

Assessing the extent of violations of the International Code of Marketing of Breast Milk Substitutes in South African advertising media

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PREFACE AND ACKNOWLEDGEMENT

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ABSTRACT

Introduction: Exclusive breastfeeding (EBF) contributes towards reducing infant and young child mortality however global EBF rates are sub-optimal. One of the factors that influences a mothers' choice to exclusively breastfeed her child, is the marketing of breast milk substitutes. The International Code of Marketing of Breast-milk Substitutes (ICMBS) was developed to promote, protect and support EBF. Although South Africa has adopted the ICMBS, the Code was only legislated in December 2012 to ensure compliance.

Aim: To do a baseline assessment of the extent of ICMBS violations in the South African advertising media including magazines, newspapers, television (TV) and radio.

Methods: In this cross-sectional study data were collected on multiple occasions. Data were collected by means of recording and/or screening daily broadcasts from four TV channels (SABC 1, 2, 3 and e.tv), nine commercial radio stations, 116 different magazines and 10 different newspapers for ICMBS violations. This study was done within a period of four months between November 2012 and January 2014. Violations pertaining to advertising media include advertising or promoting infant formula, other milk products marketed for children up to 36 months of age (e.g. growing-up milk or follow-on milk), foods for infants younger than six months, any other food or beverages marketed or represented to be suitable for the use as partial or total replacements of breast milk, and feeding bottles and teats to the general public (article 5.1 of the ICMBS).

Results: A total number of 30 violations were identified from 117 baby product advertisements that were published in eight of the 169 screened magazines. No violations were found from advertisements on TV, radio or in newspapers. The majority of advertisements that violated article 5.1 of the ICMBS, were advertisements of feeding bottles (60%), followed by advertisements of growing-up milk (20%) and feeding teats (16.7%). Only one violation (3.3%) was an advertisement of infant food for infants younger than six months. Advertisements with violations were advertising baby products from 11 different companies. More than half of the violations (56.7%) were published in two editions from the same magazine, or inserts within that magazine, who's target group was pregnant women. Eight advertisements with violations (26.6%) were published in family magazines, three (10%) were published in baby magazines, and two (6.7%) were published in lifestyle magazines.

Conclusion: According to the present baseline study, ICMBS violations were only found in a small percentage (4.7%) of magazines targeted mainly at pregnant women. However, although the present study included the majority of available South African magazines distributed in South Africa, not all the available newspapers, TV channels and radio stations were included in the sample size. The true extent of ICMBS violations in the South African advertising media may therefore be higher. It can also not be concluded that BMS companies use only magazines to advertise products pertaining to the scope of the ICMBS. A follow-up study need to determine the impact of legislating the Code on ICMBS violations in advertising media.

Key words: Code violations, breast milk substitutes, advertising media

OPSOMMING

Inleiding: Eksklusiewe borsvoeding (EBV) dra by tot die vermindering in baba- en jong kind sterftes, maar ongelukkig is die globale EBV koerse sub-optimaal. Een van die faktore wat n ma se keuse om eksklusief te borsvoed beïnvloed, is die bemarking van borsmelkplaasvervangings. Die internasionale kode van bemarking van borsmelkplaasvervangings (ICMBS) is ontwikkel om EBV aan te moedig, te beskerm en te ondersteun (WHO, 2005). Hoewel Suid-Afrika die ICMBS aangeneem het, is die Kode eers in Desember 2012 wetgewing gemaak.

Doelwit: Om 'n basiese raming te maak van die omvang van oortredings van die ICMBS in Suid-Afrikaanse advertensiemedia, insluitende tydskrifte, koerante, televisie (TV) en radio.

Metodes: In hierdie deursnee-studie is data by verskeie geleenthede versamel, by wyse van die opname en/of vertoning van uitsendings vanaf vier televisiekanale (SABC 1, 2, 3 en e.tv), nege kommersiële radiostasies, 116 verskillende tydskrifte en 10 verskillende koerante vir oortredings van die ICMBS tussen November 2012 en Januarie 2014. Oortredings wat betrekking het op advertensiemedia, sluit die advertering of bemarking van babaformulemelk, ander melkprodukte wat bemark word vir kinders tot op die ouderdom van 36 maande (bv. "growing-up" melk of "follow-on" melk), voedsel vir kinders jonger as ses maande, enige ander voedsel of drank wat bemark of voorgestel word as geskik vir die gedeeltelike of algehele plaasvervangings van borsmelk en voedingsbottels en tiete vir die algemene publiek (artikel 5.1 van die ICMBS).

Resultate: 'n Totaal van 30 oortredings is geïdentifiseer uit 117 babaproduk-advertensies wat in agt van die 169 gesifte tydskrifte gepubliseer is. Geen oortredings is gevind uit advertensies op TV, radio of in koerante nie. Van die advertensies wat artikel 5.1 van die ICMBS oortree het, was een (3.3%) 'n advertensie oor babavoedsel vir babas jonger as ses maande, ses (20%) het "growing-up" melk geadverteer, 18 (60%) was advertensies oor voedingsbottels, en 5 (16.7%) het voedingstepels geadverteer. Advertensies met oortredings het babaprodukte van 11 verskillende maatskappye geadverteer. Meer as helfte van die oortredings (56.7%) is gepubliseer in dieselfde tydskrif, of invoegsels in dié tydskrif, met verwagte vroue as teikenmark. Agt advertensies met oortredings (26.6%) is gepubliseer in familietydskrifte, drie (10%) is gepubliseer in babatydskrifte, en twee (6.7%) in lewenstyl tydskrifte.

Gevolgtrekking: Volgens die huidige basiese studie, word oortredings van die ICMBS slegs in 'n klein persentasie (4.7%) tydskrifte met verwagte vroue as teikenmark gevind.

Hierdie studie het alle beskikbare Suid-Afrikaanse tydskrifte wat in Suid-Afrika versprei word ingesluit, maar nie alle beskikbare koerante, televisiekanale en radiostasies is betrek nie. Die ware omvang van oortredings van die ICMBS in die Suid-Afrikaanse advertensiemedia mag egter hoër wees. 'n Gevolgtrekking kan ook nie gemaak word dat BMS maatskappye slegs van tydskrifte gebruik maak om produkte te adverteer wat betrekking het op die gebied van die ICMBS nie. 'n Opvolg studie moet die impak van die wetgewing van die kode op oortredings van die ICMBS in advertensiemedia bepaal.

Sleutelwoorde: Oortredings van die Kode, borsmelkplaasvervangers, advertensiemedia

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LIST OF ABBREVIATIONS

AFASS	Affordable Feasible Acceptable Sustainable and Safe
ALL	Acute Lymphoblastic Leukemia
AML	Acute Myeloid Leukemia
BMS	Breast Milk Substitutes
BFHI	Baby Friendly Hospital Initiative
DOH	Department of Health
DHS	Demographic Health Survey
EBF	Exclusive Breastfeeding
FM	Frequency Modulation
HIV	Human Immune Virus
IBFAN	International Baby Food Action Network
IGBM	Interagency Group on Breastfeeding Monitoring
ICMBS	International Code of Marketing of Breast milk Substitutes
INFACT	Infant Feeding Action Coalition
NDHBCM	National Department of Health Breastfeeding Consultative Meeting
NGO	Non-Governmental Organization
NW	North West
NWU	North-West University
QMNCGP	Queensland Maternity and Neonatal Clinical Guideline Program
RSG	Radio Sonder Grense
SIDS	Sudden Infant Death Syndrome
SPSS	Statistical Package for the Social Sciences
TV	Television
UK	United Kingdom
UNICEF	United Nation International Children's Funds

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

The first 1000 days of life, from conception to a child's second birthday, has been shown to offer a critical window of opportunity during which optimal nutrition, particularly exclusive breastfeeding (EBF), gives children a healthy start in life (Bhutta *et al.*, 2013:1). Therefore it is essential to provide optimal feeding and care during this period to support nutritional status during pregnancy, and optimize child growth and development. Very recently the Rome Declaration on Nutrition was released following the 2nd International Conference on Nutrition in Rome (19-21 November 2014). This conference has led the commitment to action to develop policies, programmes and initiatives for ensuring healthy diets throughout the life course, and in particular during the first 1000 days, and to promote, protect and support EBF during the first six months of life (WHO/FAO, 2014).

EBF is one of the practices which can provide optimal and safe nutrition for infants to grow and develop well (WHO/UNICEF, 2008). EBF is a practice wherein mothers feed their infants only breast milk without adding any food additives, complementary foods or fluids, including water, to the breast milk ideally for the first six months of life (WHO, 2011). Infants who are exclusively breastfed experience nutritional and developmental advantages that enhance their health throughout their lives (Clark & Bungum, 2003:158). In fact, the benefits of EBF have been documented extensively and include the provision of a natural immune system and bonding between the mother and her baby (WHO, 2012). Furthermore, breast milk is readily available, safe to feed, always at the right temperature, and most importantly, contains the necessary nutrients that are essential for an infant's growth and development (WHO, 2010). EBF also convey health benefits to mothers, such as bonding with their infants, provision of a natural contraceptive, weight loss and protection against other negative health outcomes such as cervical cancer and breast cancer (Edmond *et al.*, 2006:380).

EBF also has economic benefits for mothers from poor socioeconomic backgrounds, as there are minimal costs involved in EBF. Furthermore, the economic burden placed on governments to treat diseases (such as diarrhoea caused by poor sanitation and unhygienic preparation of formula) associated with alternative feeding can be substantially decreased by EBF (Jones *et al.*, 2003:65). In fact, the United Kingdom (UK) Millennium Cohort study reported that six months of EBF resulted in a 53% reduction in hospital admissions attributable to diarrhoea, and a 27% decline in infant respiratory infections (Quigley *et al.*,

2007:837). It has also been shown that breastfeeding within the first hour of birth can prevent 22% of infant deaths within that first hour after birth (Edmond *et al.*, 2006:380). Mixed feeding during the first six months of life (i.e. the introduction of anything other than breast milk such as water, tea, solids or formula milk/breast milk substitutes (BMS) in combination with breastfeeding) has also shown to increase infant mortality (WHO/UNICEF, 2008).

One of the greatest concerns regarding the use of BMS, especially in lower socio-economic communities where optimal sanitation, access to clean and safe water, and poor hygiene is a problem, is the increased risk for diseases such as diarrhoea that can cause malnutrition and more importantly, result in death (Quigley *et al.*, 2007:837). It is estimated that 1.4 million deaths, equating to approximately 10% of disease burden in children younger than 5 years of age globally, can be attributed to health and nutrition related outcomes such as under nutrition and diarrhoea (Black *et al.*, 2008:5). Unlike a child being exclusively breast fed, a child being fed with formula milk or BMS is not only deprived of the unique benefits of breastfeeding such as the strong emotional bonding effect of breastfeeding and the natural immune protection of breast milk, he/she is also exposed to an increased risk for infections associated with poor hygienic practices (WHO/UNICEF, 2008). Therefore the World Health Organization (WHO) states that EBF for the first six months of life is the physiological norm for infant feeding and superior to all forms of formula feeding or BMS (WHO, 2001). The WHO further states that after six months, breastfeeding should continue with the addition of appropriate complementary foods until two years of age and beyond (WHO, 2001).

Promotion of EBF is listed amongst the key nutrition interventions that have been shown to significantly contribute to reduction of infant mortality (WHO, 1981:2). If breastfeeding and particularly EBF during the first six months can therefore be protected, promoted and supported, infant morbidity and mortality can be reduced (WHO/UNICEF, 2008). There are a number of factors that can interfere with a mother's choice to breastfeed. One such a factor is the marketing of BMS through advertising media (e.g. magazines, newspapers, television and radio), a very powerful vehicle for marketing products to the public (Andrew, 2013:2). Marketing of infant formula, either through the medical community or directly to consumers, has been shown to influence women's decisions on whether to breastfeed or formula feed their new-born infants (Foss & Southwell, 2006:6). In addition, a recent study by Zhang *et al.* (2013:1) has shown that BMS information exposure from television or radio advertisements is associated with shorter breastfeeding duration.

The fact that mothers are more likely to be exposed to advertisements of BMS than breast

milk, together with the promising prospects of the advertised formula milk, teats and bottles makes it even more difficult for mothers to decide between EBF and BMS (Sokol *et al.*, 2007:159). The WHO and United Nations International Children's Emergency Fund (UNICEF) has developed several strategies to protect, promote and support breastfeeding. One of these strategies, also the focus of this study, includes the International Code of Marketing of Breast Milk Substitutes (ICMBS). This code was developed to protect, promote and support breastfeeding with the ultimate aim to reduce infant mortality. In 1979 an international joint meeting was held which was attended by government delegates and representatives of United Nations (UN) agencies, Non-Government Organizations (NGOs) and manufactures of BMS, as well as experts in nutrition, paediatricians, public health and marketing (WHO, 1981:4). The main recommendation that resulted from this international meeting was that an international code of marketing of infant formula and other breast milk substitutes should be developed (WHO, 1981:4). As a result the ICMBS was developed as a global public health strategy, and recommends restrictions on the marketing of BMS, such as infant formula, to ensure that mothers are not discouraged from breastfeeding, and that BMS are used safely if needed (WHO, 1981:4). The ICMBS also includes ethical considerations and regulations for the marketing of feeding bottles and teats to the general public, health facilities and health professionals (WHO, 1981:8).

In 1994, the Interagency Group on Breastfeeding Monitoring (IGBM) was formed to initiate and oversee the monitoring of ICMBS violations in countries (WHO, 1994:4). They have formulated a protocol as an international tool to monitor Code compliance. Briefly the IGBM is a UK-based coalition of international non-government organizations, churches, academic institutions and interested individuals who functions independently of the baby food industry and the International Baby Food Action Network (IBFAN) (WHO, 1981:4). Although South Africa has adopted the ICMBS in 1994, the Code has only recently been implemented through enforceable legislation when the regulations relating to foodstuffs for infants and young children (R991) were gazetted in December 2012 (South Africa, 2012). At present there is no baseline data available on the extent of ICMBS violations in South Africa. In order to determine the effect of legislation on Code compliance, UNICEF initiated a national baseline assessment of ICMBS violations by adapting the IGBM protocol. The present study will form a sub-study in the UNICEF South African baseline study on monitoring ICMBS compliance with the specific aim to assess the scale of ICMBS violations, if any, in the South African advertising media including magazines, newspapers, television and radio.

1.2 AIM AND OBJECTIVES

The aim of the present study was to determine the extent of ICMBS violations in South African advertising media* (magazines, newspapers, television and radio).

The specific objectives of the study included:

- To determine the extent of ICMBS violations in the printed advertising media (magazines and newspapers) in South Africa;
- To determine the extent of ICMBS violations on South African public television;
- To determine the extent of ICMBS violations on South African commercial radio;
- To determine the type of products advertised as violations of the ICMBS, if any, from South African magazines, newspapers, television and radio;
- To identify the companies who provided the advertisements with violations to the media.

* According to the WHO ICMBS document (WHO, 1981:10) violations pertaining to advertising media include *advertising or promoting* any of the following products to the general public: *infant formula*; other *milk products marketed for children up to 36 months of age* (e.g. growing-up milk or follow-on milk); *foods for infants younger than 6 months*; any other food or beverages marketed or represented to be suitable for *the use as partial or total replacements of breast milk*; and feeding bottles and teats (article 5.1).

1.3 SIGNIFICANCE OF THE STUDY

Data collected in this study will provide the Department of Health, UNICEF and NWU with baseline data/reference data that will enable follow-up studies to determine the impact of legislating the ICMBS. Data collected can also assist the government and nutrition professionals to develop specific interventions to aid compliance with the ICMBS in South African advertising media, and to decide where and how to allocate resources to improve the low (<8%) prevalence of EBF in the country (UNICEF, 2014:40). As a result, this can also influence the development and/or modification of other policies related to protecting, promoting and supporting EBF.

1.4 RESEARCH TEAM

The research team shown on the diagram below represent the UNICEF South African baseline study research team, in which this sub-study was nested. The research team was divided into a project coordinating team, a core study team, field team leaders and field workers. I was employed as a field team leader within the bigger baseline study and acted as study leader in the sub-study. My specific role in the sub-study involved writing the protocol, screening the collected data for ICMBS violations, entering the data, analysing the data, and

writing the research report.



Figure 1.1: Research team for UNICEF baseline study

1.5 STRUCTURE OF THE MINI-DISSERTATION

This mini-dissertation is in chapter format, which consists of five chapters. The Harvard style of referencing, as required by the North-West University, was used for citing literature and applicable information in this mini-dissertation. Chapter 1 provides a short rationale for the study, outlines the aim and objectives, explains the significance of the study and gives an overview of the research team. Chapter 2 reviews the literature concerning the research, Chapter 3 provides the type of methods and research procedures applied to conduct the study, Chapter 4 outlines the outcomes/results of the study and Chapter 5 provides a discussion of the research results in the context of the current literature. Also included in Chapter 5 is a short conclusion of the study together with recommendation and study limitations

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

The information in this chapter will provide an adequate overview of the project and why it was conducted. This chapter will focus on breastfeeding in general, its importance, barriers for exclusive breastfeeding (EBF) and the strategies in place to solve those barriers. The literature will be reviewed nationally, continentally and internationally to give a broad overview of the research. The literature will also include information on the International Code of Marketing of Breast Milk Substitutes (ICMBS), how it was developed as well as the relevance and importance of the ICMBS, also referred to as the 'Code'. It will also discuss the situation of the ICMBS in South Africa, Africa and internationally.

2.2 HISTORY AND DEVELOPMENT OF THE ICMBS

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) have for many years emphasized the importance of breastfeeding, particularly EBF during the first six months of life (WHO, 1981). Breast milk has been scientifically proven to be one of the safest and the most nutritious food for infants (Black *et al.*, 2008:243). However, there are imitations of breast milk commercially available that compete with breastfeeding, and the marketing of these breast milk substitutes (BMS) affects a mothers' choice of feeding (Foss & Southwell, 2006:6). The use of BMS alone or in combination with breastfeeding (i.e. mixed feeding) can increase the risk of infections and diseases, and increase infant mortality rate, especially in lower socio-economic communities where hygiene and safe water is a problem (Black *et al.*, 2008:243). It is estimated that mixed feeding in the first six months of life results in 1.4 million deaths equating to 10% of disease burden in children younger than five years of age (Black *et al.*, 2008:243).

The 27th World Health Assembly (WHA), in 1974, noted a general decline in breastfeeding in many parts of the world that was related to a number of factors such as promotion of manufactured BMS. Member states were urged to review sales and promotion activities on BMS and to introduce appropriate remedial measures, including advertisement codes and legislation where necessary. This issue was taken up again by the 31st WHA in May 1978, and priority was given to the prevention of malnutrition in infants and young children by amongst other supporting and promoting breastfeeding, and regulating inappropriate sales and promotion of BMS. Following the 31st WHA, UNICEF and WHO formulated a joint meeting on infant and young child feeding in 1979 which was attended by government

delegates and representatives of United Nations (UN) agencies, non-governmental organisations (NGOs), manufactures of BMS, scientists, as well as experts in nutrition, paediatrics, public health and marketing (WHO, 1981). The most significant of the recommendations that resulted from the international meeting was the adoption of an international code of marketing of infant formula and other breast milk substitutes. The meeting delegates were in favour of such a code. A period of drafting and discussions amongst the parties ensued and in 1981 the ICMBS was adopted by the WHA (WHO, 1981:2). The WHA urged members of states to implement the ICMBS and to monitor the compliance with the Code. It also urged members of states to decode the ICMBS into a national law or regulation (WHO, 1981:5). Having become a UN member in 1995, South Africa also adopted the ICMBS and the subsequent relevant WHA resolutions.

2.3 THE AIM AND SCOPE OF THE ICMBS

The ICMBS aims to contribute to the provision of safe and adequate nutrition for infants by the protection and promotion of breastfeeding, and by ensuring the proper use of BMS, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution (WHO, 1981:8). The Code applies to the marketing or promotion of BMS, including infant formula; other milk products marketed for children up to 36 months of age (e.g. growing-up milk or follow-on milk); foods and beverages for infants younger than 6 months; any other food or beverages marketed or represented to be suitable for the use as partial or total replacements of breast milk; and feeding bottles and teats. It also applies to their quality and availability, and to information concerning their use, including labelling of these products (WHO, 1981:8). The Code does not prohibit the marketing of infant formula, bottles, teats or baby food, it only controls the marketing and distribution strategies. The Code has formulated 11 articles. The statements in Box 1 represent articles stipulated within the ICMBS document.

2.4 GLOBAL SITUATION OF ICMBS IMPLEMENTATION

After the ICMBS was adopted by the WHA in 1981, member states were urged to implement and monitor the compliance with the ICMBS (WHO, 1981:1). In 2011 UNICEF has reported on the global situation of ICMBS implementation within countries (UNICEF, 2011). Figure 2.1 presents an overview of the ICMBS implementation status in 168 countries worldwide. Thirty seven (22%) countries have enacted legislation or other legal measures encompassing all or substantially all provisions of the Code. Forty seven countries (30%) have enacted legislation encompassing many of the provisions of Code, whilst 19 countries (11%) included only few provisions.

Box 1:

Information and education

The Code bans all advertising or other forms of promotion of products under its scope. It does not allow point of sale promotion. Informational and educational materials should explain the benefits and superiority of breastfeeding, the health hazards associated with bottle feeding, and the costs of using infant formula (WHO, 1981:10).

General public and mothers

There should be no advertising or other form of promotion to the general public of the products within the scope of the Code. This means manufactures are not allowed to give free samples of the products within the scope of the Code to mothers, family members in a direct or indirect way. No promotion of products which include product displays, posters or distribution of promotional materials (WHO, 1981:10).

Health care systems

No free or low cost supplies should be provided to health care system (WHO, 1981:11).

Health care workers

No free samples to mothers, health care workers or their families. Information provided to health professionals with products within the scope should be restricted (WHO, 1981:12). Infant food producing companies should not provide financial or materials inducements to promote products within the scope to health workers or to their family members. Technical product information can be given to health workers but this must be factual and scientific. No gifts from the company should be provided to health care workers (WHO, 1981:12).

Persons employed by manufactures and distributors

No use of mother craft nurses (A nurse who provides care to new-born infants, and provides advice and training on infant care to parents of new-born infants) or similar company-paid personnel. The volume of sales of products within the scope of the ICMBBS should not be included in the calculation of bonuses, nor should quotas be set specifically for the sale of the products by company personnel. Personnel employed by the company should not, as a part of their job responsibilities, perform educational functions in relation to pregnant women or mothers of infants and young children (WHO, 1981:12).

Labelling

The labels should be designed to provide the necessary information about the appropriate use of the product, and so as not to discourage breast-feeding (WHO, 1981:13).

Quality

The quality of the product should be of high standard.

Food products within the scope of the ICMBBS should, when sold or otherwise distributed, meet applicable standards recommended by the Codex Alimentarius Commission and also the Codex Code of Hygienic Practice for Foods for Infants and Children (WHO, 1981:14).

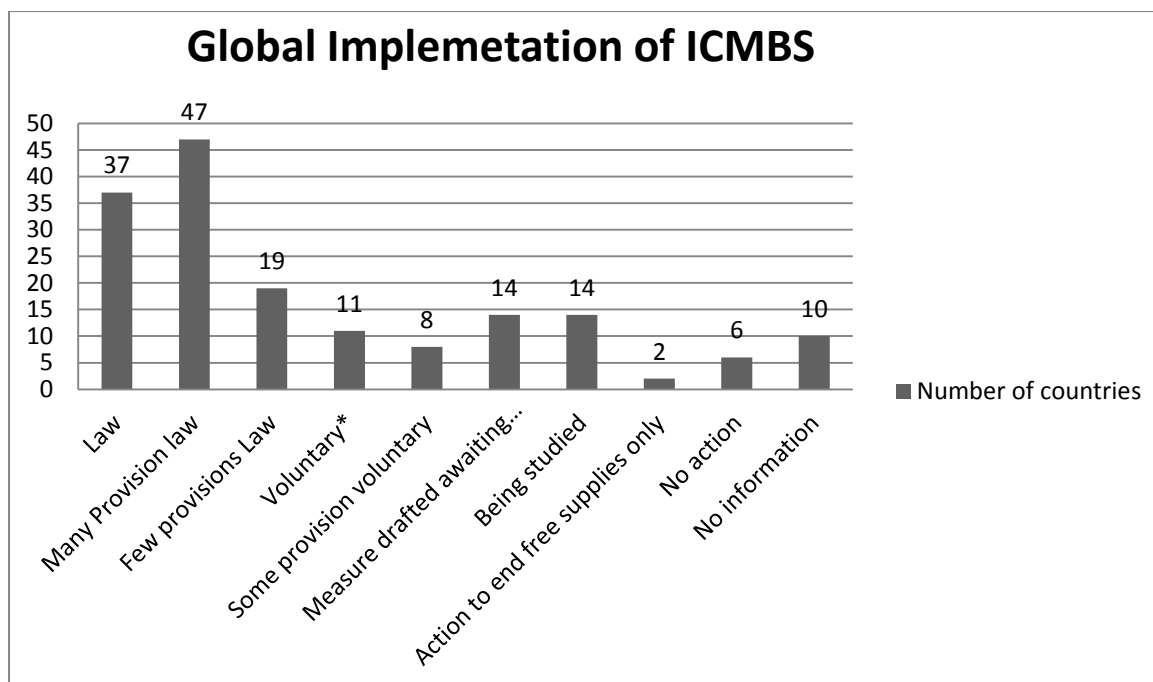


Figure 2.1: UNICEF global implementation of ICMBS data adopted from UNICEF (2011) report. *South Africa was one of the countries which voluntarily adopted all or nearly all provisions of the ICMBS.

Governments from the voluntary countries (n=11, 16.9%), including the South African government, have adopted all, or nearly all provisions of the ICMBS through non-binding measures. Eight of the countries (12.3%) voluntarily adopted some, but not all provisions of Code through non-binding measures. In a number of countries (n=14, 21.5%) a final draft of a law or other measure has been recommended to implement all or many of the provisions of the Code, and final approval is pending, and in 14 (21.4%) countries a government committee is deciding on how best to implement the Code. Some countries (n=2, 3.1%) have only taken action to end free and low-cost supplies of BMS to health care facilities. In six (9.2%) countries no action has been taken to implements the ICMBS, and no information is available on the remaining 10 countries (UNICEF, 2011).

Countries have adopted the provision of the ICMBS in different ways. Article 11.1 of the ICMBS states that: “governments should take action to provide the effect on the principles and aim of the Code, as appropriate to their social and legislative framework, including the adaptation of national legislation, regulations or other suitable measures” (WHO, 1981:14). The WHO report showed that of 199 countries reporting, 165 (83%) countries had translated the ICMBS into a national measure (WHO, 2011:7). Of these 165 countries, 105 (64%) have

translated the ICMBS into national legislation, but only 37 (22%) have been able to adopt in full the various recommendations of the ICMBS (WHO, 2011:7). In December 2012, South Africa legislated the provisions of the ICMBS as the regulation of foodstuffs for infant and young children (R991) (Department of Health, 2012).

2.5 EXCLUSIVE BREASTFEEDING

As previously mentioned, the ICMBS was implemented to protect, promote and support breastfeeding through appropriate marketing and distribution of BMS (WHO, 1981:8). It is therefore important to discuss breastfeeding, and particularly exclusive breastfeeding (EBF) in this literature review. According to WHO (1991), EBF is defined as: “the exclusive intake of breast milk by an infant from its mother or wet nurse, or expressed milk with no addition of any liquid or solids apart from drops or syrups consisting of vitamins, mineral supplements or medicine, and nothing else” (WHO, 1991). Breast milk is regarded by the WHO as the perfect food for the new born. Furthermore, the WHO recommends that breastfeeding should be initiated within the first hour after birth and infants should be exclusively breastfed for the first six months, with continued breastfeeding in combination with complementary foods from six months to two years and beyond (WHO, 1991).

EBF is one of the cardinal components of the Baby Friendly Hospital Initiative (BFHI) aimed at protecting, promoting and supporting breastfeeding for optimal maternal and child health, and is part of the 1990 Innocenti Declaration which states that all governments should create an environment enabling women to practice EBF for the first six months of life, and to continue breastfeeding with adequate complementary foods for up to two years (WHO, 1991; WHO/UNICEF, 1998). This is also part of the 2012 Regulation Relating to the Foodstuff for Infants and Young Children, which was published in the South African government Gazette which was implemented due to the fact that South Africa is one of the twelve countries in the world where infants mortality has been increasing and that less than 8% of infants are exclusively breastfed up to the age of six months (UNICEF, 2014:40). Moreover, EBF practices are equally beneficial to infants from poorly resourced and affluent communities.

2.5.1 Exclusive breastfeeding trends globally and in South Africa

UNICEF reported that while breastfeeding initiation rates are no longer declining at a global level, only 38% of children younger than six months of age in developing countries are exclusively breastfed (UNICEF, 2009:18). In addition the UNICEF statistic report shows that only 28 countries worldwide have a 50% rate of children that are exclusively breastfed (UNICEF, 2014:40). Exclusive breastfeeding still remains a negative trend in South Africa compared to other developing countries. Furthermore, according to the 2012 SANHANES-1

report only 7.4% of children below the age of six months were exclusively breastfed (Shisana *et al.* 2013).

Since the WHO, UNICEF and WHA has raised concerns on the high infant mortality rates and emphasized the importance of EBF, several strategies were put in place to improve EBF during the past few years (WHO, 2010). Cai *et al.* (2012:4) used the UNICEF global database on infant and young child feeding from 440 household surveys in 140 countries between 1995 and 2010 to estimate global and regional trends in EBF among infants 0-5 months (Cai *et al.*, 2012:4). Figure 2.2 indicates the percentage change of EBF in developing and developed countries. The trend data suggested the prevalence of EBF amongst infants younger than 5 months in developing countries increased from 33% in 1995 to 39% in 2010 (Cai *et al.*, 2012:4). The prevalence increased in almost all regions in the developing world, with the biggest increase seen in West and Central Africa (Cai *et al.*, 2012:4). But according to a recent UNICEF report, EBF rates in some countries has increased, and in some countries such as South Africa, EBF rates have declined from 25.7% to less than 8% (UNICEF, 2014:41). This decline in South Africa shows that there is something wrong in the country, which needs to be addressed.

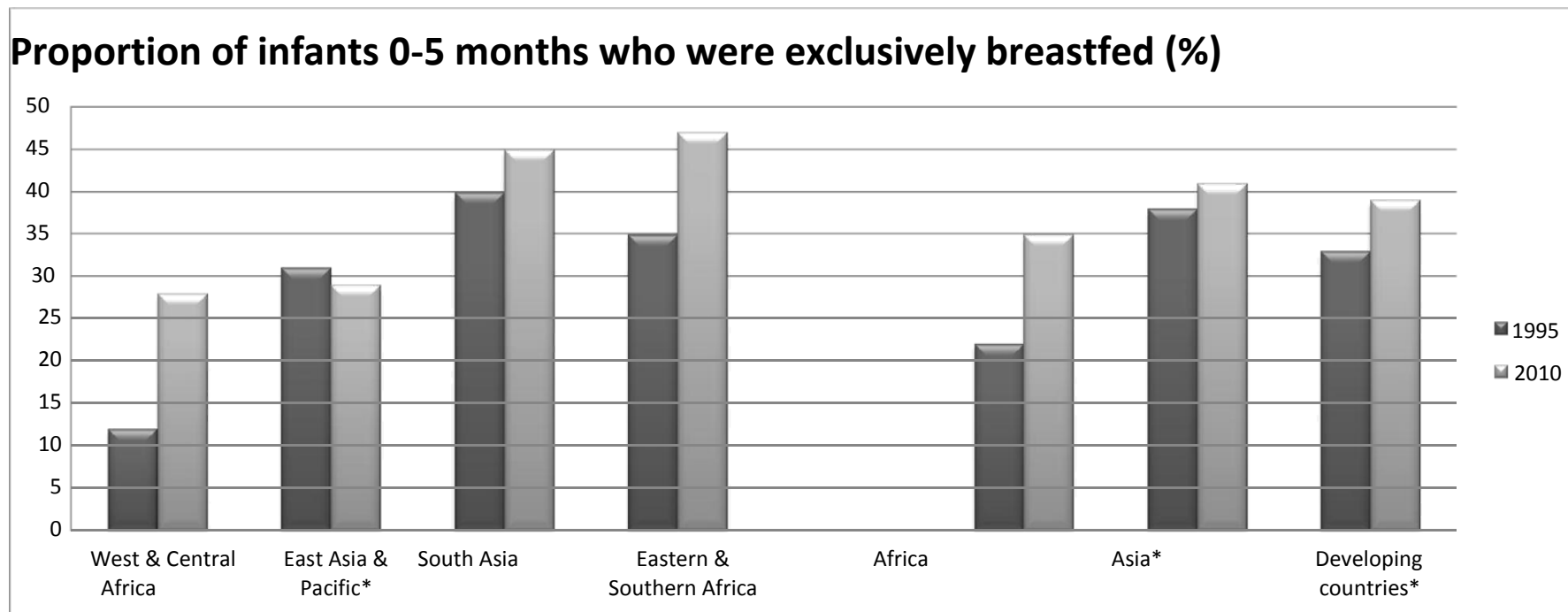


Figure 2.2: Global trends in exclusive breastfeeding among infants younger than six months from 1995 to 2010 (*excluding China)

This figure was adopted from Cai *et al.* (2012). Note: Trend analysis based on 66 countries covering 74% of developing world population (excluding China). Trends estimates for Middle East and North Africa and Latin America and Caribbean were not presented due to insufficient data.

Source: MICS, Demographic Health Survey (DHS) and other National Household Surveys (NHS), around 1995 to 2010 with additional analysis by UNICEF.

2.5.2 Benefits of breastfeeding

The benefits of breastfeeding have been documented extensively. Breast milk is an essential food for infants and young children. One of the documents prepared by the Queensland Maternity and Neonatal Clinical Guidelines Program (QMNCGP, 2010) describes breastfeeding as the natural, biological way of providing infants and young children with nutrients required for healthy growth and development. Furthermore, Wiessinger (1996) describes breast milk as the gold standard for infant nutrition and the only necessary food for the first six months of an infant's life. No BMS can match breast milk in meeting the nutritional needs of infants (Wiessinger, 1996:1). Breast milk, and especially the first yellowish, sticky milk (i.e. colostrum) produced after pregnancy, is essential to protect the infant from infectious diseases and several chronic and non-infectious illnesses and post-neonatal infant death (Gartner *et al.*, 2005: 496).

The benefits of breastfeeding for infants include increased resistance to infectious diseases, such as gastroenteritis, respiratory tract infections, and ear infections (Clark & Bungum, 2003:158). Breastfed children also display lower rates of chronic diseases including diabetes, obesity, asthma, and leukemia (Clark & Bungum, 2003:158). It is convenient, free, and environmentally friendly, promotes bonding between a mother and an infant, reduces health care costs and contributes to cognitive development (WHO, 2012).

2.5.2.1 Lower rate of infections

- **Immune system and infections**

When a mother is exposed to an infectious agent, her matured immune system begins to produce secretory immunoglobulin A [S-IgA], a compound which is the primary disease fighter in the human immune system (Clark & Bungum, 2003:158). This compound is secreted into breast milk for the baby to consume (Clark & Bungum, 2003:158). Children can also produce S-IgA, but unfortunately children under the age of two years have immature immune system responses (USDHHS, 2000b) which are sometimes unable to prevent disease due to their immaturity (Clark & Bungum, 2003:158). The consumption of a mother's S-IgA does not only provide active resistance against infection, but also stimulates the production of additional S-IgA in the infant, resulting in stronger immune response among breastfed infants than infants who are formula fed (Clark & Bungum, 2003:158).

Breastfeeding also reduces the incidence of gastrointestinal and non-enteric infections in infants because of the antimicrobial activity against several viruses, bacteria and protozoa (Chirico *et al.*, 2008:180). A meta-analysis also indicated that infants who were breastfed for

more than four months of age showed a significant reduction of respiratory tract infections requiring hospitalization compared to non-breastfed infants (Bachrach *et al.*, 2003:241). Furthermore, non-breastfed infants have a high risk for diarrhoea compared to breastfed infants. The UK Millennium Cohort Study reported that six months of EBF resulted in a 53% reduction in hospital admissions attributable to diarrhoea and a 27% decline in respiratory infections (Quigley *et al.*, 2007:837). Breastfeeding also provides protection against urinary tract infections (Lawrence & Pane, 2007:155), otitis media (Hanson, 2007:385) and the development of inflammatory conditions (Clark & Bungum, 2003:158). This protective effect of breastfeeding can help reduce child mortality, especially as a result from diarrhoea which is mostly caused by unhygienic practices and mix feeding.

2.5.2.2 Lower Rates of Chronic Diseases

- **Obesity and Overweight**

Breastfeeding doesn't only protect the infant from infections; it may also protect the child from developing chronic diseases such as diabetes and obesity. A study done by Gillman *et al.* (2001:285) on the effect of breastfeeding on obesity, has found an inverse association between duration of breastfeeding and the risk of becoming overweight. Furthermore, infants who were breastfed for \geq seven months were 20% less likely to be overweight than those who were breastfed for \leq three months (Gillman *et al.*, 2001). This percentage was found in adolescent females who were exclusively breastfed for six months during infancy. Similarly an investigation done by Harder *et al.* (2005:398) found that the greater the duration of breastfeeding, the lower the odds of becoming overweight. They have shown that each month of breastfeeding up until the age of nine months reduces the odds of becoming overweight by 4%. This resulted in a more than 30% decrease in the odds of becoming overweight for a child that has been breastfed for nine months compared to non-breastfed child. Similarly, Hediger *et al.* (2001:286) also reported that children who were breastfed for nine months are 37% less likely to become overweight compared non-breastfed children.

- **Diabetes**

Breastfeeding also has an effect in the reduction of early onset diabetes in infants (Jones *et al.*, 1998:445). A study done in the United States of America (USA) on the effect of breastfeeding on diabetes has found that there was a significant (33%) increased risk of diabetes in infants who were not breastfed compared to those who were breastfed (Jones *et al.*, 1998:445). Another study done in USA on the effect of breastfeeding on Noninsulin-Dependent Diabetes Mellitus (NIDDM), recently referred to as Type 2 diabetes, found that the rate of NIDDM for those who were breastfed was lower than those who were exclusively bottle-fed (Pettitt *et al.*, 1998:167). The results from this study showed that at the age of 10-19

years, none of the EBF children developed NIDDM, whereas 3.6% of the formula fed children developed NIDDM. At the age of 20-29 years, 8.6% of EBF and 14.7% of the formula fed subjects had developed NIDDM (Pettitt *et al.*, 1998:167).

- **Cancer**

Breastfeeding also has an effect on the reduction of cancer development including leukemia. A multi-country (USA, Canada and Australia) case-control study showed a reduction in the risk of developing Acute Lymphoblastic Leukemia (ALL; odds ratio=0.80; 95% CI: 0.69-0.93) and Acute Myeloid Leukemia (AML; odds ratio=0.77; 95% CI 0.57-1.03) in children who were exclusively breastfed for six months as compared to those who were not breastfed (Shu *et al.*, 1999:1766). Another case-control study done in the USA, compared children with childhood cancer to children from the same community without cancer, using breastfeeding as intervention in different categories (breastfed less than six months, breastfed more than six months and no breastfeeding) (Davis *et al.*, 1988:1357) to determine whether breastfeeding was associated with the reduced risk of childhood cancer. The results showed that, when comparing children who have been breastfed more than six months to those who were not breastfed or breastfed for less than six months, the latter group had significantly higher risk of being exposed to the developing cancer ($p=0.023$) (Davis *et al.*, 1988:1357).

- **Cognitive Development**

Cognitive development is an indication that a child is growing normally or not. Breastfeeding also play a role in ensuring that an infant has good cognitive development. A prospective study examining the effect of breastfeeding on cognitive development in children aged 1 - 5 years showed that children who were breastfed for less than three months had an increased risk of poor cognitive development compared to children being exclusively breastfed for six months (Angelsen *et al.*, 2001:186). In addition, a meta-analysis on breastfeeding and cognitive development has shown a higher level of cognitive function in breastfed children than in formula-fed children between the age of 6-23 months and the author indicated that these results were stable across successive ages (Anderson *et al.*, 1999:527).

2.5.3 Benefits of breastfeeding for mothers

Breastfeeding also have benefits for mothers (Dykes, 2011:9). EBF for six months is set to lower the risk of breast cancer, ovarian cancer, endometrial cancer and bone fractures due to osteoporosis. EBF also acts as a natural contraceptive; it reduces insulin requirements in diabetic mothers, assists in weight loss and also creates a bond between a mother and her infant (Dykes, 2011:9).

- **Bonding between mother and infant**

Breastfeeding helps to form a strong bond between a mother and her infant (Uvnäs-Moberg, 1996:9). Uvnäs-Moberg (1996:9) has also found that during the process of breastfeeding the release of oxytocin in the mother's body is stimulated, which stimulates uterine contractions and milk ejection and promote the development of maternal behaviour and bonding between mother and the baby.

- **Breast Cancer**

An association between breastfeeding and a reduced risk of the developing of breast cancer in breastfeeding mothers is also being indicated. A case-control study of 608 breast cancer cases conducted in Connecticut on lactation and breast cancer risk, showed that the longer the duration of breastfeeding, the greater the risk reduction for breast cancer in pre-and post-menopausal women (Zheng *et al.*, 2001:1473).

- **Ovarian Cancer**

Ovarian cancer has one of the highest rates of mortality compared to other types of cancers (Rea, 2004:143). Breastfeeding have being indicated having an important effect of on reducing the risk for ovarian cancer among women (Rea, 2004:143). A case control study done in California, demonstrated a lower risk for ovarian cancer among women who breastfed for all types of tumours of the ovarian epithelium, except for invasive mucinous tumours (Tung *et al.*, 2003:635). The results of this study also shown an inverse association for risk of non-mucinous ovarian cancer and breastfeeding duration (Tung *et al.*,2003:635). In addition, Gwinn (1990:561) also found that women who don't breastfeed have 1.6 times higher risk of developing ovarian cancer compared to those who are breastfeeding.

- **Weight loss after delivery**

It is not uncommon for women tp experience additional weight gain during pregnancy (Rea, 2004:143). During pregnancy women can accumulate about 100-150 calories a day and they are often overweight at the end of the pregnancy (Rea, 2004:143). According to Rea (2004:143) women also take a long time after childbirth to lose the weight gained during pregnancy. Breastfeeding can assist in losing some weight gained during pregnancy, because during breastfeeding lots of energy is required for milk production. If the mother decides to breastfeed, the body will use the amount of accumulated calories to produce milk (Dewey & Heinig, 1993:164). If the baby is exclusively breastfed, and all his/her calories ingested come from the mother, it means the amount of calories taken from the mother is higher than mothers who don't breastfeed, and as a result can contribute to maternal weight loss (Gigante

et al., 2001:83).

- **Insulin requirements of diabetic women**

Reports stated that breastfeeding decreases insulin requirements (Lawrence & Pane, 2007:9). However, not much research on this benefit has been done. A case-control study which was examining the effect of breastfeeding on insulin requirements of diabetic women, demonstrated a greater reduction of insulin dose one week after delivery in women who were breastfeeding compared to those who were bottle feeding (11.6 units lower vs. 5.2 units lower, $P < 0.01$) (Davies *et al.*, 1989:1357). Women who were breastfeeding were found to have less insulin requirements compared to those who were not breastfeeding (Davies *et al.*, 1989:1357).

- **Bone structure due to osteoporosis**

Lactating mothers produces between 600 and 1000 ml of milk a day, with a mean daily loss of calcium (Ca) of 200mg. However, this loss can be naturally recovered during weaning and when menstruation is resumed (Rea, 2004:143). In addition, a study conducted in Minnesota of the US has shown that bone mass had a greater mineral density among women who are breastfeeding (Melton *et al.*, 1993:78). Furthermore, another study by Alderman *et al.* (1986:264) also showed that breastfeeding protects against hip and arm fractures caused by osteoporosis.

2.6 FACTORS AFFECTING BREASTFEEDING RATE

Despite all the benefits of breastfeeding, EBF rates particular in SA remain low (8%) (Shisana *et al.*, 2013). A number of factors have been identified that can hinder EBF. These barriers can be physiological, economic, cultural, medical and/or environmental. According to a survey on barriers to breastfeeding in four countries (US, China, South Africa and Egypt) the main reason why mothers stopped breastfeeding, especially in the US and in China, was due to the perception of insufficient milk supply (De Jager *et al.*, 2012:6). Other reasons included baby refusal to nurse (24%), possibly due to a mothers' lack of breastfeeding knowledge and experience, pain of breastfeeding (15%), time needed to breastfeed (14%) or to express breast milk (7%), a need to return to work (10%) and feeling uneasy to breastfeeding outside home (9%) (De Jager *et al.*, 2012:6). A study conducted on the factors affecting mother's choice of breastfeeding vs. formula feeding in the South African province of KwaZulu-Natal, reported from focus group discussions that fear of HIV transmission from mother to baby was the major reason for not breastfeeding (Swarts *et al.*, 2010:4).

Cultural believe was also reported as a cause for mothers not to exclusively breastfeed or to

stop breastfeeding their infants (Swarts *et al.*, 2010:4). A study done on the cultural barriers to EBF in rural areas of Cameroon in Africa, reported that all women surveyed, introduced water and food supplementation before the age of six months, with more than 38% of these participants giving water in the first month of life. Mothers in this study identified cultural factors as an influence on their decision to mix feed their babies. These includes pressures by village elders and families to supplement breastfeeding because it is a traditional practice, a belief that breast milk is an incomplete food that does not increase the infants weight, and the taboo of prohibiting sexual contact during breastfeeding (Kakute *et al.*, 2005:236)

2.7 IMPACT OF MARKETING OF BREAST MILK SUBSTITUTES ON BREAST-FEEDING

Apart from the above mentioned barriers, marketing of breast milk substitutes (BMS), feeding bottles, teats and growing-up milk can also influence mothers not to exclusively breastfeed their babies (Onyechi & Nwabuzor, 2010:193). Infant formulas are more convenient to mothers with specific reasons for not breastfeeding (e.g. medical conditions) or to those whose infants need special infant formula for medical reasons. The usage of infant formula is mostly recommended to mothers if it can be safely prepared and is safe to use, the mother can afford it, it is feasible, it is available and it can be sustained (AFASS criteria). Infant formula can also contribute to a compromised nutritional status and health of infants and young children, because of improper preparation/lack of knowledge for preparing formula milk, poor hygiene, misleading information on the labelling, contamination from the producer and mix feeding with breast milk. A study conducted in Brazil, reported that infants who received powdered milk or cow milk in addition to breast milk (i.e. who was mix fed), had a 4.2 times higher risk of death due to diarrhoea compared to infants who only received breast milk (De Jager *et al.*, 2012:5).

The risk for infants who did not receive any breast milk was 14.2 times higher compared to those who received only breast milk (De Jager *et al.*, 2012:5). Marketing of infant's formula, either through the medical community or directly to consumers, has been shown to influence women's decisions on whether to breastfeed or formula feed their new-born children (Foss & Southwell, 2006:5; Rosenberg *et al.*, 2008:291). The information mothers are exposed to, are more likely to include advertising of artificial products than breast milk (Zhang *et al.*, 2013:5). Marketing of unique formula milk, teats and bottles put more pressure on mothers to decide what is good or bad for their babies (Sokol *et al.*, 2007:159). BMS can be marketed directly in person or indirectly through advertising media (Sokol *et al.*, 2007:159). Both of these two methods can influence mother's choice of breastfeeding. Companies use health facilities to directly market their products (Sokol *et al.*, 2007:159). By distributing information materials about infant formulas; they also target health professionals by giving free gifts with the

company logo as a way of advertising their products and provide mothers with free samples of infant formula (Sokol *et al.*, 2007:159). Indirectly companies also use marketing media such as TV, radio adverts, newspapers and magazines to promote their products (Sokol *et al.*, 2007:159).

The promotion and advertisements of BMS has been shown to decrease EBF duration (Zhang *et al.*, 2013:6) and also influence mothers to bottle feed their babies (Arora *et al.*, 2000:2). A study conducted in Lagos to determine the percentage of mothers reached by advertising media, specifically with regards to infant formula advertisements, reported that the majority of the mothers had seen or heard some form of infant formula advertisement on TV (31.6%), in magazines (24.9%), on bill boards (18.2%), posters (3.6%) and/or on the radio (3.1%) (Onyechi & Nwabuzor, 2010:193). Furthermore, 18.7% of the mothers were influenced by infant formula advert. The most commonly advertised infant formula was NAN (51.1%) (Onyechi & Nwabuzor, 2010:193).

2.8 VIOLATIONS OF THE ICMBS IN ADVERTISING MEDIA

Although the ICMBS was adopted in South Africa and implemented through legislation in a number of other countries globally (Figure 2.1), advertisements of the products within the scope of the Code (e.g. infant formula, follow-on formula, teats, bottles, food for infants younger than six months etc.) continue to be advertised to the public, thereby violating the Code. Advertising media is one of the communication vehicles mostly used to provide information to the public (Andrew, 2013:2). Advertising media is a form of marketing communication used to encourage, persuade, or manipulate audiences (viewers, readers or listeners, sometimes specific groups) to take or continue to take some action (Andrew, 2013:2). Most commonly, the desired results is to drive consumers behaviour with respect to a commercial offering, although political and ideological advertising is also common (Online Dictionary, 2014). According to article no 5.1 of the ICMBS: “there should be no adverts or any sort of promotion to the general public and mothers of products within the scope of the Code” (WHO, 1981:10). This means that companies who manufactures BMS including infant formula, follow-up milk, foods for infants less than six months, bottles, and teats, are not allowed the advertise their products through advertising media and any kind of vehicle that can be used to market their products.

The majority of studies that examined ICMBS compliance have found violations within the health care system and few in advertising media (such as billboard an internet). According to Kean *et al.* (2010) 500 violations observed on billboards were documented in 46 countries in Asia. A study done in West Africa (multisite cross-sectional study in Togo and Burkina Faso) to monitor the compliance of the ICMBS only reported one advertisement in the national daily newspaper ‘Sodepal’ on food (milk cereal) for infants < four months (Aguayo *et al.*, 2003:4).

They also reported advertisements of BMS in international journals published in France (Aguayo *et al.*, 2003:4). The study reported violations of promotional information on BMS manufactured by Danone, Nestlé and Chicco in the French magazine *Parents* (Aguayo *et al.*, 2003:4). In addition, promotional information, images or text idealizing the use of BMS produced by Danone and Nestlé was found in French magazines *Enfant* (Distributed in Togo and Burkina Faso) (Aguayo *et al.*, 2003:4). No violations were observed on TV and radios broadcasts, but BMS advertised by Protein-Kisser was observed on the billboards in Burkina Faso (Aguayo *et al.*, 2003:4). Furthermore, an observational study for USA, Canada, UK and Australia in 2007 on formula milk advertisements in parenting magazines, reported 40 advertisements on growing-up milk and 307 on follow-on formula in UK magazines, 28 infant formula, 24 follow-on milk and 3 toddler milk advertisements in Canada magazines, 34 infant formula and 2 follow-on formula advertisements in USA and 31 toddler milk found in Australia magazines (Brady, 2012:320).

Violation of the ICMBS (article 5.1) was also shown on social networks such as Facebook MySpace, Google+ and Twitter; and video sharing platforms such as YouTube; sponsored reviews on blogs; mobile applications, interactive websites wherein infant food manufacturing companies interact with the general public to promote their products (Taylor, 1998:1120). A study on online communities and the ICMBS has reported that of 11 brands identified to be advertised on social media and websites, 10 had some social media presence, which occurred primarily through Facebook, interactive features on the brands own website, mobile apps for new and expectant parents, YouTube videos, sponsored reviews on parenting blogs and other financial relationships with parenting blogs (Abrahams, 2012:402). This shows that companies are marketing their products in different ways. South Africa has only recently implemented the Code through enforceable legislation when the Regulation relating to Foodstuffs for infants and Young Children (R991) were gazetted in December 2012 (Department of health, 2012).

At present there is no baseline data available on the extent of ICMBS violations in South Africa. In order to determine the effect of legislation on Code compliance, UNICEF initiated a national baseline assessment of ICMBS violations by adapting the IGBM protocol. The present study will form a sub-study in the UNICEF South African baseline study on monitoring ICMBS compliance with the specific aim to assess the scale of ICMBS violations, if any, in the South African advertising media including magazines, newspapers, television and radio.

CHAPTER 3: METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the methods that were applied to determine the extent of violations in South African advertising media. According to the WHO ICMBS document (ICMBS, 1981:10) violations pertaining to advertising media include *advertising or promoting* any of the following products to the general public: *infant formula*; *other milk products marketed for children up to 36 months of age* (e.g. growing-up milk or follow-on milk); *foods for infants younger than six months*; any other food or beverages marketed or represented to be suitable for *the use as partial or total replacements of breast milk*; and feeding bottles and teats (article 5.1). In this study, an advertisement included a sponsored image or text appearing in magazines, newspapers and on TV, and any advertisement broadcasted on radio with the aim to sell a product or promote a specific behaviour.

3.2 ETHICAL CONSIDERATIONS

The research study has obtained ethical clearance from the Ethics Committee of the North-West University (NWU-00008-13-A1, Addendum A).

3.3 STUDY DESIGN AND STUDY SAMPLE

This study employed a cross-sectional study design. The study aimed to include all the different available South African magazines (14 weekly magazines, three fortnightly magazines, 82 monthly magazines and 17 alternate monthly magazines) and newspapers (29 weekly newspapers and 21 daily newspapers) distributed in South Africa, as well as nine commercial radio stations and four TV channels in South Africa. Selection criteria for radio and TV was based on popularity and accessibility (top nine by listenership for radio, and top four highest percentage viewers for TV) as suggested, in part, by data from the South African Advertising Research Foundation.

3.4 DATA COLLECTION/PROCEDURES

Information on ICMBS violations was collected from scoped South African magazines, newspapers, TV channels and radio stations in the time period between November 2012 and March 2014 on one or more occasions to ensure sufficient sampling. A list of names of all magazines, newspapers, radio stations and TV channels available in South Africa were

accessed and collected from the South African Audience Research Foundation (SAARF) using the search name SAAFT on www.google.com. The collected data were viewed twice by the researcher as well as two of the fieldworkers to minimize mistakes and to optimise the quality of the data. The fieldworkers were trained on the ICMBS and how to identify ICMBS violations.

3.4.1 Magazines

The study aimed to screen two editions of each of the 14 weekly magazines, three fortnightly magazines, 82 monthly magazines and 17 alternate monthly magazines (i.e. magazines appearing every 2nd month) for ICMBS violations. A list of the scoped magazines is shown in Table 3.1. The study aimed to screen two editions of each magazine to ensure sufficient sampling and to determine if there was a difference between the number of violations found between the two screenings that were published during November 2012 to January 2013 and again during November 2013 to January 2014. Violations identified in the same magazines were counted separately. The researcher marked the magazines with violations with a sticker, indicating the number of violations, as well as the page number(s) containing the violation(s). To ensure accuracy, all the magazines were viewed again by two more field workers. Observed violations were then digitally captured and documented in a Microsoft excel (v 2010) spread sheet for data analysis.

3.4.2 Newspapers

Fifty national and/or regional newspapers were selected for screening for violations including 29 weekly newspapers and 21 daily newspapers. The list of the scoped newspapers is summarized in Table 3.2. Daily newspapers were screened every weekday for 1 week and weekly newspapers were screened every week for four weeks for ICMBS violations. Violations observed were digitally captured and documented into a Microsoft excel (v 2010) spread sheet for data analyses.

3.4.3 Television channels

The study collected data from the top four local TV channels with the highest percentage viewers including SABC 1, 2, 3 and e.tv. Broadcastings of each selected TV channel were recorded from 06h00 to 21h00 on two selected weekdays towards the end of a month. The contents of the recordings was subsequently viewed and screened first for advertisements, and then for violations appearing in advertisements. All the advertisements, both with and without violations, were documented in a Microsoft excel (v. 2010) spread sheet for further analysis, and any advertisements seen with violations was digitally captured.

Table 3.1: Scoped magazines for screening (n=116)

Weekly Magazines					
Vrouekeur	Landbou Weekblad	Heat	The gardener Mag	You	Auto Trader
Move	Elle Decoration	Drum	Finweek	Huisgenoot	FM (Financial Mail)
People	Famer's weekly				
Fortnightly					
TV Plus	Kuier	Kickoff			
Monthly Magazines					
African Geography	Amakhosi	FHM	NAG	SA 4X4	Woman & Home
Animal Talk	Baba & Kleuter	Food & Home	Nose week	Seventeen	Your Baby & Toddler
Bicycling	Bike SA Magazine	Getaway	PC Format	SI Magazines	Finesse
Bona	Car	Go!/Weg	Puzzles	Soul	Fresh Living
Caravan & Outdoor Life	Cleo	GQ SA	Property: The Property Magazine	Sport Illustrated SA	Glamour
Complete Golfer	Conde Nast House & Garden	House And Leisure	Real	Succeed	Golf Digest
Cosmopolitan	Destiny	Leef Met Hart & Siel	Runner's World	The Gardener	Home/Tuis
Drive Out/Wegry	Elle Magazine	Lig Gesinstydskrif	Sa Garden/Sa Tuin Paleis	Top car	Ideas/Idees
Entrepreneur	Essentials	Longevity	Sa Home Owner	Die Tuinier Tydskrif	Leisure Wheels
Fair lady	Farming SA	Marie Claire	SA India.Com	Wiel	Living and Loving
Wine Magazine	Speed & Sound	Top billing	SA Hunter/Jagter	Popular Mechanics	Man Magnum
Woman's Health	Stywe Lyne/Tight Lines	True Love	SA Rugby Mag.	Reader's Digest SA	Men's Health
Your Family	Taste	Weg sleep	Soccer life Four Four Two	Rooi Rose	National Geographic
SA Garden & Home	SA Country Life	O' The Oprah Magazine	People		
Alternate Monthly Magazines					
Africa Birds & Birding	Avocado/Avokado	Zigzag	Psychologies Magazine	Stuff	Good Taste
Dekat	Elle Decoration	Hype	Sutra	Visi	HQ
Fit pregnancy	Habitat	Intiem	Vuk'uzenzele	Your Pregnancy	

Table 3.2: Scoped newspapers for screening (n=50)

Daily newspapers (n=21)					
Beeld	Cape Argus	Daily Sun	Business Day	Citizen	Cape Times
Volksblad	The Star	Son	DFA	Daily voice	Isolezwe
The Witness	The Herald	Pretoria News	Die Burger	Daily Dispatch	Daily News
The Times	Sowetan	Mercury			
Weekly newspapers (n=29)					
Burger	Mail & Guardian	Isolezwe Ngesonto	Independent on Saturday	Ilanga Langesonto	City press
Saturday Star	Saturday Dispatch	Rapport	PTA News Weekend	Post	Naweek Beeld
Sunday Tribune	Sunday times	Sondag Son	Sondag	Soccerweek	Soccer Laduma
Umafrika	The Zimbabwean	Super Sunday Citizen \$\$	Sunday sun	Sunday Independent	Sunday World
Weekendpost	Witness	Weekend	Weekend Argus Sunday	Weekend Argus Saturday	Volksblad

3.4.4 Radio stations

The top nine commercial radio stations according to listenership (as per data from the South African Advertising Research Foundation) were selected for data collection. The list of the selected radio stations is summarized in Table 3.3. Commercial radio stations are radio stations which derive their operating budget from selling advertising time and therefore rely on advertisements for a main source of income (McDonald, 2014). The reason for targeting commercial radio stations in South Africa is because they have a ten-fold higher listenership than community radio stations (McDonald, 2014). In addition, commercial radio stations broadcast more advertisements compared to community radio stations since advertisements are the main source of income and profit (McDonald, 2014). Community radio stations can afford to focus on community/general issues with limited number of advertisements.

Table 3.3: Scoped radio stations for screening (n=9)

Radio stations		
Radio Sonder Grense (RSG)	5 FM	Metro FM
Thobela FM	Gagazi FM	Motseding FM
Lesedi FM	Umhlobo Wenene FM	Ukhozi FM

Broadcastings of each one of the selected commercial radio stations were recorded from 06h30 to 21h00 on two randomly selected weekdays. The content of recorded broadcasting was listened to and screened for violations for two weeks. In the case where the researcher was unfamiliar with the language of the respective radio station, a field worker fluent in the language was appointed and trained by the study leader on the ICMBS and how to identify advertisements with ICMBS violations. All advertisements were noted and entered into a Microsoft Excel (2010) spread sheet, and if there were any advertisements with violations, it was noted and entered into a spread sheet.

3.5 STATISTICAL ANALYSIS

The collected data from magazines, newspapers, TV and radio was categorized according to the type of violation found (i.e. advertisement of food and/or drink for infants < 6 months vs. advertisement of growing-up milk vs. advertisement of bottle etc.). Data was analysed using SPSS (version 21) for frequency count and percentage distribution.

3.6 DATA STORAGE

Selected magazines and newspapers were stored in separate boxes according to their date of publication to avoid mixing of information. Following screening, violations found were digitally captured and stored in separate folders for magazines and newspapers. Recorded TV and radio audios were saved on a hard drive in separate folders that were labelled according to the date of recordings for radio stations and TV channels respectively. The researcher, study leader and field worker were having access to the information stored.

CHAPTER 4: RESULTS

4.1 ADVERTISING MEDIA ACCESSED AND SCREENED FOR VIOLATIONS

Advertisements from a total number of 169 magazines, 55 newspapers, 261 hours of broadcasting from all 9 radio stations (29 hours per station) and 120 hours of broadcasting from all 4 TV channels (30 hours per channel) were screened for ICMBS violations. Tables 1 to 3 in Addendum B provide an overview of all the magazines with date of publication that were accessed and screened during the first and second screening of the study. The aim was to allocate a volume/issue/copy of all the magazines during the first and second screening, however copies of some of the magazines were not obtained at the first and/or second screening (Addendum B). During the first screening a total of 98 magazines were accessed and screened, including 14 weekly magazines, 3 fortnightly magazines, 70 monthly magazines and 11 alternate monthly magazines (Addendum B). During the second screening a total of 71 magazines were accessed and screened, including 11 weekly magazines, 1 fortnightly magazine, 57 monthly magazines and 2 alternate monthly magazines (Addendum B).

Table 4.1 provides a summary of the newspapers that were accessed and screened during the study. Five daily newspapers were accessed and screened for one week (35 daily newspapers in total), and five weekly newspapers were accessed and screened for 4 weeks (20 weekly newspapers in total).

Table 4.1: Newspapers accessed and screened for violations

Daily newspapers (screened each day for one week)	
The Herald	English paper
Sowetan	English paper
The Times	English paper
Daily Sun	English paper
Die Burger	Afrikaans paper
Weekly newspapers (screened each week for one month)	
Mail & Guardian	English paper
Sunday Times	English paper
City Press	English paper
Rapport	Afrikaans paper
Sunday Sun	English paper

The study managed to access and screen all four TV channels (SABC 1, 2, 3 and e.tv) and nine radio stations (Table 4.2) on two randomly selected weekdays.

Table 4.2: Accessed radio stations for screening (n=9)

Radio stations		
RSG	5 FM	Metro FM
Thobela FM	Gagazi FM	Motseding FM
Lesedi FM	Umhlobo Wenene FM	Ukhozi FM

4.2 VIOLATIONS IDENTIFIED FROM THE SCREENED ADVERTISING MEDIA

Table 4.3 summarizes the total number of violations found in the advertising media*. Pictures of the violations are displayed in Addendum C. A total number of 30 violations were identified from 117 baby product advertisements that were published in eight of the 169 screened magazines. Violations identified in the same magazine were counted separately. No violations were found from advertisements on TV, radio or in newspapers.

Table 4.3: ICMBS violations identified in South African advertising media during the study

Type of advertising media	Number of violations	Type of violation	N	% of total
Magazines (n=169)	30	Promotion of food for infants < 6 Months	1	3.3
		Promotion of growing-up milk	6	20
		Promotion of feeding bottles	18	60
		Promotion of teats	5	16.7
Newspapers (n=55)	0	-	0	0
Radio stations (n=9)	0	-	0	0
Television Channels (n=4)	0	-	0	0
TOTAL	30	-	30	100

* According to the WHO ICMBS document (WHO, 1981:10) violations pertaining to advertising media include *advertising or promoting* any of the following products to the general public: *infant formula*; other *milk products marketed for children up to 36 months of age* (e.g. growing-up milk or follow-on milk); *foods for infants younger than 6 months*; any other food or beverages marketed or represented to be suitable for *the use as partial or total replacements of breast milk*; and feeding bottles and teats (article 5.1).

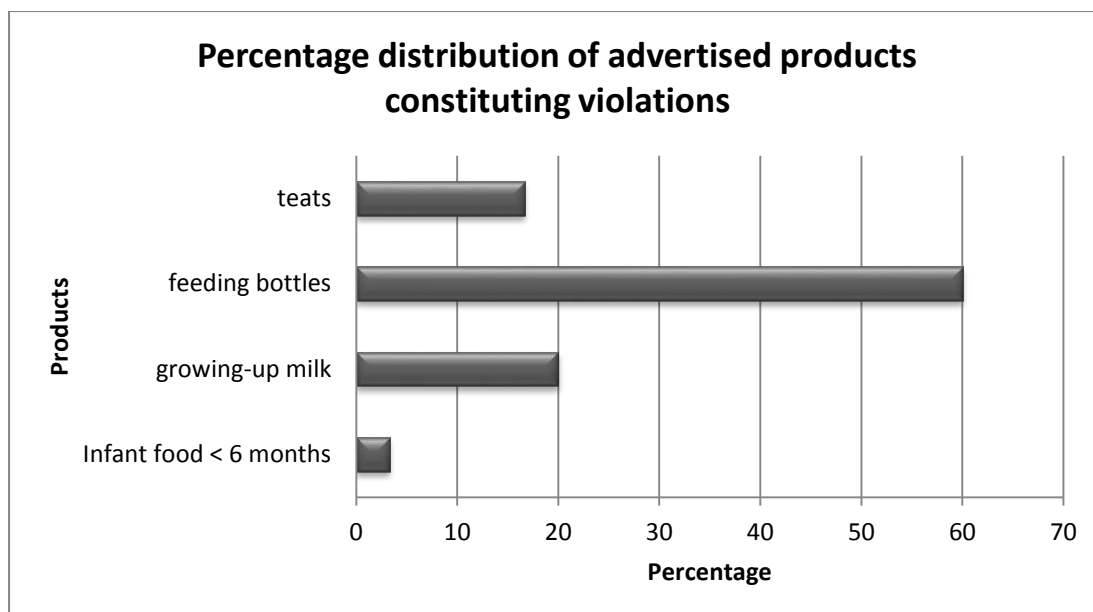


Figure 4.1: The percentage distribution of advertised products in magazines that constitutes violations

The majority of advertisements that violated article 5.1 of the ICMBS were advertisements of feeding bottles (60%), followed by advertisements of growing-up milk (20%) and feeding teats (16.7%). One violation (3.3%) was an advertisement of infant food for infants <6 months (Figure 4.1).

Of the 30 violations, 14 (47%) were found in magazines and 16 (53%) were identified in the inserts found in magazines. The majority of violations (53.3 %) were from 'Your pregnancy' magazine (n=9) and/or the insert (n=7) provided within the magazine (i.e. 'Your pregnancy baby shower guide'). Five violations (16.7%) were identified in a 'Clicks leaflet' that was inserted into 'Huisgenoot' magazine, three violations (10%) were from a 'Game baby magazine' that was inserted in 'You magazine', two (6.6 %) advertisements were identified in 'Baba & Kleuter' magazine, one (3.3%) was from 'Bona' magazine, one (3.3%) from 'Your Baby' magazine and the remaining one (3.3%) from 'Living & Loving' magazine.

4.3 DIFFERENCE BETWEEN THE FIRST AND SECOND SCREENING

Tables 4.4 and 4.5 provide a summary of the specific products that were advertised in specific magazines during the first and second screening respectively. Of the 30 violations that were identified, 26 (87%) were identified from the magazines published between November 2012 – January 2013 (first screening, n=98) whilst only four (13%) were identified from the magazines that were published between November 2013 – January 2014 (second screening, n=71).

Table 4.4: Violations found from the first screening of magazines (November 2012 – January 2013)

Type of product	Name of product	Company Name			Magazines	
			Name of Magazine	Frequency of distribution	Source of violation (insert or magazine)	Number of violations
Food & Drinks for Infants < 6 month	Hipp stage 1 food	Aspen	Huisgenoot magazine	Weekly	Clicks pamphlet insert	1
Growing-up milk	S-26 Progress Gold &	Wyeth	Huisgenoot magazine	Weekly	Clicks pamphlet insert	1
			YOU magazine	Weekly	Game Baby magazine insert	1
	Infacare Gold	Aspen	Huisgenoot magazine	Weekly	Clicks pamphlet insert	1
			YOU magazine	Weekly	Game Baby Magazine insert	1
		Nestlé	YOU magazine	Weekly	Game Baby Magazine insert	1
			Huisgenoot magazine	Weekly	Clicks pamphlet insert	1
Feeding Bottles	NUK feeding bottle	NUK	Your Pregnancy	Monthly	Your pregnancy baby shower guide insert	2
			Your Pregnancy	Monthly	Your pregnancy magazine	2
	Dr Browns feeding bottle	Dr Browns	Your Pregnancy	Monthly	Your pregnancy baby shower guide insert	1
			Your Pregnancy	Monthly	Your pregnancy magazine	1

	MAM feeding bottle	MAM	Your pregnancy	Monthly	Your pregnancy baby shower guide insert	1
	Nuby feeding bottle	Nûby™	Your pregnancy	Monthly	Your pregnancy magazine	2
	Avent feeding bottles	Philips	Bona	Weekly	Bona magazine	1
			Your pregnancy	Monthly	Your pregnancy baby shower guide insert	1
					Your pregnancy magazine	1
		Huisgenoot	Weekly	Clicks pamphlet insert	1	
	Pigeon feeding bottles	Pigeon	Your Pregnancy	Monthly	Your pregnancy baby shower guide insert	1
	Tomme Tippee feeding bottles	Tomme Tippee®	Your pregnancy	Monthly	Your pregnancy baby shower guide insert	1
Teats	Dr Op-Ins teats	Playtex®	Your pregnancy	Monthly	Your pregnancy magazine	1
	NUK teats	NUK	Your pregnancy	Monthly	Your pregnancy magazine	1
			Living&Loving	Monthly	Living & Loving magazine	1
	Nuby teats	Nûby™	Your pregnancy	Monthly	Your pregnancy baby shower guide insert	1
Total number of violations						26

Table 4.5: Violations found from the second screening of magazines (November 2013 – January 2014)

Type of product	Name of product	Company Name			Magazines	
			Name of Magazine	Frequency of distribution	Source of violation (insert or magazine)	Number of violations
Feeding Bottles	NUK feeding bottle	NUK	Baba & Kleuter	Monthly	Baba and Kleuter magazine	1
	Dr Browns feeding bottle	Dr Browns	Your Pregnancy	Monthly	Your pregnancy magazine	1
			Your Baby	Monthly	Your Baby magazine	1
Teats	NUK teats	NUK	Baba & Kleuter	Monthly	Baba and Kleuter magazine	1
Total number of violations						4

Sixteen of the 26 violations identified from the first screening, were published in a booklet, leaflet or guide inserted in a magazine (Table 4.4). All four violations identified from the second screening of magazines were published directly in a magazine (Table 4.5).

4.4 COMPANIES WHO PROVIDED ADVERTISEMENTS WITH VIOLATIONS

The present study identified a total of eleven companies who provided advertisements with violations (Table 4.6). The majority of the advertisements were on products from NUK (26.7%), followed by Dr Browns and Philips, and in the third place Aspen and Wyeth (Table 4.6).

Table 4.6: Companies who provided advertisements with violations (n=10)

Company	Number of products advertised	Percentage of total
NUK	8	26.7%
Dr Browns	4	13.3%
Philips	4	13.3%
Nüby™	3	10%
Aspen	3	10%
Wyeth	2	6.7%
Nestlé	2	6.7%
Tomme Tippee®	1	3.3%
Pigeon	1	3.3%
Playtex	1	3.3%
MAM	1	3.3%
TOTAL	30	100

CHAPTER 5: DISCUSSION

5.1 RESULTS DISCUSSION

The aim of the study was to determine the extent of violations of the International Code of Marketing of Breast Milk Substitutes (ICMBS) in the South African advertising media. Data for this study was collected during and soon after the ICMBS was legislated, and therefore provide valuable baseline information on the extent of Code violations in advertising media. The study identified a total number of 30 violations from advertising media in South Africa. Advertisements with violations were identified from South African magazines, with no violations found from television (TV) channels, radio stations or newspapers. The majority of advertisements with violations were advertisements of feeding bottles (60%), followed by advertisements of growing-up milk (20%), feeding teats (16.7%), and one advertisement of infant food for infants <6 months.

The results of the present study in terms of advertising media that contained violations, was similar to the results of a multisite cross sectional survey study which monitored the compliance with the ICMBS in West Africa, and who also identified violations mostly in magazines and did not find any broadcasting of advertisements of breast milk substitutes (BMS) through national TV channels or radio stations (Aguayo *et al.*, 2003:4). More recently, Zhang *et al.* (2013:6) also found that the most common media exposure for both formula and breastfeeding information was printed materials. Since newspapers are considered a vehicle for news and business, and not predominantly for advertisements, it is less likely to find advertisements of baby products in newspapers than in magazines, unless there was inserts provided from retail stores, even though the present study was able to access only 10 of the proposed 50 newspapers due to logistic constraints. In addition, the majority of the women in the study from Zhang *et al.* (2013:5) reported that formula feeding was promoted more than breastfeeding in all advertising media except the internet. Furthermore, women reported seeing more advertisements of formula feeding in printed media compared to other advertising media (Zhang *et al.*, 2013:6). It can be speculated that, magazines and other printed media can be accessed repeatedly by the buyer, compared to advertisements on radio and TV that may not be repeatedly accessible. The impact of printed media can therefore be more long lasting. This is of concern since the advertising of BMS has been shown to affect breastfeeding practices and that the marketing of formula feeding specifically is associated with reduced duration of breastfeeding (Zhang *et al.*, 2013:6).

With regards to the specific magazines that contained advertisements with violations, the present study found that the majority of advertisements with violations (70%) occurred in magazines or inserts in magazines targeting pregnant women and mothers with babies. This was in accordance with the West Africa study which also showed that the majority of advertisements with violations were published in magazines targeting pregnant women or mothers with babies including the French magazine *Parents and Infants* (Aguayo *et al.* (2003:4). This might be because it is more likely to find advertisements of baby products in baby and pregnancy magazines, compared to other type of magazines, newspapers and advertisements from TV channels and radio stations. Furthermore, since mothers are predominantly in charge of feeding their babies, it would make sense for BMS companies to target pregnant women and women with babies through these magazines with the aim to promote their products and influence the mothers' choice of feeding her baby.

The present study accessed and screened magazines published between November 2012 and January 2013 (1st screening) and between November 2013 and January 2014 (2nd screening). However, the 26 (86.7%) violations identified during the first screening, were found from five of the 98 magazines (5.1%), compared to the four (13.3%) violations from the second screening that were identified from three of the 71 magazines (4.2%). More specifically, 16 of the 26 violations from the first screening were identified from inserts in three of the five magazines. The presence of inserts may be one of the reasons for the big difference in the actual number of violations identified between two screenings. The first screened magazines were published between November 2012 and January 2013, the same timeframe during which the Regulation relating to Foodstuffs for infants and Young Children (R991) was gazetted (6 December 2012). Although the present study was not design to specifically test the impact of legislation on ICMBBS adherence 1 year later, legislating the Code may already have had an impact on adherence as seen by the reduced number of violations reported in a smaller number of magazines from the second screening of magazines that were published between November 2013 and January 2014, 1 year after the Code has been legislated.

The majority of advertisements with violations reported in the present study were on feeding bottles (60%), followed by growing-up milk (20%) and teats (16.7%). Only one violation was on food for infants younger than 6 months with no violations on infant formula. The WHO emphasises exclusive breastfeeding for six months with the introduction of complementary foods only at six months (WHO, 2003). Since the Tshwane Declaration for the Support of Breastfeeding in South Africa was announced at a national breastfeeding summit held in August 2011, the DOH has placed a lot of emphasis on strategies to promote, protect and

support breastfeeding and raise awareness, especially with regards to exclusive breastfeeding for the first *six* months, and introduction of complementary foods only at six months. In SA there is an exclusive breastfeeding week on a national health calendar that makes mothers more aware about breastfeeding and when to start introducing solids.

The drive to get all the health facilities Mother Baby Friendly accredited also emphasise EBF for the first *six* months. It would therefore not necessarily benefit a BMS company to advertise infant food aimed at babies younger than six months, and it could be speculated that this is one of the reasons why only one advertisement on infant food for infants younger than 6 months was identified in the present study. Furthermore, the Tshwane Declaration adopted the 2010 WHO infant-feeding guidelines, specifying that all HIV-infected mothers should also breastfeed their infants exclusively for six months. It was further stipulated that distribution of free infant formula was not to be extended beyond 30 September 2012, starting in April 2012. This study was conducted eight months after the phasing out of free infant formula in public health facilities (Clinics and hospitals).

The emphasis on exclusive breastfeeding for the first six months does not exclude expressing breast milk and feeding breast milk from bottles, the emphasis was more on breast milk only (i.e. no other food, infant formula, water etc. before six months). The above mentioned factors may possibly, in part, explain why 18 advertisements of feeding bottles were identified compared to one on infant food and none on infant formula. The advertisement on infant food for babies less than six months (hipp stage 1) was identified in a clicks shopping sale leaflet that was inserted in a Huisgenoot magazine. Aguayo *et al.* (2003:4) also only reported one advertisement in printed media on infant food for babies < 6 months (a milk-cereal complementary food from Vitaline), but this advertisement was published in a daily national newspaper (*Observateur Paalga*, in Burkina Faso) and not in a magazine.

In the present study, companies who advertised products within the scope of the ICMBS, thereby violating the ICMBS included NUK, Dr Browns, Philips, Aspen, Wyeth, Nestlé, Pigeon, Playtex®, MAM, Nuby™ and Tommee Tippee®. A multisite cross sectional survey in Togo and Burkino Faso also reported promotional violations on BMS manufactured by amongst other Nestlé in the French magazine: '*Parents*' (Aguayo *et al.*, 2003: 6). The type of violations/product names advertised was not specified in that study, only the name of the company. In the present study, advertisements of growing-up milk (Nido 1) from Nestlé were identified twice in two different magazines (Huisgenoot and YOU magazine). In both studies, most violations occurred in magazines targeting pregnant women and their babies.

This might be because it is more likely to find advertisements of baby products in baby and pregnancy magazines, compared to other type of magazines, newspapers and advertisements from TV channels and radio stations. Mothers are the target group for these companies because they make the final decision and are targeted through these magazines.

5.2 SUMMARY AND CONCLUSION

Marketing of BMS is one of the factors that influence a mothers' decision to breastfeed. The present study demonstrated that there are a number of companies that manufacture BMS, feeding bottles and teats, who advertise their products to the general public, violating article 5.1 of the ICMBS, even one year after the ICMBS has been legislated. Although violations were identified in only a small percentage of magazines (4.7%), particularly magazines targeted at pregnant women and parents with babies, violations were indeed identified which warrants future monitoring of Code compliance in advertising media, especially with regards to magazines. Encouragement of breastfeeding in the media should also be instigated to inspire mothers to do what is best for their babies – i.e. to breastfeed them.

5.3 LIMITATIONS

Not all the provinces in South Africa were included in this study, therefore the extent of violations are not necessarily a reflection of the extent of violations on national level. Furthermore, although the present study included the majority of available South African magazines distributed in South Africa, not all the available newspapers, TV channels and radio stations were included in the sample size. In fact, only 10 of the intended 50 newspapers were accessed. The true extent of ICMBS violations in the South African advertising media may therefore be higher and it can also not be concluded that BMS companies use only magazines to advertise products pertaining to the scope of the ICMBS. A follow-up study need to determine the impact of legislating the Code on ICMBS violations

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**ADDENDUM A: ETHICAL
APPROVAL**



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2013/04/23

ETHICS APPROVAL OF PROJECT

The North-West University Ethics Committee (NWU-EC) hereby approves your project as indicated below. This implies that the NWU-EC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

Project title: South African baseline Code violation assessment															
Project Leader: : Prof J Jerling															
Ethics number:	N	W	U	-	0	0	0	0	8	-	1	3	-	A	1
	Institution			Project Number					Year		Status				
<small>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation</small>															
Approval date: 2013/04/12								Expiry date: 2018/04/11							

Special conditions of the approval (if any): None

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principle investigator) must report in the prescribed format to the NWU-EC:
 - annually (or as otherwise requested) on the progress of the project,
 - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-EC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-EC and new approval received before or on the expiry date.
- In the interest of ethical responsibility the NWU-EC retains the right to:
 - request access to any information or data at any time during the course or after completion of the project;
 - withdraw or postpone approval if:
 - any unethical principles or practices of the project are revealed or suspected,
 - it becomes apparent that any relevant information was withheld from the NWU-EC or that information has been false or misrepresented,
 - the required annual report and reporting of adverse events was not done timely and accurately,
 - new institutional rules, national legislation or international conventions deem it necessary.

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Prof Amanda Lourens
(chair NWU Ethics Committee)

**ADDENDUM B: LIST OF ACCESSED AND SCREENED
MAGAZINE ACCORDING TO DATE**

Table 1: Screened weekly and fortnightly magazines by date

Weekly Magazine		
Names	First screened magazine	Second screened magazine
Vrouekeur	Nov-12	Dec-13
Move	Nov-12	Dec-13
People	Nov-12	Dec-13
Heat	Dec-12	Dec-13
YOU	Dec-12	Dec-13
Huisgenoot	Dec-12	Jan-14
Drum	Nov-12	Dec-13
Landbou Weekblad	Nov-12	None
Elle Decoration	Nov-12	Jan-14
Famer's weekly	Nov-12	Dec-13
The gardener Mag	Dec-12	None
Auto Trader.CO.ZA	Dec-12	Dec-13
FM(Financial Mail)	Nov-12	None
Finweek	Nov-12	Jan-14
Fortnightly Magazines		
TV Plus	November/December 2012	November/December 2013
Kuier	Nov-12	None
klckoff	Dec-13	None

***Shaded area means there were violations in the specific magazine/insert in the specific magazine**

Table 2: Screened monthly magazines by date

Monthly magazines		
African Geography	Nov-13	None
Animal Talk	Dec-12	Dec-13
Bicycling	Dec-12	Dec-13
Bona	Dec-12	Feb-14
Caravan & Outdoor Life	December 2012/January 2013	Dec-13
Complete golfer	Dec-12	Dec-13
Cosmopolitan	Dec-12	Dec-13
Drive Out/Wegry	None	None
Entrepreneur	Dec-12	Dec-13
Fairlady	Dec-13	None
Woman's Health	Dec-12	Dec-13
Your Family	Dec-12	Dec-13
NAG	Dec-12	Dec-13
PC format	Dec-12	Dec-13
Sports Illustrated SA	Dec-12	None
Golf Digest	Dec-12	Dec-13
Runner's World	Dec-12	Dec-13
SA Garden/SA Tuin Paleis	None	None
SA Hunter/Jagter	Dec-12	Dec-13
SA Rugby	Dec-12	Dec-13
Rooi Rose	Dec-12	Dec-13
Amakhosi	Dec-13	None
Baba & Kleuter	Dec-13	Apr-14
Bike SA Magazine	Dec-12	Dec-13

Car	Dec-12	None
Cleo	None	None
Destiny	Dec-12	Dec-13
Elle Magazine	Dec-12	Dec-13
Essentials	Dec-12	Dec-13
Speed & Sound	Dec-13	None
Stywe Lyne/Tight Lines	Dec-12	Dec-13
True Love	Dec-12	None
SA Garden & Home	Dec-12	Dec-13
SA 4X4	Dec-13	None
Seventeen	Dec-12	Dec-13
Soul	Dec-12	None
Succeed	Dec-12	Dec-13
Topcar	Dec-12	Dec-13
SA Home Owner	December 2012/January 2013	December 2013/ January 2014
Die tuinier tydskrif	Dec-12	November/December 2013
Popular Mechanics	Dec-12	Dec-13
Men's Health	Dec-12	Dec-13
FHM	Dec-12	Dec-13
Food & Home	Dec-12	Dec-13
Getaway	Dec-12	Dec-13
Go!/Weg	Dec-12	Dec-13
GQ SA	Nov-14	December/January 2014
House & Leisure	Dec-12	Dec-13
Lééf- met Hart &Siel	Dec-12	Dec-13
Lig	Dec-12	Dec-13
Longevity	Dec-12	Dec-13

Marie Claire	Dec-12	Dec-13
Wegsleep	Dec-13	None
O' The Oprah Magazine SA	Dec-12	Feb-14
Your Baby	November/December 2013	Apr-14
Finesse	Dec-12	Dec-13
Fresh Living (Pick 'N Pay)	None	None
Glamour	Dec-12	Dec-13
Ideas/Idees	Dec-12	December 2013/ January 2014
Leisure Wheels	Dec-12	Dec-13
Living & Loving	Dec-12	Dec-13
Man Magnum	Dec-13	None
Woman & Home	Dec-12	Dec-13
Skitter	Dec-12	December 2013/ January 2014

***Shaded area means there were violations in the specific magazine/insert in the specific magazine**

Table 3: Screened alternate (i.e. every second month) magazines by date

Alternate monthly magazines (i.e. magazines appearing every 2nd month)		
Dekat	November/December 2012	November/December 2013
Good taste	Nov-12	Nov-13
Habitat	November/December 2012	Dec-13
House & Garden	Dec-12	Feb-14
HQ	Dec-13	None
Intiem	December 2012/January 2013	December 2013/January 2014
Stuff	Dec-12	Dec-13
Sutra	September/October 2013	None
VISI	November 2013/January 2014	None
Your pregnancy	December 2012/January 2013	December 2013/January 2014
Zigzag	November/December 2012	November/December 2013
Added magazines		
Real	Feb-14	None
SA Country life	Dec-13	None
Tuis	Dec-13	None
Magnum	None	None
Mamas & Papas	Nov-12	December 2013/January 2014
New Born	Dec-12	None
SA Driving Roads	None	None
Sarie	Dec-12	Dec-13
Expectant Father's guide	None	None
Expectant Mother's guide	None	None
Hope	December 2013/January 2014	None
Shape	Dec-13	None
Home & Gardens	Feb-14	None

ADDENDUM C: PICTURES OF VIOLATIONS

PICTURES OF VIOLATIONS

Pictures of violations identified from the first screened magazines

DIRECTLY FROM MAGAZINES

1. 'YOUR PREGNANCY' MAGAZINE

Feeding bottles



Teats



2. 'YOUR BABY'

3. BONA MAGAZINE

4. LIVING & LOVING MAGAZINE

Feeding bottles

Teat



FROM INSERTS/ADDITIONAL MATERIALS IN MAGAZINES

1. GAME BABY MAGAZINE

Growing-up milk



2. YOUR PREGNANCY BABY SHOWER GUIDE

Feeding bottles



3. CLICKS LEAFLET

Feeding bottles



Infant food < 6 Months



Growing-up milk



Pictures of violations identified from the second screened magazines

DIRECTLY FROM MAGAZINES

1. BABA & KLEUTER

2. 'YOUR PREGNANCY'

Feeding bottle
bottle

Teat

Feeding



2. 'YOUR BABY'



