with this fiber plant in order to enrich their vitamin A status. Other food items rich in vitamin A, apart from red palm oil, which has a high content of beta-carotene, include: yellow fruits such as mangoes and papaya, and liver.³ The Department of Preventive Medicine of the Northwestern University, Chicago, USA, writes that the following food, fruit and vegetables items are rich in vitamin A: liver, beef, chicken liver, canned pumpkin, raw carrots, baby carrots, sweet potatoes, squash, butternut, fresh mangoes, cooked and fresh spinach, cantaloupe, apricots, collard greens, kale, vegetable juice, broccoli, romaine lettuce and fortified skimmed milk.⁴ Some of these food, fruits and vegetable items are common here in Ibadan.

The Federal Government of Nigeria is providing children under five with vitamin A vaccine at the UCH. The Oyo State Government under the leadership of Alao Akala should follow the footsteps of the FG. The Oyo State government should make vitamin A vaccines available at all state hospitals. More efforts should be made, especially at the local or grassroots levels, towards ensuring that children are not deficient of this important vitamin. People should be educated about the importance of vitamin A for children under 6 years of age. However, pregnant women have been warned not to take too much of vitamin A. Food item

¹ Ajaiyeoba A.I., 2001, Vitamin A Deficiency in Nigerian Children, *African Journal of Biomedical Research*. Ibadan Biomedical Communication Group. Vol 4, Numb 3, 107 -110.

² Sommer A, Tarwotio I, Djunaedi E, 1986, Impact of Vitamin A Supplementation on Childhood Mortality- A Randomized Controlled Community Trial. *The Lancet* Vol 1:1169-1173.

³ <http://www.healthandyoga.com/html/food/effect.html>, retrieved 28th Jan 2009.

⁴ <http://www.feinberg.northwestern.edu/nutrition/factsheets/vitamin-a.html>, retrieved 28th Jan. 2009

such as liver should be avoided by pregnant women, because it contains a high amount of vitamin A.¹

4.15. HIV/AIDS

Vallaey's Charlotte² writes that the AIDS virus has ravaged the continent of Africa and that except "serious awareness campaigns, ideological changes, economic stability and educational opportunities for all are securely implemented,"³ this virus would continue to wreck more havoc on the people. WHO⁴ asserts that AIDS is presently the greatest reason for mortality in Africa. Eighteen million Africans have succumbed to the disease; one or both parents of twelve million African children have died from the disease. And 500,000 babies are born HIV positive annually in Africa. Ferriman (2001) shows that presently, only twenty-five thousand (25,000) Africans have access to anti-retroviral drugs. In other words, of every ten thousand (10,000) HIV positive Africans, only one receives appropriate drugs^{5, 6}.

In Ibadan, the AIDS virus is a virulent killer of children under five. Although the University Teaching Hospital in Ibadan makes concerted efforts to help in reducing the risk of HIV in babies, yet this virus is still wrecking havoc on women and children. Some NGOs in Ibadan are working hard towards the provision of aids and retroviral services to orphans and other children who are HIV positive. However, they record losses with regard to the lives of these children. Children who live in the urban areas are fortunate to have these aids and drugs. But those who live, especially in densely populated areas of Ibadan are not so fortunate in receiving assistance, in terms of the provision of retroviral drugs, other

¹ *Healthy Diet, 8 Tips for Eating Well*, Retrieved January 28th, 2009 from

<http://www.eatwell.gov.uk/healthydiet/nutritionessentials/vitaminsandminerals/vitamina/>

² Vallaey's Charlotte, *Awareness Is Not Enough: Gender in the HIV/AIDS Pandemic in Africa*, retrieved January 28th, 2009 from

<http://www.scu.edu/ethics/publications/submitted/vallaey's/gender.html>

³ Vallaey's Charlotte, *Awareness Is Not Enough: Gender in the HIV/AIDS Pandemic in Africa*, retrieved January 28th, 2009 from

<http://www.scu.edu/ethics/publications/submitted/vallaey's/gender.html>

⁴ World Health Organization and Joint United Nations Programme on HIV/AIDS (UNAIDS), December 2001, *AIDS Epidemic Update*

⁵ Ferriman Annabel, May 2001, *UN Calls for \$10 billion to Wage War on AIDS*, British Medical Journal 322, p. 1082.

⁶ This is an exaggeration. Presently, I am aware of a non-governmental organization that provides appropriate drugs and vitamin enhanced products to at least 50 people; children and adults alike, in Ibadan.

aids and emotional support. Therefore, there is child death resulting from HIV infection.

4.16. Maternal Illiteracy

Another social aspect to be considered is maternal illiteracy. As indicated above, this is an important feature when considering child health in Ibadan. Femi Popoola and Ehimen Aneni, medical practitioners at the University College Hospital, admit that doctors, nurses and health workers find it less challenging in diagnosing the disease of children whose mothers are literate.

Adamson (1986),¹ a Columnist at the New Internationalist, writes that maternal literacy may be the most powerful single factor determining child health and survival. He asserts that Sri Lanka and the Indian State of Kerala are among the poorest regions of the world whose per capita Gross National Income (GNPs) is less than \$750 dollars per annum. He postulates that although they are among the poorest in the world, they record the lowest infant mortality. He asserts that these countries invest heavily in the education of girls, majority of who go beyond primary institutions.²

Caldwell (1979) comparing infant mortality rates in two distinct areas of the city of Ibadan, discovers that the death rate among children of women with elementary education is 30 per cent lower than those of women with no formal education. Therefore, he asserts that “maternal education is the single most significant determinant of these marked differences in child mortality.”³ An educated mother, irrespective of her level of income, understands the necessity of immunization, antenatal care, breast feeding, hand washing, weaning, home hygiene and the treatment of basic illnesses and injuries. With Adamson, education “tends to undermine fatalism and resignation, substituting a degree of confidence, a different perception of the possible, an awareness of choice, an attitude of questioning, a belief that decisions can be made, circumstances changed

¹ Adamson Peter, 1986, *Why Reading Keeps Children Alive*, New Internationalist, issue 164, October 1986. Retrieved in September 2008 from <http://www.newint.org/issue164/reading.htm>

² Ibid

³ Caldwell J.C., 1979, *Education as a Factor in Mortality Decline An Examination of Nigerian Data*, Population Studies, Vol. 33, No. 3, pp. 395-413, Population Investigation Committee.

and lives improved.”¹ In addition, an educated mother understands that the smaller the size of her family the greater the chances of survival. Also she understands the importance of child spacing, to reduce both maternal and child mortality.

4.17. Socio Cultural Beliefs

a. Unhealthy Delivery Practices

Unhealthy delivery practices are responsible for child mortality in Ibadan. Some people believe that the delivery of a baby must be done at home under the supervision of an elderly woman of the family. And after delivery, cow dung is used in dressing the cut umbilical cord because it is believed that it would aid effective healing. Cow dung is known to have tetanus spores and microorganisms.² If the cord is infected with these pathogens, it would result in the death of the child, especially if the child is not treated early enough.

b. Figure of Authority

Another factor to consider is the delay of treatment for a sick child. It is believed that except a figure of authority like the father or the head of the family gives the mother permission to take a sick child to the hospital or a health centre, the mother will not take the responsibility. This issue is common in polygamous homes.

c. The Ogbanje or Abiku Phenomenon

The Ogbanje (Ibo) or Abiku (Yoruba), is a cultural phenomenon that had and still has considerable influence on childhood mortality in many cities in Nigeria. An *Ogbanje* or *Abiku* is a child who dies and is reincarnated over and over again until some spiritual rites are performed to arrest and bind the spirit of this *ogbanje* or *Abiku*. *Abiku* literally means “born to die.” This phenomenon is common among children between 0 and 5 years. Among the Yorubas in Ibadan, the baby or child is branded to stop his or her gimmicks of frequent deaths and reincarnation. There are certain names reserved for them such as *Kasimawo*,

¹ Adamson Peter, 1986, *Why Reading Keeps Children Alive*, New Internationalist, issue 164, October 1986.

² Kayode, Clara M., Owoaje Eme T., Omotade Olayemi O., 2007, *Sociocultural Issues in Child Health Care in Nigeria*, Archives of Ibadan Medicine, Vol 8, 2

Kokumo, Jitoni, Ikumapayi. It is generally believed that the late Philanthropist in Nigeria, Moshood Kasimawo Abiola, was suspected to be an *Abiku* because of his name. His mother had had six children who had died. He was the seventh child and was named *Kasimawo*. It is believed that the name prevented the baby from dying and reincarnating. As for mutilations, Pastor Oye Paul Taiwo, a Lecturer in the Department of Linguistics, University of Ibadan, recounts the story of a woman who is about forty years of age now. The mother of this woman had had six children who had died. At the death of the sixth child, the fingers of the dead baby were chopped off. At the birth of the seventh child who happened to be this woman, her fingers were without nails. And she is still alive today. In regard to child mortality, the *abiku* phenomenon is still a factor in Ibadan and indeed other parts of the country.

The issue here is that a woman would have lost three or more babies before the survivors. Some of these *abikus* or *ogbange* are a particular sex, sometimes they could be different sexes, but the incision would prove that they were the babies who died earlier.

Uche Madu¹ who hailed from the Eastern part of Nigeria told of an experience. His aunt had had six (6) children consecutively, but they all, in exhibiting this *ogbanje* or *abiku* trait, died after birth. The longest surviving child lived for only a year. It so happened that after the death of each child an incision was made on either the hand or the face. When the next pregnancy occurred everyone prayed and hoped that the child would survive, but in vain. Asked if the babies took ill and were treated accordingly, he asserted that the babies were usually ill. They developed some form of fever, and the parents took the babies to the hospitals. Drugs were prescribed by medical doctors and these drugs were administered, but the children died after a few days. This continued until the death of the sixth child. The baby exhibited the same traits and died afterwards. This time, the mother of the baby decided to heed the advice of native doctors. After the death of the sixth child, Uche's aunt had become weary of this depressing experience and decided to put an end to it. She chopped the dead baby into bits and pieces, burnt it and threw the ashes into the bush. Some months later, she took in again and had a safe delivery. The *ogbange* trait has since ceased and now she

¹ For the purpose of confidentiality the real name is not presented.

has four surviving children. They believed that this was possible because she heeded the advice of the native doctors. Many cases of this type still abound today, even in Ibadan although it is not on the same scale.

4.18 Taboos and Myths

The Nigeria Tribune of September 2008¹ informs that many African taboos and myths on children's nutrition have devastating effects on child health and are the causes of child mortality in Nigeria. Some of these taboos include the belief by some people that children should not eat eggs, because feeding children with eggs is an overindulgence that would stimulate the act of stealing when the child grows up. However medical science has proven that growing children should be fed with an egg a day as it enhances the intelligence quotient of the child as well as his health. There is also the belief that, children who are fed with milk especially powdered milk tend to steal from their parents, and eventually from others. However, it is known that milk is a rich source of protein and good for growing children. On the other hand, *amala, ewedu, eba, fufu, garri, pap or ogi and tuwo* alone are unbalanced diets for effective growth.

Mojiroluwa Adebosin, who once lived somewhere in Old Ife Road, Ibadan related the story of one of her illiterate neighbours. Iya Kafaya's three year old child had taken ill. Mojiroluwa advised her to take the child to the hospital. Having been convinced, she went to see a doctor. After examining the child, the doctor noticed that the child was suffering from kwashiorkor. The doctor then prescribed some drugs for the child and told Iya Kafaya² to give the child balanced but cost effective diet. He particularly told her to ensure that the child was fed with fish, eggs, milk, beef and chicken. She later informed Mojiroluwa that the doctor only suggested those food items because he did not understand the root of the problem. She told Mojiroluwa that her husband's other wife was responsible for her predicament. Having listened to her lamentations, Mojiroluwa begged her to at least change the child's diet. If nothing happened, then they would look for alternatives. She looked at Mojiroluwa with disbelief. She could not understand why Mojiroluwa would take the doctor's side. As far as she was concerned, the

¹ Seye Adeniyi, *Impact of taboos, myths on Children's nutrition, IQ, health*, Nigerian Tribune Sept 25th, 2008

² Not her real name

doctor's advice was not an option. She would administer the drugs, but not the food items because children were to be fed with these food items only on festive occasions such as Christmas, Easter and Sallah. "I do not want this boy to become a thief when he grows up. That is exactly what would happen if I should feed him with those food items. I can give him beef or *pomo*¹." The poor child was given pap in the morning for breakfast, *eba*² with *pomo* and sometimes, fish in *ewedu*³ soup for lunch and *eko*⁴ in the evening for supper. These are days when the child would have three meals a day. Some other days, he had just two. She decided to consult herbalists who gave her portions to ward off the evil hands of her mate. She kept up with this attitude until she lost her son. The doctor informed Mojiroluwa that the cause of death was kwashiorkor. There are thousands of Iya Kafaya in Ibadan. Mama Laide, a Cleaner, believes that children who are fed food items such as eggs and chicken grow up to become thieves. Mr Ojo, a Trader, claims that children who are fed these food items become greedy as they grow up. Also Miss Laitan another Trader, holds the same view as Mama Laide. These people male and female, literates and illiterates, feed these myths to their children and except the children become educated enough to understand the difference between myths and realities, they would in turn feed the same stories to their children. Malnutrition, stunted growth and ultimately child mortality would continue.

4.19. Conclusion

Research and studies have all shown that diseases such as malaria, cholera, dysentery, typhoid, neonatal tetanus, neonatal Septicaemia, meningitis, pneumonia, measles, gastroenteritis, tuberculosis, neonatal jaundice, severe anaemia, prematurity and low birth weight, infantile cholestasis, and post neonatal tetanus are causes of child mortality in Ibadan. Furthermore, environmental problems such as lead poisoning, air pollution, poor sanitation and lack of access to potable water and ineffective sewerage management cause child death. Vitamin A deficiency,

¹ Animal skin

² cassava flour made solid

³ blended green vegetable leaves cooked and served with stew

⁴ solid pap

Protein Energy Malnutrition, HIV/AIDS and socio-cultural beliefs, are also factors that have, and still cause child death in Ibadan.

UNIVERSITY OF IBADAN

CHAPTER FIVE

CHILD FUNERARY INSCRIPTIONS

5.0. Introduction

Birth and death in ancient Roman Empire were not documented. Therefore, there are no records kept for the purpose of further studies or reviews. Latin epitaphs were put up for the dead by loved ones. They constitute some of the evidence available to elucidate infant mortality.¹

Analyses of the inscriptions throw light on child death in the society. Inscriptions typically give the name of the dead and age, and the name of the dedicators. The social status of the deceased and the emotions of the giver can also be deciphered from the inscription itself.

5.1. Importance of Latin Inscriptions

There are various Latin inscriptions which portray many aspects of the culture and civilization of the ancient Roman Empire. Some inscriptions depict different areas of the administration (of the affairs) of the Roman Empire. Inscriptions throw light on social mobility, political careers of people, leadership of notables as well as roles of imperial legates and patrons in Rome and other territories such as Roman Tripolitania.² The family, life history and achievements of eminent personalities such as Septimius Severus, the African and Emperor of Roman Empire, are brought to the fore.³ Other inscriptions inform about Roman occupation and institutions in territories conquered by Rome.⁴ Through inscriptions religious sanctuaries which were functional areas of relevant importance in the lives of the people are brought to light.

¹ See J.O. Ojoade, 1973, *Health in Roman Africa* Museum Africum, Ibadan

² Aneni M.O., 2003, *Social Mobility In Roman Tripolitania*, M.A., Project (unpublished), Department of Classics, University of Ibadan.

³ Ibid

⁴ http://www.novaroma.org/nr/Interview_the_Expert#Latin_Epigraphy, Retrieved on 25th June, 2007.

Inscriptions also throw light on the lives of people drawn from all walks of life as well as their culture. The daily lives of men and women, old and young, rich and poor, slaves and freedmen/women and citizens, Emperors and warriors are all depicted on inscriptions. Funerary and honorary inscriptions inform about the public and private profile of people, including the elite (senators, equites and city aristocracies) and simple folks (citizens without any public role, workers, women, children, freedmen, slaves). There is no gainsaying the fact that inscriptions are sources of ancient history. Therefore, the importance of Latin inscription in throwing light on different aspects of the history of ancient Rome, cannot be far to seek. Schmidt (2007)¹ writes that Latin inscriptions “are of inestimable value as sources for the study of Roman life and history in all aspects.”

Oliver (1998)² writes that tombstones reveal attitudes towards children and infants in the Greco-Roman world. He confirms an inscription on a 4th Century B.C Athenian tomb which depicts Ampharete holding a child. The inscription on the tombstone says;

I hold this dear child of my daughter, whom I held on my
knees while we were alive and looked with our eyes upon
the light of the sun, whom now dead, I dead hold.³

This inscription throws light on relationship that existed between children and adults, especially between children and parents. This inscription suggests that, in spite of infanticide practiced in the Greco-Roman world, a healthy relationship existed between children and parents on the one hand, and between children and grandparents on the other hand.

5.2. Understanding Child Funerary Inscriptions

To understand Latin inscriptions commemorating children, there is the need to understand the various characteristics that make up such inscriptions. The

¹ Schmidt Manfred G, 2007, *Corpus Inscriptionum Latinarum*, translated by Orla Mulholland, Berlin-Brandenburgische Akademie Der Wissenschaften.

² Oliver G.J, 2000, *An Introduction to The Epigraphy of Death in the Epigraphy of Death* edited by Oliver G.J, Liverpool University Press.

³ Oliver G.J, 2000, *An Introduction to The Epigraphy of Death in the Epigraphy of Death* edited by Oliver G.J, Liverpool University Press.

features include; the name of the child being commemorated, the age of the deceased at death, abbreviations, name of the dedicator, emotions of the commemorator and the status of the parents.

5.3. The Name of the Child Commemorated

Most funerary inscriptions dedicated to children bear names of the child for whom the inscription was put up. The names are usually the *praenomen* followed by the *nomen gentilicium*, and then the *cognomen*.¹ The forename is the name given to a boy or girl on the eighth day after birth. Rogan (2006)² asserts that if a child died prematurely only the *praenomen* would appear on the gravestone.³ He also states that the *nomen gentilicium* or *nomen* was the name given to all members of a family or clan, old Latin names had *us* as endings, those with Etruscan, Umbrian or Gallic origins ended with *as*, *anus* and *acus* or *auus* respectively.

From the names one is able to determine whether the recipient was a Roman citizen or the child of a freedman, or a Greek whose country has been absorbed by the Roman Empire. The names also pinpoint the sex of the child; most Roman names that are masculine end with *us* or *ius* while feminine names usually end with *a* or *ia*. Examples of masculine names include *Iulius* sometimes written as *Ivlivs*, and *Antonius*. Feminine names include *Florentina*, *Iulia*, and *Pompeia*. Below are examples of names of recipients while demonstrating the sex as well in inscription. The name of the person commemorated, grammatically, is usually in the dative case.

5.4. The Period of Time the Deceased Lived.

More often than not, as evident from inscriptions listed above, the number of years, months and days the recipient spent on earth is or are indicated. However, after *qvi vixit*, there is always *anni II* or *ann IV* or *ann III*, *M III* or *men III*, *Dies* or *Dieb VII*.

¹ Keppie Lawrence, 1991, *Understanding Roman Inscriptions*, The John Hopkins University Press, Baltimore

² Ibid

³ Rogan John, 2006, *Reading Roman Inscriptions*, Tempus Publishing Ltd, Great Britain.

5.5. Abbreviations

Abbreviations are also a constant convention in Latin inscriptions. These abbreviations were used for lack of space on the writing platform. It was a common phenomenon in antiquity and it was believed that everyone who read an inscription was able to decipher the abbreviations. However, today, it is important that one must not confuse abbreviations with other letters that stand alone. These letters stand alone because the other letters needed for their completion have either been destroyed or lost. Rogan (2006) asserts: “It is customary to print an inscription in full, expanding the abbreviations, and where there are missing words, to supply them wherever possible . . . Brackets () enclose letters which have been added to the text in order to print a word in full, rather than in an abbreviated form.”¹ He shows that abbreviations in inscriptions were a common feature throughout the empire and that as soon as one becomes familiar with these abbreviations, translating and understanding inscriptions become effortless.²

For abbreviations we find words such as *VIX, M, MEN, D, DIE, DIEB, A, AN, ANN, DM, ATQ, BMF, H, AED, PREAT*. *VIX* is indicative of *vixit*. *M* or *MEN* represents *MENSIS*, *D* or *DIEB* signifies *DIEBUS*; *A* or *ANN* stands for *ANNIS*; *DM* or *DMS*, letters which usually make up the first line, should be *DIS MANIBUS* or *DIS MANIBUS SACRUM*; *ATQ* stands for *ATQUE*; *BMF* is *BENE MERENTI FECIT*; *H* represents *HORUS*; *AED* and *PREAT* both represent *AEDILE* and *PRAETOR*. Also for proper nouns, we find *Q* which stands for *Quintus*, or *C* for *Gaia* and *CN* for *GNAEUS*.

5.6. Name or Identity of the Dedicator.

The name or identity of the person dedicating an inscription is also another convention associated with Latin epigraphy. More often than not, it is usually a member of the family, or put in a more emphatic sense, a loved one of the departed. In some other inscriptions, apart from the ones commemorating children, the individual dedicating, is the deceased. The inscription is put up by the deceased before his/her demise.

¹ Rogan John, 2006, *Reading Roman Inscriptions*, Tempus Publishing Limited, Great Britain.

² Ibid.

5.7. Emotions of the commemorator

Emotion is usually displayed on inscriptions. Emotion displayed expressed sadness at the demise of a loved one. The loss of a child indeed caused considerable emotional distress. Epithets such as *dulcissimus* or *dulcisimae*, *piissimus*, *pietissimus*, are endearments that highlight this fact. Sorrowful word such as *infani* is also indicative of emotion at the loss of the child. Inscriptions in this chapter do prove that a wonderful relationship did exist between parents and children. Parents generally loved their children and so were sorrowful at the loss of a child. Seneca chided Marullus for being so emotional at the loss of his infant son.

solacia expectas? Convicia accipe. Mollititer tu es mortem filii; quid faceres, si amicum perdidisses? Decissit filius incertae spei, parvulus, pusillum temporis periit.

Is it solace that you look for? Let me give you a scolding instead. You are like a woman in the way you take your son's death; what would you do if you had lost an intimate friend? A son, a little child of unknown promise is dead; a fragment of time has been lost.¹

It is impossible for parents not to grieve at the loss of a child. Marullus may have been aware of the ideology that shows that it was not proper to express such emotions at the death of a child (considering the fact that he may have been an associate of Seneca), but because of the love he had for his child, he could not but grieve at the loss. Seneca who was chiding him was only consoling him. Marullus was the one who was likely to put up a monument for his child and epithets such as *dulcissimus*, *bene merenti*, or *carissimus* would be displayed on the headstone. Grief experienced by the parents or the dedicator which is displayed on inscriptions is genuine. As a matter of fact, while reading inscriptions dedicated to children, the reader senses the pain or grief of the dedicator/s. The aforementioned epithets prove beyond doubt that the loss of a child was very

¹ Seneca, Epistula Mors, 99, translated by R.M. Gummere Loeb Classical Translation

painful. As have been earlier mentioned, it is only natural for parents to express grief at the loss of a dear one, even a child. These epithets go a long way to explain child mortality in ancient Rome. King¹ does argue that although an aspect of the culture of the Romans may not have supported the idea of expressing grief openly at the loss of a child, grief must have been the motivating factor for erecting a headstone in the first place.

Some modern historians doubt the sincerity of the grief displayed on inscriptions. Shaw claims that grief that is seen on inscriptions is an artificial and a cultural act rather than true expressions of loss felt by the dedicator. He writes;

The erection of a permanent memorial to the deceased, a practice with nothing naturally, or biologically necessary about it, is a distinctly artificial and cultural act; not an automatic response triggered by death, but a cultural act . . . even more artificial than the relationships that it records.²

Susini (1973) postulates that “inscriptions helps to reconstruct, not the history of the individual as it actually was, but the individual as he wanted them to appear viv-a-vis both contemporary and future society.”³ Dixon claims that “sepulchral inscriptions represent the fulfillment of a duty and, by definition the display of proper sentiment.”⁴ Nielsen, 1997, suggests that the language that display grief used by parents on inscriptions is an “. . . expression of the broken expectations and hopes of parents of their now dead children.”⁵

The aforementioned authors may argue in the above manner, because very little is known, through the works of classical authors, of relationship that existed between parents and children. But inscriptions are informing and bringing to light; among many aspects of the society, parent/child relationship. Taking an in-depth look at the inscriptions in this chapter, there is no doubt that the sentiments displayed on the inscriptions are a proof of the sorrow felt by parents at the loss of

¹ Op cit

² Shaw B.D, 1987, *The Age of Roman Girls at Marriage, Some Considerations*, JRS 77, pp 30-67.

³ Susini Giancarlo, 1973, *The Roman Stonecutter: An Introduction to Latin Epigraphy*, Oxford.

⁴ Dixon S., 1992, *The Roman Family*, Baltimore and London.

⁵ Nielsen H. S., 1997, *Interpreting Epithets in Roman Epitaphs, in the Roman family in Italy*, ed Rawnsom B., Canberra and Oxford, pg 169-204.

a child. These epithets are a constant feature in most of the inscriptions cited in this study.

5.8. The Symbol of the Cross + +

This is a convention also discovered on Latin epigraphy and it suggests that the people who put up these inscriptions were Christians. Inscriptions of this kind date to the first centuries A.D. Carroll (2006)¹ explicates that these type of inscriptions offer insights into the belief system, social structures, and forms of expressing the identity of the deceased. Christianity became the official state religion in AD 392 under Emperor Theodisius, and consequently all pagan cults were outlawed. This religion spread rapidly from this period especially after the conversion of the Frankish king Clovis in AD 496. It spread in the Gallic and German provinces, and in Germany beyond the empire's former frontier. There are about 30,000-35,000 surviving epitaphs. This constitutes the largest body of Christian inscriptions and it comes from Rome. The inscriptions are a variety of inscribed, incised, or painted texts on simple stone slabs. Others are tiles, and mortar seals on the niches (*loculi*) of inhumation burials in the more than sixty underground catacombs, inscribed stone *stelae* and sarcophagi.²

5.9. The Status of Parents

From the inscriptions presented in this chapter, the status of parents who put up epitaphs can be deduced. People in the lower class were wont to use limited materials to convey their messages. People in the upper class were accustomed to make elaborate epitaphs such as those found on arches and statues. Sussini asserts that it was expensive to put up inscriptions for the dead. Therefore, the poor utilized materials small in size and within their means to convey their messages. One may conclude that inscriptions of five lines and less were installed by the lower class.

The table below displays the number of children that were commemorated

¹ Carroll M., 2006, *Spirits of the Dead Roman Funerary Commemoration in Western Europe*, Oxford Studies in Ancient Documents. Oxford.

² Carroll M., 2006, *Spirits of the Dead Roman Funerary Commemoration in Western Europe*, Oxford Studies in Ancient Documents. Oxford.

in the 10th volume of the CIL used in this study. This does not indicate the population during the period in antiquity. However, it does present some important issues that can be considered.

5.10. Table 1. The number of male and female children below age 6 commemorated

	Males	Females	Total
Age 0-12 months	2	-	
Age 1	16	2	
Age 2	14	14	
Age 3	19	8	
Age 4	15	6	
Age 5	13	9	
Total	79	39	118

This table demonstrates that of the 118 inscriptions analysed, 39 commemorated female while 79 were put up for males. Broad meanings can be drawn from this.

- a. 67% of males were commemorated and 33% of females were remembered even in CIL X.
- b. Preference for the male child may have necessitated commemorating more males than females.
- c. More male children succumbed to death than females
- d. Females were probably more susceptible to diseases and any other cause of child death at the age of two.

5.11. Inscriptions

Below are some of the inscriptions detailing child death in ancient Rome. It is important to note that from the inscriptions here one can easily decipher and understand them as they indicate the name, age and sex of the child, the period of time the child lived, abbreviations, name and identity of the dedicators, emotions of the commemorator, the symbol of the cross and the status of parents.

D M
CN IVLIVS FE
LIX CN IVLIO
FELICI FILIO
QVI VIX ANN
II MEN VIII
DIE VNO¹

To the divine shades. Gn(aeus) Julius Felix dedicate this monument to the son Gn(aeus) Felix the son, who lived for two years nine months and one day.

D M
NARCISSVS
VIXIT ANN III
DIEB XXVIII
5. THALLYS ET
PANNYCHIS²
FILIO DVLCIS
SIMO FECER
S.T.T.L³

To the spirits of the departed. Narcissus lived for three years and twenty-eight days. Thallys and Pannychis erected this monument in memory of a very charming son. Rest in peace.

COELIAE COMAE COELIUS COMINUS ET SECUN-
DILLA PARENTES FILIAE KARISSIMAE FECERUNT
VIXIT ANNOS V MENS VII D III H II⁴

¹ CIL Vol X, 7601, pg734

² The names Thallys and Pannychis are Greek. As Rome conquered territories beyond the Italian peninsular, many foreign names were introduced. Discharged auxiliary soldiers and others gaining Roman citizenship could, and many did, continue to use at least a portion of their former names for themselves and their children. Most were of Greek or Etruscan origin, while others came from regions that were brought under Roman influence.

³ s(it) t(ibi) t(erra) l(evis)]

⁴ CIL Vol X, 989 pg 44

Coelius Cominus and Secundilla, who are the parents, erected this monument to a charming daughter by the name of Coelia Coma. She lived for five years, seven months, three days and two hours.

BONO ET INOCENTI IS
SPIRITO RESPECTO QVI VI
XIT AN I ME IIII ROGATVS
LECTOR FILIO PIISIMO
FECIT IN HIS.¹

I give respect to the good and harmless spirit. Rogatus Lector made this monument for his pious son who lived for one year and four months. He lies here, buried.

D M S
L OVIVS MI
NICIVS FLA
VIANVS VIX
5. ANN IIII ME
NS VII D VI P
ATER F²

To the divine shade. Lovius Minicius Flavianus lived for four years seven months and six days. His father erected the memorial.

D M
FLABIAE LESTVTIAE
ET FLAVIO RESPECTO FILIS
DVLCISSIMIS FEMIN VIXIT ANNIS
5. III M. X. D. XXI PVER VIXIT ANNO I

¹ CIL Vol X, 7610 pg 787

² CIL Vol X, 33 pg 7

M. VI D XVI FLAVIVS RESPCLVS
PATER FILIS VENE VENE
MERENTIBVS TVMVLV FECIT.¹

To the divine shades. To Fabia Lestutia and Flavius Respectus, very charming son and daughter who lived for three years ten months and twenty-one days. The boy lived for one year six months and sixteen days. Worthy of the best, the father Flavius Respclus made the headstone for the children.

D M S
GAVIAE DONATAE FILIAE DVLCIS
SIMAE QVAE VIX ANN II. M. V
DIEBVS XI GAVIVS QVINTILI
5. ANVS ET ELBIA DONATA PARENTES²

To the divine shades. To Gavia Donata a very charming daughter who lived for two years five months and eleven days. Gaius Quintilianus and Elbia her parents donated the headstone.

IN NOMINE X HIM
OPPIO PAVLO DVL
CISSIMO FILIO QVI
VIXIT AN V M XI D II
5. DEPOS VIII IDVS MAIAS
+ B M +³

In the name (of God) from here onwards. To Oppius Paulus, a very lovable son who lived for five years eleven months and two days. Laid here on the eight Ides of May. He is worthy of the best.

D M

¹ CIL Vol X, 2454 pg 266

² CIL Vol X, 2472 pg 262

³ CIL Vol X, 8140 pg 967

L IVNIO
RUFO VIXIT
ANNIS III.¹

To the divine shades. Licius Junius Rufus lived for three years.

puer in birco sedens seticam tenet.
DIS MANIBVS
P RABIRIVS HYMNVS V. M. VIII D. V.
RABIRIA PHOEBE MATER.²

While sitting on a horse, the boy is holding garlands.

To the divine shades. P(ius) Rabirius Hymnus lived for eight months and five days. Rabira Phoebe is the mother.

D M
TI ANT VRBANV
QVI VIX ANNO I
M. VII. D.XII VRBICVS
5. ET FAVSTINA FILIO
DVLCISSIMO B.M.F.³

To the divine shades. T(iberius) Ant(oninus) Urbanus who lived for one year seven months and twelve days. Faustina made the monument for a very sweet son. Worthy of the best.

C. VETTIAE GRA
TE C. L. QVAE VI
XIT ANNIS DVO
BVS MENSIBVS
5. DVOBVS DIEBVS

¹ CIL Vol X, 2620, Pg 276

² CIL Vol X, 2908 pg 280

³ CIL Vol X, 2080 pg 244

VIII SANCTISSI
ME AC DVLCISSI
ME BENE MEREN
TI AVRELIVS
10. CENTICIVS
NVTRITOR.¹

To G(aia) Vettia Grate G(aia) L(ucia) who lived for two years two months and eight days. A very holy and sweet daughter worthy of the best. Ti(erius) Aurelius Centichus brought her up.

C. TERENTIVS RA
RVS VIXIT ANNIS
III DIEBVS XVIII
C. TERENTIVS CAR
5. POFORVS ET TE
RENTIA FORTVNATA
FILIO SANCTVS
SIMO.²

G(aius) terentius Rarus lived for three years and eighteen days. G(aius) Terentius Carporus and Terentia Fortunata made it for a very holy child.

D M
CC. HELVIIS MARCIA
NO Q. V. ANN IIII M. VI D.
XXVII EVPHORIANVS Q. V.
5. ANN III M. I D. XXII C HEL
VIVS MARCIANUS PA
TER DVLCISSIMIS POSVIT.³

¹ CIL Vol X, 648 pg 74

² CIL Vol X, 642 pg 72.

³ CIL Vol X, 2501 pg 269

To the divine shades. To G(aius) Helvius Marcianus who lived for four years six months and twenty-seven days. Euphorianus who lived for three years, one month and twenty-two days. G(aius) Helvius Marcianus the father put up the memorial for his very sweet children.

D M
L. LOL SEVERO
EVSEBIO QVI VIX ANN V
M IIII D. IIII L. LOL SE
5. VERVS ET OTACILIA
APOLLONIA FIL DVL
CISSIMO BENEME
RENTI FECERVN.¹

To the divine shades. For L(ucius) Lolius Severus Eusebius who lived for five years four months and four days. L(ucius) Lollius Severus and Otacilia Apollonia, made the memorial for a sweet son worthy of the best.

5.12. Conclusion

The inscriptions analyzed in this chapter have shown that in spite of infanticidal practices, people were concerned about the lives of children. They went ahead to erect epitaphs for children irrespective of the age. This is a socio-cultural system that is common to ancient Rome. Also, various conventions associated with Latin epigraphy have also been explained here. These conventions, when well understood, are effective tools in seeing meanings conveyed on inscriptions commemorating children.

Inscriptions commemorating children between the ages of 0 and 5 have been treated here. It is highly probable that inscriptions with five lines and less, indicate that the dedicators may have belonged to the lower class. Sentiments of dedicators (parents) who put up inscriptions for their loved ones can also be deduced from inscriptions treated in this chapter. Of the eleven inscriptions selected and used in this chapter only one indicates the death of a female child.

¹ CIL Vol X, 2665

This is a general trend with these inscriptions. This implies that male children were more valued than female consequently more males were commemorated than females in ancient Rome. Indeed causes of death are not indicated on inscriptions. That gap must be filled from classical sources outside epigraphy as shown in the third chapter.

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CHAPTER SIX

SUMMARY AND CONCLUSION

Classical authors and writers may not have been concerned with child death as much as they were involved in philosophy, politics, education, mathematics, war, annexation of territories, architecture to mention a few. However through bits and pieces from the works of ancient authors, this study shows causes of child mortality. With regard to Ibadan, not one contemporary author has documented altogether causes of child death. However, having sourced the works of diverse authors, this study has put together side by side with that of ancient Rome, causes of child mortality in modern Ibadan. Similar factors led to child death in both societies: diseases, infanticide and child exposure, lead poisoning, consumption, social-cultural beliefs and social deprivation.

Of the diseases, fever features prominently. The ancients gave various names such as tertian, quartan and quotidian to fever. Evidence has shown that these fevers are unmistakably malaria. Malaria wreaked great havoc on children in ancient Rome. It worked hand in hand with other diseases such as dropsy and consumption. It occurred more frequently than other diseases and caused more death. In antiquity, classical authors gave various pieces of advice on how to treat the fevers and especially, how to avoid being infected. Some of the advice included employing traditional methods such as the use of herbs, placing objects on patients infected with these fevers, deforestation and building living quarters on appropriate places. In Ibadan land, there were frequent attacks from the disease and children below six were the worst hit. In antiquity, consumption (tuberculosis) which ranked second to malaria killed children. It occurred in Ibadan as frequently as it did in antiquity.

Some modern authors assume that the plagues that occurred in antiquity were outbreaks of cholera. Others associate the plagues with small pox or chicken pox. The plagues devastated the populace at the time of occurrence and remedy proffered was more or less ineffective. Although some victims survived, majority

succumbed to the disease. Cholera was a killer disease in Ibadan. One of the means of stemming the attack was the advice by medical practitioners to nursing mothers to breastfeed their babies exclusively for the first six months. Also people were encouraged to source for clean water and purify the water through boiling. Yet, not all nursing mothers adhered to the advice, and some people neglected to get water from hygienic sources. In ancient Rome also, cholera and measles, under similar unwholesome environment undoubtedly occurred and caused child death as it did in modern Ibadan.

Some diseases associated with the weather such as dropsy, epilepsy usually worked with various fevers. These occurred frequently. Medical practitioners offered what they could to deal with these problems. Sometimes they succeeded, some other times the patients died. This situation led people into seeking the aid of the supernatural. In Ibadan, other diseases caused child mortality. These diseases included; neonatal tetanus, neonatal septicaemia, meningitis, pneumonia, gastroenteritis, neonatal jaundice, severe anaemia, prematurity and low birth weight, infantile cholestasis, and post neonatal tetanus.

In ancient Rome, lead poisoning led to child death directly and indirectly. In Ibadan, lead poisoning indirectly caused child death through leaded gasoline and paints. Classical authors such as Vitruvius, the Roman architect, and Columella advise that drinking water should not be pumped through leaded but clay pipes. They suggest that rain water should be consumed because it was purer than that conveyed in leaded pipes. On the other hand, lead poisoning which caused child death in Ibadan directly and indirectly occur through leaded gasoline and paints. Recently, evidence of lead poisoning among illicit miners of lead in Zamfara State led to the death of about 163 people including 111 children¹.

Medical evidence in antiquity was not advanced enough to recognize Vitamin A deficiency in patients. However, it may have worked hand in hand with other ailments and brought about the kind of blindness that caused child death as in

¹ Retrieved on 12th August 2010 from http://en.wikipedia.org/wiki/Zamfara_State_lead_poisoning_epidemic

modern Ibadan.

The Human Immuno Virus/Acquired Immune Deficiency Syndrome is a modern phenomenon and did not occur in antiquity. In Ibadan, it occurred and was a cause of child death.

Infanticide was a cultural practice to abandon unwanted children with the intention of killing them in ancient Rome. The authority of the *pater familias* ensured that babies born weak or sometimes female babies were abandoned and left to die. Many authors in the pre-Christian era supported this cultural practice. The practice was opposed by Christian writers in antiquity. By the 3rd century A.D., Emperor Constantine enacted laws that proscribed infanticide. In different areas of Ibadan land, some children who have been exposed and abandoned in refuse bins have been found dead by passer-bys. Other abandoned children have been rescued and taken to homes where they are being catered for. More fortunate are babies abandoned by their mothers in hospitals where they were born. There is no documented information that is accessible to researchers with regard to the rate of death as a result of this abandonment. One has to depend on oral tradition and eye witness accounts. However, this practice is not widespread in Ibadan land. One may argue that the exposition and abandonment in Ibadan that does not lead to the death of the child cannot be termed infanticide; for some women abandon such babies in places where the babies stand the chance of survival because the mothers felt incapacitated financially. However, it is important to note that the act of separating a baby from its mother for unacceptable reasons is, psychoanalytically, infanticide.

Wet-nursing also contributed indirectly to child mortality in antiquity. Various Classical authors mention that many women, probably those of the upper class are accustomed to employing wet-nurses. Other authors advise that a woman should breast-feed her own child so that the child may not get contaminated by the milk of a stranger. Also, women are advised to get the best wet-nurses if they must engage their services. These authors do not mention expressly that wet-nursing caused the death of a child. However, one can infer that child death occurred when

one engaged the services of the wrong wet-nurse and when mothers disengaged early from breastfeeding their own children. A woman who breastfeeds her own child tended to be more sympathetic and loving towards that child. In modern Ibadan, wet-nursing is not common. However people, especially career women, engaged the services of nannies to cater for their children when they are off to work. They leave the children in their care for the better part of the day, to return home when the children are already asleep, and even if they awake, these mothers spend, possibly, an hour or two with their children. Child mortality occurred when these nannies demonstrate indifference towards these children for different reasons. Some of these nannies have even stolen these children and sold them to the highest bidders in Ibadan. Little wonder today, many career women now engage their retired mothers and aunts in taking care of their children. Also, it is a well-known fact that many women take on jobs that would afford them the opportunity to care for their children. Some are even known to have chosen to become full-time housewives, in order to spend time with their children especially in their formative years.

Religion in antiquity was polytheistic in nature; people worshipped gods and goddesses of their choice. They also believed in the existence of demons. They believed that gods and demons were responsible for calamities such as epilepsy and plagues. Therefore, many patients turned their backs on orthodox medicine and offered sacrifices to these deities. In the Hippocratic Writings, the doctor attempted to explain that the disease, which the people called sacred, was indeed not sacred. He went on to describe the disease and explained its cause. In modern Ibadan people also practice different religions. There are adherents to the Christian and Islamic faiths. There are also African Traditionalists, i.e. Ifa worshippers. Some people believed that diseases, especially the ones that normally should have been treated by orthodox medicine were caused by demons. Therefore, adherents of different faiths solicited and still solicit the aid of supreme beings. Also people who believe they are victims of *Abiku* or *Ogbanje* phenomenon, seek the help of Christian pastors, or traditional healers.

In ancient Roman times, parents grieved freely at the death of their children

and went ahead to erect memorials to them. In Ibadan parents also cried without restraint at the loss of children but building commemorative plaques in their honour is not the norm. The few that exist are not lavishly displayed. Indeed, children especially neonates are buried in forests.

Social deprivation goes hand in hand with child mortality.¹ In ancient Roman times, there was the subject of child neglect. It also occurs in modern Ibadan. In both, children suffered this deprivation resulting from acts of omission or commission by parents, doctors and the society.

Finally, more research is necessary in the area of identifying, in modern names, ancient diseases and correlating both the ancient and modern.

¹ Manning B, Brewster B, Bundred P, *Social Deprivation and Admission for neonatal care*, 2005, Archives of Disease in Childhood – Fetal and Neonatal Edition, 2005; 90: 337-338, Liverpool University Press.

APPENDIX I

Represented in this part are illustrations of epitaphs erected for children. These illustrations are not from CIL X, but from other volumes of the CIL. CIL X does not present images of epitaphs commemorating children and displaying relationships in a family. Therefore, in order to further provide a demonstration of some commemorating plaques for children in antiquity, these visuals sought from other relevant sources are sited here.



Figure 1. This inscription here is for Decentius a five year old child.

Decentius, in peace
who lived 5 years 6 months. Laid to rest
on the 14th of the Kalends of April (*i.e.*, March 19th).¹

¹<http://penelope.uchicago.edu/Thayer/E/Gazetteer/Places/Europe/Italy/Lazio/Roma/Rome/churches/S.Sabina/interior/narthex/inscriptions/Decentius.html>

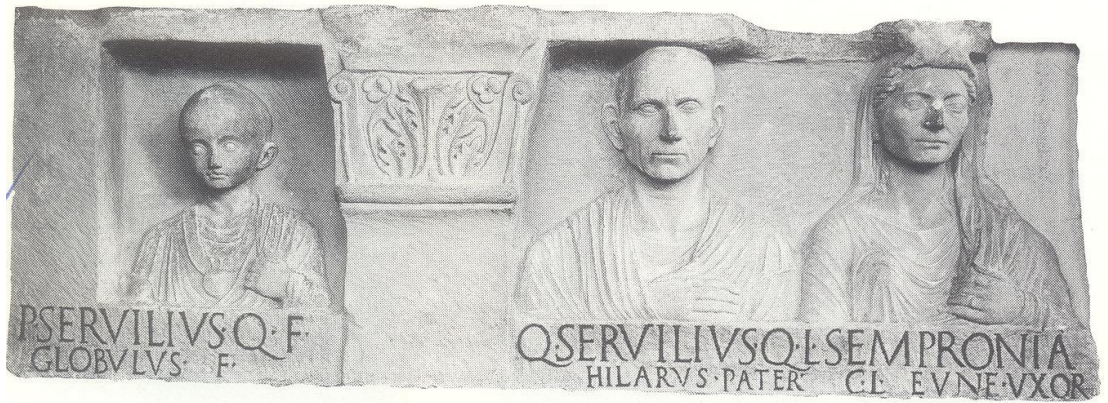


Figure 2. Freeborn son, P Servilius Q.f Globulus (wearing bulla), freedman father, Q. Servilius Q.L. Hilarus and freedwoman wife of Hilarus, Sempronia C.L. Eune. CIL 6.26410.¹

¹ Figures 2-7 were sourced from Rawson B, 1991, *Marriage, Divorce and Children in Ancient Rome*, Clarendon Press Oxford. Between p 114 and 115.



Figure 3. Boy with goat, A Egrilius A.f. Pal Magnus (freeborn) who died aged five.
CIL 14.4899.

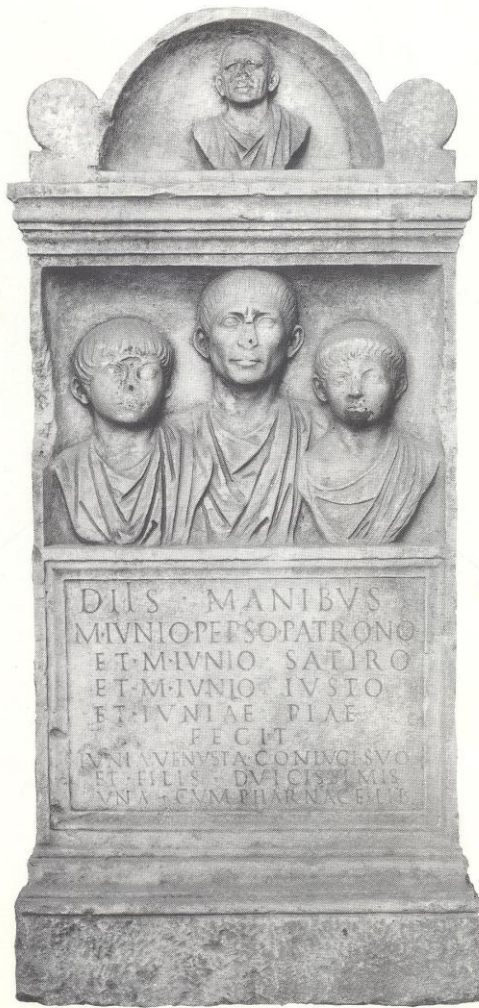


Figure 4. Marble altar set up by Julia Venusta (with her freedman) for her patron, husband, son and daughter. CIL 6.20819.



Figure 5. Sarcophagus of a young girl, with veiled parents, surrounded by mourners. British Mesuem Sc., 2315.

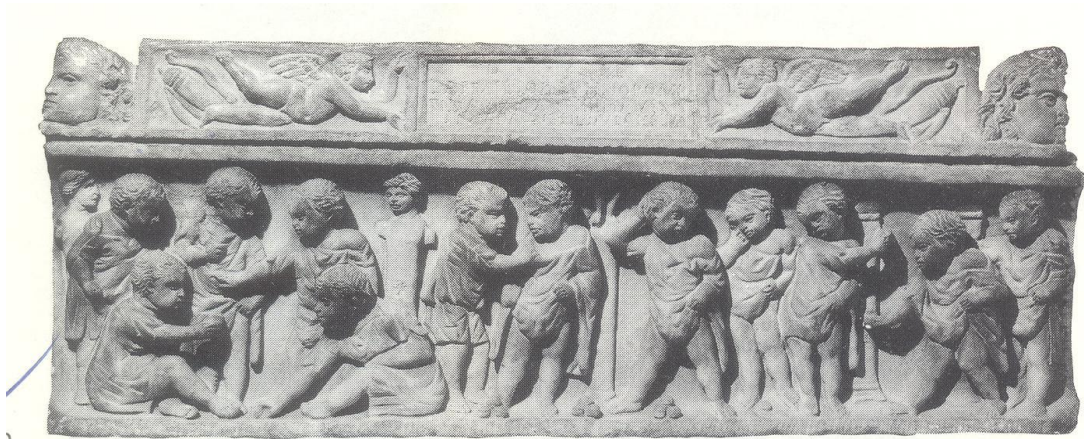


Figure 6. Sarcophagus of a boy, Aemilius Daphnus, showing boys playing with nuts. British Museum, Sc. 2321.



Figure 7. Marble altar set up by state slave Papias for his spouse (*contubernalis*) of free status, Grania Faustina. Sculpture shows child between them. CIL 6.2365.



Figure 8. Gravestone of a young woman set up by her husband in Cologne, c AD 20. The baby in swaddling clothes in her arms may indicate that she died in childbirth.

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Figure 9. Funerary altar of Julia Homullina, her husband, her son, and her brother in Nimes, 2nd century AD. Musee archeologique, Nimes.

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Figure 10. Tombstone of Odenwald marble of a baby girl commemorated by Telesphoris and her husband with an epitaph and depiction of a baby girl from Mainz, mid second century AD. Rheinisches Landesmuseum, Mainz.



Figure 11. Sandstone monument of a baby girl commemorated by Telesphoris and her husband in Mainz, mid second century AD. Rheinisches Landesmuseum, Mainz.

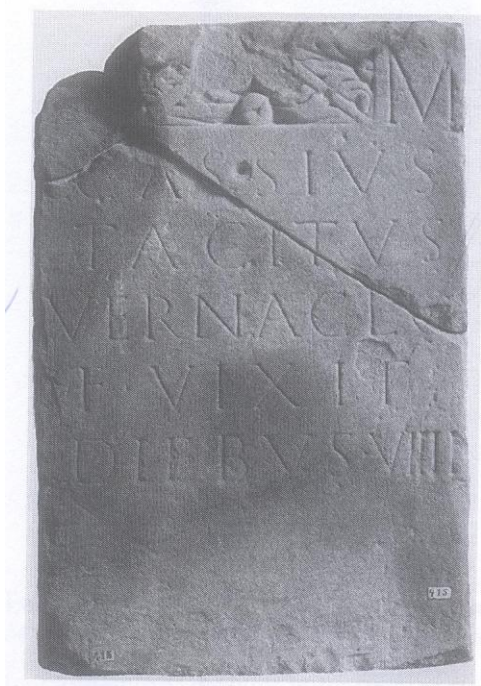


Figure 12. Gravestone of the nine day old Vernaculus, buried by his father Lucius Cassius Tacitus in Cologne, 2nd or 3rd century AD. Romisch-Germanisches Museum, Cologne.¹

¹ Figures 8-12 were sourced from Carroll M., 2006, *Spirits of the Dead, Roman Funerary Commemoration in Western Europe*, Oxford University Press. P 7, 116, 170, 171, 172.

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APPENDIX II

The following pictures go a long way to demonstrate social deprivation among some other conditions that have caused child mortality in Ibadan land, as discussed in the 4th chapter.



This is an area in Ojoo. This is an evidence of lack of proper waste disposal. There are houses around this dump.



This is a dilapidated house yet the occupants, including children live here.



This area of Beere in Ibadan shows derelicts houses



This picture demonstrates lack of access to effective sewage system.



A water vendor in Ibadan. His physical outlook and his water containers should be noted.



This is the kind of house and environment that encourage factors that can cause child death in Ibadan.¹

¹ The above pictures were sourced from Makinde, O.O, 2012, Housing: Central City Slums, A Case Study of Ibadan, *Journal of Environment and Earth Science*, Vol 2, No.9.

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