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Mothers' and Community Stakeholders' Perspectives about the Vitamin A Supplementation Program in Nigeria

Olufolakemi Mercy Anjorin
Walden University

Walden University

College of Health Sciences

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Olufolakemi Anjorin

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Review Committee
Dr. Cheryl Anderson, Committee Chairperson, Public Health Faculty
Dr. Stoerm Anderson, Committee Member, Public Health Faculty
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Sue Subocz, Ph.D.

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Abstract

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MPH, University of Ibadan, 2010

BTech, (Hons.). Ladoke Akintola University of Technology, 2005

Dissertation Submitted in Partial Fulfillment

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Abstract

Vitamin A deficiency (VAD) affects about one third of children under the age of five in Nigeria. There is low uptake of biannual Vitamin A supplementation (VAS) used since year 2010 as the national response to addressing VAD among children 6 to 59 months. Yet, there is limited research on barriers or facilitators to uptake of VAS. The purpose of this study was to examine the perspectives of stakeholders about the VAS program in Nigeria. The theoretical underpinning was the social marketing framework. The central question related to the views of stakeholders toward the VAS program, and their perception about the barriers and facilitators to VAS. This qualitative case study inquiry included a review of VAS program documents and participant interviews. Twenty-seven purposively selected stakeholders participated in face-to-face interviews that explored VAS knowledge, demands, barriers, and facilitators. Audio-recorded data were transcribed verbatim, organized with NVivo 12, and analyzed using open and axial coding. Findings showed that lack of awareness about VAS benefits by mothers, their negative attitude about VAS, nonroutine delivery of VAS that potentially excludes children 6 to 11 months, and nonpayment of transportation allowances to VAS program volunteers by the government were perceived as barriers to VAS receipt. Participants viewed mothers' knowledge of VAS benefits as a motivation for VAS uptake. Stakeholders' perspectives of the VAS program were mainly positive. Also, there was no explicit content of VAS messaging in program documents reviewed. The findings may contribute to positive social change by improving VAS demand and coverage if program managers use the results to guide strategies for promoting VAS.

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Dedication

This work is dedicated to God Almighty, the giver of life, my inspiration, my provider and my greatest support.

Acknowledgments

The journey of earning a degree at Walden University has been a long one. I appreciate the support and guidance of family, friends and faculty members who helped me to make it to the finish line.

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Chapter 1: Introduction to the Study

Introduction

Vitamin A deficiency (VAD) remains a public health problem worldwide. VAD affects about 19 million pregnant women and 190 million preschool-age children, mostly from Africa and Southeast Asia (McGuire, 2012). Deficiencies of vitamin A and zinc result in death for many children (Black et al., 2013). In Nigeria, there are no recent data on the prevalence of VAD among children under 5 years of age. About 29.5% of children under 5 years of age are vitamin A deficient (Maziya-Dixon et al., 2012). About 42% of children 6-59 months are vitamin A deficient (Haddad et al., 2015). This prevalence suggests that about 16 million children under 5 in Nigeria are vitamin A deficient based on the current population figure of Nigeria of 193 million people. VAD still represents a significant burden that needs to be addressed with proven and cost-effective interventions such as vitamin A supplementation (VAS).

VAS is an effective nutritional intervention for tackling VAD (Bhutta et al., 2013). Suboptimal and inequitable coverage of VAS is a concern in Nigeria. Coverage of VAS for children 6 to 59 months is variable among various population subgroups across Nigeria (Aremu et al., 2010). Available estimates suggest that only about a third of children under 5 (6 to 59 months) in Nigeria who are eligible for VAS receive the intervention. The most recent estimate of VAS coverage (45%) still represents less than half of eligible children (National Population Commission & ICF International, 2019). Gap in VAS coverage limits the potential for impact in terms of morbidity and mortality in Nigeria.

The demographic and health surveys in 2013 (NPC & ICF International, 2014) and 2018 (NPC & ICF, 2019) showed regional and socioeconomic differences in terms of VAS coverage across Nigeria. The high burden of VAD and low and inequitable coverage of VAS requires an understanding of the current VAS program in Nigeria. A clear description of the VAS program can provide program managers an understanding of facilitating factors and barriers to optimal VAS coverage in Nigeria. Knowledge of operational factors can also help in planning for effective promotional strategies to improve VAS awareness and demand.

In 2010, the Nigerian government adopted Maternal Newborn and Child Health Weeks (MNCHW) biannual 1-week campaign-like events. MNCHW aims to complement routine services to increase access and coverage of essential services, including VAS. Before the national adoption of MNCHW, VAS had been integrated into immunization campaigns and also delivered through child health days (CHDs). CHDs are also bi-annual campaign like MNCHW. However, CHDs interventions are primarily targeting children and not mothers. The rationale for expanding CHDs to MNCHW was to provide opportunities to reach mothers with preventive health services like antenatal care and family planning services. The challenge is a limited understanding among program stakeholders on why current VAS program in Nigeria do not have high uptake by population. There is a dearth of literature assessing the VAS program in Nigeria. Limited assessment of VAS program has contributed to VAS program planners and managers lack of an understanding of the barriers or facilitators of demand for VAS. Effective targeting of Nigeria VAS program to reach all eligible children may not be

possible without a clear understanding of the enabling factors that may drive demand for VAS. In this study, a qualitative approach was used to conduct a content analysis of MNCHW guidelines and training manual. MNCHW guidelines set out the protocol for the planning and implementation of maternal and child health interventions delivered during the bi-annual campaigns. The MNCHW training manual also provides a step-by-step guide for health workers to deliver each of the interventions, including VAS. Mothers of children under the age of 5, community and religious leaders, healthcare workers, and program and policy actors were interviewed about their perspectives of Nigeria VAS program.

The following sections of this chapter include the background of this study, statement of the problem, and a description of research questions. Other sections include the purpose of the study, theoretical framework that underpins the research, key operational definitions, assumptions, limitations, scope, and delimitations for the study. The final section articulates the significance of the research and a summary of the chapter.

Background of the Problem

Many countries have struggled with VAD and assessed issues involving VAD and how to address them. VAS protect children against VAD and contributes to reductions in childhood morbidity, mortality, and vision problems (Bhutta et al., 2013; Imdad et al., 2017; Mayo-Wilson et al., 2011). VAS is reported to contribute to a 24% reduction in all-cause mortality and 28% reduction in mortality associated with diarrhea. VAS is also associated with a 15% decrease in the incidence of diarrhea, a 50% reduction in the

incidence of measles and reduced prevalence of vision problems (Mayo-Wilson et al., 2011). To achieve benefits of morbidity and mortality reduction, World Health Organization (WHO) recommended that more than 80% of children need to be reached with VAS equitably among population groups (Vir, 2011). Globally, up to 15% of child deaths can be averted if the majority of the population can access efficacious nutrition intervention at 90% coverage (Bhutta et al., 2013). These nutrition interventions include VAS for children 6 to 59 months of age.

Many countries have adopted VAS because of its potential to address VAD and its demonstrated impact on child mortality. Twice-yearly high-dose VAS is an immediate life-saving intervention to improve child survival (Bhutta & Baker, 2015). Countries with a high rate of child mortality among those under 5 can adopt implementation of VAS for children 6-59 months old and other vitamin A programs (Klemm et al., 2016). Regular biannual VAS events offer ease of mobilization and better coverage for children, especially after 12 months of age and for those in remote communities (Gatobu et al., 2017). While the VAS program is well-established in many countries, a more in-depth investigation of the factors that limit or enhance VAS uptake is required to maximize the potential impact of VAS.

Many countries with a high burden of VAD also have suboptimal (i.e., less than 80%) VAS coverage. These countries include India (Agrawal & Agrawal, 2013; Rah et al., 2014), Kenya (Clohossey et al., 2014), Tanzania (Dhillon et al., 2013), and Cameroon (Brown et al., 2015). VAS coverage in Nigeria is also low and inequitable (Aremu et al., 2010). Similarly, Hodges et al. (2013) reported suboptimal coverage of VAS in Sierra

Leone. Gaps in terms of optimal coverage in these countries including Nigeria limits the impact of VAS on morbidity and mortality reduction among children.

Several factors may account for low VAS coverage, variability in VAS coverage, and limited uptake of VAS; however, there is insufficient documentation of such factors. Barriers to optimal VAS coverage are also not clear in the Nigerian context, and even the role that program communication plays is unclear. According to Hodges et al. (2013) major reasons for not receiving VAS were that community health workers did not visit the household of the child, or the child was out of the supplementation area, or the caretaker was not aware of the event. Kamau et al. (2012) in a study conducted in Kenya found that the reasons why children missed VAS were because their mothers were not aware of the schedule of supplementation or had stopped attending the clinic. Similarly, Janmohamed et al. (2017) argue that caregivers' need to be aware of the VAS program and make appropriate arrangements to attend with their eligible children for VAS campaigns delivered in a fixed post to be successful. Limited recognition of VAS benefits to child survival by mothers in many countries where VAS is delivered and ineffective communication about it by those responsible for planning and implementing VAS were common in the peer-reviewed literature examined.

Currently, there is no known peer-reviewed study that documented perspectives of various stakeholders (i.e., mothers, caretakers, community leaders, and health workers) in terms of communication approaches for VAS in Nigeria. However, Ferguson et al. (2014) reported some barriers to MNCHW attendance by eligible population groups in Jigawa and Zamfara States in Northern Nigeria. The barriers included very low

awareness of MNCHW amongst women who had not attended MNCHW, amongst husbands and amongst social mobilisers. Overall, there is limited research and little documentation regarding communication aspects of the VAS program in Nigeria. A successful VAS program requires appropriately designed information, education, and communication strategies (Kamau et al., 2012). According to Kamau et al. (2012) VAS program planners and managers understanding of the knowledge, awareness, attitudes, beliefs, constraints, and practices of caregivers' is central to a full analysis of the factors affecting the VAS program. In this current study, a qualitative approach was adopted to aid in understanding the perspectives of mothers and community stakeholders in Nigeria about the VAS program. The primary theoretical model used was the social marketing framework in addition to the theory of change as a supporting framework.

Problem Statement

Despite the federal government of Nigeria efforts to address VAD in Nigeria through the VAS program, the reach of the program appears too limited to achieve desired results in terms of morbidity and mortality reduction. Both Aghaji et al. (2019) and Aremu et al. (2010) reported suboptimal and inequitable coverage of VAS in Nigeria. There are limited reports and literature that document communication aspects of the VAS program in Nigeria. Research that provides insights into how relevant stakeholders perceive the VAS program is also lacking. Chehab et al. (2016) argue there is limited and mostly outdated data on vitamin A deficiency, and limited data on VAS supplementation approach and coverage. These data gap presents a challenge in identifying the problems with VAS program and how to improve it. In Nigeria, it is not clear if the federal

government of Nigeria understand the factors that can contribute to VAS demand. It is also not clear if mothers and caregivers can differentiate the VAS program from other immunization campaigns that occur up to six times in a year, and provided using door-to-door delivery.

Michael et al. (2014) found that in Northern Nigeria, polio risk perception was low among those who rejected polio during campaign and these people did not consider vaccination necessary or helpful. Also, they found that those who refused polio have religious beliefs that illness is God's will and only God can protect against illness. The factors that play a role in low demand for VAS in Nigeria are yet to be fully explored. In Kenya, mothers limited awareness of VAS schedules and completed immunizations accounted for why children missed VAS (Kamau et al., 2012). Janmohamed et al. (2017) also found that being informed about the campaign was a main predictor of VAS receipt in the door-to-door and fixed-site and outreach delivery approach. This current study identified barriers and facilitators of VAS receipt, and explained the perspectives of mothers of children under 5, community and religious leaders, health workers, and program and policy actors regarding the VAS program in Nigeria.

Purpose of the Study

The purpose of this study was to investigate the perspectives of mothers and caretakers of children under 5 and community leaders and health workers about social mobilization and communication approaches for the VAS program in Nigeria. A qualitative paradigm was used to conduct this research. In this study, dimensions of knowledge about the VAS program among stakeholders were examined using a

constructivist paradigm. This paradigm similar to interpretivist paradigm posits that knowledge or reality is constructed by the knower based on mental activity (Jonassen, 1991). Also, the premise is that humans are perceivers and interpreters who construct their own reality by engaging in thinking that is grounded in perception of physical and social experiences. This paradigm was used in this study because each stakeholders of the VAS program may have a different perception of the program based on how they experienced the program in the past, and other factors in their social environment that determine the way they think. The case study approach was used to investigate stakeholders' perspectives. The choice of case study research is because the approach allows the study of a phenomenon in its natural setting, and involves the use of multiple sources of evidence (Yin, 2011). MNCHW guidelines and training manual were reviewed for content of planned VAS communication during the MNCHW campaigns. The assessment of MNCHW documents guided the development of interview questions and interpretation of some results of participant interviews.

Research Questions

RQ1: What are the perceptions of current stakeholders involving the current VAS program in Nigeria?

SQ1: What are perceived barriers involving VAS program use in Nigeria?

SQ2: What are perceived facilitators toward VAS program use in Nigeria?

Theoretical Framework

The primary theoretical underpinning for this study was the social marketing framework. Kotler and Zaltman coined and described the term social marketing in 1971

as an approach to planned social change. The social marketing approach involves the application of commercial marketing principles and techniques to promote voluntary behavior changes to improve health. It is possible to market social good in the same way that products like soap can be sold. Social marketing is possible through a careful combination of product, place, price, promotion, publics, partnership, and policy. A more detailed summary of the social marketing framework is provided in Chapter 2. The social marketing framework is of relevance to this study because the goal is not just individual but group and organizational change. Serrat, 2017 argue that the desired outcomes of social marketing are usually ambitious because it involves changing almost intractable behaviors in complex situations. Adopting a social marketing approach for the study of stakeholders' perspectives can help in understanding viewpoints of program beneficiaries and guide the development of effective communication and branding approaches for VAS program.

The theory of change (ToC) also guided the interpretation of the findings of this study. The ToC provides a systematic way of evaluating programs and interventions designed to achieve social impact. The ToC is a participatory process whereby groups and stakeholders in a planning process communicate long-term goals for a project and chart pathways to attain these goals. De Silva et al. (2014) reported that ToC has been used to design and evaluate development programs in different contexts globally. In this study, the researcher used the ToC to propose changes in terms of VAS program communications using findings from the perspectives of stakeholders.

Conceptual Framework

The social marketing framework guided this study. Helmig & Thaler (2010) proposed five variables that can be used to assess social marketing approach. These include independent, moderating, mediating, control, and outcome variables. Independent components of a social marketing campaign include the characteristics of the campaign, such as scope and targeting, channels used, and the framing determinants like the tone of messages, and content. Helmig & Thaler (2010) described the personal characteristics of the target audience of a social marketing campaign as moderators and control variables. These characteristics include gender, prior experience, and level of motivation to change behavior. The mediating factors for behavioural outcomes include cognitive responses such as the ability to recall a promotional message, and emotional responses such as fear, anxiety. Conceptual model for assessment of the VAS campaign (see Figure 1) focused on four of these factors since both moderating and control factors have a similar effect on behavioural outcomes.

The proposition described in figure 1 is that assessment that can contribute to a clear understanding of the VAS campaign can be achieved through the identification of existing campaign characteristics, audience factors, and cognitive factors involving the target audience. If VAS providers know these important factors, they can assess aspects that need to improve and plan strategies for improving awareness and demand of VAS. A review of existing materials on VAS communication can provide insight into campaign characteristics such as the content of VAS campaigns, context for the delivery of campaigns, the target audience for existing VAS campaigns, the media channels used to

communicate about VAS, and the tone and the focus of the campaign. It is also essential to understand what mothers and other target audience like fathers, grandmothers, and other caregivers of under 5 children know about VAS, their awareness about the benefits of VAS, the perceived credibility of VAS, and the ability to remember messages regarding VAS. Further, if VAS program planner know the perceived self-efficacy of mothers and caregivers in AMAC to demand VAS, it will be easy to encourage them to sustain the behavior of demanding VAS for their under 5 children.

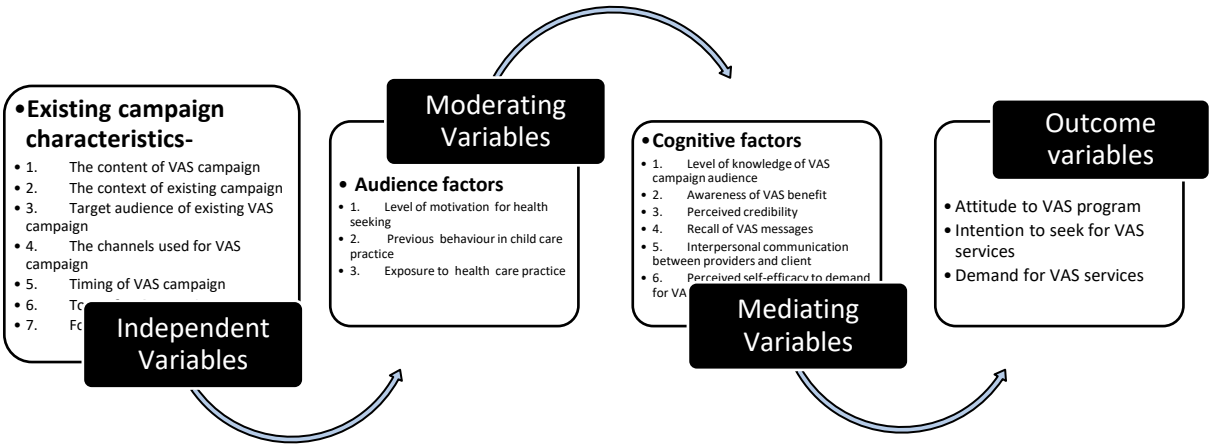

Figure 1. Conceptual model for assessment of the VAS campaign.

The attitude of the caregivers of under 5 children regarding the VAS program, their intention to seek VAS services, and current demand for VAS can be elicited through understanding campaign characteristics and audience factors. The campaign characteristic comprises of the content, the context, the timing, the tone, and the target audience. The audience factors includes issues like motivation of the target audience for health seeking, their previous behavior in child care practice, and their exposure to health care practice. The conceptual model for assessment of the VAS campaign guided the development of interview guides that were used to elicit information regarding stakeholders' perspectives towards the VAS program in Nigeria.

Nature of the Study

The qualitative case study research approach was used to review documents and conduct interviews. The MNCHW guidelines and training manual were examined to identify planned communication approaches for the VAS program. In Nigeria, VAS is one of the biannual MNCHW interventions. The MNCHW guidelines and training manual provides technical guidance for the delivery of maternal and child survival interventions which includes VAS. Assessments of documents led to information involving key messages promoted for the VAS, methods of communication, and planned settings for MNCHW social mobilization and communication.

Key informant guides including set of open-ended questions were developed and used to facilitate interviews with mothers, community and religious leaders, and healthcare workers. The perspectives of study participants were assessed in terms of barriers and facilitators involved with VAS use. Questions were asked regarding

attitudes of participants and other stakeholders to understand their perspectives in terms of the VAS program and communication approaches. Data analysis involved a combination of a priori codes derived from the conceptualization of the study and open and axial coding. Codes and concepts were organized and narrated in line with the research questions and emerging themes.

Definitions of Terms

Terms defined in this study include:

Caregivers: There are many definitions of caregivers; sometimes, it is used to refer to healthcare providers. Wallace (2001) also identified grandparents as caregivers to children. In this study, a caregiver is a person responsible for caring for children in the absence of the mother or their parents.

Effectiveness: The extent to which an intervention does what it intends for a defined population (Habicht & Pelto, 2012). For this study, the effectiveness of the VAS is the extent to which the majority of children 6-59 months receives VAS for it to be able to contribute to morbidity and mortality reduction.

Social marketing: This is the application of commercial marketing principles and techniques to promote voluntary behavior changes to improve health (Carins & Rundle-Thiele, 2014). For this study, social marketing refers to a range of promotional activities for VAS based on the principles of exchange of VAS benefits with the behavioral change of improved demand for VAS.

Social mobilization: Communication approaches used to create awareness about the MNCHW campaign and VAS program.

VAS coverage: The extent to which high-dose vitamin A supplements reach targeted children (Moraa, 2013). For this study, VAS coverage refers to the proportion of children provided with Vitamin A supplements.

Assumptions

One of the assumptions of this study was that the PHCs are implementing the VAS program based on the steps provided in the MNCHW guidelines and training manual. It was also assumed that participants were truthful and honest with their responses and provided insight into their perspectives without any prejudice.

Scope and Delimitations

In this study, MNCHW guidelines and the training manual were assessed to document communication approaches for the VAS program to evaluate perspectives of VAS program service providers and stakeholders. MNCHW guidelines and the training manual are publicly available documents. For interviews, only mothers responsible for healthcare for children under 5 years of age were included. Community leaders interviewed were those currently engaged in promoting health services at primary health care (PHC) centers. Only health workers in PHCs who engaged in the VAS program were included. The program and policy actors interviewed were also only those involved in managing the VAS program in Nigeria.

This study was conducted in Abuja Municipal Area Council (AMAC) of the Federal Capital Territory (FCT), Nigeria. AMAC is the largest and the most developed of

the six area council in the FCT (Aboh et al., 2019). To ensure transferability, rural and urban PHCs across AMAC were selected. Mothers were also recruited from at least two of the communities served by the PHCs. Also, both mothers visiting the PHCs and those in their homes were recruited to ensure enrolment of users of PHCs and those who may not use PHC services.

Limitations

The findings from this study may be limited to the context of AMAC, FCT. The results may not be generalizable to other states within Nigeria that have diverse population backgrounds. Comparisons of this study finding with reports from other countries or experiences from similar child survival services in Nigeria limited interpretation of the findings. Also, there is a possibility of recall bias in terms of information provided by participants. Recall bias may be rooted in several factors like difficulty remembering information and prejudice. Many participants, especially health workers and mothers, mentioned that the MNCHW was implemented about a month before this study. The recent MNCHW implementation may have contributed to better recall of information by those who participated. However, those who participated in past MNCHW, which was almost 8 months before the data collection may find it challenging to recall information about the program.

Healthcare workers do a lot of task-shifting, and it is difficult to identify health workers in a PHC in Nigeria whose duty is only the delivery of VAS. The information provided on VAS programs is therefore difficult to separate from other factors inherent in the MNCHW campaign. Possible prejudices involving the VAS program may therefore

not just indicate issues with VAS but problems with the MNCHW campaign which includes other services. Another potential limitation in this study involves the use of a voice recorder to record interviews. Although many participants willingly accepted recording interviews, some health workers only shared some information after the recording session. It is possible participants could have provided more sensitive information if I did not record conversations.

A possible bias of this study involves experience in implementing VAS programs in Nigeria. To address the possibility of bias, the role of the researcher was described at the proposal stage, and participants were unaware of the researcher's previous experience in implementing VAS until after interviews to prevent acquiescence bias. This bias occurs when respondents perceive the interviewer as an expert, and it is the tendency to project positive responses rather than the truth. Also, to understand attitudes towards the VAS program, questions were asked about what participants and others like family and friends feel to avoid social desirability bias. Asking questions about others allowed participants to project their feelings onto the feeling of other stakeholders without presenting responses that would make them feel accepted instead of providing honest and representative answers.

Steps were also taken to prevent confirmation bias which is a form of bias where a researcher uses the respondents' information or study data to confirm a preformed assumption they have. In this study, to avoid this bias, the researcher reviewed the data multiple times to ascertain that the findings and the interpretation do not represent an underlying belief about the VAS program. Also, interview data were used to substantiate

impressions of participants. Triangulation of available data was done to understand the findings. Results were interpreted in comparison with peer-reviewed literature to ensure their trustworthiness. It was difficult to conduct member checking because some participants were illiterate and because many of the participants also reside far away from PHCs. Therefore, arranging subsequent followup sessions for member checking would have been challenging.

Significance of the Study

VAS is a critical intervention that addresses VAD known to be a significant contributor to preventable childhood blindness. Despite the implementation of VAS in Nigeria since 2010, coverage of VAS remains suboptimal, with only 45% of children between 6 and 59 months receiving VAS in 2018 (NPC & ICF, 2019). Information on the factors that promote or hinder the VAS program will guide a proper design of the VAS program and contribute to achieving optimal VAS coverage. Aghaji et al. (2019) recommended the development and implementation of context-specific and practical strategies to reduce inequities in VAS coverage in Nigeria. In Bangladesh, Mostafa et al. (2019) identified the need to explore the barriers to effective implementation of the VAS program. In neighbouring Ghana, Hadzi et al. (2014) recommended the need for caregiver-centered approaches for improving VAS. Also, Marques et al. (2017) reported an inadequate process of communication, information and education aimed at the beneficiary population of the VAS program. Further, Lima et al. (2018) found that in Brazil, nutrition education in the context of VAS did not show satisfactory results. The issues that limits the effectiveness of the VAS program needs to be assessed.

In Nigeria, Aghaji et al. (2019) and Aremu et al. (2010) assessed the coverage of VAS and predictors of VAS coverage. Adamu & Muhammad (2016) also assessed VAS coverage and associated barriers to VAS uptake in Sokoto State, Nigeria. Although the three studies focused on the VAS program in Nigeria, gaps, exist regarding the perspectives of service providers and beneficiaries of the VAS program and perceived facilitators and barriers to VAS uptake.

This research provided an opportunity to explore the perspective of key stakeholders regarding the VAS program. To date, no known study has assessed the views of mothers, community leaders, health workers, and program and policy planners regarding VAS programs. This current study reports findings on the perspectives of critical stakeholders regarding the VAS program and provides insights into the knowledge and attitudes of these stakeholders. The findings can provide useful background information for further quantitative research regarding factors that enhance and limit the use of VAS services. The results can also be helpful in practice to redesign the VAS program or improve communication approaches for the program. The findings of this current study can fill the gap in literature regarding promotional strategies used for the VAS campaign program in Nigeria.

The uniqueness of this research lies in its ability to contribute to addressing neglected aspects of nutrition research which involve understanding how to enhance and expand the quality and coverage of nutrition-specific interventions which include VAS. Primarily, in this current research, gaps in strategies for communicating about the VAS program and VAS benefits were identified. The findings showed that if mothers are not

aware of VAS campaigns, their motivation to ask for VAS is reduced. Also, the challenges of potentially missing out children 6 to 11 months in the current VAS delivery approaches and other weaknesses of the campaign approach were identified. Therefore, the findings should inform the design of a pilot study to assess the effectiveness of the campaign versus routine delivery approaches. Also, the information generated from this inquiry could guide program and policymakers implementing VAS and other MNCHW programs in Nigeria in terms of how to improve the delivery of the VAS and MNCHW program and improve awareness of the campaign and the benefits of VAS among program stakeholders. This study also identified promotional messages, tools, and settings that the federal government planned for promoting VAS. Researchers interested in assessing the effectiveness of diverse promotional approaches for health campaign programs in Nigeria can also find the study useful if they investigate how the planned communication messages and tools are implemented.

Gillespie et al. (2013) argue that to address malnutrition, it is important to understand the causes of malnutrition, have the knowledge of available options for addressing it, and understand the environment and processes that shape political and policy systems. This research contributed information on the providers' constraints in the delivery of VAS and the beneficiary limitations in the use of VAS program. Significant effects on mortality reduction are possible if the majority of the population can access nutrition interventions at 90% coverage. It is plausible to infer that Nigeria is currently not achieving mortality reduction since only 45% of the eligible population access VAS. To improve coverage to the level that can deliver decreases in mortality, demand for

VAS needs to increase. The findings may contribute to positive social change by improving VAS demand and coverage if program managers use the results to guide strategies for promoting VAS. Understanding approaches to increase the demand for VAS is an essential step towards increasing coverage of VAS and eliminating inequities in coverage distribution. This study was able to identify the factors that limit the demand for VAS and the factors that enhance use. Program planners can use the findings to improve the planning and implementation of the VAS program.

Summary

Nigeria has implemented a coordinated VAS program since 1999. Significant efforts of federal government and development organizations like UNICEF and Nutrition International have been in place to promote the provision of VAS through improved supply, training, monitoring, and evaluation. Yet coverage of VAS remains low. However, there are no peer-reviewed studies that detail the perspectives of key stakeholders and beneficiaries in terms of VAS. Enabling factors and barriers regarding VAS uptake have not been assessed. This study assessed the perspectives of mothers, community leaders, health workers, and program planners about VAS using the qualitative case study approach. This chapter is followed by Chapter 2, which includes the literature review. Chapter 3 is about methodology for conducting the study, and the results are presented in Chapter 4. Chapter 5 includes implications of the findings, recommendation for research and practice, and implications for social change.

Chapter 2: Literature Review

Introduction

VAD contributes to about 2% of all deaths among children under 5 years of age (Stevens et al., 2015). Many low- and middle-income countries adopted periodic supplementation with high doses of vitamin A as a strategy to address VAD among vulnerable population groups (Mostafa et al., 2019). Nigeria is one of over 80 countries implementing VAS programs targeted at children 6 to 59 months (Wirth et al., 2017). According to Anjorin et al. (2019), VAS implementation in Nigeria spans more than 20 years. Despite the adoption of nationwide VAS since year 2010, the coverage of VAS is suboptimal and inequitable (Aghaji et al., 2019; Aremu et al., 2010; NPC & ICF, 2014; NPC & ICF, 2019). Kamau et al. (2012) argue that to have an in-depth analysis of what affects the VAS program, the planners and managers must understand specific issues. These include, what caregivers know about VAS, their awareness of the VAS program, their attitude towards VAS receipt for their children under 5, the beliefs about health-seeking, their practices regarding VAS demand and the constraints in accessing VAS. However, it is not clear how service providers and program beneficiaries perceive the VAS program in Nigeria. The research seeks to investigate the perspectives of key stakeholders (clients and service providers) about the VAS program in Nigeria

In this chapter, a review of the current literature, analysis of available research on VAS, VAS uptake, and barriers to VAS uptake are presented. This chapter has four sections; the first is about the search strategy. The second section explains theories and conceptual frameworks that guide the study. The third section is a synopsis of available

literature on VAS delivery strategies and communication approaches with an identification of gaps in research. The fourth section concludes with a summary of the research and knowledge gaps involving the perspectives of mothers and community stakeholders regarding the VAS program.

Literature Search Strategy

A literature search was conducted using Google Scholar to identify articles published between 2000 and 2020 that examined VAS and evidence of its effectiveness and delivery. Full-text articles that were not open access were downloaded from Walden University Library. Search terms are *Vitamin A supplementation, child health days, delivery platforms for VAS, Vitamin A supplementation program, barriers to Vitamin A supplementation program in Nigeria,* and *perspectives on Vitamin A supplementation program. Other search words were maternal newborn and child health weeks, barriers to MNCHW attendance, facilitators of Vitamin A supplementation, challenges of Vitamin A supplementation, caregivers attitude towards Vitamin A supplementation, and health workers perspective of vitamin A supplementation program in Nigeria*. These search words were sometimes used alone or in combination.

A further search was conducted using article references identified through articles. Both peer-reviewed and grey literature (articles not published in peer-reviewed journals such as technical guidelines, manuals, training resources, and dissertation) were retrieved. Materials were also accessed through organizational websites and open access Google searches to retrieve relevant articles, including conference abstracts. Electronic mails were written to some authors to obtain some documents and conference

presentations. All articles reviewed were in English. There is a scarcity of peer-reviewed articles on communication approaches for the VAS program in Nigeria. To address the gap in research involving communication of the VAS program, technical documents and available grey literature were identified and reviewed. In Chapter 3, further details are provided involving documents.

Theoretical Foundation

The theoretical framework for this research is the social marketing framework. Serrat (2017) said the framework has been used since the early 1970s as an approach to planned social change. Kotler and Zaltman (1971) said social marketing is the design, implementation, and control of programs intended to promote the acceptability of social ideas and comprising considerations of product planning, pricing, communication, distribution and marketing research. Kotler and Lee (2009) further identified components that must be considered in an integrated manner when planning social marketing. These include segmenting the population that are the potential focus of the social marketing effort to determine who to focus on first (audience segmentation) and determining the desired behaviour changes expected from the target audience. Others are the barriers to the desired change, the benefits, and the current practices of the target audience and what the audience think about the new idea of behaviour, as well as developing the desired positioning and strategic marketing mix that shows the audience why they need to change behaviour.

The social marketing framework draws from several theories and bodies of knowledge, such as psychology, sociology, anthropology, and communication theory to

develop an understanding of how to influence behavior. Some components of the social marketing theory are derived from the commercial sector and include consumer orientation, exchange theory, audience segmentation, competition, and continuous monitoring (Carins & Rundle-Thiele, 2014). Lefebvre (2011) and Andreasen (2002) proposed social marketing components that are similar to the social marketing constructs which include behavior objective, motivational exchange, and Marketing mix.

One of the social marketing constructs is behavior objective which Andreasen (2002) described as behavioral change and argued that the focus of an intervention is to change behavior. Similarly, Lefebvre (2011) highlighted the importance of desired behavior and argued that the hallmark of social marketing approach is the identification of the determinants, context and consequences of current behaviors, and desired ones, from the viewpoints of the audience rather than from theory or models.

Motivational exchange is another social marketing construct which Andreasen (2002) identified as exchange and stated the need for a consideration of attractive and motivational exchanges in the intervention design to offer target group(s) benefit in return for voluntary behavior change. Also, one construct proposed by Lefebvre (2011) is audience benefit premised on the claim that benefits exist in the mind of the end-user or audience of a social marketing concept. These benefits are often in the form of motivation and aspiration that those who are planning to introduce a social marketing concept must understand and use in designing their marketing approach.

Another social marketing construct is marketing mix which, according to Andreasen (2002) include the use of traditional marketing mix of product, price, place,

promotion, policy changes, and people rather than mere advertising or communications. Also, Lefebvre (2011) consider the marketing mix a combination of price, product and place with a focus on a promotional agenda setting. Lefebvre (2011) argue that in social marketing, the concept of cost is often not monetary, but incentive opportunities or punitive consequences of everyday behavior. Product or services can vary and may include the adoption of family planning commodity or choosing healthier foods. Also, place implies creating opportunities or access to practice healthier behavioral alternatives or discontinue unhealthy ones.

Other social marketing components include formative research which focuses on identifying consumer experiences, values, and need. Also, audience segmentation which guides the design of tailored interventions based on the target group segments. Further, social marketing design process includes an analysis of the forces that may compete with the desired behavior and the design of intervention strategies to minimize the competition.

Social marketing is a technique to analyze, plan, execute, and evaluate programs to influence the behavior of a target audience in a way that is directed towards the change of individuals or communities. Social marketing is a strategic or planning process. Carins & Rundle-Thiele (2014) described it as a systematic application of marketing techniques to change the behavior of people rather than for commercial gains. Newton et al. (2013) said it is centered on the development of campaigns that maximize what consumers or end-users of social marketing objectives consider valuable to them with the aim of enhancing behavior change.

Social marketing has a focus on behavioral objectives rather than educating or informing target audiences. Hastings & McDermott (2009) described social marketing as an audience-centered approach that is used to understand the audience's perspectives on practices and behavior, what their values and motivations or limitations towards the adoption of a behavioral objective are, and how to achieve change in behavior.

Traditionally, social marketing focus on individual voluntary behavior change. Gordon et al. (2006) however argue it can be used to improve health at a broader ecological and policy level. Carins & Rundle-Thiele (2014) also argue that social marketing applies to broader aspects such as the influence of the social and environmental factors on behaviour. This holistic approach which Dibb (2014) and Domegan et al. (2016) described as system thinking social marketing is inclusive of multiple stakeholders and also allows to reinforce rather than replace behavioral change.

The potential of social marketing to address individual-level and population-level behavior as well as that of organizations, and policy-makers makes it a suitable framework for the assessment of the VAS program. The social marketing approach can be applied to promote the adoption of positive behavior relating to demand and receipt of VAS for children 6-59 months in Nigeria.

Helmig & Thaler (2010) argue that the effectiveness of social marketing can be measure through behavior change, intention change, attitude change, knowledge, recall, awareness, and believe. According to Kubacki et al. (2015), social marketing contributes to positive behavioral outcomes in diverse interventions. Carins & Rundle-Thiele (2014) also states that social marketing offers the potential to change healthy eating. Gordon et

al. (2006) found evidence that social marketing has the potential of improving diet, increasing exercise, and substance abuse among diverse target groups and in various settings. Lefebvre (2011) also reported the application of social marketing in reducing many behavioral risk factors in developed countries context. Inoue & Kent (2014) said it is applicable in assessing the effectiveness of interventions designed to influence voluntary behavior changes in health and other broader areas of change. Social marketing may therefore contribute to change in the behavior of a variety of stakeholders such as mothers/caregivers, health workers, program planners, policymakers, and development organizations in this current study. If mothers/caregivers and community members adopt a positive behavior towards VAS, they may increase the demand for VAS for their children or wards. Also, program planners and implementers may promote VAS by making available relevant guidance for prioritization or promotion of VAS. Development partners who adopt VAS may also better incorporate VAS in their program budget and plans.

Review of VAS Program

The following summary of reviewed literature provides a background into VAD and the VAS program. The delivery context of VAS, promotional approaches used to stimulate demand for VAS, and challenges to the VAS program are described. A synthesis of previous assessments involving knowledge, attitudes, and practices with VAD and VAS program is also presented.

Burden of VAD

VAD remains a significant public health challenge in most developing countries. According to Stevens et al. (2015), VAD of more than 20% represents a public health problem. In children, VAD is the leading cause of blindness and visual impairment in children from developing countries (Manusevich & Dadon, 2017). Effects of VAD also include anemia, growth retardation, immune suppression, and broader display of malnutrition with the potential for mortality (Campagnoli & Smiddy, 2016). VAD is associated with increased mortality from infectious diseases (Benn et al., 2015). The consequences of VAD make it a significant public health issue that requires urgent attention.

Danneskiold-Samsøe et al. (2013) reported that the determinants of VAD include season, ethnicity, region, and vaccination status. Predictors of VAD also include intake of vitamin A and age of the child. For instance, there is a 30% increased risk for children without reported vitamin A intake in one year. Also, there is an increased risk of VAD in older children. Other predictors of VAD identified by Shah, Qureshi, & Khan, (2016) include poor socioeconomic conditions, increased number of children per household, lack of proper breastfeeding, and limited consumption of vitamin A-rich foods. Oyunga et al. (2016) also identified the knowledge of mothers and caregivers as a predictor of VAD. In Nigeria, there is limited peer-reviewed literature on predictors of VAD. Adamu & Muhammad (2016) reported poor knowledge of VAD among the majority of mothers who participated in their study in Nigeria. The poor knowledge of mothers about VAD may constitute a risk in Nigeria. Oyunga et al. (2016) reported an estimated 40%

increased risk among children whose caregivers had poor knowledge of VA and nutrition. It is not clear if the predictors of VAD identified in other settings, such as Kenya may apply to Nigeria. There is also a gap in estimating the current burden of VAD in most countries, including Nigeria, due to the lack of recent data on VAD.

There are limited current data on VAD (Wirth et al., 2017). A pooled analysis of population-based surveys between 1991 and 2013 estimates that the burden of VAD is highest in sub-Saharan Africa (48%) (Stevens et al., 2015). VAD control needs to be vigorously pursued in countries in Sub-Saharan Africa with a high prevalence. For instance, the prevalence of VAD in rural Guinea-Bissau is 65.7% (Danneskiold-Samsøe et al., 2013). In Nigeria, the prevalence of VAD among children under the age of 5 years is 29.5% (Maziya-Dixon et al., 2006). Effective strategies are needed to control the high burden of VAD. Such strategies include VAS and large scale fortification of commonly consumed foods such as sugar, flour and edible oil with vitamin A. Another strategy is dietary based approaches to improve consumption of vitamin A. Wirth et al. (2017) stated that VAS is one of the widely implemented VAD control strategies. The adoption of VAS in Nigeria is critical to addressing the burden of VAD among children under 5 years of age in the country.

VAS Program

VAS is a proven safe, and cost-effective intervention to address VAD (Haile et al., 2015). In addition to preventing VAD, Benn et al. (2015) reported that VAS has long-lasting immunological effects. Based on the proven efficacy of VAS, the WHO recommended VAS to be implemented in countries with a high burden of VAD

(McGuire, 2012). Twice-yearly VAS in childhood can militate against VAD; reduce up to 23-34% all-cause mortality in children under-five. Schmitz et al. (2012) also reported evidence that in undernourished settings, periodic VAS may reduce the risk of loss of hearing in early childhood. Imdad et al. (2017) and Ulak et al. (2016) highlighted the recommendation to continue VAS as a control strategy for VAD in high-burden settings. The compelling evidence in support of VAS makes it a proven intervention worth investigating to understand factors that can help strengthen the VAS program. A comprehensive assessment of the VAS program requires a review of the VAS program approach to identify some of the critical success criteria and existing challenges of the program.

Historical overview of the VAS program. Large-scale VAS program was initiated in the 1990's following WHO recommendation to integrate the delivery of VAS into immunization campaign program, NIDs (Horton et al., 2008). Most developing countries have established the VAS program in the last three decades (Arlappa, 2013). Wirth et al. (2017) reported that more than eighty countries globally have adopted VAS. VAS is one of the most successful large-scale nutrition programs in most developing countries, for instance, in Tanzania (Lyatuu et al., 2016). VAS programs have contributed to a reduction in under-five mortality rates (Klemm et al., 2016). A well-developed VAS program can help assure a reliable source of vitamin A intake for children 6 to 59 months (Arlappa, 2013). The effectiveness of VAS relies on the coverage of VAS, which is the ability to supplement a majority of the target population group of children 6 to 59 months of age with vitamin A.

The coverage achieved was set as the indicator for VAS program success (Horton et al., 2008). Kupka et al. (2016) stated that countries continue to improve their VAS program to enhance VAS coverage. Improved VAS coverage is needed to attain the benefit of morbidity and mortality reduction among children. Semba et al. (2010) reported that full protection for preschool children (under 5 years of age) in low-income families in India is difficult unless the coverage of VAS improves. Diverse approaches exist to deliver VAS to children 6 to 59 months. The delivery options for VAS include routine and campaign approaches such as NIDs and CHDs.

Hodges et al. (2015) stated that countries have implemented diverse national VAS program through integration into NIDs and routine delivery through the expanded program on immunization (EPI). VAS is also delivered using campaign approaches, such as CHDs and integrated measles campaigns. Countries in Sub-Saharan Africa and Asia with a considerable burden of malnutrition and micronutrient deficiency like VAD have adopted VAS in varying degrees. For instance, Ethiopia adopted the Enhanced Outreach Strategy (EOS) (Haile et al., 2015). In Kenya, there is a routine administration of VAS to children below five-years (Kamau et al., 2012). In Zimbabwe national VAS program was initiated in the year 2001 and has since been integrated into NIDs and EPIs (Dube et al., 2014). The integration of VAS in polio campaigns was considered best practice in Angola, Chad, Cote d'Ivoire, Tanzania, and Togo (Chehab et al., 2016). The approach adopted usually varies based on the settings.

Similarly, in Nigeria, nationwide VAS has been implemented through the primary health care system and NIDs since 2000 (Maziya-Dixon et al., 2006). The early VAS

program in Nigeria started as a plus to the NIDs. The inclusion of VAS informed a change in the NIDs to National Immunization Plus Days (NIPDs). Despite the potential for increased coverage by integrating VAS into immunization program in Nigeria, challenges faced by the integrated approach called for a renewed strategy. In the implementation of NIPDs, Onimawo and Alo in 2013 identified resistance by health workers to accommodate additional VAS services, and the disparity in the remuneration between health workers supported by WHO and those supported by UNICEF. Other challenges identified were poor training, resulting in incorrect administration of Vitamin A capsule (VAC) by health workers; poor data management, poor micro-plans and poor logistics in the supply of enough quantities of VACs, scissors, wipes and tally sheets.

The polio campaigns (NIDs) helped to achieve relatively high (about 70%) coverage for VAS in most settings. However, the possibility of phasing out polio campaigns is a threat to sustainability. Most countries adopted alternative approaches to institutionalize VAS using existing health system infrastructure. The universal reach of all eligible children with VAS defines the success of the VAS program. Horton et al. (2008) recommended that countries should adopt bi-annual VAS events to facilitate universal coverage, and ensure full protection of children from childhood illnesses. An example of such a campaign event is the CHDs which are a complementary approach to health system service delivery. Compilation of best practices from case-countries shows that countries adopt a diverse approach to ensure a universal reach of VAS. For instance, in Bangladesh two-prong approach that combines the routine delivery of VAS to children 6 to 11 months and CHDs campaign approach to provide VAS for children 12 to 59

months was adopted. Ethiopia also transitioned from EPI to CHDs and now to routine. However, Gatobu et al. (2017) found that the coverage of VAS using the routine health system approach dropped when compared with the coverage using the CHDs approach. Other countries that transitioned from campaign to routine also experienced "nose-diving" in their VAS coverage level; these set of countries are also now adopting a similar approach of combining routine delivery with the campaign.

CHDs campaign is increasingly being adopted by countries to deliver VAS in addition to multiple maternal and child health services. It provides an opportunity to increase the coverage of VAS and helps in specific targeting of underserved population groups who may not otherwise have access to routine health services due to several factors. There has been a dramatic rise in CHDs within the past two decades. Palmer et al. (2013) reported an increase from 2 to 51 countries implementing CHDs from 1999 to 2010. Two rounds of CHDs is considered a very cost-effective service delivery strategy for addressing child mortality in Somali. It is estimated to save 10,000 lives or 500 000 life-years (Vijayaraghavan et al., 2012). CHDs compares favorably with other health-sector best buys and other highly rated interventions in sub-Saharan Africa (Vijayaraghavan et al., 2012). CHDs is also considered an effective way to improve coverage in the short-term (Chopra et al., 2012). The demonstrated effectiveness of CHDs makes it a suitable delivery mechanism for the VAS program and is also adaptable to the recommendation of biannual events to improve VAS coverage.

VAS is a crucial intervention delivered during CHD. Early CHDs were defined mainly by co-delivery of Vitamin A, immunization, and deworming (Palmer et al., 2013).

In recent years, CHDs have evolved and include a range of maternal and child health services such as antenatal care and family planning services. In Nigeria, Akinleye et al. (2017) reported the integration of HIV/AIDS counselling and Testing (HCT) into the bi-annual MNCHW campaign. Also, Korenromp et al. (2016) reported the use of MNCHW campaign for the delivery of micronutrient powder to children under-five. The inclusion of VAS with any delivery strategy has proved beneficial in some ways. Available reports suggest that it has increased attendance of NIDs partly because the availability of vitamins serves as incentives for mothers and caregivers to access services in most developing countries.

CHDs are perceived to raise the profile of child survival and can be useful in places with a weak routine health system (Palmer et al., 2013; Wallace et al., 2012). However, the challenge to its implementation that includes stock-out of essential intervention supplies may create a draw-back in accessing service. In instances where mothers and caregivers manage to get through barriers to health services (long distance to health facilities or transportation cost) and then unable to receive service due to lack of-or limited commodity supplies, it may de-motivate future demand for service

Component of VAS program. VAS delivery programs have several stages which generally include planning, organizing, implementing, monitoring and evaluation. According to Chehab et al. (2016), these stages are in three phases which are campaign planning, implementation of the campaign and post-campaign activities. In the following section, each of these stages are described in detail.

Campaign planning phase. Planning for the VAS campaign program involves all activities carried out by program coordination teams. It includes activities like planning meetings, a consensus of campaign interventions, development of a detailed budget, planning for human resources, training ensuring supplies, planning for transportation and cost of delivery of interventions. Other campaign planning activities include resource mobilization, development of micro-plans, advocacy, and social mobilization activities (Chehab et al., 2016). The success of an effective VAS campaign relies upon well mapped out intervention areas and target beneficiaries. A micro-plan which described the communities to serve, the estimated number of children 6 to 59 months, the number of fixed-site and outreach site to be created to cover the target population provides an explicit mapping. Also, the planning phase marks the beginning of active awareness creation to inform the communities about the dates of the campaign, the location, and the services to be delivered.

Implementation phase. Implementation of the VAS program in most settings usually begins with an official launching ceremony to create awareness about the campaign and inform the population of the benefits of the interventions delivered. The implementation phase also comprises continuous social mobilization activities and awareness creation. Monitoring and supervision of health workers, synthesis of intervention data daily, and review of program barriers and documentation of successes also form part of the implementation phase (Chehab et al., 2016). All activities carried out during the implementation phase have the primary aim of reaching as many of the

eligible target groups with VAS. Actions to mobilize attendance and receipt of VAS are an essential component of implementation.

Postimplementation phase. Post-campaign activities for the VAS program involve the collation of intervention data and reporting based on specified levels and criteria. Sometimes independent surveys are carried out to validate coverage data. Other activities also include post-campaign review meetings to consolidate lessons learned, generate inputs that will help finalize campaign reports (Chehab et al., 2016). Activities carried out post-implementation allows for verification of data, to identify areas that may be underserved and how to plan outreaches to areas where it is possible to miss out many children during campaigns. Post-implementation reviews also help to identify activities to modify to better plan for the subsequent rounds.

Social mobilization component of the VAS program. The social and community mobilization component of the VAS program is essential to the success of the program. It runs from the campaign planning stage through the implementation phase. Social mobilization for CHDs includes activities such as setting up of committees which may comprise political, religious, and traditional leaders. It also consists of a range of services to facilitate demand creation, like communicating the dates of implementation to the target audience. Further, social mobilization adopts multimedia approaches like radio sections, newspaper, and television commercials. Other means of communication are through faith-based institutions (churches and mosque), engagement of a social mobilizer, and the use of the public address system. Mirza et al. (2012) also reported that interpersonal communication between the healthcare workers and the mothers and

caregivers are also used. Other communication approaches used include the use of promotional materials like banners and T-shirts. Also, advocacy to the government and religious and local leaders are carried out (Chehab et al., 2016). It is important to consider the settings and audience when determining the communication approach.

Moraa (2013) indicated that posters, radio, health talks, and public address systems are used to communicate VAS. However, most of these communication approaches happen only during mass campaigns, and very little is done outside the campaign to mobilize the community for the VAS program. Shah et al. (2016) suggested the use of pamphlets, exhibitions, lectures, newspaper articles, film shows, and media to improve VAS. The choice of social mobilization methods to be used for a campaign will vary based on the context, the target audience, available resources and other factors.

Diverse modes of communication are used to raise community awareness about VAS campaigns in different contexts. Janmohamed et al. (2017) found that most caregivers who heard about the VAS campaign in selected African countries were informed by community health workers or other health facility personnel. In Nigeria, 87% of mothers heard about VAS through health facility staff (Uti & Edet, 2005). In Kenya, about half of caregivers heard about the VAS campaign program through a health worker (Clohossey et al., 2014). Community broadcasts using vehicle loudspeakers were also a vital source of information in many countries, including Nigeria (Janmohamed et al., 2017). Other modes of communication may be suitable for health workers who are themselves a source of information. Clohossey et. al. (2014) noted that only 6.7% of health workers recalled that VAS reduces mortality in children, and this knowledge needs

to be reinforced to health workers to promote effective communication. Policy and decision-makers may also require a different communication approach to address the desired behavior change.

The pattern of planning and deployment of the social mobilization approach for VAS in Nigeria is not clear. There is no known published research that explored facilitating factors or barriers limiting the effective scale-up of the VAS program in Nigeria. In similar contexts, knowledge of the benefit of VAS promoted the demand for VAS. Uti & Edet (2005) reported that 99% of mothers surveyed in a health facility-based study in Nigeria had heard about VAS. Dube et al. (2014), Lyatuu et al. (2016) and Thapa (2014) reported that collaboration among development organizations and agencies of government, especially the ministry of health facilitates effective VAS program. Thapa (2014) also found that Strong leadership by the ministry of public health and oversight at the central government level is a success factor in promoting VAS. Other success factors include effective planning and implementation at the district level and all levels; budgetary allocation for VAS at implementation level; and technical assistance (Chehab et al., 2016; Lyatuu et al., 2016; Thapa, 2014). Also, appropriate training of health workers, program communication, robust media support, and advocacy input from the community level to national level are enabling factors (Moraa, 2013; Semba et al., 2010; Thapa, 2014). It is important to understand the facilitators and constraints to effective scale-up of VAS coverage in Nigeria.

Furthermore, Supply of VAC is a core driver of the VAS program. Most countries receive VAS through In-kind donations. Therefore Lyatuu et al. (2016) stated that the

costing for VAS for most countries, include mostly recurrent costs such as transportation, allowance for health workers, reporting, and monitoring cost. However, several facilitating factors identified do not adequately consider the perspective of VAS program beneficiaries.

Barriers to effective VAS programs include limited knowledge about VAD and limited awareness of the benefit of VAS among mothers (Arlappa, 2013; Clohossey et al., 2014; Kamau et al., 2012). Yet low levels of correct knowledge about VAS benefit, VAS dosage, and limited awareness of VAS campaign schedule persist in diverse context, including Nigeria (Clohossey et al., 2014; Helen Keller International HKI, 2016). Reaching children after the age of 12 months when they have completed most immunization also constitutes a challenge. Clohossey et. al. (2014) found that only 28.8% of children aged 12–59 months received VAS compared to 45.7% of children aged 6–11 months, which indicated lower attendance of children over 12 months in routine service delivery. Other barriers to VAS programs include lack of time to access VAS for children on the part of caregivers and mothers, long distance to health facilities and lack of transportation, and lack of screening process for VAS status and improper recording (Kamau et al., 2012). Limited knowledge of health workers regarding the importance of VAS may also affect their ability to improve coverage. If the health worker does not know the benefits of VAS, it is challenging to communicate appropriate knowledge to mothers and caregivers.

Furthermore, inadequate government funding and phasing-out of development partners funds also constitute a barrier. For instance, Dube et al. (2014) found that in

Zimbabwe, there was low coverage of VAS (49%) that followed HKI pulling out of VAS in 2010. Weak or ineffective communication may account for the low level of knowledge and awareness and consequently, low demand for VAS; therefore, this needs to be thoroughly investigated.

Suboptimal (less than 80%) VAS coverage persist in most countries where there is a high burden of VAD. For instance, Haile et al. (2015) found that just about half (54.5%) of children aged 6 to 59 in Ethiopia received VAS. Kamau et al. (2012) also said in Kenya, 52% respondent indicated their children received VAS. Haile et al. (2015) and Kamau et al. (2012) also reported inequitable and regional variation in coverage of VAS. Similarly, in Nigeria, Aremu et al. (2010) and Aghaji et al. (2019) also reported low and inequitable coverage of VAS among children 6 to 59 months. Disparities in coverage by age groups of target beneficiaries also persist (Ulak et al., 2016). For instance, Children 6 to 11 months in Ethiopia are less likely to receive VAS compared to their counterparts who are 12-59 months. In Nigeria, the reverse is the case: children 12-59 months of age are less likely to receive VAS (Haile et al., 2015). Challenge also exist in determining the actual coverage of VAS and variance between administrative and survey coverage report is common (Hodges et al., 2013). To effectively scale-up VAS coverage equitably, program planners need to understand facilitating factors and barriers to VAS receipt in Nigeria.

Factors associated with VAS uptake include the educational and employment status of the mother; being educated and being employed increased the likelihood of awareness about VAS (Kamau et al., 2012). Marital status, religion, place of residence

place of delivery and family size are also important demographic and geographical factors that affect VAS. Children of migrant population group may miss VAS. For example, (Haile et al. (2015) found that the pastoralist regions have limited facilities that are understaffed with poorly organized service. Eligible children in pastoralist communities can miss routine VAS and therefore needs alternative approaches such as mobile health and nutrition clinics. Lack of postnatal check-up attendance, lack of antenatal care attendance, poor wealth index and the lack of maternal working status also accounted for lower odds of receiving VAS (Haile et al., 2015). Kamau et al. (2012) found that the level of education was the only factor that was significantly associated with awareness about VAS schedule. It is essential to consider factors associated with VAS receipt when planning communication approaches for VAS.

Assessment Methodology for VAS Practice and Use

There are peer-reviewed articles and technical reports on the practices of caregivers of children under 5 years old about VAS as well as factors that facilitate VAS receipt. For instance, in Kenya, Kamau et al. (2012) used a descriptive cross-sectional study to assess factors affecting the practice of VAS among mothers of children under-five. In Nigeria, Uti & Edet (2005) evaluated the knowledge and attitude of Nigerian Mothers towards vitamin A-rich food and VAS using a quantitative method. Moora (2013) used a cross-sectional survey design to assess Kenya health service provider factors related to VAS coverage. In FCT, Nigeria, HKI used a randomized cluster Post Event Coverage Survey (PECS) to measure VAS coverage after December 2015 round of MNCHW (HKI, 2016). The survey measured the effectiveness of social mobilization and

communication messages, assessed caregivers' knowledge about MNCHW and barriers to coverage of eligible children.

Study approach. Quantitative and mixed methods involving the use of both quantitative and qualitative approaches were used in the assessments of VAS, knowledge, attitude and practice (KAP). In Nigeria, Uti & Edet (2005) used an interviewer-administered pretested questionnaire to collect data from mothers of children aged 1 to 48 months attending a PHC in Calabar State. Kamau, et. al. (2012) used mixed methods to collect both quantitative and qualitative data on mothers KAP of VAS. Also, Moraa (2013) used mixed methods to assess health workers KAP about VAS. Abdulmalek & Benkhaial (2018), Hadzi et al. (2014) and Mdlalose, 2017 used quantitative methods involving the use of structured questionnaires to assess KAP regarding VAS, VAS coverage and correlate, and VAS coverage and associated factors respectively. Adamu & Muhammad (2016) used qualitative methods to identify themes to update the structured questionnaire for assessing the coverage of VAS and associated barriers among health workers and mothers. Limited qualitative research may imply that only pre-defined sociodemographic variables are used to predict VAS uptake.

Some gaps existed in the available literature. Moora (2013) only assessed health service provider factors influencing VAS and found that poor documentation by health workers, frequent stock-outs of VAC and inadequate supervision by the district health management team accounted for low VAS coverage. However, Moora (2013) did not assess beneficiary factors affecting VAS uptake. Kamau et al. (2012) evaluated the factors influencing VAS among both mothers and health workers in Kenya and found

limited awareness constrained VAS receipt. However, Kamau et al. (2012) did not assess policy and program planners perspective. Marques et al. (2017) used a qualitative approach to identify factors related to national VAS program and social representation and recommended the need to develop/strengthen educational activities for promoting knowledge of VAD and VAS. Marques et al. (2017) stressed that it is essential to determine the descriptions that the VAS program impressed on the beneficiary families, and professionals involved in the program. In Bangladesh, Mostafa et al. (2019) conducted secondary data analysis to identify factors affecting low coverage of VAS. Mostafa et al. (2019) assumed that low likelihood to receive VAS for older children is due to a lack of knowledge of health benefits or perception of the ineffectiveness of VAS, among caregivers. Therefore, Mostafa et al. (2019) recommended the need to use a qualitative study to establish these speculations.

Study participants. Study participants for most assessments of VAS KAP were drawn from clinics and hospitals settings. In Kenya, Kamau et al. (2012) recruited mothers attending district hospital, maternal and child health clinic and paediatrics outpatient department as study participants. In Nigeria, Uti & Edet (2005) also recruited mothers attending PHC as VAS study participant. Moraa (2013) collected data from those who are responsible for the VAS program at the district level in Gucha district of Kenya. Participants in Moraa (2013) study were Medical Officer of Health, Nutrition Officer, Public Health Nurse, Medical Records officer and public health officer. In Nigeria health care workers are also responsible for proving VAS at the PHC level. At the Local government Area (LGA) level in Nigeria the Nutrition Focal Person

coordinates nutrition activities including the VAS program. The perspective of the health team is essential in understanding the implementation structure and communication about VAS at the LGA level in Nigeria.

Sampling method and sample size. Kamau et al. (2012) adopted the use of purposive sampling to recruit key informants (mothers and health workers) for in-depth interviews (IDIs) and focus group discussions (FGDs). Moraa (2013) used cluster sampling to recruit health workers who participated by selecting focal health workers for VAS in health facilities within the district of Gucha. This approach was adopted since the study used a quantitative method and needs to demonstrate the representativeness of the sample. The PECS surveys in Nigeria also adopt the use of cluster sampling technique called 30 by 30 systematic sampling. The sampling technique involves the selection of 30 households where children 6 to 59 months reside across 30 community clusters (HKI, 2016). For studies that used qualitative methods, the sample size was less than 20 participants. For instance, Kamau, et. al. (2012) conducted two focus group discussions with a group of about ten mothers in each group and also completed three IDIs among health care provider and two IDIs with mothers. For this current study, samples from four participants groups, including health care workers, mothers and caregivers, VAS program planners and community leaders were considered.

Variables assessed. In the peer-reviewed literature examined, variables assessed for practice and use of VAS by mothers of children under 5 include sociodemographic characteristics of study participants such as age, education, and occupation of parents or caregivers. Other variables assessed include the VAS status of the child, awareness of the

colour of capsule received by children which was used as a proxy for knowledge of the doses of VAS). Also, service delivery approach through which VAS was received whether routine health facility-based approach or campaign was assessed. Kamau et al. (2012) assessed willingness to seek for VAS, and facilitators and barriers to requesting for VAS. In Nigeria, Uti & Edet (2005) used a 34-item structure questionnaire to elicit information on social-demographic characteristics of participants, knowledge of VAS and vitamin A-rich foods, consumption of vitamin A (using 24-hour recall) and mothers attitudes towards VAS. The PECS survey assesses the type of channels of communications used for MNCHW and which one helped the caregivers to learn about MNCHW (HKI, 2016). Most of these assessments adopted quantitative approaches, but some used a combination of methods (qualitative and quantitative).

Moraa (2013) assessed variables like health workers knowledge about the benefit of VAS, the dosage of VAS, and the frequency of providing VAS. Also, factors like training received by health workers on VAS, the use of tally sheets, the child health card or hospital register to document the VAS program, and awareness creation about VAS were assessed. This current study assessed health workers perspective of VAS program and explored the challenges faced in the delivery of VAS rather than quantitative variables. Available evidence from peer-reviewed quantitative studies provided useful insight in determining the overall awareness of VAS by health workers and mothers in this study.

Summary and Conclusions

VAD constitutes a considerable burden in terms of public health importance, especially in Nigeria. High dose VAS can address VAD, and several countries implement VAS. Continued implementation of VAS is justified. VAS is considered one of the most successful large-scale nutrition programs in most developing countries (Lyatuu et al., 2016), and has contributed to a reduction in under 5 mortality rates (Klemm et al., 2016). However, low coverage limits impact on morbidity and mortality reduction (Kupka et al., 2016; Semba et al., 2010). Despite more than 20 years of implementing the VAS program in Nigeria, coverage of VAS is suboptimal and inequitable. There is limited research that investigates causes of low coverage of VAS in Nigeria. There is also inadequate knowledge regarding how service providers and program beneficiaries perceive the VAS program in Nigeria.

This current study contributes to addressing the knowledge gap involving how program beneficiaries, especially mothers and community leaders and providers of VAS service, perceive the program. Also, the study explored the barriers and facilitators of VAS uptake from providers' and beneficiaries' perspectives. Findings of this study may serve as a preliminary effort towards the adoption of the social marketing approach for VAS communication. The study methodology and tools used to collect data are described in Chapter 3. The chapter also includes a description of how data were analyzed.

Chapter 3: Research Method

Introduction

While VAS has the potential to impact morbidity and mortality reduction, low and inequitable coverage constrain it in the Nigerian context. There are also indications of weak and ineffective communication involving VAS programs in diverse settings. It is not clear why coverage of VAS is low, and perspectives of mothers and community stakeholders regarding the VAS program in Nigeria are not known. There is need for program planners to understand the views of stakeholders, and the barriers and facilitating factors in terms of demand for VAS for children in Nigeria. The purpose of this study was to investigate perspectives of mothers and caretakers of children under 5 years as well as community leaders and health workers regarding social mobilization and communication approaches for the VAS Program in Nigeria. This chapter outlines the qualitative approach that guided the assessment of perspectives of mothers and community stakeholders regarding VAS. The research design and rationale and role of the researcher and methodology is presented in the following sections. Also, issues of trustworthiness are addressed, and a concluding section includes a summary of the study approach described in this chapter.

Research Design and Rationale

This study aimed to understand mothers and community stakeholders' perspectives about the VAS program in Nigeria. The study research questions are:

RQ1: What are perceptions of current stakeholders toward the current VAS program in Nigeria?

SQ1: What are perceived barriers toward VAS program use in Nigeria?

SQ2: What are perceived facilitators toward VAS program use in Nigeria?

A qualitative case study approach was used to explore the concept. Qualitative research includes a variety of methods that involves analysing data that exists in diverse forms such as words, images, and expressions of experiences (Levitt et al., 2018). Case study research involves focusing on a detailed investigation of a unit of analysis as a bounded system over time within its context (Harrison et al., 2017). It allows the study of a phenomenon in its natural setting and involves adopting methods such as document reviews, audiovisual materials, interviews, participant observations, and reports to gather information and explore a concept (Yin, 2011). Yin (2011) noted that relevant case study data often comes from multiple sources of evidence.

The case study design applies to this research for several reasons. Yin (2011) stated that case studies are used to investigate a range of research questions that ask why, what, and how questions. It can guide investigators in terms of exploring, explaining, describing, evaluating, and theorizing about complex issues in their natural setting (Harrison et al., 2017). The case study approach helped to explore the VAS program, providing detailed descriptions and profound insights into the case. Second, a case study allows investigating a topic in its real-world context rather than derived data (Yin, 2011). VAS as a case was explored within the context of the MNCHW delivery platform in Nigeria. While the review of MNCHW documents provided information on the VAS program, conducting original field interviews in this case study research helped to assess

how the VAS program is translated into practice by service providers and how the program beneficiaries perceive the program.

Case studies can be used as an inductive approach to explore unfamiliar phenomena, as an empirical approach to test theories, or to elaborate on a theory (Gammelgaard, 2017). In this study, the case study approach was used to explore the conceptual model of social marketing and possible applications of the framework in terms of promotional campaigns for the VAS program. The results that this case study offers in terms of facilitators and barriers of the VAS program is a first step towards the adoption of a social marketing campaign to promote VAS.

The case study allows for reports of case descriptions and case-based themes. Outcomes of case studies can provide a detailed understanding of behaviors, processes, practices, and relationships in settings (Harrison et al., 2017). Yin, 2011 stated that case study design finds application in program evaluation. The adoption of a case study approach in this current research allowed for review of VAS program document and the interview of VAS program stakeholders to elicit their viewpoints regarding the VAS program in Nigeria.

Role of the Researcher

In this qualitative case study, the role as the researcher is that of a reflective practitioner, which involves conceptualization, design of the research, data collection, and analysis. A reflective practitioner has a broad role that encompasses all aspects of the study from the formulation of the research question and purpose to the dissemination of the final results, including ethics at each stage (Cumyn et al., 2019). The researcher

reflected on the meaning of themes identified from the analysis of the qualitative interviews and how the data answered the research questions.

The researcher experience included supporting the design, implementation, and monitoring of the VAS program in Nigeria since 2008 working with different organizations. At the federal government level, specific roles included policy input and guideline development as well as coordination activities to promote VAS. At state and local government levels, past roles included monitoring the implementation of MNCHW in 20 states in Nigeria. However, the researcher never implemented or supported VAS program at the FCT. In this study, data were collected from participants in the AMAC. The researcher have no previous contact with most of the participants who participated in this study. However, one of the program planners was working at the federal government level during the researcher past job in 2016 as a program officer with Micronutrient Initiative (now Nutrition International). Although, there was no close association, between the participant and the researcher. There is no supervisory relationship with the participant, and the researcher left the Micronutrient Initiative in June 2017 to join another organization. Therefore, there was no contact with the participant for more than 2 years prior to the interview.

To avoid bias during the whole process of the research, the conceptual model for assessment of the VAS campaign developed for this study guided the framing of interview questions. Leading questions were avoided in interviews. The researcher was open-minded throughout discussions and did not interrupt participants if their perceptions differed from the researcher's previous understanding of the VAS program. Interpretation

of findings was solely based on data from interviews. Where there was a likelihood that experiences involving the VAS program influenced the interpretation of findings, there were iterative reviews of available data to ascertain the results. Many participants, especially mothers, wanted to know more about the VAS program following the interview. Therefore, they received information about VAS benefits, dosage, and other relevant information. Some health workers also wanted to know about the researcher's interest in investigating VAS. Therefore, the researcher informed them of experience in managing the VAS program and explained to them the importance of understanding the barriers and facilitators of VAS to guide the government on how to improve the program. Many health workers wanted to know if the information they provided was right or wrong. They were assured that there were no right or wrong answers. Withholding information about the researcher experience until the end of interviews could have helped to avoid possible bias in responses. Due to VAS information provided to the participants after the interviews, member checking was not conducted. There was no undue inducement of participants. Virtual Top Up (VTU) communication recharge of about $3.00 was provided to each respondent.

Methodology

This study was carried out in the FCT, the capital state of Nigeria. The FCT has the structure of governance and diverse population mix compared to the other 36 States in Nigeria. Compared to other states in Nigeria where there are local government areas (similar to districts or counties), the FCT has six area councils. These include Abaji,

AMAC, Bwari, Gwagwalada, Kuje and Kwali area councils (Steve-Edemba, 2014). The capital city of the FCT is Abuja. The study was conducted in AMAC.

Participant Selection Logic

In this study, purposive sampling was used to recruit four participant groups. Purposive sampling is usually applicable to qualitative studies; it is also called judgement sampling. Etikan et al. (2016) described it as a nonrandom sampling technique that involves the deliberate selection of participants based on the qualities of interest they possess. In purposive sampling, participants well informed about a phenomenon of interest, and willing to participate in the study are selected. Random sampling strategy cannot be adapted to this type of research because the participant selected must be representative of the case of interest. One of the guidelines for purposive sampling is to identify a population of information sources and sub-populations (van Rijnsoever, 2017). Considering the concept to be explored, the perspectives of both the providers of VAS services (health workers and program planners) and the program beneficiaries (mothers/caregivers and other community stakeholders) is vital, hence the recruitment of four participant groups.

One participant group were mothers that have children under 5 years of age, who are living in catchment communities of selected PHCs. This group were selected through engagement at the entry/exit of the PHCs. Mothers entering or exiting the PHCs were approached to discuss the research purpose and seek their interest to participate in the study. In the PHCs catchment communities, households with children under-five were identified, and the mothers contacted to request their participation in the study. The

contact details and names of those who indicated interest were obtained for followup. There were considerations to include caregivers such as grandmothers, or other family members if they have direct responsibility for seeking health services for the child. However, all the participants were mothers.

The second participant group were community leaders; they were recruited by contacting the head of selected PHCs to provide information and contact of traditional and religious leaders who are engaged in promoting health services of the PHCs. Contact numbers were randomly selected from the list of community leaders provided. The leaders were reached via mobile numbers, and meetings arranged with them to discuss the purpose of the research, obtained their consents and schedule an interview. The third participant group were front-line health workers who have experience in implementing VAS and have participated in the implementation of MNCHW, the campaign event for VAS. The fourth participant group were policy and program planners involved in managing the VAS program.

An estimated 32 participants comprising of 20 mothers, four health workers, four community leaders, and four national-level program/policy actors were anticipated. However, since some participants did not agree to participate after several followup, twenty-seven participants representing these four participant groups participated in this research. Heterogeneous sampling was adopted in the recruited of mothers. The rationale was to facilitate recruitment of those likely to access VAS services and those who may not. Three FGDs were planned; One FGD with the women group, one with the men

group and one with health workers. However, due to the risk to the privacy of participants and other ethical concerns, the FGDs were not conducted.

Instrumentation

In this research, qualitative face-to-face interviews were adopted as research instruments. The researcher's viewpoints and interviewing style may impact on the quality of data, so the researcher's role as the instrument was recognized. Wa-Mbaleka, (2020) established the role of the researcher as an instrument. According to Cumyn et al. (2019) the researcher also have an important role in the ethical conduct and the need to foster rigour in qualitative research. For instance, the interviewer characteristics such as affirmations, interpretations, neutrality, naivety, self-disclosure may influence participant response (Pezalla et al., 2012). In this study, the interview guide was used to structure participant interviews to minimize the influence of the researcher interviewing characteristics which tends towards probing and tendencies for an explanation. Probes were used when necessary to elicit a further understanding of participant response.

A data collection template was developed (see Appendix A) to organize the communication content of MNCHW documents. The materials evaluated included national guidelines and the training manual for MNCHW. An interview guide was developed and adapted into three similar guides that included specific questions for the different participant groups. The same interview guide (see Appendix B) was used to explore the perspectives of mothers and caregivers, while separate guides were used for health workers (see Appendix C) and program actors (see Appendix D). The interview guide included questions that can help elicit information on the perspectives of

stakeholders on the VAS program, the barriers and facilitating factors for VAS program and the knowledge about VAS. This criteria set-up in the conceptual framework of this current study guided the development of the interview guide.

Data Collection Procedures

The contents of the VAS communication approach in the MNCHW guidelines and training manual was extracted using the set criteria established in appendix A. The summary of the data obtained was presented as narratives. The key informant interview guides developed for this study was used to interview the study participants. Each interview session was planned for a maximum of 90 minutes. However, many participants spent an average of 25 minutes. The researcher conducted all the interviews and recorded the discussions using a voice recorder. Notes were also taken to document essential points.

Data Analysis Plan

The recorded interviews were transcribed verbatim and saved in folders maintained in a password-protected laptop. The interview transcripts were imported into NVivo 12 to organize the data and facilitate the coding process. Descriptive summary of the VAS communication content was reported. Coding was done using a priori codes to aggregate responses to interview questions and then subjecting the aggregated responses to open and axial coding. Open coding is often the first stage in the analysis of qualitative data, and it involves the use of intensive analysis of the data to categorize phenomena that exist. Open coding helps in identifying the main idea of the segment of a data and then use appropriate name (code) to describe it (Vollstedt & Rezat, 2019; Williams & Moser,

2019). Many sensitizing questions like who, what, why, where, when, how are important in the process of open coding. For instance, it is crucial not only to understand who said what, but also how it was said. Attention to issues such as the tone, verbal disposition, and exclamation is important in examining data and conducting open coding. Scott & Medaugh (2017), Vollstedt & Rezat (2019), and Williams & Moser (2019) stated that axial coding involves investigating the relationship that exists between the codes and categorizing related themes. It involves the process of organizing and refining data by engaging in iterative reading, comparison of data, the themes, and codes (Williams & Moser, 2019). In this study, interview data were analyzed to identify the barriers and facilitators to the VAS program and the perspectives of stakeholders. There was triangulation of data.

Issues of Trustworthiness

The interview guide was drafted in line with the available literature to establish internal validity. Simple English that can be easily understood by respondent irrespective of their educational status was used. The Walden University dissertation committee for this research reviewed the interview guide. Walden University Institutional Review Board (IRB) also examined the guide and suggested comments was used to modify the interview guide. Data from the informant interviews of the four participant groups were triangulated and discussed in line with existing literature to ensure the credibility of the findings. There was a varied selection of PHCs and participants across the cluster of PHCs communities to increase the potential for transferability. Interview recordings were

organized in a folder on a password-protected computer, and back-up was stored in an external storage device.

Ethical Procedures

Entry into the PHCs and communities was achieved by presenting a letter obtained from the health department in AMAC, introducing the researcher and the purpose of research. AMAC health department provided approval letters to conduct the study in the selected health facilities. The letters were addressed to the officers in charge (OIC) of the PHCs. The research purpose, methods, and benefits were explained to the officers in charge of PHCs when presenting the approval letters. The OIC of the PHCs permitted the use of selected vacant offices within the PHCs for the interviews. The consent of the OIC of the PHCs was sought to obtain information on catchment communities. Written consents were obtained from all the health workers who participated in this study. At the community level, written consent was obtained from all mothers and community leaders who participated in the study. Participants were assured of the confidentiality of all the information provided. Unique codes were assigned to each participant to maintain confidentiality. The assigned codes were maintained in the naming of the files and all the data related to the participants. The proposal for this study was submitted to Walden University, institutional review board for approval (IRB approval number was 03-08-19-0297266, which expired on March 7, 2020) before proceeding with the data collection. Ethical approval was also obtained from the FCT Health Research Ethics Committee, with the approval number FHREC/2018/01/137/20-12-18.

Summary

This study used a qualitative case study approach to explore the perceptions of stakeholders toward the VAS program in Nigeria. Document reviews and key informant interviews were used for in-depth perspective of barriers and facilitators involving VAS program use in Nigeria. The findings of the study are presented in Chapter 4. Implications of results, recommendations, and conclusions are available in Chapter 5.

Chapter 4: Results

Introduction

The purpose of this study was to investigate the perspectives of mothers and caretakers of children under 5 years of age, community leaders, health workers, and policy and program planners about the VAS program in Nigeria. Specifically, in this current study, communication approaches used to promote the VAS program in Nigeria and overall perceptions of four groups of stakeholders about the VAS program were examined. In this chapter, the study setting, demographics, data collection procedure, data analysis, and evidence of trustworthiness are presented. Other sections include results which include findings of a review of technical documents regarding the VAS program in Nigeria and results of key informant interviews. The chapter was concluded by presenting a summary of the main findings.

Setting

The study was conducted in AMAC, FCT. AMAC comprises 10 political wards which are the administrative units for delineating the LGA. The 10 political wards had an average of five PHCs across each ward. Three wards have fewer PHCs (two PHCs), and others have more (up to 13 PHCs). In AMAC, there were a total of 48 PHCs distributed across 10 political wards based on the most updated list obtained from AMAC authorities in March 2019. For this study, a total of seven PHCs distributed across seven of the 10 wards participated.

Two of the selected PHCs were visited for logistic purposes to understand their structure, distribution of communities served by the PHCs, and how to recruit three of the

participant groups (health workers, community leaders, and mothers/caregivers). Insights from preliminary visits guided the process of participant recruitment. The researcher's understanding from the preliminary visit also informed the decision to interview recruited mothers at approved locations in PHCs or in vacant spaces in their homes.

The state health department, FCT primary healthcare development agency, provided introduction letters to AMAC health department authorities who in turn provided letters of approval and cooperation to collect data in selected PHCs. Subsequently, selected PHCs were visited to secure acknowledgement of OIC of health facilities to use available locations such as conference rooms and empty offices within PHCs. Insights from initial visits to two PHCs guided the recruitment of community leaders. OIC of health facilities provided names and telephone information of community leaders who were contact points for selected PHCs and study participants were recruited from the names provided. The rationale for selection of a few community leaders from a list of names provided was to ensure confidentiality of recruited participants. Mothers who were either exiting health services or entering health facilities to access health services were contacted. The communities served by PHCs were also visited to ensure that mothers who do not attend health facilities were not excluded. The government provides VAS across all government PHCs in the FCT; therefore, any randomly selected PHC should have at least one health worker who is responsible for VAS. Health workers accountable for managing the VAS program or immunization services in selected PHCs were recruited to participate in the study.

Consenting community leaders were interviewed in their preferred locations which include palace offices and empty rooms on personal business premises. Mothers were interviewed in agreed upon locations which included approved vacant offices within health facilities and their homes. Health workers were interviewed in vacant office spaces approved for use by the OIC in respective health facilities. Policy and program planners were interviewed in vacant spaces in their office premises. Participants were provided with VTU communication recharge (up to $3) for their phone lines.

The timing of interviews were initially estimated to be about 60 minutes per participant; however, the actual average interview time was about 25 minutes, and this made it easy to complete interview without participants feeling stressed. Participants were open to respond to interview questions and appeared enthusiastic to share their perspectives. There were no changes in personnel or budget. All interviews were recorded, and notes were also taken.

Demographics

A total of 27 participants (24 females and three males) representing four distinct groups were interviewed. Participants provided some background information which included age, education, occupation, duration of living or working in the study communities, years of experience on the job, number of children and state of origin. The age range was between 27 and 49. Seven participants were civil servants, six were self-employed, and three were unemployed. Fifteen participants had tertiary education which included ordinary national diplomas (OND), higher national diplomas (HND), Community Health Extension Worker (CHEW) and health technology training,

Bachelors of Science (BSC), postgraduate diploma (PGD) and doctorate degree (Ph.D). Three had school leaving certificates (O-level). Table 2 includes background characteristics shared by participants. Dashes were used to indicate where a participant did not provide information. Further, three participants provided information about their states of origin; two are from Kogi state while the third participant is from Delta state.

Table 1

Background Characteristics of Study Participants

Participant ID	Age range	Gender	Number of Children	Occupation	Years of living/working in community	Education
HWKII1	30-35	Female	-	Civil serv.	5	-
CLKII 2	50-55	Male	-	S-employ.	30 (2 as CL)	-
PPKII3	-	Female	-	Civil serv.	8	-
HWKII4	-	Female	-	Civil Serv	6	CHEW
HWKII5	-	Female	-	Civil-Serv	4	-
CLKII6	-	Male	2	-	31 (2 as CL)	-
MCKII7	-	Female	-	S-employ.	3	Stud. Educ.
MCKII8	-	Female	3	Unemploy.	5	Degree
MCKII9	30-35	Female	2	-	6	BSC
MCKII10	-	Female	2	Artisan	-	Stud. Educ.
MCKII11	-	Female	1	S-employ.	4	Phamacy
MCKII12	-	Female	4	P.S worker	10	PGD
HVKII13	-	Female	-	Volunteer	20	Health Tech,
CLKII14	-	Male	5	T.Leader	-	Primary
HVKII15	35-40	Female	-	Volunteer	9	-
MCKII16	-	Female	2	-	5	BSC
MCKII17	-	Female	3	S-employ.	4	O-level
MCKII18	-	Female	4	Unemploy.	2	O-level
MCKII19	-	Female	2	S-employ.	-	Diploma
MCKII20	30-35	Female	4	-	3	HND
MCKII21	-	Female	2	-	5	BSC
MCKII22	-	Female	3	-	3	O-level
MCKII23	-	Female	3	Unemploy.	8	OND
MCKII24	25-30	Female	2	Civil Serv.	4	BSC

MCKII25	30-35	Female	1	S-employ.	5	OND
MCKII 26	30-35	Female	0	Civil Serv.	2	HND
PPKII 27	45-50	Female	-	Civil Serv	10	PhD

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Data Collection

Participants

Key informant interviews were conducted with four participant groups which included mothers (*n* = 17), community leaders (*n* = 3), health care workers (*n* = 5), and policy or program planners (*n* = 2). All participants met inclusion criteria for each participant group. For mothers, criteria were women of reproductive age that have children 6 to 59 months or caregivers responsible for seeking health services for the child, who lives in a catchment community of a selected PHC. All 17 mothers were mothers of their children and none was a caretaker. For community leaders, the selection criteria were being responsible for communicating health programs to their community members and being a member of a catchment community of a selected PHC. The criteria for health workers is involvement or experience in providing VAS in at least three rounds of MNCHW. Similarly, policy/ program actors were selected based on their experience in managing or coordinating the VAS program.

The study recruitment and data collection were initiated after obtaining Walden IRB approval. In-person recruitment was done by contacting participants and describing the study to them to request their interest to participate in the study. Initially, 22 mothers were contacted, two of the mothers collected phone contact to indicate their interest after they have discussed with their spouse.

After three followup calls, these potential participants declined participation in the study. Three other mothers who also indicated interest were contacted by phone call up to 4 times, and they never agreed to schedule an interview. Similarly, two community leaders were contacted three times each, but no interview time was eventually accepted. Followup were discontinued after three to four contact without positive responses to ensure participants do not feel coerced, especially one mother known before the research.

Further, to avoid coercion, after five times contacting three VAS program officers without positive responses, the researchers stopped followup. The researcher knows two of these officers before the study. Therefore, a total of 10 participants were not enrolled because they were not willing to participate in the study.

For the mothers group, the likelihood of having additional information from those who did not participate was minimal since data reached saturation. However, for the policy and program planners, it is not clear if new themes may have emerged. Thus, data from the review of VAS program documents were used to supplement the likely data that policy and program planners may have provided.

All 27 participants completed informed consent forms by providing their signatures. Each participant received a copy of the completed consent form, which include their signature and also signed by the researcher. The consent form provided a summary of the data collection procedure and the confidentiality procedure.

Location, Frequency, and Duration of Data Collection

Data were collected from participants in AMAC. Participants were interviewed in community settings in vacant rooms in their homes when no other member of the family

was around. Other mothers and all health workers were interviewed in approved office spaces in the study PHCs. Data were collected from March 11 to May 27 2019; during this period, most participants were contacted at least two times: during recruitment and interviews. The maximum duration of the interview was less than an hour for each participant; eleven interviews were between 10 and 20 minutes, nine interviews were between 20 and 30 minutes, Three interviews were between 31 and 37 minutes, while four interviews were between 40 and 56 minutes.

Data Recording

In-person interviews were conducted with all participants, and all granted permission for their responses to be audio recorded. Also, notes were taken on essential concepts or new themes mentioned by participants. All audio recorded interviews were transcribed verbatim with the assistance of a transcriptionist who completed confidentiality agreement by providing her name and signature on the copy of the confidentiality agreement submitted to Walden IRB for review. Quality checks were conducted for all transcribed files by listening to the recordings while reading the transcripts. Words that the transcriptionist did not write correctly were edited and cross-checked with written notes. All transcripts were organized in a research folder for this current study and stored in a password-protected computer and external hard drive. All the transcripts were imported into NVivo 12 for Windows for coding. The codes generated were exported from NVivo and stored in an analysis folder for analysis and organization of the research findings.

Variations in Data Collection

The proposed plan was to interview 20 mothers, four health workers, four community/religious leaders, and four national- and state-level program/policy actors to make a total of 32 participants. However, 27 participants comprising of 17 mothers, three community leaders, five health workers, and two national policy/program actors were interviewed. Also, there were plans to engage a research assistant who will take notes during interviews; however, this was not done since it may compromise the privacy of participants. In the approved proposal, three FGDs were planned; one with health workers and two FGDs with caregivers (one male group and one female group). The male caregivers' group were to comprise representative of community leaders, faith leaders, and household heads. The Walden IRB recommended that FGDs should not be conducted since it may pose significant privacy and social risk to participants, and it may not be contributing additional information that cannot be collected using the KII.

Unusual Circumstances in Data Collection

No unusual event was encountered during the data collection. However, some mothers came with their infant and children, and there were instances where the children were playing and making loud noises. The noise interfered with the recording and made transcription a little challenging. The transcriptionist spent longer hours on doing the transcription, and it took long hours to complete the quality check of the transcripts. The note taken during the interviews were used to complete some of the missing words that were not audible in the audio recording.

Data Analysis

NVivo 12 was used to organize the data. As a first step, all transcripts were imported into NVivo 12, separate folders were created within NVivo to store information for each participant group (mothers, community leaders, health workers, and policy/program planners). Also, a research journal was created within NVivo to take notes of thoughts and assumptions that guided the coding and analysis. Paper notes were also maintained to track ideas and thoughts during reporting and when working without a computer.

Coding Process

As a first step in the coding process, a priori codes derived from the conceptual framework of this study were generated. The conceptual model of social marketing effectiveness guided this study. The conceptual framework proposes that five types of constructs are relevant when assessing the effectiveness of the social marketing approach. These include concepts like the characteristics of the existing campaign such as the context of VAS campaign, the target audience of VAS campaign, the channels used, timing tone and focus of the VAS campaign. For this current study, the researcher examined the characteristics of the VAS campaign by conducting a review of the VAS communication component of MNCHW guidelines and training manual.

The second construct of the conceptual framework includes factors intrinsic in the audience like the level of motivation for health-seeking, previous behavior in child care practices and exposure to health care practices. This construct was examined as part of the key informant interviews by asking questions related to practices of demanding for

VAS, and practices of seeking care in case of illness and other related questions. To operationalize the a priori codes; the responses to each question were aggregated by creating nodes that are short forms of the questions.

Thirdly, an element of the conceptual model for this study is that caregivers knowledge of the benefit of VAS, their ability to recall messages about VAS, and other cognitive factors can mediate outcomes such as attitude towards VAS and VAS receipt. The construct was operationalized by including questions on the level of awareness about the benefits of VAS, perceived credibility, ability to recall VAS messages heard, Interpersonal communication between providers and client and Perceived self-efficacy to demand VAS in the interview guide. Participants were asked questions on their knowledge about VAS, the benefits of VAS, Consequences of vitamin A deficiencies. An example of code generated based on this conceptual understanding includes About VAS which was used to aggregate all the responses of participants to the question, What do you know about VAS? Another a priori code related to this variable includes VAS benefit, which also examined the cognitive factors of the study participant. Also, all that participants could recall about what they have heard about VAS was coded as key VAS messages.

Finally, the conceptual construct elaborated included outcome variables like the attitude to VAS program, intention to seek for VAS services, and demand for VAS services. Examples of codes generation based on this concept include demand for VAS, which explored if mothers or caregivers ever demanded VAS on their own. An example

of a statement coded as demand for VAS is where a participant described that mothers come to ask for VAS when their children turn six months old.

In addition to the conceptual framing, the research questions also were considered in generating a priori codes. The aim of this study was to answer the research question: What are perceptions of current stakeholders toward the current VAS program in Nigeria? Two subquestions were used to explore these perspectives.

Subsequently, contents of each of the a priori codes were examined using open coding through an iterative reading of the text to identify emerging themes. Codes were developed within each of the a priori codes based on the emergent themes and the predominant issues. For instance, two a priori codes generated are barriers, and challenges and both represent factors limiting access to, or uptake of VAS. There were 13 sub-theme under the coding barriers. Some of the themes also existed when exploring texts within the coding named challenges. Overlapping ideas were merged and re-coded under the respective sub-themes under barriers. A priori codes and sub-themes that are similar were combined to retain a single code. An example is the code VAS benefit created a priori; all responses where participants mentioned the benefit of VAS aside those mentioned when describing their knowledge about VAS were aggregated.

Further, the open codes were subjected to axial coding to have a more streamlined list of codes. For instance, many themes were identified for the a priori code “VAS benefits. Figure 2 provides an example of how the coding was moved from open coding to axial coding. The open codes related to protecting the eyesight, boost immunity, helps to heal injury, good for the body, helps the body to grow well were all associated with the

concept of the protective health effect of VAS on the body. Therefore, these were coded in the Axial coding category as protect health.

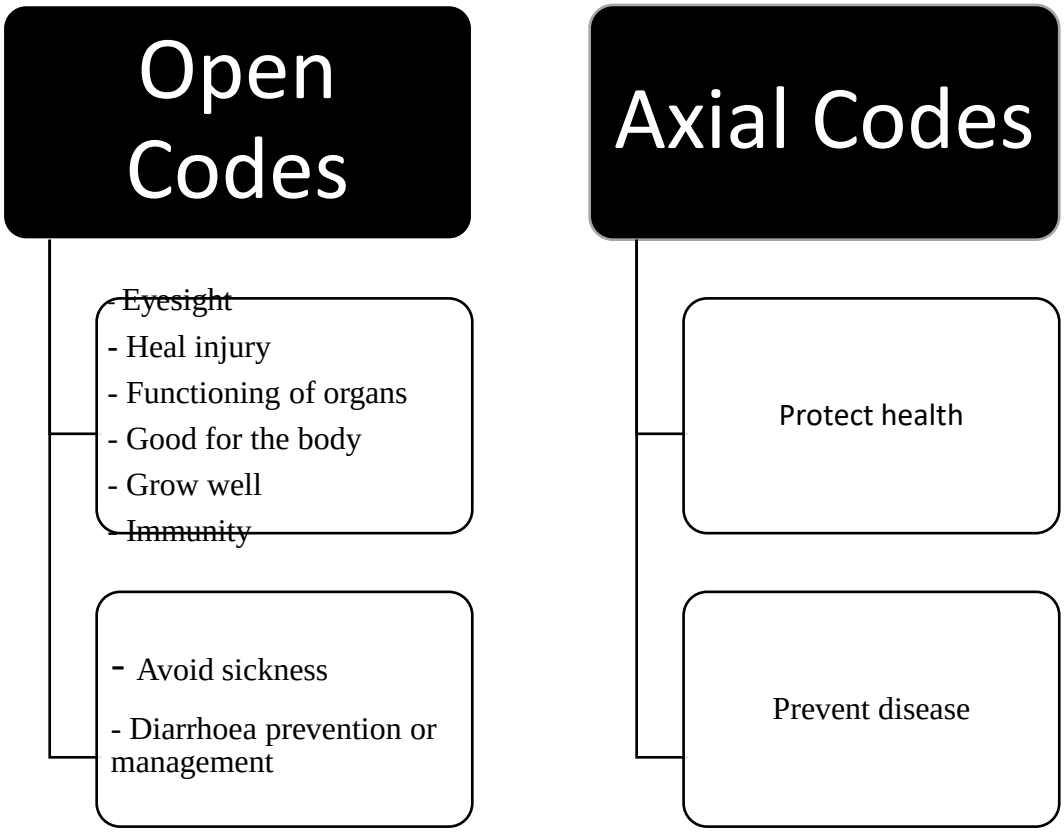

Figure 2. Open and axial coding for apriori code VAS benefits.

Evidence of Trustworthiness

There are different criteria often used to establish the trustworthiness of a qualitative research study. These criteria include proof of credibility, transferability, dependability, and confirmability (Connelly, 2016; Korstjens & Moser, 2018). Anderson, (2017) also stated that these criteria are used in evaluating qualitative research. Connelly

(2016) and Kyngäs et al. (2020) further identified authenticity as the fifth criteria for determining the trustworthiness of research. Authenticity relates to how researchers accurately and wholly express the realities of participants by providing a detailed description of the participant selection and truth. Connelly (2016) argue that authenticity offers qualitative researchers the advantage of describing the deep connotation of a phenomenon to readers. The procedure for the conduct of a research study and the findings must demonstrate rigor that can be relied on and trusted. According to Gunawan (2015) some of the approaches to further demonstrate rigor and trustworthiness is through detailed transcription and systematic plan and coding. In this study, the procedures proposed in Chapter 3 were followed to address the issues of trustworthiness. However, the pilot study was not conducted. Instead, two of the selected health facilities were visited for logistic purposes to guide the recruitment of participants and data collection. Also, FGDs were cancelled due to the likely risk to the privacy of the participants. The following steps were taken to address trustworthiness

Credibility: Credibility implies that the study findings can be linked to reality or confidence in the truth of the results (Kyngäs et al., 2020). Techniques such as prolonged engagement in the field, peer debriefing, triangulation and member checking, negative case analysis and persistent observation are used to establish credibility (Anney, 2014; Connelly, 2016). For this study to ensure credibility, both methods triangulation and triangulation of sources were adopted. For methods triangulation, both document review and participants interview data were examined. The information from documents was used to establish the campaign approach for the VAS program and used to verify the

information provided by the participant groups. Other steps were taken to ensure credibility. The interview guide was drafted using simple English, and included open-ended questions. In administering the interview guide, leading questions were avoided. Despite being familiar with the procedure for administration of VAS and the campaign method, the participants' description of the VAS program approaches was not interrupted. Probing questions were asked to gain further insights into some issues described by participants. Another way to ensure credibility is through peer review (Anney, 2014; Forero et al., 2018). The research proposal and interview guides were reviewed by Walden Dissertation Committee to establish this criterion. The suggested approach for data analysis by Walden dissertation methods expert was adopted to ensure that the full themes from the study findings were fully explored rather than relying on a priori codes.

Further, theoretical triangulation described by Farquhar & Michels (2016) and Flick (2018) as using what is established in theory to analyze the data to identify possible alignments was conducted. Also, previous perspectives from peer-reviewed literature on the facilitating factors and barriers to VAS uptake were used to interpret the findings. Verbatim transcription was done to facilitate the full exploration of issues and themes. Member checking is another approach that could have been adopted in this study. However, Koelsch (2013) stated that member checking is of limited application where the participants have a low level of literacy. In this study, some of the participant groups, especially mothers and community leaders, were not literate, so this method was not adopted. Also, VAS information was provided to many participants as part of the final

session of the interviews. The likely influence of such information on improving awareness about VAS makes member checking unsuitable.

Transferability: implies that there is a possibility that the study finding is applicable in other settings or context (Korstjens & Moser, 2018; Kyngäs et al., 2020). According to Anney (2014), transferability is established through a detailed description of the enquiry, and purposive or theoretical sampling. In this study, purposive sampling was used to recruit participants. To contribute to transferability, the selection of PHCs and recruitment of participants included both urban and rural locations. There was a varied selection of participants across clusters of PHCs communities. Mothers were approached at community levels and the entry/exit of the PHCs to ensure recruitment of likely users and non-users of the primary health care. The rationale was to elicit responses that are not biased towards a particular socio-economic group within AMAC.

Further, participants provided background information such as their age, educational background, duration of stay in the community, and if health workers, how long they have been working in their facilities. This information may further guide the application of the findings to other settings. A detailed description of the research purpose, and procedures, study settings, data collection and additional information that can guide readers understanding of how to apply the research was provided in chapters 1 to 3 and previous sections of this chapter. However, the findings of this VAS study applies to AMAC, FCT and may require further research before applying it to other settings.

Dependability establishes that a research study is consistent with the raw data collected and repeatable (Korstjens & Moser, 2018; Kyngäs et al., 2020). Dependability is established through several techniques such as an inquiry audit of the research study by a third-party, peer examination, audit trail, stepwise replication, and code-recode strategy, and use of process log (Anney, 2014; Connelly, 2016). In this study, dependability was established by providing a full description of the research procedure at every step from research design to the reporting of the findings and the recommendations. All interviews were recorded, and the verbatim transcripts were kept intact. Further, journal and notes were maintained during data collection and analysis to record valuable insights gained during data collection and analysis. An iterative process was adopted for the coding, and separate exported files were maintained for each code to facilitate continuous analysis while writing. The contents of each code were read iteratively at every stage of the investigation, writing, and interpreting the results.

Further, for the researcher to understand the tone of some statement, the recordings were examined during analysis. Inquiry audit was not conducted for this study because it was not proposed and may infringe on the ethics of protecting the confidentiality of information provided by participants. However, the records of the interview transcript and recordings are maintained for an audit if required. Connelly, 2016 argue that while dependability refers to the stability of the data over time, in a study evaluating a public health program, the conditions may change. Therefore, future studies should consider the settings and process of this present study.

Confirmability is the criterion of trustworthiness that demonstrate that the research findings represents the views of the participants rather than the potential biases of the researcher. Some of the techniques for establishing confirmability include audit trail, reflexivity, and the use of methodological memos (Anney, 2014; Connelly, 2016). The researcher's experience in implementing the VAS program in Nigeria since the year 2008 was described explicitly in chapter 3. To reduce the potential for the experience to bias the research, interview guides were developed with a focus on the research questions. Further, open-ended questions were asked, and the participants were not aware of the researcher's experience until the end of the interviews. Withholding the researcher's knowledge of the VAS program and assuring that participants, there is no wrong or right answers facilitated free and open discussion of their viewpoints without fear of judgment. The data analysis section of this chapter includes a description of the coding procedure and the selection of themes. Themes that resonated with the researcher's existing belief were examined properly through iterative reading and reflection on the analysis process. An example of such a theme was "not-routine." To avoid bias, the context in which participants mentioned statements that describe the theme was examined, the frequency of mention by diverse participants was also assessed. The theme was retained because the concept had thick spread within the data collected, especially among two participants groups (health workers and mothers). All interview recordings and transcripts were kept in a folder on a password protected device. The files are available for further analysis if required and if it aligns with Walden IRB

requirements. Some quotes were used to substantiate some of the analytic findings; there was a minimal modification of quotes except grammar editing.

Results

In this section, the findings of the review of VAS program documents; the VAS communication approach detailed in the national MNCHW guidelines and training manual were described. Further, the main findings of the analysis of data from the interviews held with 27 participants across four participant groups (mothers of under-five children, community leaders, health workers, and policy and program planners) were presented. The central research question explored was: What are the perceptions of current stakeholders toward the current VAS program in Nigeria? Two sub-questions were used to explore these perspectives: What are the perceived barriers and facilitators toward VAS program use in Nigeria? The findings from the participants' interviews were reported in line with the research questions and the themes related to the research question. The findings of the sub-questions were presented first, followed by the results of the central research question.

Communication Approaches for VAS Program in Nigeria

The national strategy for the delivery of VAS is through the bi-annual MNCHW campaign. MNCHW guidelines and training manual were reviewed for the contents of VAS program delivery with a specific focus on the planned communication approach for promoting VAS. VAS is part of the core package of interventions delivered to children 6 to 59 months in Nigeria. One of the vital information and messages during MNCHW is that Vitamin A fights/prevent diseases, protects lives, and is good for a child's

eyes/vision. As part of the social mobilization campaign, the desired behavior change is for mothers or caregivers to take a child aged six months to five years of age to get VAC at the nearest health facility or outreach site during MNCHW. VAS message is promoted as part of the comprehensive communication for MNCHW. Other messages include the date and time of MNCHW services, duration (8 am to 4 pm every day for five days), and the location of the health facilities rendering the services. Other messages are the frequency (every six months) of implementation, available services, the benefit of the services, population groups, or target beneficiaries for each of the services.

In the MNCHW guidelines, several communication channels were planned for promoting key messages about MNCHW. The channels include the use of handbills, posters, and banners. The guidelines indicate that handbills should be distributed to community members before and during the MNCHW. Posters and banners can also be displayed at strategic locations in communities, for example, at major junctions and public places, and the health facilities. Other approaches proposed are dependent on delivery settings. Suggested settings for providing information about MNCHW include household-based, community-based, religious institution-based, health facility-based, school-based, and different settings suitable to reach the beneficiaries.

In household-based settings, suggested communication approaches planned in MNCHW guidelines include health education sessions during house-to-house visits often by health workers or community social mobilizer. In community-based settings, approaches such as community dialogues, town-announcement, house-to-house community mobilization, various activities targeting local leaders such as traditional

rulers and religious leaders, video shows, puppet shows, healthy baby shows, and street dramas were itemized in MNCHW guidelines.

Religious institution-based approaches listed in MNCHW guidelines include the use of mosque/church flyers, mosque/church announcements, sermons by imams/clergies, engagement with women's groups, men's groups, and youth groups. Health facility-based approaches include health educational sessions, distribution of health promotion materials, display of posters and other IEC materials at the health facility, and enlisting MNCHW participants as advocates for further mass mobilization. Also, at health facilities, special opportunities like antenatal consultations, postnatal consultations, including immunization visits, and waiting rooms in health facilities can provide opportunities to communicate about MNCHW. Also, school-based approaches include rally, debate, sports competition and fun-fair. Other settings include networks of communicators in health and local non-government organizations.

Cross-cutting approaches for communication scheduled in MNCHW guidelines include MNCHW launching and flag-off ceremonies, press conference, and TV or radio talk shows. Other approaches planned include organized community groups such as cooperative societies, women's associations, development associations, football clubs, cinema clubs, and youth clubs. Other groups include transport unions such as the national union of road transport workers (NURTW), national association of road transport owners (NARTO), and Okada riders association. Also, engagement with schools, including quranic and nomadic schools, teachers, leaders of social clubs are planned.

Others cross-cutting approaches include rally, national and local radio, television and newspapers, use of static and mobile public address systems, and word of mouth were planned. Also, dissemination of MNCHW information in public places where mothers can likely be reached, such as markets, motor parks. Further, use of billboards, banners, posters, handbills, and announcement in stadia as well as communication about MNCHW during special opportunities like pre-school consultations, wedding and naming ceremonies, and communal festivals was also planned.

There were contents content of VAS in the MNCHW guidelines and training manual reviewed. These contents include messages for promoting the benefits of VAS and how mothers or caregivers can access VAS for eligible children. Other contents were indicators for assessing the uptake of VAS during MNCHW, which is the proportion of children 6-59 months that received vitamin A in the last MNCHW. It is expected that this indicator is disaggregated by age groups of children 6-11 months, and 12-59 months, and by gender (male to female ratio). Despite the contents on VAS promotional messages in the MNCHW guidelines, further assessment is required to determine the effectiveness of the delivery of the VAS messages. In the following section, findings of interviews with stakeholders to assess their perception of the VAS program and possible message recall is presented.

The interview findings provide insights into how the planned communication approaches and the guidelines for the delivery of the VAS program in Nigeria are implemented in AMAC. The findings of the sub-questions and related themes were presented first, followed by the results of the central theme.

SQ1: Perceived Barriers to VAS program Use in Nigeria

SQ1 is: What are the perceived barriers to the VAS program use in Nigeria? Several themes regarded as barriers to use of VAS services were identified. These themes included lack of awareness, ignorance (closely related to lack of awareness), caregivers' attitude, and religious or cultural practices. Some believe there is no barrier to the VAS program. Participants also identified other factors like limited availability of VAC, Not being routine delivery and factors related to the provision of VAS. Other obstacles to VAS uptake are distance, caregiver's absence, financial barrier, ill-health, and past times.

Many participants believed that lack of awareness is a significant barrier limiting VAS program uptake in Nigeria. When asked to identify factors that will make a child not receive VAS, there were so many references to the lack of awareness by participants from the four study groups (mothers, community leaders, health care workers, and program/policymakers). Study participants opined that lack of awareness could be due to so many factors. Factors identified include limited access to information on the VAS program by mothers, especially working mothers and those who have to go for farming activities. According to HCVKII15:

> Maybe lack of awareness, if you did not go out and tell them that something like this is happening, they will not come because here they go to their farm in the morning; but if you meet them, and you tell them, once they know the importance, they will not miss it.

Likewise, MCKII12 said:

> Whenever they give these drugs, some working mothers may not be aware. Like the last time I collected for my child, I was not aware; I just went to the hospital for a different thing, and I discovered they were giving the Vitamin A. I was at home, but I didn't hear anything.

Further, she emphasized that working mothers who leave for work early and return late may not be aware of the implementation of vitamin A distribution. She indicated that mothers who are often indoors and full-time homemakers might also not be aware. MCKII16 reinforced this perspective by noting that sometimes when working mothers get the information, they may not have the time to take their children or wards to receive VAS. Also, another group of stakeholders that may not be aware of VAS and therefore restrict access to VAS are primary school authorities. MCKII12 indicated that if the health workers did not go to school to create awareness, most pupils in such school might miss the opportunity to receive VAS. MCKII8 noted that those who live in villages might not have information about VAS. She further stressed that unlike in the city where people may have neighbors who can inform them, those in communities might not.

Another closely related concept is ignorance, which was used by some participants to imply not been aware of VAS implementation, and by others as not knowing the importance of VAS, and thus mothers not demand VAS. At least four participants (PPPKII3, HCWKII5, MCKII11, MCKII21) shared this perspective. PPPKII3 said:

> First is ignorance of the program of the MNCH week implementation, being ignorant that VAS administration is ongoing. Ignorance of the benefits of Vitamin

> A, I would say yeah, it's ignorance because I don't see anyone that will know that this thing is good for him and then not do.

Equally, MCKII21 held that ignorance is a limitation. According to her, because some do not know the importance of VAS or its benefits, they may not be interested in accessing VAS for their children. She indicated that ignorance is the resultant effect of a lack of education and enlightenment campaigns.

While the perception of lack of awareness seems to dominate, in a somewhat isolated view, MCKII22 held that in her location, awareness should not be of concern, as people will be aware of the VAS program one way or another. MCKII22 indicated that a parent could not claim that they did not receive VAS for their children due to insufficient publicity. In a somewhat similar view MCKII8, shared this viewpoint and said those in the city would be able to hear about MNCHW campaign either directly or through their neighbors. However, according to MCKII8, mothers living in villages may not have information about the campaign.

Many underlying factors seem to influence the widely perceived lack of awareness. These factors include the limited promotion of VAS information at health care contact points such as antenatal care or immunization contacts. MCKII25 said:

> I did my own antenatal here, but I didn't give birth here. After giving birth, I never heard about it; I only see the logo maybe on sugar and all those things, I didn't really know what it was and what it stood for. So we were not really informed. Even when I started immunization, nobody told us that your child needs

> Vitamin A. Even if we can't give it to you here, you can go somewhere else and get it or pay for it. It is very important, and nobody told us.

In referring to the eye logo placed on mandatorily fortified staples, including sugar, to indicate the presence of Vitamin A in the product, MCKII25 said, "Or first I was thinking, let me be sincere, I thought it was an Illuminati sign."

Fourteen participants identified caregivers attitude as a factor that can make children miss VAS. Participants used words such as lack of seriousness, carelessness, suspicion, rejection, and acceptance to describe caregivers' attitudes. HCWKII1 said:

> Anywhere, when you have the serious, you always have the anti-serious. So those anti-serious, they don't care let him take or don't there is not any problem you understand? To me they didn't they don't just attach anything to it, it's lack of seriousness cos even the routine immunization some mothers wouldn't come once you will force, force them. Maybe they will take BCG after they take Penta 1 before you understand they won't come again. They come when they want to, you understand? So I don't think there is anything attached to it because no one collects money for you to say it's because you don't have money; no, it's free, very free.

The attitude of not showing zeal towards child survival services was also described by some participants to imply carelessness. MCKII22 said that it is only a careless mother that will claim not to be aware of information about VAS program when it is implemented. According to her, once there has been an announcement about VAS and mobilizers have gone house-to-house, if you don't have a neighbor you must

undoubtedly have a friend that will inform you. In her instance, she often informs her neighbors that were not around when announcements are made. She informs them when she is taking her own children to the health clinic and, and often, the neighbor would take her children to receive the services. MCKII7said, “There are some mothers that they are careless, they don’t even bother that they are giving something in the hospital.” MCKII24 indicated that carelessness might be with regards to mothers who heard the information but took it for granted based on the perception that the government did not provide VAS in their younger years, and they are still alive. While participants, especially mothers, described the careless attitude of other mothers that they know, it appears that some of these participants on their own have a positive attitude towards VAS.

MCKII7 narrated her effort to ensure that her child receives VAS during the last supplementation. According to her, she was not sure if the health workers will get to her child’s school. Thus, she followed the health care workers and requested that they kindly give her the supplement so she can supplement her child when she returns home. She indicated that the health worker gave her a capsule and told her to ensure she provides the child with the supplement. When probed if she is sure that the child does not receive an additional dose, MCKII7 indicated instructing her child not to collect the VAS if provided in his school and she explained to the child that he should let the teachers know he already received the supplement. MCKII10 was of the view that every mother should collect VAS for their children because it is from the government; therefore, people should know that it is perfect for children. In her opinion, she sees no reason why any mother will say there is no time to go and request for vaccine or supplement for a child. She said:

> I don't see any reason why you will say okay there's no time for you to come and collect the vaccine, once they saw the vaccine, just try, by all means, in fact, if you can just suspend or leave your work sometimes, just make sure that your child is fine and okay.

Likewise, MCKII25 did not think any parent will intentionally not want to give their children vaccines that will help them. Although many participants indicated that the rate of acceptance of VAS is high, some participants still noted that some parents might refuse or reject VAS; thus, their children will miss VAS. MCKII23, for instance, referred to a particular ethnic group where the women may likely refuse VAS. She said:

> Some people like all those Hausa people, some of them don't like receiving that Vitamin A, they will say they don't like it for their children, some of them use to refuse. They will say they don't like it; they don't use to give their children all those hospital things. There's one woman that use to stay here; they came, immunization people came that they want to give her children, she said no that she wants to inform her husband before they will give her children. I told her that there is no problem, this thing is good for our children, that's why they are giving our children, she refused to collect it that day.

It is not clear if the refusal by the woman described by the participant is based on personal attitude or entrenched in other religious or cultural issues or other factors. MCKII23 further iterated her disapproval of such an attitude:

> What kind of permission is that? Are you a, she's illiterate, that's why. If not, something that is good for your child, you will say you want to take permission?

> Somebody cannot just come and say he want to poison your child like that or that kind of thing.

This statement suggests that the level of education of the mother described by the MCKII23 may also play a role in the attitude exhibited towards VAS. MCKII24 indicated that illiteracy might be a barrier. MCKII23 further restated “but her children use to be sick now, she use to take them to the hospital”. When also probed, if the woman then requires permission to take the children to the hospital, the participant indicated that the woman’s husband is often around when she takes the children to the hospital. In the instance described, the attitude of the mother may be due to husband disapproval or the need to seek permission from the husband. However, the account by the participant did not provide full insight to make any conclusion. HCWKII5 said, “Then there is also this Islamic mosque; then we have some Fulani settlement you understand, that will also tell you, ‘No, we don’t want’. So these are some of the few challenges that I feel is affecting the program.”

HCWKII5 statement further suggests that there may be some features of religious, ethnicity or cultural influences influencing the attitude towards VAS uptake. Although when probed, the majority of participants said there are no potential religious or cultural barriers limiting VAS uptake.

MCKII9 provided further insight into why a mother may refuse to take VAS for the children. According to her, fear as a result of limited knowledge may account for why some parents may refuse VAS. The fright is premised on the assumption that providing

their children with drugs or supplement they do not know much about might not be safe. She said:

> We have some people that if you tell them the importance of Vitamin A or other vaccines, they will say No I don't want, it is "juju" that you want to bring to my child, don't bring it, don't let my children. Let me say the individual's view towards a particular thing. If I say I don't want, I don't want. Why do you force me?

The word "Juju" implies something fetish, so the participant opined that some mother perceived VAS and other vaccines as a charm. Therefore, nobody can force them to receive it for their children. Rejection of VAS in this context is rooted in the suspicion that VAS may not be safe for a child. HCWKII5 further echoed the perception of doubt by caregivers she said,

> You know we live in a world where everything is suspected; if you give my child this thing now, my child will grow up and will not be able to become pregnant, or my child will be growing slim, my child will not be eating. These are the misconceptions the people still have.

Again, the attitude of a unique group of stakeholder (school authority) who appear relevant to the VAS program also seems to affect the program negatively. Some schools may reject or refuse to allow health workers to provide VAS to pupils. HCWKII1 stated

> For some schools of which even the parents are requesting, but the school because one or two persons say my child should not be given this, they might refuse. So if

> the parents didn't take them to the clinic or facility around, you see, those children will miss it.

HCWKII5 stated,

> We still have rejection for Vitamin A; there was a school we went to, the school will tell you, and the teachers these are people that know of Vitamin A. Had it been they don't know, if they still have issues with Oral Polio, not Vitamin A because it has been in existence, it's something that is part of their syllabus, and we say they are going to get VAS. This is a capsule that has never changed its colour or shape since the time I knew it; the school tells you they said the parents said NO. Meanwhile, they have not been able to disseminate the information to the parents of the children. They draw their conclusion and say we don't want because they feel you are coming to disturb them or distract their time in school.

As earlier mentioned by MCKII12, a mother of under-five children, lack of awareness by the school may result in refusal to allow supplementation. MCKII12 linked the poor perception of schools to lack of sensitization by the health workers.

Another attitude identified include the perception that VAS is not related to health or survival. People with such attitude assumes that the government did not provide VAS in the past, and people did not suffer any negative consequence. MCKII16 said "Some people may not know the importance of it, they say I beg all those their immunization when we were younger, we didn't take it, and we are surviving kind of belief."

Also, MCKII24 said,

> Some mothers will tell you, in my time was I immunized? Am I not still living? In your time you were not immunized, but remember it's not the thing people are eating now, that's not what you people ate that time, So you cannot compare the system of now to that time.

MCKII21 stated "Some people, when they say go and give your child Vitamin A; they will just see it as a common thing, I can live without that." Participants attributed the attitude of mothers that suggest that a child can survive without VAS to negligence on the part of the mothers. MCKII23, MCKII24 and MCKII18 opined that the level of education seems linked with the attitude towards VAS uptake. They indicated that illiteracy or lack of knowledge might be a barrier to VAS uptake. Apart from the account of an illiterate Hausa neighbor earlier described by MCKII23, MCKII18 also said, "VAS is very important, except the parents are not aware or maybe the person is not educated like you know some people, they still need people to tell them." Other references to education aside educational status include health promotion and educational information about VAS.

MCKII21 recalled that in the past, people rejected immunization. However, with an increased level of awareness, people now recognize the importance of immunization. In the same way, many people currently do not accept VAS because they are not aware of the significance. However, if people are well educated on the benefits of VAS, in her words, "People will pick an interest, wherever they say Vitamin A, people will rush and go and give their children Vitamin A." PPPKII3, who is a VAS program manager, offers

a unique perspective that some people can get discouraged because of the behavior of health workers, especially concerning poor interpersonal communication.

Participants were probed to identify if any religious or cultural barrier exists that may account for why some children may miss VAS. There was a mixed opinion among participants, why some are certain, that no form of cultural or religious limitation towards VAS others perceive that some pocket of religious or cultural influences exists. Some health workers (HCVKII13, HCV KII15, and HCWKII4) indicate that rejection due to cultural or religious reasons is not common with VAS. Instead, they feel only oral polio vaccination have such reported cases. Some mothers (MCKII18, MCKII19, MCKII20) also do not think that religious or cultural barriers exist with regards to VAS; they feel that VAS is essential.

MCKII23 however described a scenario of VAS rejection by women from the Hausa ethnic group that may be indicative of cultural barrier. Also, MCKII8 suggest that some religion does not want their children to be immunized but rather believe in local herbs. It is not certain if such perspective has any influence on VAS acceptance. Similarly, MCKII9 mentioned that some religion does not like to take drugs, but rather just trust God for their health and that of their children. She said, “Like some religion that they don’t take drugs, so they say they just believe in God that He will do everything. So because of that, they don’t take anything called drugs either to their children or to themselves.” PPPKII3 stated that cultural barriers may exist for VAS and requires getting the involvement of the male. She said that sometimes the man might know that receiving the services is right but will insist that the woman cannot go if he does not approve.

No barrier. Many participants indicated that they do not see any significant reason why people will not receive VAS for their children. CLKII14, who is a community leader, stated that there are so many illnesses around the community. Therefore, anytime the hospital staff informs him that there will be a VAS program, the community members always respond with a high turnout at the delivery sites and also at the health clinics. His perception is that people do not reject VAS. Likewise, CLKII6, another community leader perceives that people need to take VAS to be healthy and doesn't think that any factor will make people reject VAS except those who do not know the benefits. When probed if there are cases of rejection for VAS most heath workers (HCVKII13, HCVKII15, and HCWKII4 indicated there are no cases of VAS rejection. Also, some mothers believe that nothing should make a child miss VAS. MCKII17 perceives that VAS has a lot of benefits, so nothing should be a barrier to receiving it. MCKII18 also feels every eligible child is supposed to receive VAS. MCKII7 also believes that nothing should make a child miss VAS except in instances where the mother does not followup on the supplementation program.

Limited VAC availability, nonroutine delivery of VAS and nonpayment of stipend to health workers were also perceived as barriers. The three factors are concerning the provision of VAS rather than the demand for VAS services. Participants, especially the health care workers and volunteers considered these factors as challenges of VAS program as well as issues that can make a child miss VAS.

The limited promotional campaign, nonpayment of allowances affected the provision of VAS. CLKII2 identified the need for the government to be more committed

to VAS delivery, according to him health facility services are the right of the citizen, and the government needs to do the needful for the citizen. MCKII2 also said the government needs to educate people on the importance of VAS. Other provision challenges identified also include the lack of allowance and stipends to health care workers and volunteers and lack of accountability for VAC. Issues of stipends are discussed extensively in a subsequent section on the perceptions of healthcare workers.

Some health workers (HCVKII15, HCWKII1) emphasized that the issue of nonpayment of allowance during MNCHW campaign is a significant challenge for VAS program delivery. According to the participants, MNCHW is a bi-annual program implemented for five days in each round. While it may be easy for the health worker to participate without expecting allowances, inviting a volunteer to participate in the program may prove challenging if no transportation allowance will be provided for the team to visit schools and other outreach sites like markets. The health workers echoed the fact that lack of stipends has discouraged a lot of people from volunteering to provide services during MNCHW campaigns. Health workers stated that volunteers are often denied the allowances due them. The failure of the government to provide the required stipends have affected the trust between the health workers and the volunteers who sometimes feels that the health workers withheld their allowances.

Another issue identified is accountability for VAC. One health worker perceived that VAS was removed from the immunization schedule because it was not used for the intended purpose. HCWKII5 said, “It was withdrawn from the system because all of a sudden they found out that people were using it in the salon using it for other purposes

other than the purposes it was meant for." PPPKII3 also mentioned the challenge of accountability. She held that there is currently no accountability framework at the national level to ensure that Vitamin A provided are of good quality. She said, "During one of the MNCH weeks, one of the supervisors sent to the states discovered that Vitamin A that was provided had expired."

She further reiterated that there are no quality checks to determine if VAC capsules are expired or viable and no test to ensure that what is given to children are of high standards. She also mentioned that at the state level, there is no way to determine if VAC is used as intended. She further stressed that the accountability mechanism from the states to the national is weak and remains a challenge, she described the government effort to leverage on the success of immunization program in Nigeria to strengthen the supply chain for VAC. Another challenge or barrier mentioned by PPPKII3 is over-crowding of the health facilities or delivery sites. She said:

> Some people may be there, and probably the crowd is so much, and the environment is not conducive, and they are like let me just go, maybe next time I will come and get it. So I would say those are the major barriers.

A theme that seems to recur unanimously among participants who are health workers is the need to make VAS routine so that when mothers bring their children for immunization at 6-month contact, the VAC will be available to supplement the children. HCVKII13 stated that because VAS is not provided as part of the routine schedule, the capsules are often not available. Even if mothers go to another facility, they will still experience the same problem, because the capsule is not available in every health clinic.

HCVKII13 who later discussed further off the record indicated that even when VAC are available, sometimes they do not provide it to clients simply because there is no arrangement for routine supplementation. According to her, sometimes, the capsules expire and need to be discarded. She considers this to be a waste, especially when mothers come to demand VAS and are turned back and made to return empty-handed without receiving the service. PPPKII3 also made a statement that suggests that this factor may exist. She said:

> So there was a whole lot of Vitamin A just there, and that's one of the reasons why we are encouraging routinization because probably the state was waiting for the next MNCHW instead of providing it to the children that really needed them before the weeks and by the time the weeks came, the vitamin has expired.

HCVKII13 also communicated her preference for the inclusion of VAS as part of routine immunization. She said:

> Just that I want them to use it as a routine immunization because they may come when their child is 6 months. But if they are using as routine immunization, at least if they come here, they cannot go back empty hands like that, they will give them something.

HCWKII1 said:

> So our major problem is removing it from the immunization schedule it's really affecting their turn up at six months. It has been removed, even if they come, that's what we tell them. We don't even have to give them because if we finish

MNCHW, any capsule that is remaining we have to return it because it's not included in the routine immunization any longer.

HCWKII4 also shared a similar view and said,

The only challenge is that Vitamin A is are being provided just during child health week, and after that, the government will not offer it again until another round of Child Health week.

Likewise, HCWKII5 reechoed the view and stated

Then another thing I will want to say as a challenge is before now; it's part of routine immunization where you tell a mother come at six months you will get, and return at one year for your child's next Vitamin A.

She further elaborated

So if they can still make it that way (to mean routine) but this time around with accountability. A lot of persons came this week, about three that they came for 6-months (immunization) so if we have and we give to them, it then means their next supplementation will be when they (their children) are one year so that they will get it as at when due. We check that for some children, not everybody is lucky to get Vitamin A within their first five years, but if it is part of routine immunization, they will always come with their card. A better card will be made where they get their doses instead of this elaborate program you want to do, and you cannot finance it, you get it?

HCWKII5 also indicated her preference for routine delivery of VAS and suggested that more accountability (a factor earlier described) will be required. She

expounded that when VAS is provided just like the routine immunization, mothers will come with the child health card, receive VAS for their child and the health workers will indicate the services provided and the date for the next appointment on the child's card. She also noted that a register should be made to record data of children supplemented. According to her, routine approach, and appropriate reporting will contribute to accountability for the VAS program. A policy/program planner indicated that some states had started routine VAS delivery while still implementing bi-annual campaigns. She noted that the reason why a child may miss VAS during MNCHW might be because the child has taken vitamin A and not scheduled to receive it again at the time of the campaign. MCKII16 also shared the view that VAS is no more like regular immunization (to indicate routine), that it only happens once in a while.

Participants also considered limited VAC availability as a limitation to children accessing VAS, especially at the 6-months contact. The issue of missing VAS at 6 months was further resounded by HCVKII15 and HCWKII1 who consider that non-availability of VAC at the health facilities constitute one of the challenges. Another health care volunteer expressed the concern on the part of mothers when their children miss the first dose of vitamin A at 6 months. HCVKII13 said:

> Some may come now I did not give my child Vitamin A when he was 6 months, can I give him, he's one year now or two years, can I give him, or they will ask, what about the one that did not give him for 6 months? What will it cause, or what will happen? You just tell them that No if you provide them with this one, there is nothing that will happen.

PPPKII3 and HCWKII1 further explained that during MNCHW campaigns, even when the VAC is eventually available, sometimes it is challenging to mobilize caregivers who may no longer have trust in the system again. HCWKII1 said that except job-aids are available and displayed, that is when the community members may feel that the VAS delivery is something serious; otherwise, they may not turn-up to demand the services. Some participants (MCKII11, MCKII25, and CLKII2) also feels that in some instance, some parents are aware of VAS. Still, sometimes the capsule is not available to be provided to their children when they visit health facilities.

Limited availability was also mentioned concerning the equitable distribution of available VAC supplies during the bi-annual campaigns. HCWKII5 explained that sometimes she requests for supplies that will effectively supplement about 1,500 target children. However, sometimes supplies that are less than what will reach the targets are provided. She indicated that by the second day of the MNCHW, the VAC supplied would have been exhausted, and it will be difficult for her to travel another distance to the distribution centers, hence in her words, it means the program will fail. PPPKII3 also shared the view of VAC being exhausted before the end of the program; she said:

> Then the availability of the VAS, because some will go to the health facility and we tell them, this is MNCH weeks come and get VAS. After one week, maybe you are probably busy, and you finally get to the facility, and they say no VAS, so it's like 419 (to mean fraud); these government people self, mistrust in the system, they just feel it's probably politics or something.

Some participants (HCVKII13, HCWKII5, and PPPKII3) identified the distance to the health facilities as one of the barriers to accessing VAS. This barrier is presented both from the delivery stance and the demand standpoint. From the provision viewpoint, HCWKII5 said, “You see these villages I mentioned, some are 15km away from the clinic, some are 7km some are 10km, they don’t give you transport, and they tell you to go and do the job we will pay you”. Equally, from the demand perspective, HCVKII13 said, “Maybe somebody is living far, he may transport and come here, on reaching here, they will tell the person that they don’t have it (to mean VAS), the person will say Oh! I have wasted my transport to come here. What will I do now? Or where will I get it?’ These are the challenges”.

PPPKII3 also considers that poor geographical access constitutes a barrier to VAS uptake, she said, “Then geographical access, you know that you have to go out to the health facility to get it but you can’t because there is no means of getting there”.

Caregiver absence was another factor cited as a reason why a child will miss VAS. HCWKII1 and HCWKII4 believe that the children of those who travelled at the time of MNCHW implementation may not receive VAS, especially if there was no MNCHW implementation where they visited. Also, HCWKII4 further stated that if a mother was not around when information about the VAS program was disseminated, she might not hear about the program.

PPPKII3 perceived that poverty which may result in a lack of money to transport the mother and the child to the health facility may constitute a barrier. She also feels that some states may decide to sell some of the VAC when there is no MNCHW, especially

for children that have not received VAS, they may sell the capsule instead of providing it freely. MCKII19 in a divergent view stated that financial constraint cannot be a barrier because VAC is free in government hospitals. Also, ill health of the child or ill health of the mother were identified as barriers to VAS receipt. MCKII19 said, "If the child is sick and on admission or if the mother is sick and therefore not able to take the child to the hospital, the child may miss it." CLKII6 and MCKII16 believe that the perception that government did not provide VAS in the past, and there is no health consequence constitutes a barrier.

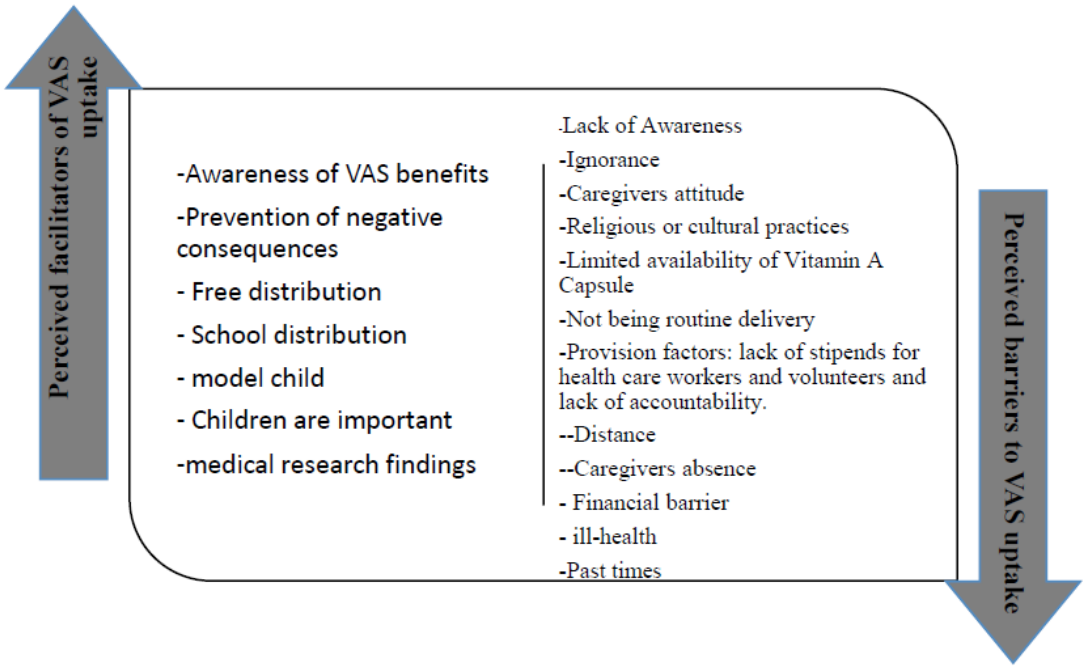

Figure 3. Perceived barriers and facilitators to VAS uptake.

SQ2: Perceived Facilitators of VAS Program Use in Nigeria

The second subquestion explored was: What are the perceived facilitators toward the VAS program use in Nigeria? An a priori code facilitators was created and open coding was used to identify recurrent themes that participants used to describe the factors

they perceived facilitated the utilization of VAS services. These themes include awareness of the benefits or importance of VAS, prevention of negative consequences, free distribution of VAS, children are important, dietary insufficiency, model child, delivery through schools, and awareness of medical research finding.

Awareness of the benefits or importance of VAS was the main factor perceived to enhance the uptake of VAS. All health personnel (HCWKII1, HCWKII4, HCWKII5, HCVKII13, HCVKII15) interviewed felt that mothers request for VAS because of the information they received at health contact points on the importance of VAS. HCVKII13 said that some mothers would request mobile phone contacts of the health workers and ask that they kindly inform them when there are special campaigns so that they can come and receive VAS for their children. Many mothers (MCKII11, MCKII12, MCKII16, MCKII22, and MCKII7) also believe that when mothers are informed about the benefit of VAS and known the importance, they will be motivated to seek for VAS. MCKII24 said:

> It is just like maybe you ask why a parent will want a child to go to school? Of course, you know the importance, when you understand the importance of something, you strive hard to get it, no matter what it will cost you, education is expensive, yet, people want to acquire it.

MCKII7 stated a mother who knows vitamin A is important will obtain it for her child to show that she is a good mother, and also for the child to grow well. Some mothers (MCKII17, MCKII18) said they would like their children to receive VAS because they know that VAS is very good for the body and children needs it. PPPKII3 also stated that community mobilizers provide health education of the benefit of VAS and

encourage mothers to access VAS services. Participants generally believed that being aware of the importance of VAS is a motivating factor that prompt mothers and caregivers to demand VAS.

Most participants identified the need to prevent adverse effects as one of the factors why a woman will receive VAS for her child or ward. The negative consequence that most mothers try to avoid or prevent is the occurrence of blindness, sickness and any abnormal circumstances. MCKII25 said that the facilitators for VAS uptake are so that the child does not go blind and the child does not develop any deficiency. Some participants, community leaders (CLKII6), health workers (HCWKII1, HCWKII4), and mothers (MCKII11, MCKII21) believed that mothers do not want to see their child having health challenges. Especially eye or skin problems or other sicknesses. MCKII21 said,

> Nobody wants her child to be sick or not to be normal (healthy). If you see the positive things that will make your child normal health-wise` in every area, you have to do it. Just like this immunization, as a mother, if you are asked to explain things you are seeing in the life of your child as they develop from one sickness to another, then you begin to ask yourself, what if this child did not receive the immunization at all, what would have happened? Upon the immunization, you still face some challenges here and there. So if you think like that, you will know that to prevent this, to avoid that, I need to give my child this (to mean VAS).

MCKII8 reinforced this perspective and stated that if a mother does not receive vitamin A for a child if the child falls sick, and the health is affected, it is still the mother

that will suffer the consequences. Most participants believe that mothers thus receive VAS to avoid sickness. HCWKII5 said

> If there is anything a mother fears, it is that your child will be purging and vomiting. Then it means the child is at your mercy; you cannot help the child; nothing stays (to indicate the child cannot retain food). However, if you tell a woman; if you give your child Vitamin A, the child will not stool or even if the child stool, it will not bring down the child as with other children that didn't take Vitamin A. If you bring them to the facility, you tell a woman during this very hot season, Vitamin A supplementation will make your child not to have measles, they will come because these are things they fear. Vitamin A supplementation will make your children have good eye good sight when Apollo comes; Apollo will not attack them; they will come. So these are just what we tell them.

Overall, participants feel mothers and caregivers often seeks the best interest of the child when it relates to health. MCKII19 said, "Every mother wants the best for her child, both physically, mentally, they want the children to be sound".

Free distribution of VAS is another facilitating factor. Some health workers (HCWKII4, and HCWKII5) think mothers are enthusiastic about receiving VAS for their children because it is distributed freely across public health facilities. HCWKII4 indicated that vitamin A is not commonly available beyond the public distribution system. It cannot be obtained from pharmacy shops. The limited distribution channels for VAS makes mothers and caregivers value VAS and request for it during MNCH weeks. Some participants (mostly mothers) also shared the value they ascribe to VAS. For

instance, MCKII23 stated that anytime that she hears that the health center team are providing any service, she quickly prepare to visit the health facility and she will go with her child to receive VAS. MCKII22 said:

> The government are just using it to help us; if you go to a private hospital, maybe people like us will not even have money to afford it. So that's why when they bring it, parents will always rush to the hospital because they know is very important and is very expensive, so when you get it at the health center, when a program came up like this, you have to rush and give it for your child

Again, MCKII24 described an instance where she received the pneumonia vaccine for her child and had to travel to another state to visit her sister-in-law, who asked her how much she paid. She narrated how her in-laws exclaimed when she told them she received if for free at the health clinic in FCT. She indicated that her in-law paid 15,000 Naira (about $42) to get the vaccine for her child. She stated further that mothers should be proactive and receive health services for their children when available. She said:

> That is why I tell people when things are happening when your mates are doing things at a particular time, do it. Because time may even come, you will have the money, and you will not be able to get that thing as important as it is.

Despite this perception of free public distribution of VAS, some participants indicated that VAS is provided at private health facilities at the cost of between 100 Naira and 500 Naira. The private hospitals collect the money as a service charge rather than the cost of the capsule.

Other facilitating factors for receiving VAS include the concept that children are important. Therefore sensitive mothers will look out for the welfare and health of a child and not take anything that has to do with the health services of children for granted. Two mothers (MCKII24, MCKII9) identified this factor as facilitating. MCKII24 said, "Because they are important to us. They are our future, so you do everything possible to make sure that they are okay, even as God will do his own too."

Another facilitating factor that participant identified is dietary insufficiency. CLKII2 and MCKII9) perceived that if a mother noticed that there is lack of vitamin A in the diet because the child is not feeding well for different reasons, then this may be the motivation for providing VAS to the child. CLKII2 said:

> So of course as I said if a mother, a nursing mother or a mother notice his child eating habit is not normal, it will be one of the reasons that will prompt the mother to request such drugs (to mean vitamin A) for her children.

MCKII9 shared a similar perspective; she said:

> You see most of our country, and because of the economy as well, some people lack the funds to get all these natural food that can provide the body with Vitamin A. Mothers that know this, for their children to get it (VAS) in a required quantity that the body needs. So they will go for it.

According to her, if she noticed that her children are not getting enough vitamin A from the diet, on her own, she goes to buy alternative vitamin A supplements for her children.

Also, factors such as having a model child, distribution through schools, and awareness of medical research findings are some of the facilitating factors mentioned by

participants. PPPKII3 described the model child concept as having an example of a healthy child within the neighborhood. She said:

> If they have friends or neighbours or people whose children are receiving VAS and they see that the children are healthy; when she looks at her child and sees that her child is not healthy; so when we have live testimonies

Other perceived facilitator of VAS is the provision of VAS in primary schools. MCKII23 mentioned that health workers go to schools to provide VAS to children. Another factor identified is medical research findings. MCKII9 indicated that if medical research shows that the child needs vitamin A or lacks vitamin A, then the mother will certainly request for VAS.

RQ1: Perceptions of Current Stakeholders Toward the Current VAS Program

The central research question for this study was: What are the perceptions of current stakeholders toward the current VAS program in Nigeria? The perspectives of four participant groups (healthcare workers, mothers, community leaders, and program and policy actors) were examined. The views of each of the stakeholder groups is described in the following section.

Healthcare workers' perceptions of the VAS program in Nigeria. Health workers presented mixed feelings about the VAS program. Their opinion about the VAS program represented both positive and negative domains. Health workers generally adjudged the VAS program to be good, and they are interested in providing VAS services to children. However, health workers presented negative dimensions associated with the VAS program. Health workers were asked what they think about the VAS program and

to describe how they feel and how other health workers perceive the VAS program. Three key themes were identified. These include the concept that VAS program is good, health workers and volunteer stipends not paid by the government, and make VAS routine health service for better reach and effectiveness. One other issue identified although not very prominent is the availability of VAC as at when needed. These themes were associated with three codes which are positive perception, negative perception and make it routine. The themes are described in detail in order of frequency of mention.

The main issue unanimously mentioned by the health workers and associated with a negative perception of the VAS program is the issue of allowance. Health workers expressed their concerns about the lack of, or nonpayment of stipend when they participate in the VAS program. They perceived that this represents a significant drawback in the enthusiasm demonstrated by most health workers to the issue of VAS and the full services delivered during the campaign strategy used to promote VAS.

The health workers justified the expectation of stipend to be related to the delivery approach which requires that health workers and volunteers trek long distance or transport themselves to locations that are far from the primary health care facilities. HCWKII1 said:

> As I said, the only thing why this program people don't like it because our own we call Maternal and Child Health Week. It's the worst week so far. Because you know there is nothing to support anyone, no matter where you are going to, you are on your own, but it (MNCHW services) has to be provided. I think that's just

> the only problem I can only say concerning that. But aside that it's a very nice program, a very nice one

When health workers compared their perception about VAS with another health service like immunization, most participants indicated they receive transportation allowances when they participate in immunization programs that are campaign type. HCWKII1 provided insight into the kind of payments during immunization. She indicated that supervisors receive 8,000 Naira ($22), while those who offer the immunization services are paid 4,500 Naira ($13) for activities carried out for four days. If there are special teams which usually comprise of three health workers/volunteers, they are paid 1,500 Naira ($4) daily for the four days.

HCWKII5 considered that most health workers have a negative disposition to VAS program because of the stress involved. She again linked the pressure to the nonpayment of transportation and stipends. She said:

> For now, I will say they don't feel too happy about it because some of the stress involved is not an easy one. It's something that takes a whole lot of your time because you want to ensure you do it or you'll be administering it is oily so it can slip off your hand. Getting some children even to collect it too, you have to talk and talk, you understand, at the end of the day, they don't pay you for it, so this is the reason I feel most health workers will not want to. In fact, this last one I will say I was more of begging, do it because you want to save a child not do it because you are waiting for one change (allowance). I tell them one thing I want to pray is that the stress will not kill you, but it will instead make you strong.

> Actually, a lot of people came were down after the program because it was very stressful because there is no transport, you have to trek some distance, so it's not easy.

She added that for other programs, it is possible for the health worker just to deliver the service in one location. However, such is not the case for vitamin A. According to HCWKII5:

> Immunization you stay in the clinic but Oral Polio you move up and down, immediately you finish Oral Polio, they pay you your money, they give you transport daily to take mineral (soft drinks). But this one there is nothing. They keep telling you they will pay. Like since February now see the time since 25th we held, before the program, there was nothing after the program nothing they keep telling you they will pay; they will pay when? Myself I cannot count the number of times I have used my money to carry on with the program, but like the second to the last round, I said I'm not doing. I'm not going to use my money, but if they bring money, I will use, and I'll be working.

Availability of VAC as at when needed is another factor associated with a negative perception of the VAS program. HCWKII4 perceived that most health workers feel that those who are responsible for organizing the VAS program are not serious about the program. Concerning the aspect of distribution of the supplies of VAC, HCWKII4 said:

> The program sometimes the Child Health Week when they fix the date, you will see that they will not provide the vitamin A enough as from the beginning until

> maybe towards ending before they will now share it. Not that is not available, but they may not share it in time, they may not distribute it earlier.

She further reiterated that the government prioritize immunization program. HCWKII5 expressed a similar view. She stated that:

> I will tell whoever wants to get us vitamin A to ensure that they have a well-planned program; both for the people that will receive, the children that will receive the vitamin A and for those that will administer the vitamin A. Everything to ensure that the program works and goes on well should be available.

All health workers (n = 5) interviewed indicated that the VAS program is very good. This represents a positive perception of the VAS program. Words used by participants (HCVKII13, HCVKII15, HCWKII1, and HCWKII-5) include the program is very good, it is not stressful (HCVKII15), it is a very nice program (HCWKII1), it is beautiful, I love it (HCWKII5)

Another issue that some health workers feel is affecting the VAS program and associated with a negative perception of VAS is the lack of adoption of routine service delivery approach to deliver VAS. HCVKII13 indicated that most health workers want the government to have VAS as part of routine immunization. According to her, if the government provide VAS as a routine service, mothers will be encouraged to patronize the health facilities to demand VAS because they will know that it is available anytime they visit the health facility. She feels that this will prevent many cases of children having eye problem because if children come down with jaundice and there is a need to use

vitamin A for the child, it will be available. HCWKII4 who compared the VAS program to immunization indicated that immunization is always more serious (to mean better coordinated). She ascribed her use of the word serious to the frequency of immunization, and therefore considers that VAS arrangement requires a rethink, she said, “Maybe it’s because the immunization is almost frequently, almost all the time, we don’t give a break on immunization, but this one (VAS) comes maybe once in a year or twice in a year”.

Mothers’ and caregivers’ perceptions about the VAS program in Nigeria. Mothers and community leaders were asked questions related to their attitude and that of their family members towards VAS. The response to how participants and their family members feel towards VAS indicate a positive perception of the VAS program. However, some participants associated lack of awareness to perceived indifference on the part of community members. Key themes that represent the positive dimension include the perception that VAS is good because of known benefits, and mothers encouraged to obtain it for children. Key ideas that represented a negative perception of VAS is the fact that people are not aware of VAS and therefore may not know how to demand or access VAS.

Most participants indicate that VAS is good because, in their opinion, it is good for the eyesight of children and helps to prevent negative health consequences. CLKII6 said they are happy when the government provides VAS because since they started the program, frequency of sickness among children is no longer prevalent. Therefore he perceived that vitamin A is helping children to prevent illness. Similarly, MCKII20 said,

"Yes, prevention they say is better than cure, so, we like to take Vitamin A supplement in order to prevent any eye problem".

MCKII11 mentioned that their family members feel that VAS is good for the sight of children. MCKII17 and MCKII11 said because they know vitamin A is a food supplement they try to consume food sources of vitamin A when there is no access to the capsule. Many participants also referred to how their family members stimulated them to get VAS for their children. Family members that recognize the importance of VAS include close family members like a husband or other distant relatives like parents or aunty who may not be staying in the same households with the participants. For instance, MCKII19 said it was her husband that reminded her of the child's immunization schedule, and that the husband does not joke with anything that has to do with child survival services. Also, MCKII22 said,

> They feel very happy about it, everybody in my family like it. My parents do tell me about it that please when the Vitamin A supplement is going on, make sure you take your children to the nearest health centre and collect for them because they know the importance, they know the value of it

MCKII16 mentioned that at a point, one of her aunties called her to ask if she has taken VAS for the child, and she indicated she has. She went further to say her aunty said she could send some to give her provided she was not able to obtain VAS for the child. Also, MCKII7 described the level of appreciation showed by her neighbors when she helped them to access VAS. She stated:

> They feel okay, like this one I said, my neighbors, they were not able to get it. As I help them collect it, they were so happy because they might have not get it for their children. The woman they were sitting down at home and they did not come, but when I collect it for them, they were happy, appreciating me till the following day; Aunty thank you, Aunty thank you for helping them to collect the Vitamin.

Others (MCKII9 and MCKII18) indicated that both they and their family are serious about obtaining vitamin A supplement for their children. MCKII18 however noted that while some are serious, others not serious about VAS. In her opinion, the attitude displayed towards VAS is probably a function of people's knowledge about VAS. She said:

> Anyway, that one depends on each other knowledge. It is only myself I can tell of me. You cannot force this thing (to mean a horse) to drink water; you can only force it to go the stream. So, other people like my family members, some of them use to be serious with it, some of them are not. Still, me I use to be serious with it, because I also have a person that use to come down with eye problem, my first son, Ojechukwu, so anything concerning Vitamin A, I do not play, mostly that boy.

Two participants also perceive that not so many people are aware of VAS, and if they do not know it, they will not patronize it. MCKII-21 said, "Immunization is now popular that people know the work of it. So how many people even know Vitamin A?"

Similarly, CLKII2 indicated that he does not have an idea of VAS. He said that if the government can create more awareness about VAS than what currently obtains, more

people in the community may become knowledgeable about VAS and demand VAS. He perceive that most of the community members may have similar thoughts with him. He said:

> I believe if we have more awareness, it will go a long way, and it will be a thing of joy for the community if the mother or the children have access to VAS. Our people have an adage that what you do not know is more than you. So, the community members may require information about how to get VAS. So the information is power?

Program and policy actors' perceptions about the VAS program in Nigeria. Program and policy actors were asked questions related to government commitment to the VAS program and the type of support that program planners receive from the government for the VAS program. Themes identified were partnership, technical support, and stakeholders support. The program actors believed that the government is highly committed to the VAS program and uses the program as one of the responses for addressing the burden of micronutrient deficiency in Nigeria. Technical support was related to concepts on training, supervision, and monitoring, and the partnership was related to supplies of VAC and overall coordination of the VAS program.

To further address the research questions, I assessed what participants knew on VAS. Knowledge about VAS was most limited among community leaders, and it varied among mothers and health workers. Program actors were knowledgeable about VAS. Some of the correct knowledge relates to the proper identification of the benefits of VAS in improving eyesight (see Figure 4). VAS was mainly perceived to be associated with

good vision for children. Many participants were able to describe VAC correctly. They recognize that Vitamin A supplement is administered as a capsule (see Figure 5), and some could identify the two colours (see Figure 6) for the different age groups. However, some did not have the correct knowledge of VAS. For instance, MCKII17 believes the child should take the content of the capsule while the mother then chews the capsule. CLKII2 and MCKII22 also identified VAC as a white capsule which is wrong.

Summary

A qualitative case study approach was used to explore the perspectives of stakeholders about the VAS program and VAS uptake in Nigeria. A combination of document reviews and participant interviews were used. In this chapter, the findings of the analysis of VAS program documents and results of interviews held with 27 participants across four participant groups were presented. The central research question explored was: What are the perceptions of current stakeholders toward the current VAS program in Nigeria? Two sub-questions were used to explore these perspectives:

SQ1: What are the perceived barriers toward VAS program use in Nigeria?

SQ2: What are the perceived facilitators toward VAS program use in Nigeria?

It was identified that MNCHW guidelines and training manual include explicit contents of VAS program delivery and described communication approach for promoting VAS along with other interventions. One of the communication messages of the MNCHW strategy is that Vitamin A fights and prevent diseases, protects lives, and is good for a child's eyes and vision. As part of the social mobilization campaign, the desired behavior change is for mothers or caregivers to take a child aged 6 months to 5

years to get VAC at the nearest health facility or outreach site during MNCH Week. Several communication approaches exist for promoting VAS through MNCH. The promotion of key messages can take place in various settings such as households, communities, health facilities, religious environments, schools, and special events.

Perceived barriers to VAS program use in Nigeria include lack of awareness, ignorance, caregivers' attitudes, religious or cultural practices, and limited availability of VAC. Other are nonroutine delivery, distance, caregivers' absence, financial barriers, il - health, and the perception that VAS was not provided in the past, and therefore not essential to health. Perceived facilitators of the VAS program include caregivers awareness of the benefits or importance of VAS, prevention of negative consequences, and free distribution of VAS. Others are dietary insufficiency, the concept of having a role model child, delivery through schools, and results of medical research or laboratory test that shows a child has vitamin A deficiency. The participant groups have diverse perceptions of the VAS program. Health workers had mixed feelings which represented both positive and negative perspectives. They adjudged the VAS program as good, but were unhappy that there were challenges with stipends, and preferred VAS to be a routine service for better reach and effectiveness. They said that the availability of VAC and accountability of the VAC also needs to improve. Mothers and community leaders' perceptions involving VAS seems positive based on the known benefits of VAS and their perception that VAS is good for the eyesight of children and helps to prevent negative health consequences. Negative perspectives of mothers and caregivers seem linked to lack of awareness about VAS, which also constitutes a barrier to the uptake of VAS.

Policy and program actors expressed optimism regarding the VAS program but identified gaps such as limited accountability of VAC, and several organizations delivering VAS through parallel programs without proper coordination which can result in overdosing of children. Other gaps were disparity in surveys and administrative coverage of VAS, and challenges of limited financing for the storage, transportation, and other materials like scissors, wipes, and tally sheet needed for effective implementation. The program actors believe that these gaps need to be addressed to achieve effectiveness.

Many participants were able to describe VAS provided to children correctly. Most participants accurately identified that vitamin A is supplied in the form of a capsule and correctly identified the two VAC colours, blue and red provided to children six to 11 months and 12 to 59 months, respectively. In Chapter 5, a summary of findings interpretations, limitations, and recommendations are presented. The implications of results and the potential impact for positive social change as well as implications for practice are also highlighted.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this study was to investigate the perspectives of mothers and caretakers of children under 5 years of age, community and religious leaders, and health workers about the VAS program as the first step in understanding barriers and facilitating factors. The high burden of VAD and low and inequitable coverage of VAS necessitates the assessment of the current VAS program in Nigeria. Kamau et al. (2012) recommended that a full analysis of the factors affecting the VAS program should include assessment of the knowledge, awareness, attitudes, beliefs, constraints, and practices of caregivers. A qualitative case study was used to conduct this research.

There is limited information regarding why the current VAS program in Nigeria do not have high uptake by the population. Despite the slight increase in VAS coverage from 41% in 2013 to 45% in 2018, data showed that less than 50% of children eligible for VAS in Nigeria are reached, therefore the impact of VAS on morbidity and mortality reduction may be limited (NPC & ICF, 2019). Based on NPC & ICF (2019) findings, only 39% of children in rural areas received VAS compared to 56% of their counterparts in urban areas. Also, children with educated mothers and wealthier households were more likely to receive VAS compared to their peers whose mothers were not educated or those from poorer families. The Nigeria Demographic and Health Survey (NDHS) data showed 53% of children in FCT received VAS in the six months preceding the 2018 survey (NPC & ICF, 2019). Those reached with VAS in 2018 was a slight increase over 48.4% reported in NDHS 2013 (NPC & ICF, 2014). It is therefore important to investigate the

factors that may be influencing the uptake of VAS for those who receive VAS and the factors limiting uptake among those who do not.

While there are studies that assessed coverage of VAS and factors influencing VAS coverage, Studies that evaluated the perspectives of the VAS program stakeholders in Nigeria are rare. Only Adamu & Muhammad (2016) assessed the views of both the service providers and program beneficiaries on vitamin A supplementation program in Nigeria. However, there were gaps in terms of determining stakeholders' perspectives and the barriers and facilitators of the VAS program. Therefore, this study focused on assessing the barriers and facilitators of the VAS program. The aim is to contribute to addressing some of the research gaps regarding the VAS program in Nigeria.

Findings of the assessment of the perspectives of stakeholders and barriers and facilitators of VAS uptake may guide the development of promotional approaches to enhance coverage of VAS. Based on the WHO recommendation of providing children biannual VAS until they are 59 months old, each child should receive at least nine doses of VAS by 59 months of age. The first dose is at six months, and then eight doses follow between 12 and 59 months (Lima et al., 2018). The schedule of VAS receipt by children 6-59 months requires that caregivers sustain positive behavior of demanding for VAS and receiving it for their children for an extended period. Therefore, an assessment of barriers and facilitators to VAS receipt can provide information that can enhance positive behavior for VAS receipt.

In this study, MNCHW guidelines and training manual were reviewed. Perspectives of four participant groups representing both providers (program and policy

actors, healthcare workers), and beneficiaries (mothers and community leaders) of VAS services were also explored. Perceived barriers and facilitators of the VAS program and stakeholders knowledge of the VAS program in Nigeria were solicited. Findings from this study showed that MNCHW guidelines and training manual include information regarding the VAS program and explicit messages to promote VAS. However, there is no separate media channel or different communication regarding VAS. The plan set out in MNCHW guidelines is for all services delivered during MNCHW to be communicated to target beneficiaries as a package of intervention.

Findings from participants interviews suggest that caregivers awareness of the benefits of VAS and the MNCHW facilitate receipt of VAS and not being aware of MNCHW, and the importance of VAS limited VAS use. Regarding the provision of VAS services, poor logistics in terms of the distribution of VAS, including nonpayment or late payment of stipends for healthcare workers and volunteers, and ineffective campaign approaches influenced negative stakeholders perceptions of the VAS program. Many participants said that the VAS program is good because it prevents childhood infection, prevent night blindness, and promote good vision. Also, perceived barriers to VAS uptake include lack of awareness by caregivers, religious and cultural barriers such as husband disapproval, long-distance to the delivery site, and limited availability of VAC. Other factors perceived to constrain the uptake of VAS are discussed in other sections of this chapter. Also, in this chapter, interpretations of the findings, limitations, recommendations, and implications of the study findings for research and practice are

presented. This chapter will conclude with a summary of key results of the study and core contributions to addressing knowledge gaps regarding the VAS program in Nigeria.

Interpretation of Findings

The qualitative case study approach involving both document reviews and participant interviews was used to explore the perspectives of stakeholders towards the VAS program in Nigeria. MNCHW guidelines were analyzed for VAS content, and barriers and facilitators of VAS uptake were identified from participants. In this section, main findings and alignment of results with existing literature are presented.

VAS Program Communication Approaches

This study found that the MNCHW guidelines and training manual include information regarding the VAS program and explicit messages to promote VAS. However, communication messages on VAS were components of comprehensive MNCHW communication. Yohanna-Dzingina et al. (2015) found that many caregivers were not aware of the MNCHW in northwest Nigeria. Also, target beneficiaries who were aware of the MNCHW had little understanding of the nutrition and health benefits of VAS. Yohanna-Dzingina et al. (2015) also found that communication about MNCHW involved solely raising awareness about the dates and locations, and did not promote the health benefits of interventions. The planned MNCHW communication channels such as the use of television spots, radio segments, the printing of banners, and T-shirts are similar to those reported by Chehab et al. (2016), Shah et al., 2016 and Moraa (2013). It is not clear how effectively the communication channels planned is used to promote MNCHW. However, there are indications that MNCHW communication strategy is

ineffective. For instance, Ferguson et al. (2014) and Yohanna-Dzingina et al. (2015), found that caregivers were not aware of MNCHW.

Perceived Barriers to VAS Uptake

This study found that perceived barriers to VAS uptake included caregivers lack of awareness about VAS, and caregivers' ignorance, which is closely related to lack of knowledge about VAS. Also, caregivers'attitudes towards VAS and other child survival services like immunization, religious beliefs regarding God being in control of health and healing, and cultural practices such as husband disapproval constrained the use of VAS. Other barriers were limited availability of VAC, nonroutine health facility delivery of VAS, and nonpayment or late payment of health care workers and volunteer stipend. Also, long-distance between target beneficiaries residence and health facilities or delivery sites, caregivers' absence during MNCHW campaign, and financial barriers for caregivers to transport to and from service delivery sites limit VAS use. Further, ill-health of children under 5 and their mother, and the perception that VAS was not provided in the past times and therefore not essential to health or survival, constrained VAS receipt.

Arlappa (2013), Clohossey et al. (2014), Hodges et al. (2013), and Kamau et al. (2012) found that lack of awareness, limited information, and limited knowledge about VAD and the benefits of VAS inhibited VAS uptake in similar contexts. Also, in Libya, Abdulmalek & Benkhaial (2018) found that lack of caregivers' awareness about VAS campaign was the main reason why parents of under-5 children did not give their child VAS. Also, Hadzi et al. (2014) found that caregivers of children under-5 in Ghana had

inadequate knowledge of vitamin A. In Nigeria, Ferguson et al. (2014), UNICEF (2016), and Yohanna-Dzingina et al. (2015) found that the poor caregivers' awareness about MNCHW campaign event was one of the barriers to MNCHW attendance. Jones et al. (2017) found that MNCHW attendance was only 13% because mothers of children eligible for MNCHW services have not heard of MNCHW. There are indications that the government communication to stakeholders about MNCHW is poor, and this seems to affect the uptake of the services delivered using MNCHW campaign. Further research to examine the communication component of MNCHW is required.

Visram et al. (2017) found that the MNCHW is not communicated properly as a brand, and argue that this may be the reason why target beneficiaries for MNCHW do not attend service delivery sites. Estimating MNCHW attendance in Nigeria remains challenging. However, since VAS is delivered mostly through MNCHW, Visram et al. (2017) argue that the number of children reached with VAS can be an indicator of MNCHW attendance. A task for the government of Nigeria will be to brand the MNCHW campaign and differentiate it from other events such as oral polio and measles campaigns.

In this study, participants perceive that working mothers have a higher likelihood of not knowing about VAS campaigns. Even when aware, there are perceptions that such mothers are often unable to attend health facilities or delivery sites to obtain the VAS for their children. Kamau et al. (2012) found that educated mothers and mothers who are employed have increased likelihood of awareness about VAS. However, Kamau et al. (2012) identified a lack of time to access VAS for children on the part of caregivers and

mothers as a barrier to VAS uptake. Also, Berde et al. (2019) found that children of working mothers have a significantly increased likelihood of VAS.

Participants in this study perceived that mothers who are home markers and often stay at home might also not be aware of VAS campaign and have children that will miss VAS. Haile et al. (2015) found that lack of maternal working status accounted for lower odds of receiving VAS. Mothers in active employment, especially those who do not utilize the PHCs, may not be aware of the VAS program in Nigeria if media channels used do not target them. For instance, such mothers may likely listen to radio or television jingles during periods that are not working hours. Also, most health facilities providing VAS may no longer provide VAC by the time such mothers return from work. For mothers who often stay at home and have limited social interactions, they may also not be aware except they listen to the radio or informed through other channels like radio, from husband and other sources.

Negative caregivers' attitudes like poor health-seeking nonchalant behavior were identified as a barrier to VAS. Often, mothers or caregivers who display such attitude do so for other health services too. There is a limited account in the literature on the contribution of caregivers' attitudes to VAS. This gap in research makes it difficult to compare the perspective of stakeholders with other established evidence. Arije (2015) found that the availability of drugs and the perception that free health care implies substandard health services influenced the perspective of users. Also, friendliness of the health workers, non-availability of medical supplies, distance to the health facility affected the use of health services.

It was identified in this study that although there is a general perception that the acceptance rate for VAS is high, some pockets of rejection may exist. The perceived reasons for refusal of VAS including belonging to some particular ethnic groups (being Hausa or Fulani) which are closely linked to husband approval. Another perceived obstacle is fear or suspicion about the safety of VAS. Schools that are not informed or have a negative attitude towards VAS and some faith-based institutions also sometimes refuse VAS in their sites. In a similar context, only 0.1% refusal of VAS by caregivers was reported, and there was no significant difference in VAS coverage by caregivers' religion(Sesay et al., 2015). However, in Nigeria, religious or cultural practices were obstacles to the uptake of VAS and other child survival health services. In Sokoto State, Nigeria, fathers' disapproval was a barrier to uptake of VAS and measles vaccine (Adamu & Muhammad, 2016). Religious beliefs also played a role in oral poliovirus vaccine refusal in Northern Nigeria (Michael et al., 2014). Similarly, one of the contextual barriers to MNCHW attendance was lack of permission and support (financial support or transportation, and backing) from husbands (Ferguson et al., 2014; Jones et al., 2017). Many factors like scepticism of free government programs and fear that the wife will interact with other men impact the lack of husband support (Ferguson et al., 2014). In northern Nigeria, many evaluations and research have established that lack of fathers/husbands approval affects the utilization of health services by females. It is therefore essential to ensure that any social marketing approach to promote VAS in northern Nigeria tap into the aspirations of husbands.

In this study, there were perceptions that the limited availability of VAC is a barrier to VAS uptake. UNICEF (2016) report showed that insufficient supplies and commodities during the MNCHWs negatively affected the demand for MNCH interventions and participation in the MNCHWs. Ayoya et al. (2007) also reported stock-out of VAC at selected sites. Lack of Vitamin A capsules at the delivery sites have many implications. When mothers present their children for supplementation and are not able to receive due to lack of the capsule, there are possibilities that the mother may not return. Overall, stock-out of capsules is linked to lack of users trust in the health system.

Participants perceived that not providing VAS as a routine service is a barrier to VAS uptake, especially among younger children 6 to 1l months. Mothers of children under-5 years cannot walk into health facilities to receive VAS for their children. Many children potentially miss out the first dose of VAS due to this barrier. This finding contradicts Haile et al. (2015) that reported that children 12-59 months of age in Nigeria are less likely to receive VAS. In Brazil, VAS coverage among children 6 to 11 months was also higher compared to children 12 to 59 months (Lima et al., 2018). However, in other contexts, like Ethiopia, children 6 to 11 months were less likely to receive VAS compared to their counterparts who are 12-59 months. Also, in Nepal, Nguyen et al. (2012) found that younger children missed VAS, and Thorne-Lyman et al. (2020) found there is lower VAS coverage among children 6-11 months. The period from 6 months to 12 months represents a vulnerable period for a child with regards to exposure to risk factors such as measles and other illnesses. Children who miss VAS at 6 months are therefore left unprotected during these months of vulnerabilities (Hodges et al., 2015).

Closing the gaps in offering protection to children during the second part of infancy should receive attention from program and policy perspectives.

Further, Mdlalose (2017) indicated that children 18 to 23 months had higher odds of VAS receipt than older children. In practical terms, a child who was 5 months old at the time of the campaign will not be due to receive VAS. If there is a delay in the next round of campaign the child may have turned twelve months and therefore no longer eligible to receive the 100,000 IU of VAS. UNICEF (2016) found that since 2010, many states in Nigeria steadily implemented MNCHW outside of the recommended national dates. Infrequent implementation of MNCHW will further exacerbate the number of children who miss out the required doses of VAS. The irregularity of MNCHW and other attendant challenges provides clear indications to have a strategy for routine VAS delivery in Nigeria. This is important because mothers continue to visit PHCs to access immunization and sick child services. Not using such avenues to promote access to essential services has been described as missed opportunities in the context of childhood vaccination (Hanson et al., 2018). However, the decision to transition will be too premature in the absence of well-designed and executed pilot studies to assess the effect of the transition on VAS.

Gatobu et al. (2017) found that the coverage of VAS dropped when countries transitioned to routine VAS. However, other countries including Bangladesh are implementing a two-pronged approach that delivers VAS to children 6 to 11 months using routine delivery in health facilities and provides VAS to children 12 to 59 months through bi-annual campaigns. The integration of VAS into routine services showed

varied results when compared with campaign approach. In Sierra Leone context, there was an increase in routine VAS from 5% to 60% among children 6 to 7 months (Hodges et al., 2015). However, in Senegal, the routine approach had fewer resources and a lower coverage, especially among children 12 months old and above (Horton et al., 2018). Mothers' preference for routine and campaign also varied due to factors such as hygiene (for routine) and house-to-house delivery for those who live further away from health facilities. The promising results of improvement in coverage and the inherent challenges that may exist in the health system should be considered in planning the strategic approach to deliver VAS in Nigeria.

Similar to findings from existing literature, this study found that long-distance to health facilities was perceived as a limiting factor to VAS receipt. Long-distance can constrain both the provision and uptake of VAS. If the health workers are not provided transportation to set-up outreaches in catchment communities that are far from the central PHC, they will likely not reach target groups in such location. On the part of the beneficiaries, mothers with low financial backing may not have the means take transport to the delivery sites or health facility. Lack of transportation as a separate factor also constitute a barrier to VAS (Kamau et al., 2012). If there is no accompanying mobile strategy to reach those with limited access to the delivery sites, their children will likely miss VAS.

In Kenya, completed immunization accounted for why children missed VAS (Kamau et al., 2012). In this current study, participants did not perceive completed vaccination as a barrier to VAS utilization in Nigeria. However, Clohossey et al. (2014)

found that low attendance of children over 12 months in routine service delivery affected coverage of VAS. Caregivers' perception that a child has completed immunization may contribute to why a child may not be motivated to continue seeking a preventive service like VAS. Other barriers to VAS utilization in other contexts include fear of vitamin toxicity and child sickness (Abdulmalek & Benkhaial, 2018). Haile et al. (2015) found that limitations to receiving VAS included being children of migrant population group like pastoralist, lack of postnatal check-up attendance, lack of antenatal care attendance, and poor wealth index. Similarly, in this current study, some participants, especially health workers, reported the challenges of supplementation in pastoralist communities which they called Fulani communities. However, this view is not popular among participants.

Perceived Facilitators of VAS Use

In this study, the factors perceived as enablers for VAS include awareness of the benefits or importance of VAS, prevention of negative consequences, and free distribution of VAS. Other factors include the concept that children are important, dietary insufficiency, and having a model child who is receiving VAS that looks healthy. Also, delivery through schools and results of medical research or laboratory results that shows that a child has vitamin A deficiency were perceived as factors that enhanced VAS receipt.

Participants perceived that awareness of the importance of VAS is one of the factors that motivate mothers to receive VAS for their children. Janmohamed et al. (2017) also reported that for a fixed-post campaign to be effective, caregivers need to be

aware of the VAS program and arrange to attend with their eligible children. Studies that confirmed that link between caregivers awareness and receipt of VAS are scarce. However, knowledge of the benefit of VAS seems to promote the demand for VAS. Uti and Edet (2005) reported that majority of their study respondents in Calabar, Nigeria, knew the function of vitamin A and were aware of VAS.

In this study, VAS policy and program actors identified partnership as central to the VAS program in Nigeria. Similarly, Chehab et al. (2016), Dube et al. (2014), Lyatuu et al. (2016), and Thapa (2014) found that collaboration among implementing organization, keen oversight, effective planning and implementation at all levels, budgetary allocation at the implementation level, and technical assistance enabled the provision of VAS. In this study, both program actors and health workers also perceive the availability of VAC and training contributed to the program success. Likewise, Moraa (2013), Semba et al. (2010), and Thapa (2014) also found that the supply of VAC, appropriate training of health workers, program communication, robust media support, and advocacy input from the community level to the national level enabled VAS program. In this study, VAS program actors also perceived that support from community stakeholders' influence VAS implementation at subnational levels.

Limitations of the Study

The study findings only apply to the population examined. Limited comparative studies within the study context also limited interpretation. Other limitations include the possibility of recall bias in the information provided by participants. Some participants, like health workers, also displayed some tendencies to withhold information they

perceived as sensitive and only discussed such information after the interview recording session ended. A possible bias of this study is the researchers experience in implementing VAS programs in Nigeria. However, measures earlier described in the limitation session of chapter 1 of this dissertation was adopted to minimize the possibility of researcher bias. The steps included ensuring internal validity in the development of the interview guide, neutrality in the conduct of interviews, reflexivity in analysis, and triangulation of data.

Recommendations

This study provided understanding into the viewpoints of both the service providers and beneficiaries of the VAS program. Through this qualitative exploration, some of the barriers limiting the uptake of VAS and the facilitating factors promoting its use were identified. This research findings offer information on the promotional approaches for the VAS program. It contributed to findings regarding VAS messages promoted by the MNCHW and proposed settings to communicate these messages to target beneficiaries. Further research is needed to examine the effect of all-inclusive communication about MNCHW on the ability of the target audience to recall messages on the dosage and the benefit of VAS.

Further research is also needed to understand the best approaches to improve awareness about the VAS program. Further studies are required to understand the effect of stipends or allowances and other logistics on the delivery of the VAS program. It may be essential to pilot and assess the co-delivery of routine VAS and campaign strategies to

understand the potentials that may exist to close the gaps in the number of children who miss VAS.

The role of community leaders as promoters of health needs to be explored further. In this study, it was clear that community leaders are a point of entry into the communities. Therefore, their knowledge about VAS may influence how they communicate such to the population groups they serve. Also, future studies aimed at assessing the perception of VAS should consider including groups of community stakeholders such as school authorities and specific ethnic populations such as itinerant or nomadic leaders. Innovative studies among these leaders are highly recommended. Visram et al. (2017) identified that lack of branding for MNCHW and the difficulty in separating services delivered through MNCHW from other campaign type event may limit awareness and attendance. Intervention studies that adopt a social marketing approach regarding the branding of the VAS program are essential to determine the effectiveness of a branded campaign on awareness about VAS.

Implications

This study contributes relatively new knowledge on the perspectives of stakeholders of the VAS program in Nigeria. It used a qualitative approach to explore the barriers to VAS uptake and therefore adds to the existing knowledge on limitation to VAS use. Available literature showed research that identified factors associated with VAS that relied on secondary data mostly from demographic and health surveys to establish an association between certain predefined variables and VAS use. The use of a qualitative approach provided insights into variables that may not have been so easy to

predefine. For instance, the role that stipends and logistics supplies played in the enthusiasm of health volunteers to participate in the VAS program. The implication is that an understanding of such barriers may help to develop better ways to design the VAS program with consideration for staff motivation or compensation to promote active participation.

The findings from this study have implications for rethinking the approach to promote universal coverage of VAS. From existing literature, it is clear that the VAS program coverage is sub-optimal. Available statistics also suggest that about half of the eligible children in FCT and Nigeria are not reached with this essential service. This study helped to identify some of the factors like lack of awareness, religious and cultural influence, inequitable distribution of capsules, distance and other limitations that makes children miss VAS. Such an understanding may guide the VAS program planning to ensure that strategies are put in place to address the constraints and enable broader access to VAS.

Positive Social Change

The findings from this study have implications for both practice and research, and it may guide the development of a social marketing campaign for VAS. VAS requires long-term behavioural practices from mothers and community stakeholders as well as service providers. The design of a campaign approach that requires sending caregivers reminders about VAS, promotion of the benefit of VAS through innovative approaches such as the use of mobile voice call or SMS may be necessary.

This study has the potential for positive social change since it provides an understanding of the factors that may influence VAS use. The knowledge of both the barriers and facilitators of VAS use and the perspective of stakeholders presented in this study may contribute to the design of demand creation and promotional services for VAS. It is hoped that if the demand for VAS improves and barriers at the supply side, such as inadequate logistics and accountability for VAC improve, more children can have access to VAS. The expected resultant effect when improved demand for VAS meets with effective service delivery is improved VAS coverage. High coverage of VAS, in turn, may imply morbidity and mortality reduction among children 6 to 59 months of age. In the short-term, program planners may use the findings of this study to improve the planning and implementation of the VAS program.

Methodological Implications

In this research, a qualitative approach was used to explore factors that limit or promote VAS use. More studies that used a qualitative approach to explore the delivery of VAS program in Nigeria are needed to build the required evidence on the perspective of a wider range of stakeholders about the VAS program. For instance, it will add value to understand the views of program managers or officers working with international development organizations and local non-government organizations supporting the VAS programs. Often in the delivery of nutrition interventions, there is limited use of qualitative approaches to examine program effectiveness. Many nutrition interventions have not been able to progress from potential efficacy to impact because of the challenges in ensuring the effectiveness of service delivery in diverse contexts. Contextual issues

may not be easily pre-determined; instead, they have to be explored to get in-depth insight. A variety of qualitative approaches can help achieve this. Once diverse dimensions of perspectives about the program are examined, it can be useful to begin to develop structured tools that highlight the various factors identified and subject such to quantitative surveys. The use of quantitative studies can lead to higher potentials to generalize and identify the most significant barriers and enablers in a more objective manner.

The use of theory-driven approaches, such as the adoption of the social marketing framework is also rare in VAS campaign. Habicht & Pelto (2014) highlighted the potential of the framework in promoting micronutrient intervention. Wu et al. (2019) explored this potential and found that social marketing was effective in improving the KAP of consumption of vitamin A fortified foods in Tanzania. Considerations for practical use of the theoretical framework in the design of VAS program campaigns can make a difference in moving from social mobilization campaigns to social marketing campaigns. It is crucial to understand how to market vitamin A supplements to gain the same level of popularity that a product like noodles has been able to achieve in Nigeria.

Conclusion

This qualitative case study used a combination of document reviews and participant interviews to explore the perceptions of providers and beneficiary stakeholders regarding the current VAS program in Nigeria. Perceived barriers and facilitators to VAS program use were explored. Stakeholders' perspectives were mostly positive across the four participant groups interviewed and associated with the health

benefits of VAS. Negative views of the VAS related mainly to weaknesses in the delivery approach for VAS programs characterized by limited awareness campaign and distribution logistics.

The primary perceived constraint to the use of VAS is limited caregivers' awareness about the benefits of VAS and not being aware of MNCHW campaigns. Several other factors such as mothers' employment status, religious or cultural barriers, and distance to health facilities were also perceived as the limitation to VAS use. In this study, missed opportunity to promote VAS delivery using well child and sick child visit to PHCs were identified. When children go for immunization services and are due for VAS, there are currently no opportunities to provide such due to delivery arrangements. In the study setting, opportunities to close these gaps could be explored. Also, factors perceived to promote include caregivers' awareness of MNCHW and the benefits of VAS, and free distribution through public health facilities and in primary schools.

This study found that if strategies are put in place to improve awareness and strengthen the provision of VAS, universal access could be achieved. Also, the factors that enhance and limit VAS uptake from stakeholders' perspectives were identified. The findings of this study may inform promotional designs for VAS. The dissemination of the results among relevant stakeholders promoting VAS might initiate discussions towards improving the VAS program; it is therefore highly recommended.

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Appendix A: Content Analysis Guide for Document Review

The following information should be obtained from published document and grey literature (technical documents, program and project reports)

Section A: General background of VAS program in Nigerias

1. What is the estimated prevalence of VAS in children 6-59 months?
2. What are the locally identified sources of Vitamin A Deficiencies (VAD) among children 6-59 months?
3. What is the coverage of VAS among children 6-59 months?
4. What is the institutional arrangement for delivery of VAS?
5. How are VAS services used/ utilized?
6. What are the communication systems of existing VAS programs?
7. What national policies or guidelines relating to VAS program communication exists
8. What are the local communication channels for VAS?
9. What are the local level structures and systems of information Education and communication related to VAS
10. Is there local informal/traditional support and knowledge system for VAS or other system of traditional knowledge about micronutrient supplementation?
11. Are there local sources of other avenue for other health communication?
12. What existing reviews of communication approaches for VAS in Nigeria exist?

13. What facilitating factors or barriers are identified in Knowledge, attitude and practice studies relating to VAS?

Section B: Existing VAS campaign characteristics (critically review the identified communication strategies in the background section above to determine the sufficiency of existing BCC to communicate VAS and identify barriers and factors that may promote positive behavior to seek for VAS and consequently high coverage of VAS)

1. What is the content of VAS campaign?
2. How is the campaign messages delivered (identify the context and different mode of campaign delivery itemized in existing documents)?
3. Who are the target audience of the existing VAS campaign messages?
4. What communication channels are used to promote VAS?
5. What is the tone and the focus of the campaign?

Audience factors and cognitive factors of the target audience will be identified through past studies and triangulated with the

Appendix B: KII Guide for Caregivers of Children Under 5

Introduction and warm up

I am a student at Walden University, My name is Olufolakemi Anjorin, I will like to know what mothers and other people in the community think about vitamin A supplementation program in Nigeria. In order to do this, I have identified some group of mothers and caregivers and you are one of the people invited to participate in my study. I will like to conduct an interview with you. An interview is when I talk to people one-on-one on a topic like what I am about to start now. What I will like to know is what you think about the topic of vitamin A supplementation or how you feel about it. There are no wrong or right answers, it is just the way you see the topic or the way you feel about it. Do not think that any information is too small or not relevant. I will use whatever I find out from people I speak with to advise the government on how they plan vitamin A supplementation program.

Seek participants consent to record the session

I will like to take note as I speak to you so that I can remember everything we discuss after I leave this place. Also because I may not be able to write very fast everything you are saying I will like to request your permission to record everything we discuss. This will not be used against you at any time and what you said cannot be traced to you. It is just to ensure that I do not miss out important information. Can I record our discussion using this device (show a digital voice recorder to the respondent)?

ICEBREAKER – use an icebreaker to set an appropriate tone for the interview and get the respondent to be relaxed to talk freely on issues that will be discussed.

Part 1- Knowledge about Vitamin A Supplementation

1. What do you know about vitamin A supplementation (VAS)? (Probe for the age of children who should receive VAS
2. What do you think are the benefits of VAS?
3. What do you think are the problem that may arise if a child lacks vitamin A?

Part 2: Awareness of VAS delivery platforms /Channel

4. When was the last time that VAS was administered to children in this community (probe for the dates-month if known, the location where the VAS was administered, the name of the program through which it was administered)

5. Who provides VAS to children in this community (probe for possibilities of ad-hoc staff, community volunteers)
6. Where can Vitamin A supplement be obtained?
7. How can the current delivery channels be used

Part 3: Demand for Vitamin A supplement

8. Have you ever requested that your child receive Vitamin A supplement? (Probe for how this was done, whom the questions were directed to, whether the VAS was eventually received)
9. How often does your child receive VAS?

Part 4: Communication about VAS

10. How did you hear about VAS? (Probe about various channels without asking leading questions)
11. Can you recall anything you have heard about VAS? (Probe for key messages such as the timing of receiving VAS, the age of eligible children, dosage, colour capsules)
12. What do you think about the whole messages about VAS?
13. How can you describe vitamin A capsule
14. Have you ever told any of your friends or family members about VAS (ask only if the respondent is knowledgeable about VAS)
15. How are people informed about health programs in this community? (Probe for diverse media channels)

Part 5: Barriers to VAS use/utilization

16. Can you describe some of the factors that you think make some children in your community miss VAS? (Probe for cultural factors, religious reasons, some myth or other barriers)

Part 6: Facilitators of VAS utilization

17. What are the things you think make mothers to receive vitamin A for their children

Attitude towards VAS by Caregivers

- What do you do to ensure that your child receives VAS? (probe for whether caregivers can leave their work to go to health facilities or delivery sites for VAS)
- Please describe how your family members feel about Vitamin A supplementation (Probe about other health services like immunization)?
- What type of support do you receive from your household in order to ensure your child receives VAS?
- Please describe where people in this community go to address their health issues (probe for spiritual, self-medication, patent medicine store etc.)

Proposed solutions to promote VAS

- How best do you think the VAS program can be promoted?
- Who should be the target for messages that seek to promote VAS? (probe for why the named target is important)

Additional Information: Respondents Background

- Can you tell me about yourself (Probe for occupation, education, duration of stay in the community, number of other children)

Wrap Up, Thank Respondents & Close

Appendix C: Key Informant Interview Guide for Healthcare Workers

Introduction and warm up

I am a student at Walden University, My name is Olufolakemi Anjorin, I will like to know what health workers think about vitamin A supplementation program in Nigeria. In order to do this, I have identified some group of health workers and you are one of the people invited to participate in my study. I will like to conduct an interview with you. An interview is when I talk to people one-on-one on a topic like what I am about to start now. What I will like to know is what you think about the topic of vitamin A supplementation or how you feel about it. There are no wrong or right answers, it is just the way you see the topic or the way you feel about it. Do not think that any information is too small or not relevant. I will use whatever I find out from people I speak with to advise the government on how they plan vitamin A supplementation program.

Seek participants consent to record the session

I will like to take note as I speak to you so that I can remember everything we discuss after I leave this place. Also because I may not be able to write very fast everything you are saying I will like to request your permission to record everything we discuss. This will not be used against you at any time and what you said cannot be traced to you. It is just to ensure that I do not miss out important information. Can I record our discussion using this device (show a digital voice recorder to the respondent)?

ICEBREAKER – use an icebreaker to set an appropriate tone for the interview and get the respondent to be relaxed to talk freely on issues that will be discussed.

Part 1- Knowledge about Vitamin A Supplementation

18. What do you know about vitamin A supplementation (VAS)? (Probe for the age of children who should receive VAS, the dosage of VAS for the target age group).
19. What do you think are the benefits of VAS?
20. What do you think are the problem that may arise if a child lacks vitamin A?

Part 2: Awareness of VAS delivery platforms /Channel

21. When was the last time that VAS was administered to children in this community (probe for the dates-month if known, the location where the VAS was administered, the name of the program through which it was administered)
22. Who provides VAS to children in this community? (Probe for possibilities of ad-hoc staff, community volunteers).

23. Can you describe how the VAS program is implemented in this health facility? (Probe for all delivery avenue used, including community outreach, hard to reach communities strategies, communication and mobilization strategies, use of job aids or communication materials).
24. What do you think are the main challenges of the VAS delivery approaches?

Part 3: Demand for Vitamin A supplement

25. Do mothers or caregivers come to ask that their children receive Vitamin A supplement? (Probe for how mothers or caregivers do this, whom they contacted and, whether the VAS was eventually received)
26. What do you think is responsible for a mother seeking to get VAS for their child?
27. Why do you think a mother may not be interested in seeking VAS?

Part 4: Communication about VAS

28. How do you promote the VAS program?
29. Can you recall anything that is said to mothers about VAS? (Probe for key messages such as the timing of receiving VAS, the age of eligible children, dosage, colour capsules)
30. What do you think about the whole messages about VAS?
31. How can you describe vitamin A capsule
32. Have you ever told any of your friends or family members about VAS (ask only if the respondent is knowledgeable about VAS)
33. How are people informed about health programs in this community? (Probe for diverse media channels)

Part 5: Barriers to VAS use/utilization

34. Can you describe some of the factors that you think make some children in your community miss VAS? (Probe for cultural factors, religious reasons, some myth or other barriers)

Part 6: Facilitators of VAS utilization

35. What are the things you think make mothers to receive vitamin A for their children

Attitude towards VAS by Health workers

- What do you think about the VAS program?
- Please describe how health workers feel about Vitamin A supplementation program (Probe about other health services like immunization)?
- What type of support do you and other health workers receive from government or this health facility in relation to the VAS program?

Proposed solutions to promote VAS

- How best do you think the VAS program can be promoted?
- Who should be the target for messages that seek to promote VAS? (probe for why the named target is important)

Other issues relevant to VAS

- Are there other things you think are important about VAS that you will like to share?

Additional Information: Respondents Background

- Can you tell me about yourself? (Probe for educational background, how long in the health facility, other duties apart from VAS, if originally from the community, how long on the VAS program).
- Do you have any questions for me in relation to this study?

Wrap Up, Thank Respondents & Close

Appendix D: Key Informant Interview Guide for Policy/Program Actors

Introduction and warm up

I am a student at Walden University, My name is Olufolakemi Anjorin, I will like to know what program planners or project managers think about vitamin A supplementation program in Nigeria. In order to do this, I have identified some participant groups that include policy and program planners. You are one of the people invited to participate in my study. I will like to conduct an interview with you. An interview is when I talk to people one-on-one on a topic like what I am about to start now. What I will like to know is what you think about the topic of vitamin A supplementation or how you feel about it. There are no wrong or right answers, it is just how you see the topic or the way you feel about it. Do not think that any information is too small or not relevant. I will use whatever I find out from people I speak with to advise the government on how they plan vitamin A supplementation program.

Seek participants consent to record the session

I will like to take note as I speak to you so that I can remember everything we discuss after I leave this place. Also because I may not be able to write very fast everything you are saying I will like to request your permission to record everything we discuss. This will not be used against you at any time and what you said cannot be traced to you. It is just to ensure that I do not miss out important information. Can I record our discussion using this device (show a digital voice recorder to the respondent)?

ICEBREAKER – use an icebreaker to set an appropriate tone for the interview and get the respondent to be relaxed to talk freely on issues that will be discussed.

Part 1- Knowledge about Vitamin A Supplementation

36. What do you know about vitamin A supplementation (VAS)? (Probe for the age of children who should receive VAS, the dosage of VAS for the target age group).
37. What do you think are the benefits of VAS?
38. What do you think are the problem that may arise if a child lacks vitamin A?

Part 2: Awareness of VAS delivery platforms /Channel

39. What are the ways through which VAS is currently promoted in Nigeria? (probe for a routine delivery, use of private health facilities, campaign strategies)
40. Who provides vitamin A to children? (Probe for categories of health workers or ad-hoc staff or volunteers engaged)

41. Can you describe how the VAS program implementation is set-up in this state? (probe for who coordinates or provide VAS services at all levels-state, district areas, health facilities, and the communities and outreach sites)
42. What do you think are the main challenges of the VAS delivery approaches?

Part 3: Demand for Vitamin A supplement

43. How will you describe the coverage or uptake of VAS program?
44. What do you think is responsible for a mother seeking to get VAS for their child?
45. Why do you think a mother may not be interested in seeking VAS?

Part 4: Communication about VAS

46. How do you or your team promote the VAS program? (Probe for materials used to promote VAS, available communication materials such as jingle scripts, posters, banners).
47. How can you describe the effectiveness of the VAS communication approach?
48. What do you think can be done to improve communication about VAS?

Part 5: Barriers to VAS use/utilization

49. Can you describe some of the factors that you think make some children miss VAS? (Probe for cultural factors, religious reasons, some myth or other barriers)

Part 6: Facilitators of VAS utilization

50. What are the things you think make mothers to receive vitamin A for their children?

Attitude towards VAS by the government

- How would you describe government commitment to VAS program?
- What type of support do you and other program planners receive from the government in relation to the VAS program?

Proposed solutions to promote VAS

- How best do you think the VAS program can be promoted at all levels? (Probe for what government, health workers or other stakeholders can do).

- Who should be the target for messages that seek to promote VAS? (probe for why the named target is important)

Other issues relevant to VAS

- Are there other things you think are important about VAS that you will like to share?

Additional Information: Respondents Background

- Can you tell me about yourself? (Probe for educational background, how long in the position, other duties apart from VAS, how long managing the VAS program).
- Do you have any questions for me in relation to this study?

Wrap Up, Thank Respondents & Close.