



**Post National Supplementation Days Coverage
Assessment Survey
in vitamin A+, second passage 2021,**

BURKINA FASO

PROVISIONAL REPORT 1

June 2022

POST JVA+ COVERAGE SURVEY from December 2021-January 2022, BURKINA FASO

Research site: burkina F a so , Health Regions _ _ _

Type of study : Et ude tr ansv e r sale _ m ix t e:
- quan t ita t i v e , son dage _ in _ gr a p _ _ type _ OMS _
-qualitative, individual interviews

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P e r i o d o f t h e s t u d y : December 2020- January 2021

***C o m m a n d i t a r y o f
t h e s t u d y _*** H e l e n K e l l e r I n t e r n a t i o n a l (H e l e n K e l l e r I N T L)

E q u i p e a s s e s s m e n t :
SERSAP

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W e s _ n ' o u b l i o n s n o t _ _ t h e s _ p e r s o n s _ _ i n t e r v i e w e e s _ _ _ _ _ (m o t h e r s o r g u a r d i a n s o f c h i l d r e n , a g e n t s o f h e a l t h , _ _ _ _ _ a g e n t s h e a l t h _ _ _ at C o m m u n i t y b a s e _ _ _ _ _ a n d t d i s t r i b u t e r s c o m m u n i t y) _ _ _ _ _ _ _ w h o i _ u n t w i e n w a n t e d _ _ _ _ _ a c o r d e r _ t o i n q u e s t e r s _ _ _ _ _ o n e p a r t _ _ _ o f t h e i r _ _ _ p r e c i e s _ t i m e _ _ _ a n d t f o r _ _ t h e r e _ g o o d _ _ _ _ _ c o l l a b o r a t i o n d u r i n g _ _ _ _ _ t h e r e _ p h a s e _ _ _ o f c o l l e c t e o f s _ d a t a . _ _ _ _ _

EXECUTIVE SUMMARY

context

Vitamin A deficiency decreases resistance to infection, causes stunted growth and causes eye conditions that can progress to blindness if left untreated. It is rife in Burkina Faso, where the adjusted prevalence of clinical deficiency is 7% (EDS 2003). Faced with this situation, the Ministry of Health has institutionalized since 2006, vitamin A supplementation for children aged 6-59 months, every six months and has implemented in 2011 a new strategy namely "vitamin A days +".

Since 2017, the Ministry of Health has decided to conduct the JVA+ through a mixed strategy including both campaigns and routine. A first national JVA+ coverage assessment survey took place in July 2018. Following this survey, several others were carried out in Helen Keller's regions of intervention and the results of the surveys have always shown that the rates of JVA+ coverage were better in rural than in urban areas.

Objective

1. Evaluate the coverage of Vitamin A Plus Days (JVA +) consisting of vitamin A supplementation, deworming and screening for acute malnutrition in children aged 6 to 59 months;
2. To assess the costs and effectiveness of Burkina Faso's innovative mixed-model VAS services used in rural and urban areas.

Methods

Type of study : This was a quantitative and qualitative cross-sectional study according to the WHO coverage survey methodology (PECS) (Practical guide for the implementation of post-campaign vaccination coverage surveys WHO, 2018), which is a rapid, standardized and simplified survey method. A participatory approach integrating gender in all stages of data collection was preferred.

Study setting : This **study** was conducted in two health districts. These are the health district of Kombissiri which is in the health region of the Center South and the health district of Yako which is in the health region of the North. The Kombissiri health district falls under the HKI intervention area and that of Yako falls under the UNICEF intervention area.

Study population : The study will target households with at least one child aged 6 to 59 months at the time of the JVA+.

Collection technique: Direct interview with the use of mobile technology for the collection and daily transmission of data via the internet.

Sample size : According to the WHO sampling methodology adopted, 77 EAs were selected in each district, including 57 in rural areas and 20 in urban areas. By selecting 11 households per ZD, 1,696 households were surveyed in the two health districts.

Principle results

Sociodemographic characteristics

- 74.0% of surveyed households live in rural areas and only 26.0% in urban areas;
- The majority of respondents belong to the 25-40 age group (80.9%);
- Nearly 90% of respondents are female;
- A little more than 8 out of 10 respondents have no schooling (80.71%);
- The majority of respondents are housewives (36.62%);
- The households surveyed belong to 2 wealth classes, the very poor (17.2%) and the very rich (13.0%);
- Almost all households in rural and urban areas receive medical care in health centers.

Sociodemographic characteristics of children

- Overall, the age of more than 8 out of 10 eligible children is in the 24-59 month age group (74.2%);
- In the study area, there are almost as many boys as girls (50.2% against 49.7%);

Vitamin A supplementation and deworming

- Overall, nearly 9 children out of 10 (88.1%) were supplemented with Vitamin A. The rate of supplementation in urban areas (73.5%) is below that of rural areas (89.2%);
- Taking into account the overall number of 2,377 children surveyed, i.e. including children said to be "out of target", the coverage of vitamin A supplementation is 87.7%, of which 88.7% in rural areas and 73.7% in urban areas.
- Coverage is 86.1% in Kombissiri (urban=75.6% and rural=87.6%) and 88.2% in Yako (urban=72.1% and rural=89.16%)
- The Vitamin A coverage rate reaches at least 85.8% among children belonging to the 6-11 month and 12-23 age groups, but is 88.3% among 24-59 month olds;
- The VAS in girls (88.6%) is slightly higher than in boys (87.6%);
- The AVS is a little higher in the class of the very rich (88.1%) compared to that of the very poor (85.2%);
- 8 6.9% of the children were dewormed. The deworming rate in urban areas (70.0%) is lower than in rural areas (88.1%);

Communication strategy

- 69.3% of households received information about the campaign. Information about the start of the campaign reached more households in rural areas than in urban areas (71.7% for rural areas against 42.6% in urban areas);

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LIST SIGNS _____ AND ABBREVIATIONS

AS	Agent of _ health _____
ASBC	Agent of _ health _____ at base community _____
CM	Centre Medical
CSPS	Centre of _ health and _____ promotion social _
DC	Community Distributer _____
DN	Direction of _ there _ Nutrition
DHS	In quest _ demographic and _____ health _____
HELEN KELLER INTL	Helen Keller international
ICP	Nursing _____ chef de post _
INSD _	Institut National of _ there _ Statistic and _
JVA+	Vitamine days _____ HAS more _____
MAM	Malnutrition Aigüe Moderate _____
MAS	Malnutrition Severe aigüe _
ODK	Open __ Data Kit
PB	Arm circumference _____
PECS	Post-event coverage surveys
RGPH	General Recensment of _ there _ Population
SVA	Supplementation evitamine HAS
SMART	Standard _____
STATATA	Statistics year of Data Analysis
UI	International Unity _
UNICEF	Funds _____ of s _ nations united _____ for _____
VITHAS	Vitamine HAS
ZD	Enumeration area _____

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1 INTRODUCTION

1.1 context

Micronutrient deficiencies are responsible for various disorders, especially in children. Thus, vitamin A deficiency decreases resistance to infections, causes growth retardation and causes eye conditions that can progress to blindness in the absence of treatment. It is rampant in Burkina Faso, where the adjusted prevalence of clinical deficiency is 7% (EDS 2003). More recent data, but which does not cover the extent of the territory of Burkina Faso, report that more than 40% of schoolchildren in rural (Zeba et al; 2006) and urban (Daboné et al; 2012) had vitamin A deficiency. with serum retinolemia ($<0.7 \mu\text{mol /L}$). As for iron deficiency, responsible for anemia, it is most often caused by hematophagous worms. Vitamin A and iron deficiencies are major public health problems that have a negative impact on socio-economic development both through the ocular lesions and blindness for which it is responsible, and through its direct or indirect action on morbidity and mortality of children aged 0 to 5 years.

1.2 Vit A supplementation strategy as a response to VI A deficiency in Burkina Faso

Faced with this situation, the Ministry of Health has institutionalized since 2006, vitamin A supplementation for children aged 6-59 months, every six months and has implemented in 2011 a new strategy namely "vitamin A days + ". This strategy has the advantage of integrating, in addition to vitamin A supplementation, other activities contributing to the survival of the child, in particular deworming and screening for acute malnutrition using the Shakir strip. . The JVA+ strategy, since its adoption, has been implemented in the form of national campaigns that are more often integrated into polio National Vaccination Days (JNV) with good coverage. However, the scarcity of financial resources combined with the end of polio NIDs in Burkina Faso, has led the Ministry of Health and its partners to adopt new strategies that guarantee not only the continuity of NIDs+ but also a satisfactory level of coverage. .

Since 2017, the Ministry of Health has decided to conduct the JVA+ through a mixed strategy including both campaigns and routine. Indeed, the routine supplementation strategy for one (1) month was retained in rural CSPSs and campaigns for four (4) days were maintained in CSPSs located in urban areas. At the rural level, community-based health workers (ASBCs) recruited by the Ministry of Health have been responsible for the administration of inputs and screening while at the urban level, community distributors (CDs) are recruited and motivated for the implementation of the activity because there is no ASBC in urban areas. A first national JVA+ coverage assessment survey took place in July 2018. The results of this PECS showed that the VAS coverage rates among children aged 6-59 months were 70%, at the national level: rural areas have a coverage rate of 77.3% and rural urban areas at 44.3%. The deworming coverage rate among children aged 12-59 months was also low at 68% nationally, with 76% in rural areas and 43.4% urban. The screening rate for acute malnutrition among

children aged 6 to 59 at the national level was 55.4%, including 54.5% of children in rural areas and 24.4% in urban areas.

1.3 Rationale for the study

The costs and coverage rates of Burkina Faso's innovative mixed model, used in rural and urban areas, are not well established. It is also unclear how costs and rates compare between rural and urban areas. The aim of this study is therefore to better understand these programmatic aspects of JVA+. The following questions arise and the study should provide answers:

- What is the total budgetary cost of programming JVA+?
- Who bears these costs?
- What are the major contributors to program costs?
- What are the opportunity costs that parents face for participating in JVA+ (time spent participating in JVA+ that is not spent working and therefore earning money)?
- How does JVA+ affect ASBC workload throughout the year?
- What is the cost per child reached with JVA+?
- What are the additional costs induced by taking into account measures related to the COVID context?
- Can we theoretically reduce costs while achieving the same coverage ?

This work is carried out in close coordination with the Ministry of Health of Burkina Faso, the health centers and the partners concerned, including the UNICEF Office in Burkina Faso. As a result of this study, HKI will be able to provide advice to decision makers on the relative effectiveness and cost-effectiveness of JVA+. HKI will also support the Ministry of Health in developing tools that will enable the replication of similar studies and the anticipation of JVA+ costs, and the integration of cost-effectiveness into VAS policy discussions.

2 SURVEY OBJECTIVES

2.1 Main objective

- Evaluate the coverage of Vitamin A Plus Days (JVA +) consisting of vitamin A supplementation, deworming and screening for acute malnutrition in children aged 6 to 59 months;
- To assess the costs and effectiveness of Burkina Faso's innovative mixed-model VAS services used in rural and urban areas.

2.2 Specific objectives

Of _ way _ _ _ _ specific , _ this you _ study _ _ _ p e r m e t t r a d e :

1. Measure the coverage rates of vitamin A supplementation for children aged 06-59 months during JVA + in two health districts;

2. Measure the deworming coverage rates of children aged 12 -59 months during JVA + in two health districts;
3. Measure the coverage rates of screening for acute malnutrition of children aged 06 -59 months during JVA + in two health districts;
4. Compare the coverage achieved by stratification at the rural and urban levels for each of the two health districts;
5. Identify the total costs and by elements; cost sources, opportunity costs, costs per child reached for the two different JVA+ models;
6. Identify the additional costs induced by taking into account measures related to the COVID context;
7. Examine opportunities to reduce costs while achieving the same coverage.

3 METHODOLOGY

3.1 Type of study

The practice around the distribution of Vit A remained focused on achieving the objectives in terms of target coverage. In other words, it has always been a matter of asking the question whether the hedging objectives were achieved? This question, although very legitimate, should be extended to that of knowing how much the results obtained cost? This expansion opens up the prospect of discussions for lasting support for this very relevant public health approach. To do so, a cross-sectional study will be carried out in the two districts concerned. Different methods will be used to achieve each of the study objectives. Thus, quantitative research methods will be used to assess the coverage of JVA+ services.

The coverage component , aimed at estimating service coverage in the two districts, was completed by a quantitative survey with stratified two-stage cluster sampling. Two levels of stratification will be considered. Each health district will constitute a stratum. Within each stratum, sampling will be done in both urban and rural areas, based on data from the RGPH 2006 (22.7% in urban areas, 77.3% in rural areas). Two steps will complete the study. The first step will be to do a census of all eligible households in the clusters. Then the second step will consist of collecting data from the sampled eligible households.

In each district (stratum), the same number of households were surveyed and the sample size is calculated according to the formula used for WHO probability surveys (2015). The study is carried out during the second round of the JVA+, over two periods depending on the area of residence, which are: (i) urban area (December 2021), (ii) rural area (January 2021). Data collection will last approximately 23 days (including travel between enumeration areas) or 16 days for rural areas and 7 days for urban areas.

3.2 Study site and target populations

This study will be conducted in two health districts. These are the health district of Kombissiri which is in the health region of the Center South and the health district of Yako which is in the health region of the North. The Kombissiri health district falls under the HKI intervention area and that of Yako falls under the UNICEF intervention area. These two sites were highlighted in collaboration with the Directorate of Nutrition, the Regional Health Directorates of the Center South and North, for several reasons including: (i) accessibility. Districts are easily accessible for data collection teams; (ii) security. These are sites that are not prey to recurrent terrorist attacks in certain localities of Burkina Faso; (iii) the existing collaboration between HKI, UNICEF and the health authorities of the two study sites.

This study has two components in accordance with the objectives. This is a post-campaign coverage survey (PECS) of vitamin A supplementation and a cost-effectiveness survey of vitamin A supplementation programs. Within each health district, the study targeted informants specific to each section. Here the report is centered on the cover pane.

The coverage survey targeted households with at least one child aged 6 to 59 months at the time of the JVA+. Thus, all households with at least one child aged 06 to 59 months at the time of the second round of JVA + (December 2021-January 2022) will be included in the study. Furthermore, eligible households where there are no adult relatives present at the time of the survey and/or refusing to participate in the survey by not giving their informed consent will not be included in the study.

3.3 Sampling

3.3.1 Household sample

To calculate the required sample size, consider the following factors:

- Anticipated or expected coverage (p): 80%.
- The correlation coefficient between clusters (CCG): For post-JVA+ surveys, the high value ($1/6=0.167$) being the cautious side.
- Confidence Level (α): It is in good standing by 5%. Confidence intervals will be $(100-\alpha)\%$, usually 95%.
- Half-width of the confidence interval (CI): the $(100-\alpha)\%$ of the CI does not have a width of more than $\pm 5\%$ so its value will be 5%.
- Target number of respondents per cluster (m): for the PECS survey, we recommend 11. Indeed, the WHO asks that values generally be chosen for this factor between 5 and 15, which correspond to the number of households that a survey team can visit in one day and the total number of respondents expected in an average size cluster, if all targeted respondents are interviewed.

- Target number of clusters per level: The total sample size divided by m produces the target number of clusters per level. It is determined when selecting the sample size, and the clusters are chosen randomly.
- Factors related to statistical power and the probability of errors: these factors are the average number of households to visit to find an eligible child and the inflation factor to take non-respondents into account. The calculation method will be described below.

According to the 2015 WHO manual ¹, a six-step process for calculating cluster sample sizes for the purpose of coverage estimation or ranking:

1. Calculate the number of strata in which the survey will be conducted. We will refer to it by the letter A;
2. Calculate the effective sample size (EES). Will be referred to as B in subsequent calculations;
3. Calculate the design effect (SPE). Will be referred to as C in subsequent calculations;
4. Calculate the average number of households to visit to find an eligible child. Will be referred to as D;
5. Calculate an inflation factor to take non-response into account called E;
6. Use the values collected in steps 1 through 5 to calculate the important sample for survey planning and budgeting.

HAS	B	VS	D	E	m
2	306	2.5	0.90	1.111111	11

- A. Number of strata = 2
- B. Effective sample size = 306 (80% coverage and 5% precision)
- C. Consider that you will interview on average m=11 respondents per cluster with a correlation coefficient of 1/6, and therefore a model effect of 2.5
- D. Assume that you will find a target child in every 10% of households to visit, determined by estimating households with children of the target age.

With N surviving at birth per household = $((YC * BR) / (1000/HS)) * ((1000-IM) / 1000)$

- YC = number of eligible children from birth to 5 years old = 4.5.
- BR = birth rate per 1000 population = 46.
- HS = Average household size = 5.7 (DHS 2010).
- MI = infant mortality rate per 1000 live births = 65.

¹https://www.who.int/immunization/monitoring_surveillance/Vaccination_coverage_cluster_survey_EN.pdf

So $N = ((4.5 * 46) / (1000/5.7)) * ((1000-65)/1000) = 1.1032065$; so $1/1.1032065 = 0.90644861$

- E. Consider that 10% of households with an eligible child will not be home during the visit or will refuse to participate in the survey; the sample size must therefore be increased by 11% to compensate for non-responses (Appendix 1, Table 4 of the guide for more details).

E = Non-response rate = usually very low, but can be associated with data entry errors, so 10% may be safe. Calculated as follows: $100 / (100\% \text{ of eligible households that refuse to answer}) = 100 / (100-10) = 1.111111$

m = average number of children to survey per cluster = 10

1. Estimated total number of respondents who completed their questionnaires by stratum:
 $A \times B \times C = 2 * 306 * 2.5 = 1530$.
2. Number of households to visit to obtain the number of respondents who completed their questionnaires per stratum:
 $(A \times B \times C) \times D \times E = 3825 * 0.90644861 * 1.111111 = 1541$
3. Number of clusters per stratum: $B \times C / m = 306 * 2.5 / 10 = 77$
4. Number of households to visit per cluster = $D \times E \times m = 0.90644861 * 1.111111 * 11 = 11$
5. Total number of clusters in the survey = $A \times B \times C / m = 2 * 77 = 154$
6. Total (maximum) number of households in sample = total number of clusters x number of (maximum) households in each cluster: $154 \times 11 = 1694$

In summary the sample size is detailed as follows:

Number of layers	2
Number of clusters to select per stratum	77
Total number of cluster	154
Number of households per stratum	847
Total number of households in the sample	1694

The sample size is 847 households per stratum or 1694 households for the 2 strata.

3.3.2 Selection of households

A two-stage, stratified cluster survey will be conducted. The stratification criteria are urban and rural areas. At the first stage, we will draw 77 clusters in each stratum, ie 154 clusters in the study area. This draw will be done randomly and independently by the National Institute of Statistics and Demography (INSD) using its sampling base consisting of all the Counting Zones (ZD) which constitute the clusters of the zone of 'study. At the second stage, 11 households with at least one child aged 6 to 59 months will be selected randomly and independently in each cluster after the census of all eligible households in the cluster.

Once the cluster has been identified, the investigators will proceed during a first step to the census of all the eligible households of the cluster by assigning a number per household, then the consultant and/or the coordination committee will randomly select 11 households per household. cluster that will be investigated by the investigators. The number assigned to the household will be written in chalk on the door of the household which will facilitate data collection and quality control which will be carried out by the supervisors afterwards.

3.4 Data collection tools

The collection materials were designed in a participatory process including Helen Keller International through her Burkina Faso office and regional office and UC Davis University. Several sessions were organized to review the different tools in order to improve them for the data collection phase. Ultimately, the following tools were used in the field for the JVA+ coverage survey:

- Information form for consent;
- Study Participant Consent Form;
- Household census questionnaire
- Household questionnaire;
- Quality control questionnaire;

3.5 Recruitment and Training of Supervisors and Investigators

Interviewers and team leaders were recruited taking into account a list of criteria including academic level, language spoken and experience in data collection with tablets. The dominant criterion was seniority and completion of a similar study. All interviewers and team leaders recruited took part in the previous JVA+ coverage survey during 2020-2021.

A total of 12 enumerators, including six in each district, were involved in data collection. They were supervised by a team leader in each district

The training of data collectors took place on November 25, 26 and 29, 2021 in the large conference room of the Jean Paul II Sis Spiritual Center in the Tanghin district of Ouagadougou. This training respected the preventive measures against COVID-19 and focused on all the components of the study that will allow the proper execution of the collection activities by the various actors. The general objective of the training was to give the entire team in charge of the survey a consensual understanding of the process

and data collection tools during the coverage survey in the health districts of Yako and Kombissiri

Specifically, this training allowed:

- Present the objectives and expected results of the training and the study;
- Present the context of the study;
- Show the operational approach for collecting data on the coverage component and on the JVA+ cost component;
- Review all tools;
- Master the roles and responsibilities assigned to each data collection actor;
- Master the security and health measures related to COVID19

3.6 Pilot survey or pre-test of collection tools

The training agenda included two days of classroom training and one (01) day of pilot survey. A pilot survey was carried out on November 29 in two CSPS, in particular CSPA Wayalghin and CSPA Tanghin. The choice of these CSPA was based on a reasoned principle taking into account above all the proximity of these CSPA to the place of training and above all the effectiveness of the start of supplementation in an urban environment.

Two teams of six investigators formed in pairs were organized and each team covered a CSPA. The teams were given the mandate to introduce the subject of the pilot survey to the head nurse and to each survey five (05) households in the CSPA area. A total of ten (10) households were covered per pair, i.e. a sample of 60 households in the end.

the pre-test will have made it possible to: (i) test the questionnaire and its ability to meet the objectives of the survey, (ii) evaluate the average time taken to administer the questionnaire, (iii) evaluate the mastery of the interviewers in the use of mobile phones for collection, (iv) test the efficiency of the mobile application used and the transmission of data to the server, (v) identify all the difficulties related to the survey in order to analyze them and provide an adequate response, (vi) finalize the collection tools.

A debriefing was carried out in the room once the households were pre-tested and all the lessons were learned with a view to finalizing the data collection tools and building the capacity of the teams for better implementation of the collection.

3.7 Field data collection

All the collection tools were developed from the application of the ODK (Open Data Kit) application and the ONA platform and were imported on the mobile phones that were used for the collection.

Data collection took place in two major phases. These are the urban phase and the rural phase. Each phase is specific according to its context, it is in this sense that the

urban phase lasted seven (07) days and took place from December 1 to 08, 2021. The rural phase was longer. It lasted 19 days and took place from January 5 to 23, 2022. This rural phase initially planned for fourteen days was extended by four additional days to allow data collection to be completed.

It should be recalled that at the end of each phase, a debriefing meeting was organized with the investigators in order to identify the difficulties and possible resolutions to improve the next steps.

Each pair team followed the three main steps:

- 1- Enumeration of all the households in the cluster and census of eligible households: the enumeration consisted in counting all the resident households of a sampled cluster. The census, for its part, consisted in identifying the households that meet the criteria to be included in the survey. When the teams went to the sampled Enumeration Areas, they proceeded to enumerate and register all the eligible households in the cluster by writing the identification number of each household registered on its door and on the household census form. .
- 2- Random selection of households to be surveyed: After counting and continuous numbering of eligible households, **the RANDOM NUMBER GENERATOR application** was used by team leaders to select 11 households to be surveyed in accordance with the study protocol.
- 3- Once the 11 households were selected according to the protocol, the interviewers returned to said households and administered the questionnaires while observing the social distancing measures in force in the country.

3.8 Data processing and analysis

Before the analysis phase, weighting coefficients taking into account the sampling plan will be calculated.

Since the distribution of the sample among the strata is not proportional to that of the population, weighting coefficients will be used to be able to obtain results by stratum. The calculation of the weighting coefficients made it possible to correct the weight of each cluster and the weight of each stratum. Sampling probabilities are calculated for each sampling degree and in each stratum.

The sampling weight represents the probability that the respondent will be selected to participate in the survey: It is the inverse of the probability of selection.

In the context of our survey with a two-stage sample, the sampling weight takes into account the probability that the cluster is selected and the probability that the household is selected, knowing that the cluster has been selected. Thus, the original

enumeration area (cluster) selection probabilities from the HIPC sample or any other method employed and the household selection probability will be used to calculate the cluster weight.

During the collection, light analyzes will be carried out on the ONA.IO site. These are simple frequencies and crossings in order to follow the evolution of data collection.

The actual analyzes will be done using the STATA software, version 16.0 and 17.0, in order to obtain the prevalences (95% CI). This software makes it possible to apply weighting coefficients and to calculate coverage and confidence intervals taking into account the sampling plan.

The analysis, for its part, will produce the descriptive statistics according to the distribution of the variables, in accordance with the analysis plan.

The analysis will focus on:

- Descriptive statistics;
- Calculation of indicators (coverage resulting from the survey, costs, etc.);
- The list of tables (simple frequency; cross tables);
- Bivariate analysis (chi-square calculation, odds ratio, 95% confidence interval).

3.9 Ethical consideration

Ethics review and consent

This protocol is submitted for review by the Burkina Faso Health Research Ethics Committee. All participants will be informed of the aims and procedures, risks and rewards of the study and will be asked any questions before being asked to consent to participate in the study. For participants in non-PECS interviews, written informed consent will be obtained. For PECS participants, most of whom are not literate, we will obtain verbal consent.

Confidentiality and data security

Under the Survey Practice Act, we will protect the confidentiality of information provided by respondents. Personal data that identifies the respondent will not be collected. The data collected will only be handled by authorized persons and stored on machines whose access is secured by a password. All information obtained from questionnaires or interviews will be kept confidential. Ethical considerations will take priority throughout the study. We will protect the confidentiality of the information provided by respondents.

All information we have obtained will be kept confidential. The data will only be available on the protected ONA server to which only the study supervisor will have access. In addition, data will be collected, analyzed, presented, and published without

compromising the identity of respondents. For interviews with staff from the Ministry of Health and organizations such as HKI and UNICEF, no names will be requested. During the analysis, the participants' answers will be aggregated to obtain general costs and no element will identify the costs associated with the work of a particular person.

For coverage surveys, participants' names are not recorded, and all data collected, including collected GPS data, will be aggregated to provide an estimate of service coverage without individual household status being identifiable. In addition, all interviews will be conducted in private locations.

Informed consent

The informed consent of the participant is a prerequisite for data collection. A consent form will be read to participants for this purpose. During data collection, the Nutrition Department of the Ministry of Health will provide each team with vitamin A capsules (100,000 IU and 200,000 IU), deworming tablets so that they can be shown to parents (mothers/fathers, guardians) of children in order to facilitate their understanding of the products administered. This will ensure the quality of the answers given. The information collected will be used and managed in strict compliance with statistical secrecy and confidentiality. The interviewer will also explain to the interviewee that they are free to refuse to be interviewed, to withdraw from the interview at any time or to refuse to answer a particular question or a given set of questions. If the respondent does not freely consent, the interviewer should end the interview. Consent will be verbal.

The investigator accepts during the validation of the protocol to respect the instructions and the procedures described in the said protocol and to respect the good research practices with which he must comply.

The study protocol including the informed consent forms was submitted to the Health Research Ethics Committee and received its approval by deliberation No. 2021-10-227.

4 RESULTS

The results below describe the coverage survey component of this study.

4.1 Households and respondents surveyed

4.1.1 Characteristics of the populations surveyed in the households

In the two survey districts, 7,499 households were counted, including 4,004 and 3,495 households respectively in Kombissiri and Yako. 73% of households surveyed live in rural areas compared to 27% in urban areas. The census was done after obtaining the informed consent of the heads of households. Virtually all eligible households had given informed consent to be enumerated.

According to the survey methodology, 1,696 households were surveyed in the 154 enumeration areas (EAs) of the sample.

In these households, 2,377 children were surveyed, including 81 (3.4%) non-target children (under 6 months and over 59 months) and 2,296 target children, i.e. children aged 6 to 59 months responding to the eligibility criteria of the JVA campaign. According to place of residence, 78% of target children are in rural areas and 22% in urban areas.

The average household size is 1.40 with households of 1 to 6 children. The same trend is almost observed in both urban and rural areas.

Table 1 Characteristics of surveyed households

	Kombissiri			yako			Total study area		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Number of households surveyed	1,193	2,811	4,004	853	2,642	3,495	2,046	5,453	7,499
Number of households surveyed	222	629	851	219	626	845	441	1,255	1,696
Number of target children surveyed	261	859	1,120	255	921	1,176	516	1,780	2,296
Number of non-target children surveyed	14	13	27	25	29	54	39	42	81
Average number of children per household	1.24	1.39	1.34	1.28	1.52	1.46	1.26	1.45	1.40
SD	0.47	0.70	0.65	0.56	0.77	0.73	0.51	0.74	0.69
Minimum	1	1	1	1	1	1	1	1	1
Max	3	6	6	5	5	5	5	6	6

Source: SERSAP/Helen Keller Intl, Post JVA+ coverage survey results, second pass 2021

4.1.2 Characteristics of Respondents in Households

4.1.2.1 Gender of Respondents

Respondents in households were practically women with more than 88% in all districts and even according to place of residence, as shown in the following graph. So about more than 4 out of 5 respondents were women.

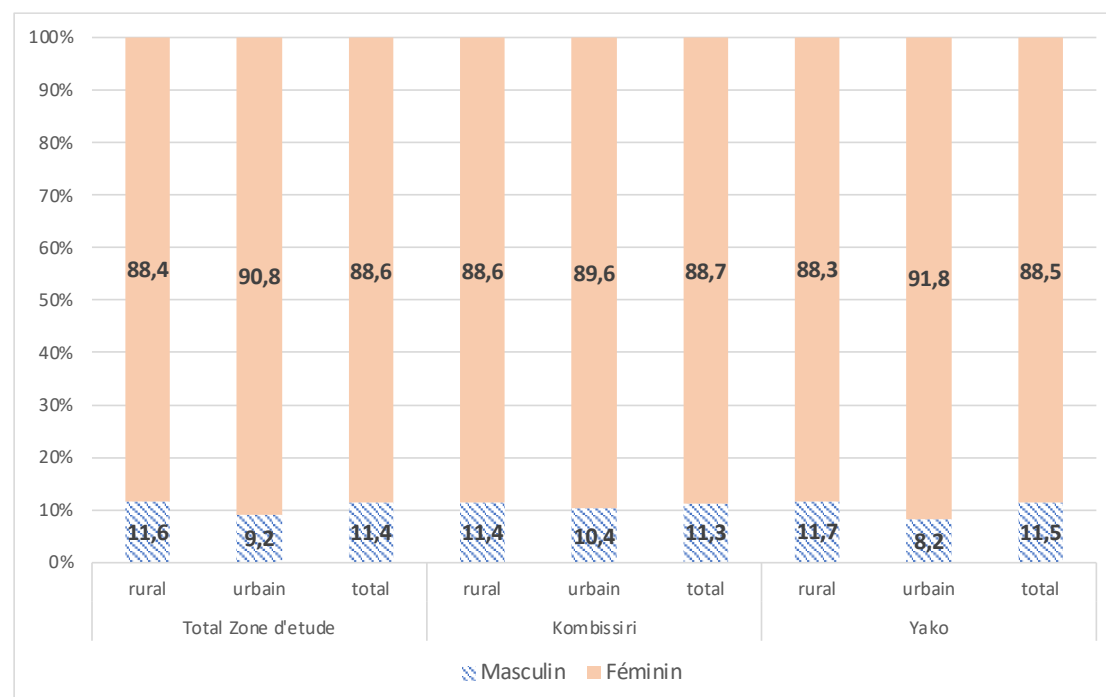


Chart 1. Distribution of respondents by gender

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.2.2 Relationship

Table 4 below indicates that the respondents were the mothers of the children (more than $\frac{3}{4}$ of the respondents). Also, regardless of the region or environment, mothers were the main respondents. The father was the family link that came by far in second place among the respondents with more than 10% in rural areas, against low proportions in urban areas, ie 2.7% in Yako and 6.9% in Kombissiri.

Table 2. Relationship of respondents to the child surveyed

Q7.0 Respondent's relationship to the child	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Dad	10.7	4.7	10.3	12.9	6.9	12.2	10	2.7	9.6
Mother	74.5	74.9	74.5	75.1	79.3	75.6	74.3	71	74.1
Co-wife/stepmother	5.3	2.7	5.1	3.5	2.3	3.4	5.9	3.1	5.7
Uncle / Uncle	0.9	1.1	0.9	0.8	1.9	0.9	1	0.4	0.9
Aunt	1.2	4.8	1.4	3.7	3.1	3.6	0.3	6.3	0.6

Tutor	0	0.6	0				0	1.2	0.1
Tutor	0	0.6	0				0	1.2	0.1
Grandfather	1.7	1	1.7	1.3	0	1.1	1.8	2	1.9
great mother	5.2	5.3	5.2	1.6	3.4	1.8	6.4	7.1	6.4
Servant/ Nurse/ Housekeeper	0	0.4	0	0	0.4	0	0	0.4	0
Brother sister	0.5	3.7	0.7	0.9	2.7	1.1	0.3	4.7	0.5
cousin	0	0	0	0.1	0	0.1			
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.2.3 age range

People over 40 and under 25 were in equal proportions of less than 20% in respondents' households. Overall, the under 40s were around 80% of respondents in districts as well as by place of residence. The same distribution according to age groups was observed in the two districts.

Table 3. Age group of respondents

slice age of respondents	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Under 25	18.4	23.4	18.9	12.6	21.2	13.8	20.7	25.4	21
25-29 years old	27.9	27.7	27.9	30	25.2	29.4	27	30	27.2
30-34 years old	21.5	19.8	21.4	24.3	23.4	24.2	20.4	16.4	20.2
35-39 years old	12.5	14.7	12.7	14.4	15.3	14.5	11.7	14.1	11.9
40 years and over	19.7	14.5	19.2	18.7	14.9	18.2	20.1	14.1	19.7
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 20201

4.1.2.4 Educational level

Overall, as shown in the graph below, more than 80% of respondents were uneducated, with however a significant difference according to place of residence, with 46% in urban areas and 83% in rural areas.

The trends observed at the district level were much the same with more than 95% of respondents in rural areas who have not reached the secondary level.

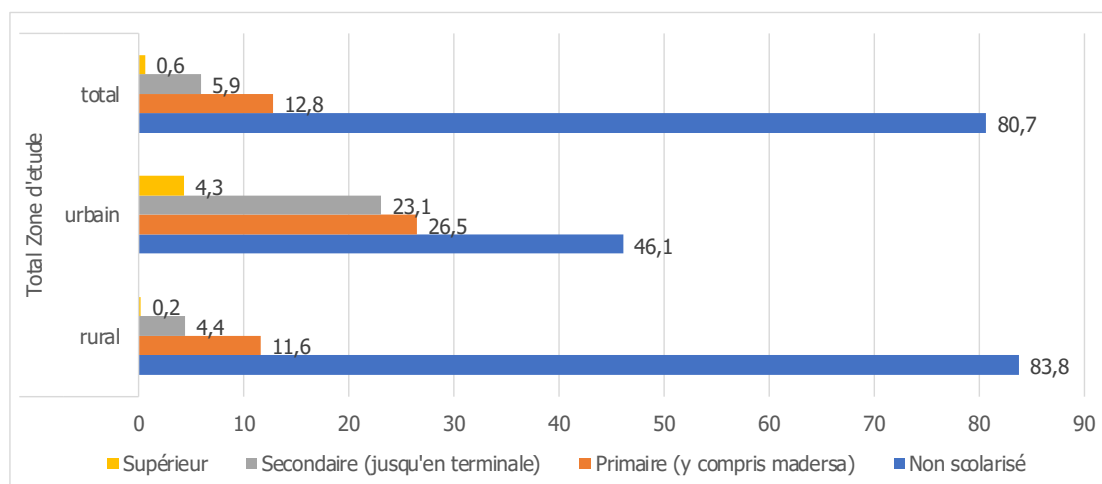


Chart 2. Level of education of respondents in the whole area

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.2.5 Main activities

The following table indicates that agriculture, household activities and trade constituted the three main activities of respondents for all of the two districts with more agricultural activity (45%) in rural areas and more trade (34%) in urban areas.

Table 4. Main activities of respondents (%)

Q2.5 What is your activity main ?	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Public sector employee (all categories of civil servants)	0.6	7.9	1.2	0.3	9	1.5	0.6	6.8	1
Private Sector Agent	0.2	1.1	0.3	0.3	1.4	0.5	0.2	0.9	0.2
Trader	11.4	34.5	13.3	12.6	41.4	16.4	11	28.3	12.1
Farmer / Cultivator / Breeder	45.8	16.3	43.4	57.7	24.3	53.2	41.4	9.1	39.4
Housewife / Housewife	37.5	27.2	36.6	27	16.7	25.6	41.4	36.5	41.1
Craftsman / Liberal activity (seamstress, Dolotière , etc.)	2.3	4.9	2.5	1.3	3.2	1.5	2.7	6.4	2.9
Unemployed/Unemployed	0.8	1.4	0.8	0.3	0.9	0.4	1	1.8	1
Retirement	0	0.5	0	0	0.5	0.1	0	0.5	0
Pupil/Student	1.2	6.1	1.6	0.5	2.7	0.8	1.4	9.1	1.9
Other (explain, list	0.2	0.2	0.2				0.3	0.5	0.3
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.2.6 Household wealth quintile

The standard of living of households, estimated according to household assets, indicates that 17.2% of households are very poor in all of the two districts with significant disparities observed according to the districts and the place of residence.

The district of Yako has 11.3% very poor against 31.7% for Kombissiri. In urban areas of each district, more than 45% of households are very wealthy.

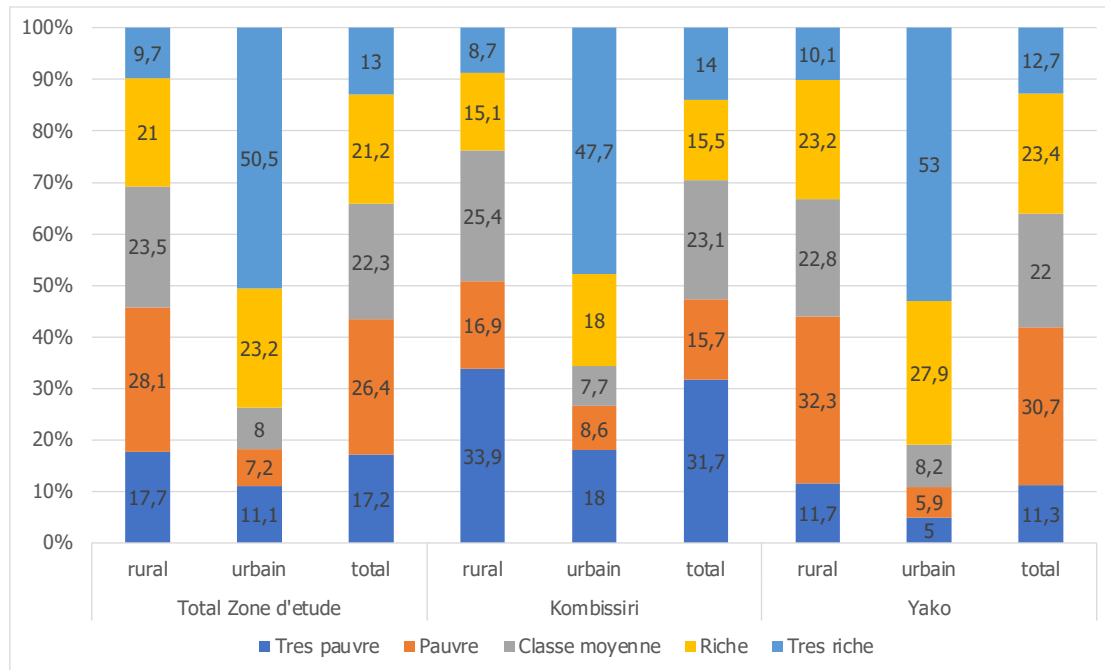


Chart 3. Standard of living of surveyed households

Source: SERSAP/Helen Keller Int, Results of the post JVA+ coverage survey, second round 2021

4.1.3 Behaviors and use of health services by mothers/guardians

4.1.3.1 The uptake and utilization of health services were assessed.

Use of health services

The following table lists the household care referral locations. Almost all households report using public health centers for treatment. This was seen in both rural and urban settings. Only isolated cases reported in urban areas resort to the private health center.

Table 5. Places of recourse to health care of the households surveyed

Q4.1 Where do you go most often for medical care ?	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total

Public health center (CSPS, CM, CHR / CHU)	99.8	99.3	99.8	99.8	99.5	99.8	99.8	99.1	99.8
Private/confessional health center (care cabinet, clinic, polyclinic, etc.)	0	0.5	0.1	0.2	0.5	0.2	0	0.5	0
Pharmacy / Laboratory	0	0.2	0	0	0	0	0	0.5	0
Traditional healer	0.1	0	0.1	0	0	0	0.2	0	0.2
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.3.2 Use of health services

The reasons for the use of health centers by households were, in order, vaccination, then growth monitoring, then curative consultation and finally for vitamin A supplementation.

In rural areas, the use of vitamin A supplementation services was higher in Yako (60%) than in Kombissiri (25%).

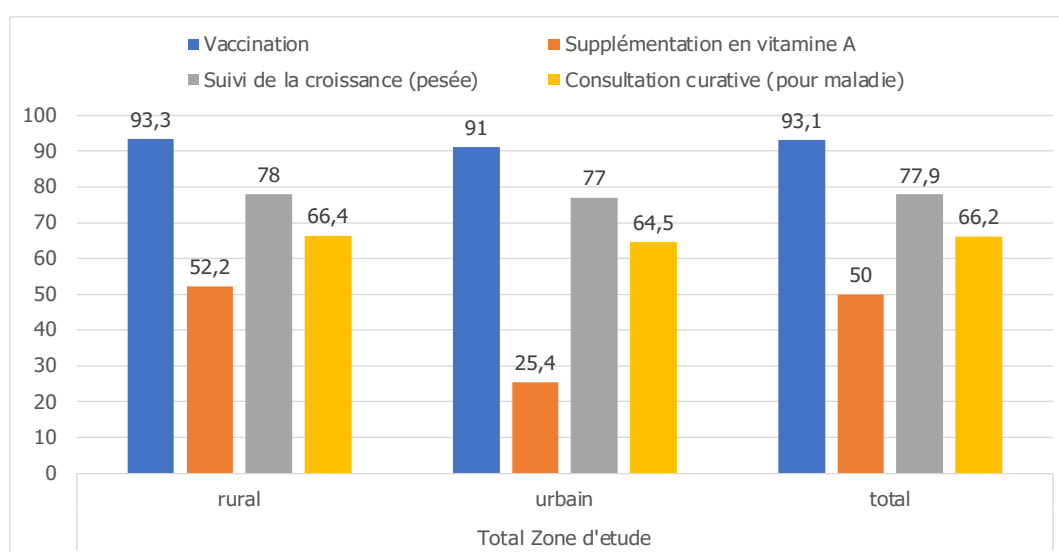


Chart 4. Use of health services by surveyed households

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

Table 6. Use of health services by surveyed households

		Vaccination	Vitamin A supplementation	Growth monitoring (weighing)	Curative consultation (for illness)
Total study area	rural	93.3	52.2	78	66.4
	urban	91	25.4	77	64.5

	total	93.1	50	77.9	66.2
Kombissiri	rural	97.1	32.1	85.1	96.7
	urban	94.1	24.8	82.9	85.6
	total	96.7	31.1	84.8	95.2
yako	rural	91.9	59.7	75.4	55.1
	urban	88.1	26	71.7	45.7
	total	91.6	57.7	75.2	54.5

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.1.4 Level of knowledge of households on Vit A and deworming

The household's level of knowledge was assessed on the recognition of the supplementation products, on the frequency of administration and the age of the first supplementation.

4.1.4.1 Product recognition

The proportions of respondents who recognized both products are higher in rural areas than in urban areas in each of the districts. Overall the two products were recognized in the same proportions (more than 70%) with the deworming which was better recognized than the vitamin A capsule.

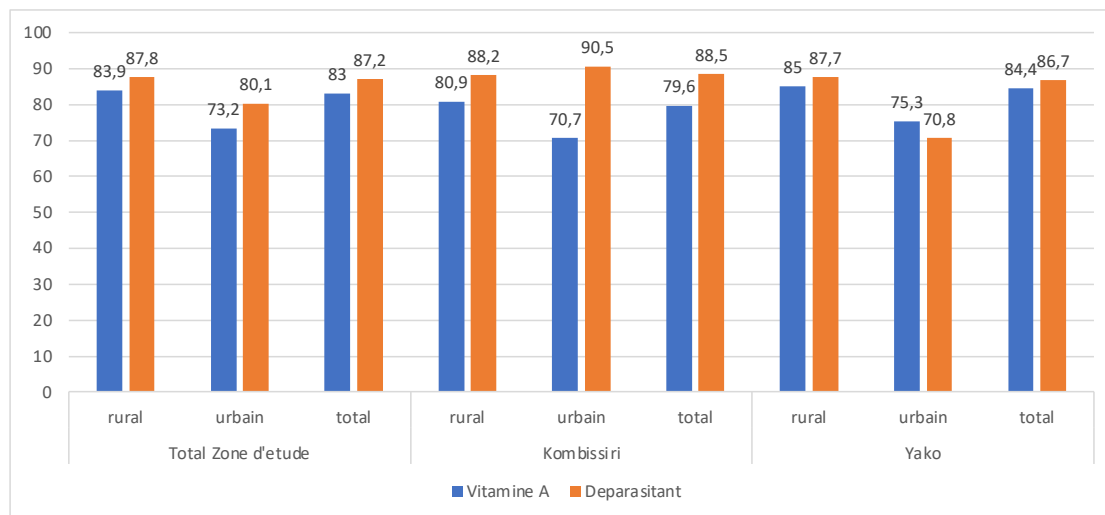


Chart 5. Recognition of Vit A and deworming by households

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2020

4.1.4.2 Knowledge of frequency of administration

The frequency of administration of the two products was known in the same proportions in each of the two districts and also according to place of residence. In rural areas, knowledge of the frequency of administration of the two products was 10

points less in Yako than in Kombissiri. However, in urban areas, knowledge in the two districts is practically equal, around 34% to 37%.

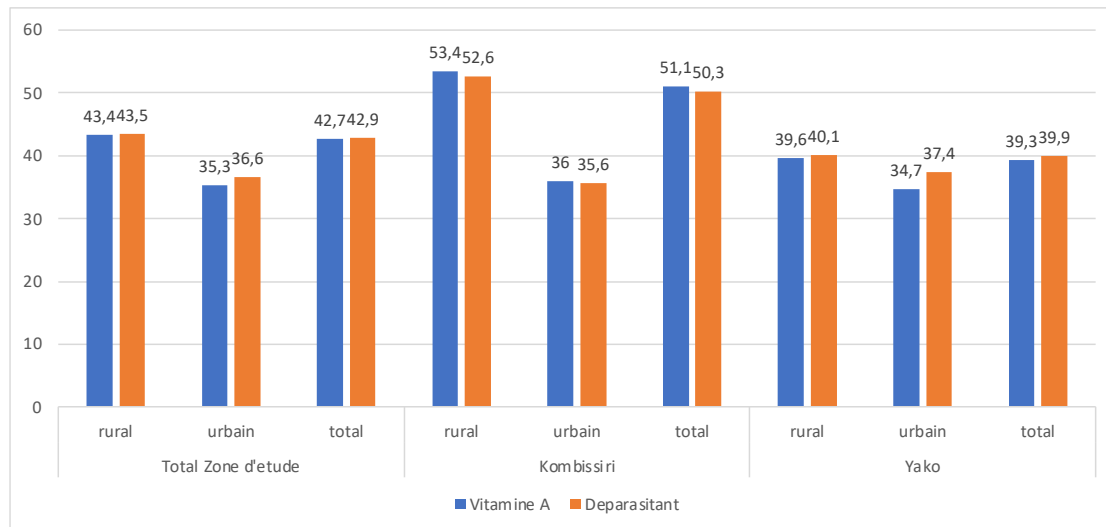


Chart 6. Knowledge of the frequency of administration of Vit A and deworming by households

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

4.1.4.3 Knowledge of product administration age

Knowledge of the age of administration of the products was disparate between the districts and also according to the place of residence.

The age of administration of vitamin A was known in more than 40% in rural areas in the two districts, 33% in Kombissiri against 55% in Yako in urban areas.

In rural areas, knowledge of the age of administration of the deworming agent was 33% in Kombissiri against 45% in Yako, with approximately 22% in urban areas in Kombissiri and 33% in Yako .

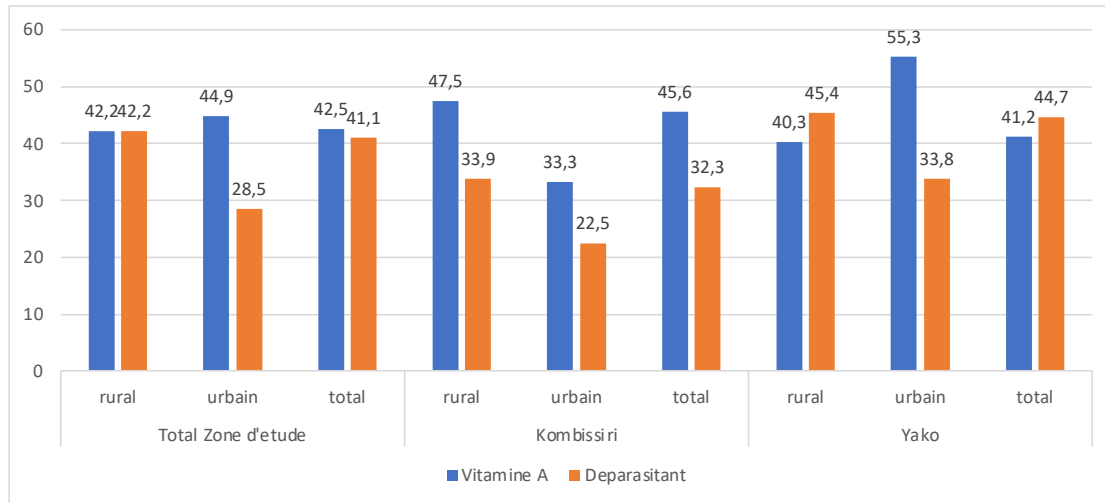


Chart 7. Knowledge of the age of administration of Vit A and deworming

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2020

4.1.4.4 Overall household knowledge index

The following graph indicates that the households of Kombissiri (21%) have better knowledge (all respondents having found all the correct answers relating to vitamin A and deworming) than those of Yako (less than 12%).

Only 10% of households in rural areas have a good knowledge compared to those in urban areas (15%) in all districts.

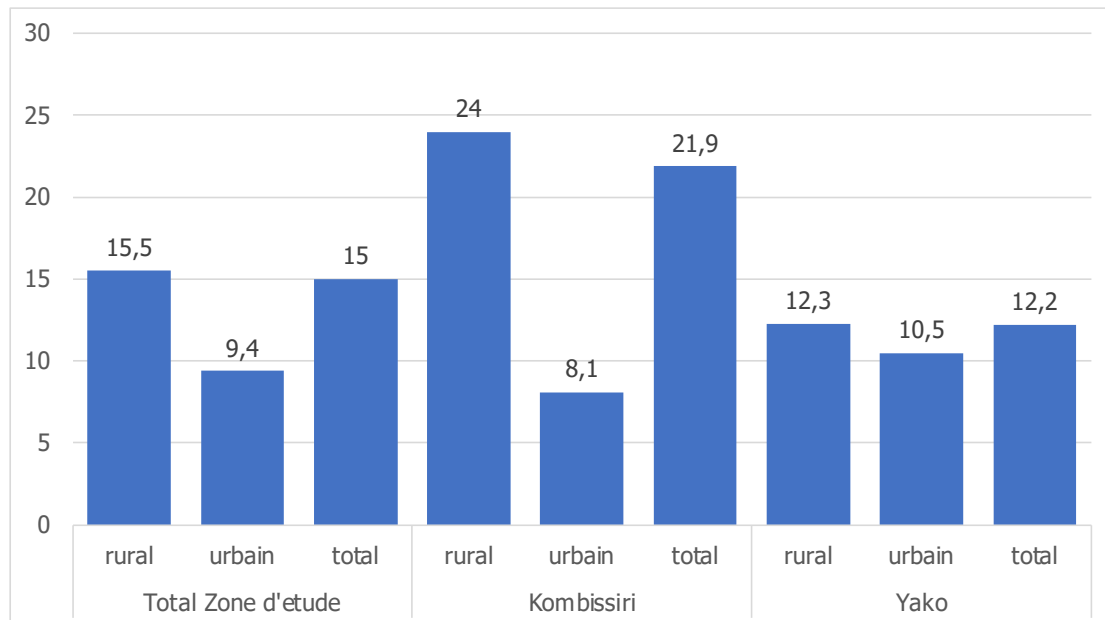


Chart 8. Overall household knowledge index

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2020

4.2 Child of surveyed households

4.2.1 Characteristics of the children surveyed

A total of 2,377 children were surveyed, including 81 (3.4%) non-target children (children under 6 months and children over 59 months) and 2,296 target children (children aged 6 to 59 months, eligible JVA+ targets) including 1,120 children in Kombissiri and 1,176 in Yako.

The average number of target children per household was on average 1.4 with more in rural than in more urban areas. The number of children varies from 1 to 6 per household in all the households surveyed.

Table 7. Characteristics of the children surveyed

District	Environment	Number of children surveyed			Average number of children per household	SD	Minimum	Max
		Targets	Off targets	Total				
Kombissiri	urban	261	14	275	1.24	0.47	1	3
	rural	859	13	872	1.39	0.70	1	6
	total	1,120	27	1,147	1.34	0.65	1	6
yako	urban	255	25	280	1.28	0.56	1	5
	rural	921	29	950	1.52	0.77	1	5
	total	1,176	54	1,230	1.46	0.73	1	5
Total study area	urban	516	39	555	1.26	0.51	1	5
	rural	1,780	42	1,822	1.45	0.74	1	6
	total	2,296	81	2,377	1.40	0.69	1	6

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.2.1.1 Sex

The distribution by gender is substantially the same according to the districts as well as according to the area of residence with fewer boys in Kombissiri (48.5%) compared to Yako (50.8%).

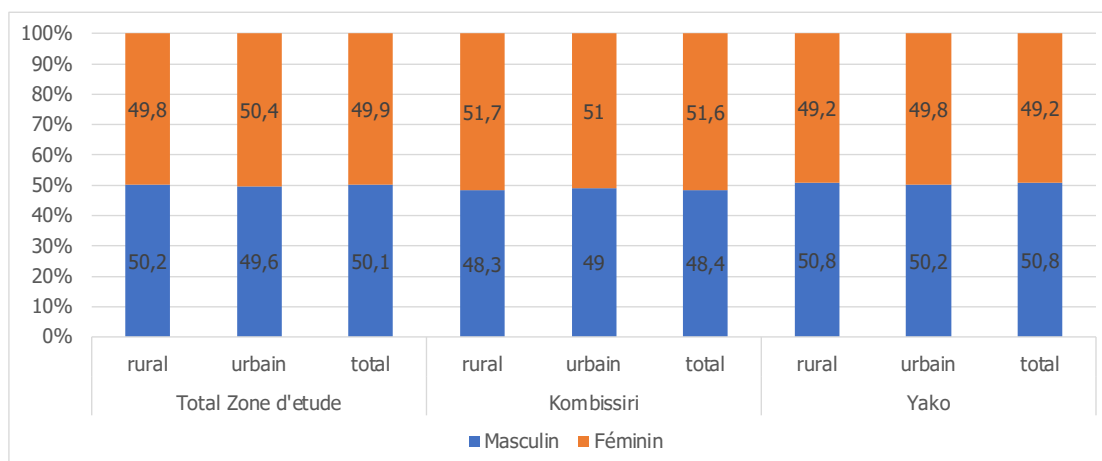


Chart 9. Distribution by sex in the entire study area

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.2.1.2 Age groups

According to the age group, the 24-59 months are more than 70% of the children surveyed in all the districts. The proportion of 12-23 month olds is higher in urban areas (22%) than in rural areas (18%). The 6-11 month olds are in substantially equal proportions in each of the districts and place of residence.

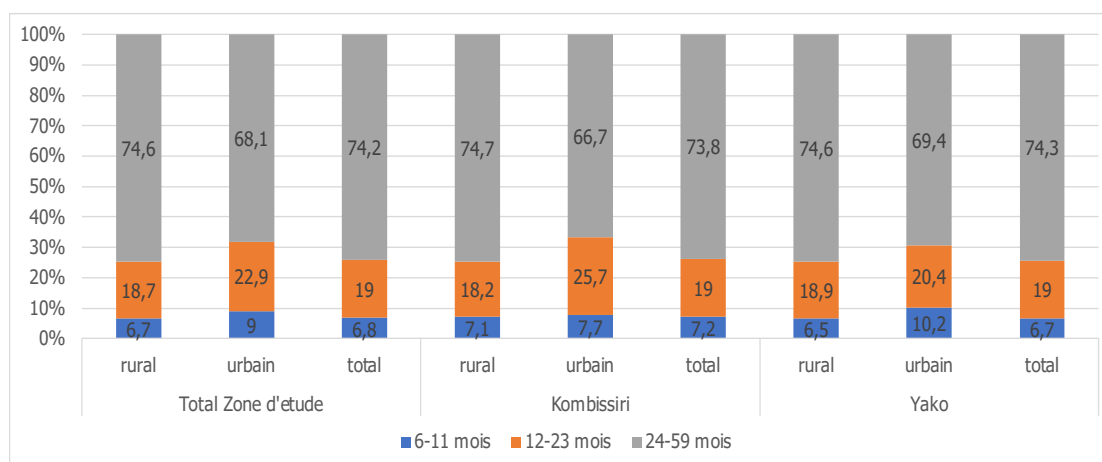


Chart 10. The age groups of the children surveyed

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.2.1.3 Sources of age information

The different sources of age verification are, in order, the health record, the declaration of the mothers, the calendar of events and lastly the birth certificate.

In Kombissiri, the health record and the parents' declaration are in equal proportions (40%), unlike Yako with more than 60% of the health record as a source of verification.

Table 8. Sources of age information

q7.3 What is the source of this information?	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total

Health book / vaccination / health campaign book	62.3	53.9	61.7	42.8	46.7	43.3	69.1	60.4	68.6
Birth certificate / baptismal record / school card	0.4	2.7	0.6	0.3	2.3	0.6	0.4	3.1	0.6
Event calendar	7.5	5.3	7.4	9.8	7.7	9.5	6.7	3.1	6.6
Saying of the mother or other parent / statement of the parent, without source of verification	29.8	38	30.3	47	43.3	46.6	23.8	33.3	24.2
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3 Coverage of JVA + interventions

The coverage of the various services offered during the JVA+ was assessed according to the regions and the place of residence of the children surveyed.

4.3.1 Vitamin A coverage

4.3.1.1 Vit A coverage by district and setting

Overall VAS coverage is 87.7%, however, taking into account only eligible target children (6-59 months), overall vitamin A supplementation coverage for the 2,296 children was 88.1% [86.5,89.5].

Coverage in rural areas, 89.2% [87.5-90.6] was higher than in urban areas 73.5% [69.5,77.1].

The same trend was observed in the two districts in the same proportions.

Vitamin A coverage rates in the two districts:

- Kombissiri 86.8% [84.6,88.7]
- Yako 88.6% [86.5,90.4]

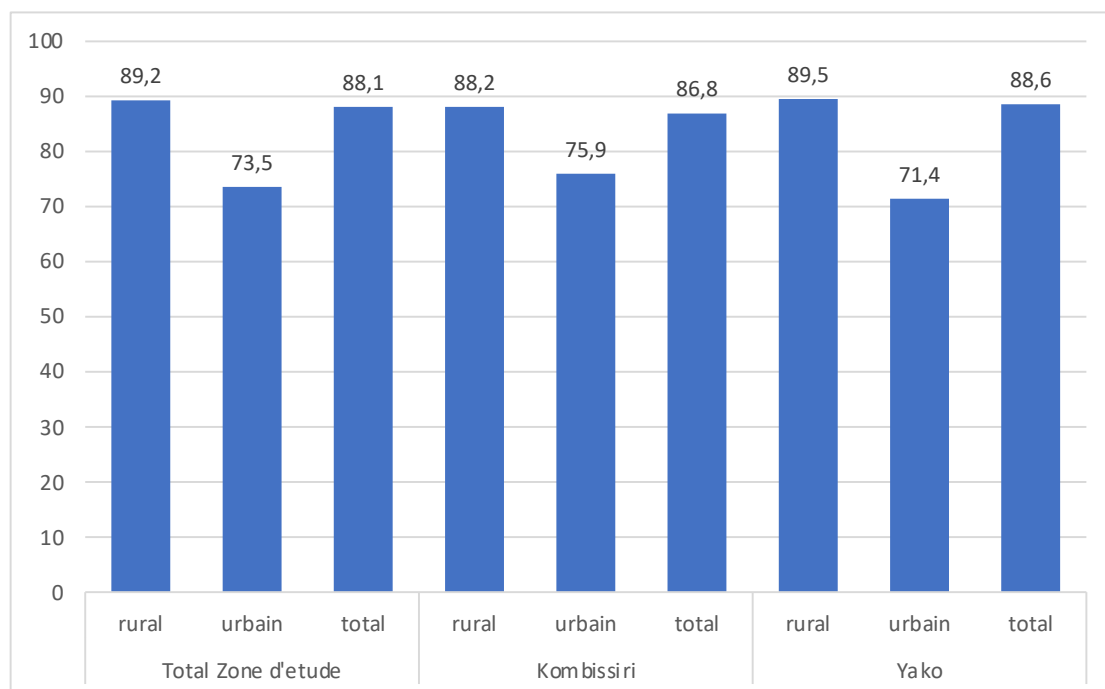


Chart 11. Coverage of vitamin A supplementation in children 6-59 months

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

Note: Taking into account the overall number of 2,377 children surveyed, i.e. including the so-called "non-target" children, the coverage of vitamin A supplementation is 87.7%, of which 88.7% in rural areas and 73.7% in urban areas. Coverage is 86.1% in Kombissiri (urban=75.6% and rural=87.6%) and 88.2% in Yako (urban=72.1% and rural=89.16%)

4.3.1.2 C opening in vitamin A according to sex

Vitamin A coverage according to gender was substantially equal in each of the districts as well as according to the distribution according to place of residence.

Overall coverage was 87.6% [85.3,89.7] for boys and 88.6% [86.3,90.4] for girls. For all genres, coverage in rural areas is always higher than in urban areas.

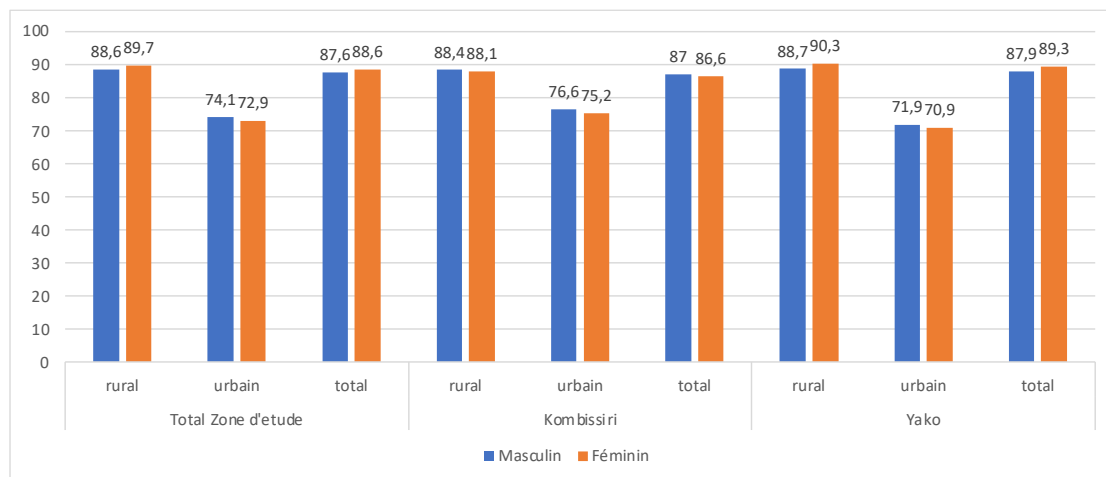


Chart 12. Coverage of vitamin A supplementation by gender of children

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.1.3 Vitamin A coverage by age group

Overall, regardless of age group and district considered, more than 80% of children were supplemented with vitamin A. Coverage in rural areas was also higher than in urban areas regardless of age group. of age.

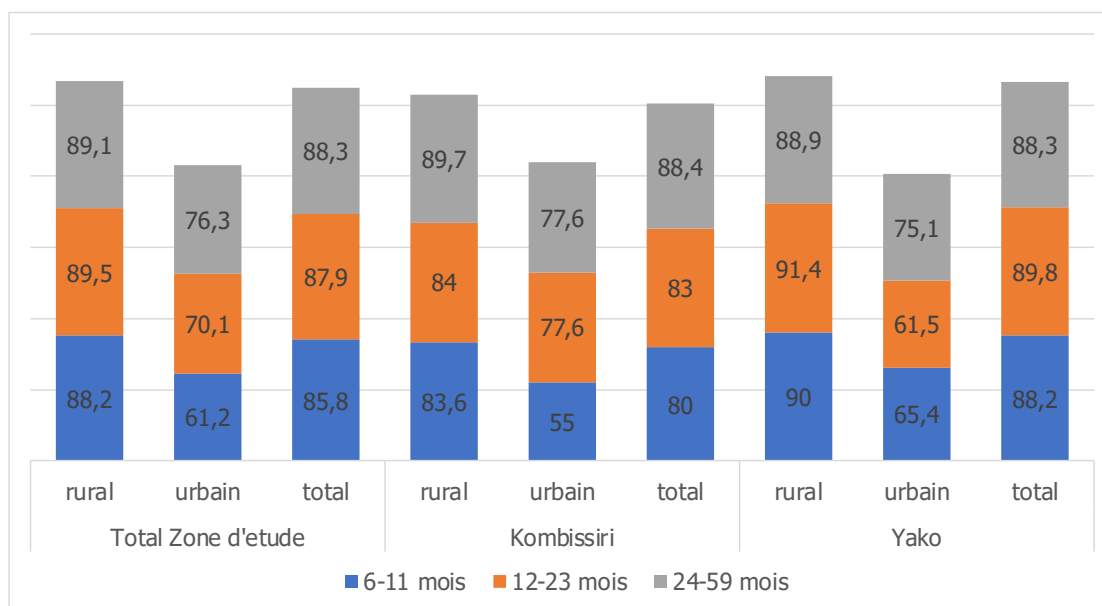


Chart 13. Coverage of vitamin A supplementation by age group

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.1.4 Place of reception of vitamin A

Vitamin A supplementation was practically done at home, door to door. In Yako , more than 99% of children were supplemented at home, both in rural and urban areas. Only in Kombissiri, children were supplemented in health centers and in the streets/markets.

Table 9. Places of reception of vitamin A

Q7.5 If yes where did he receive it (vitamin A)?	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Here at home / at the neighbor's	99.4	91	98.9	97.9	83.3	96.4	99.9	98.4	99.8
At the CSA house	0.1	0.6	0.1	0.3	0	0.2	0	1.1	0
Village/sector health center	0.1	1.2	0.2	0.4	2.5	0.6			
School/church/mosque	0.2	0.5	0.2	0.7	1	0.7			
Street/market/field	0.3	4.4	0.5	0.8	9.1	1.6	0.1	0	0.1
Other place in the village/district	0	2	0.1	0	3.5	0.4	0	0.5	0
Another place outside the village	0	0.2	0	0	0.5	0.1			
Total	100	100	100	100	100	100	100	100	100

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.1.5 Reasons for non-receipt

Some children had not benefited from vitamin A supplementation. The main reasons for this state of affairs were, in order, the fact that the agents had not visited the

household, the lack/shortage of product, the absence of the child and the non-information of the household.

In Kombissiri the main reason for non-supplementation of children was respectively the lack of product (45%) and the non-passage of distributors (36%). This trend was the opposite in Yako, ie 63% for non-transition and 19% for product rupture.

Table 10. Reasons for non-reception of vitamin A

	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
the child /family/household was absent	7.4	19.1	9.1	7.3	28.8	11.9	7.4	11.1	7.9
The agents did not come	54	64.7	55.5	28.1	66.1	36.2	63.8	63.5	63.8
Not informed	5.7	3.2	5.3	1	5.1	1.9	7.4	1.6	6.8
Lack of products	29.6	12.1	27.2	57.3	1.7	45.5	19.1	20.6	19.3

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.2 Deworming coverage

4.3.2.1 Deworming coverage by region and place of residence

Deworming coverage was 86.9% [85.2,88.4] of eligible children. In rural areas, 88.1% [86.3,89.7] of children had been dewormed and in urban areas, this rate was 70.0% [65.7,74.0].

Rural coverage was higher than rural coverage in all districts.

The deworming coverage was according to the districts:

- Kombissiri: 85.8% [83.5,87.8]
- Yako: 87.3% [85.1,89.3]

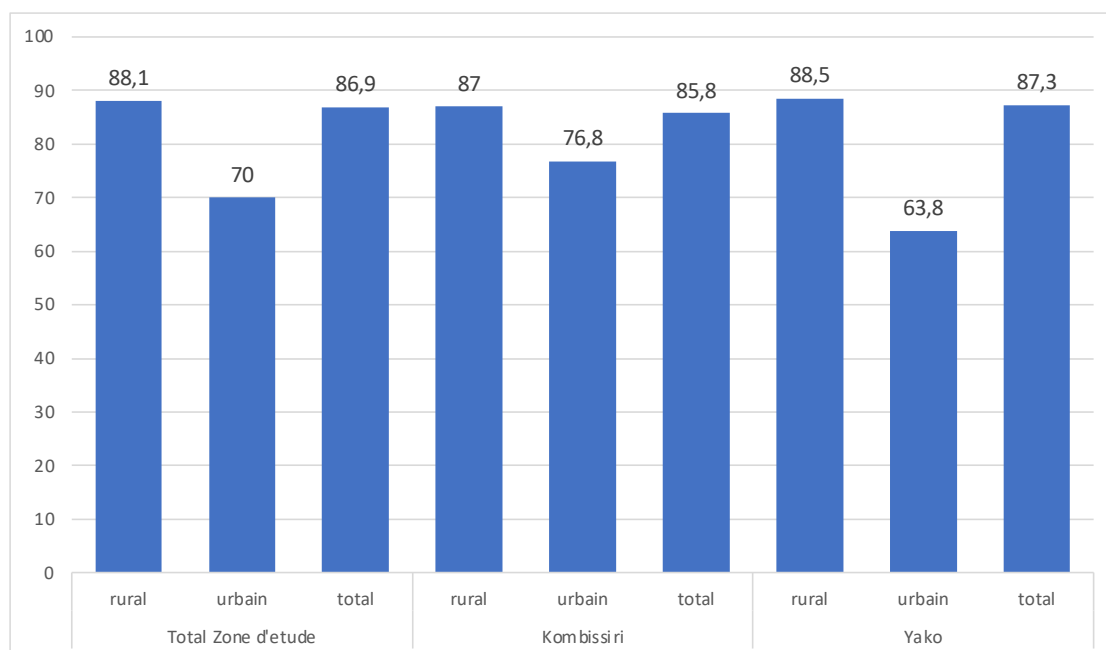


Chart 14. Screening coverage by region and place of residence

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.2.2 Deworming coverage by gender

Deworming in girls 87.7% [85.4,89.7] is substantially equal in boys 86.1% [83.6,88.3] whatever the district and according to the place of residence.

Coverage in rural areas was higher than in urban areas regardless of gender and district.

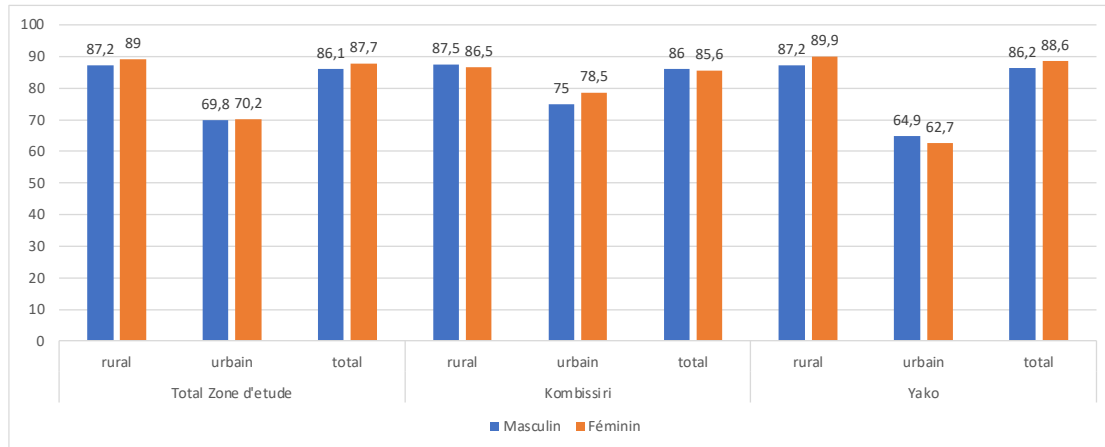


Chart 15. Deworming coverage by gender

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.2.3 According to age group

Deworming coverage in 12-23 month olds and 24-59 month olds was 85.1% [81.1,88.4] and 87.4% [85.5,89.1] respectively.

In urban areas, deworming coverage was higher for all age groups in Kombissiri compared to Yako.

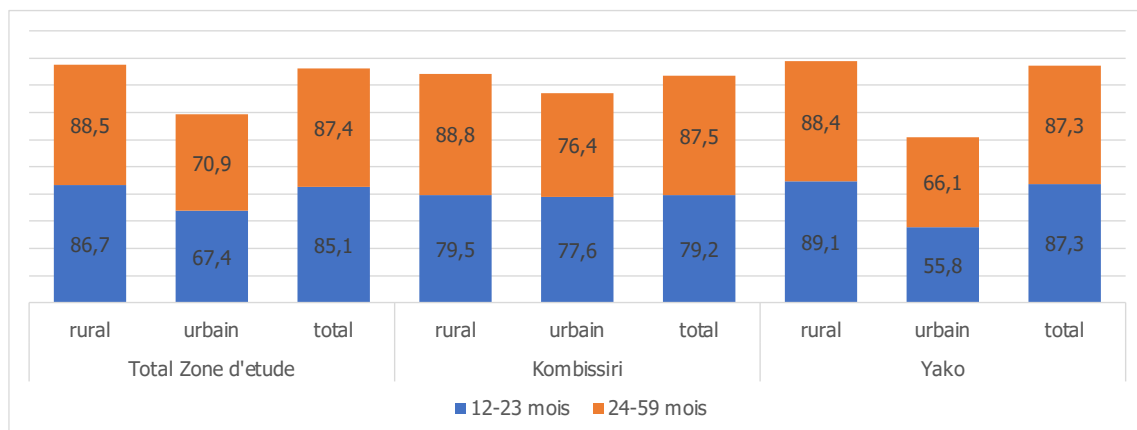


Chart 16. Deworming coverage by age group

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.2.4 Place of deworming

Almost all of the children had been dewormed at home, with more than 99% in Yako regardless of the environment.

In urban areas in Kombissiri, children had been dewormed in the streets/walks/fields and in schools/ churches .

Table 11. Place of reception of the dewormer

	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Here at home / at the neighbor's	99	91.4	98.6	97.7	84.3	96.3	99.5	99.3	99.5
At the CSA house	0.2	0.6	0.3	0.1	0.5	0.2	0.3	0.7	0.3
Village/sector health center	0.1	0.6	0.1	0.3	1.1	0.4	0	0	0
At the health center outside the village	0.1	0	0.1	0	0	0	0.1	0	0.1
School/ church/ mosque	0.2	0.3	0.2	0.7	0.5	0.7	0	0	0
Street/ market / field	0.3	4.6	0.5	1	8.6	1.8	0	0	0
Other place in the village/ neighborhood	0	2	0.1	0	3.8	0.4	0	0	0
Another place outside the village	0	0.3	0	0	0.5	0.1	0	0	0
Do not know	0.1	0.3	0.1	0.1	0.5	0.2	0.1	0	0.1

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.2.5 Reasons for not deworming

The reasons for non-deworming of children were disparate according to the districts and according to the place of residence. In order of reason, it is the non-passage of distributors, the lack of product, the absence of products. The order of the reasons was not uniform in the districts and according to the place of residence.

Table 12. Reasons for non- deworming

	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
the child /family/household was absent	9.9	16.8	10.9	7.2	30.8	11.7	11	8.1	10.6
The agents did not come	52.2	54.2	52.5	25.8	65.4	33.3	62.6	47.3	60.6
The agents are no longer ironed (in case of absence of the child during the 2nd visit)	3.7	0.7	3.3	10.3	1.9	8.7	1.1	0	1
Not informed	3.4	7.1	4	1	7.7	2.3	4.4	6.8	4.7
Lack of products	30.3	15	28	56.7	0	-4.4	19.8	24.3	20.4
Off target (declaration of agents)	1.2	1.6	1.2	4.1	1.9	3.7	0	1.3	-0.2

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.3 Acute malnutrition screening coverage

4.3.3.1 Screening coverage by region and setting

The screening rate for acute malnutrition was 70.2% [68.1,72.2] across the two districts with strong disparities. Indeed, the rate was different according to the district and the place of residence.

The detection rate in Yako (75.7% [73.1,78.2]) was higher than in Kombissiri (55.3% [52.3,58.3]). However, screening in urban areas of Kombissiri (36.8%) was higher than that of Yako (28.2%).

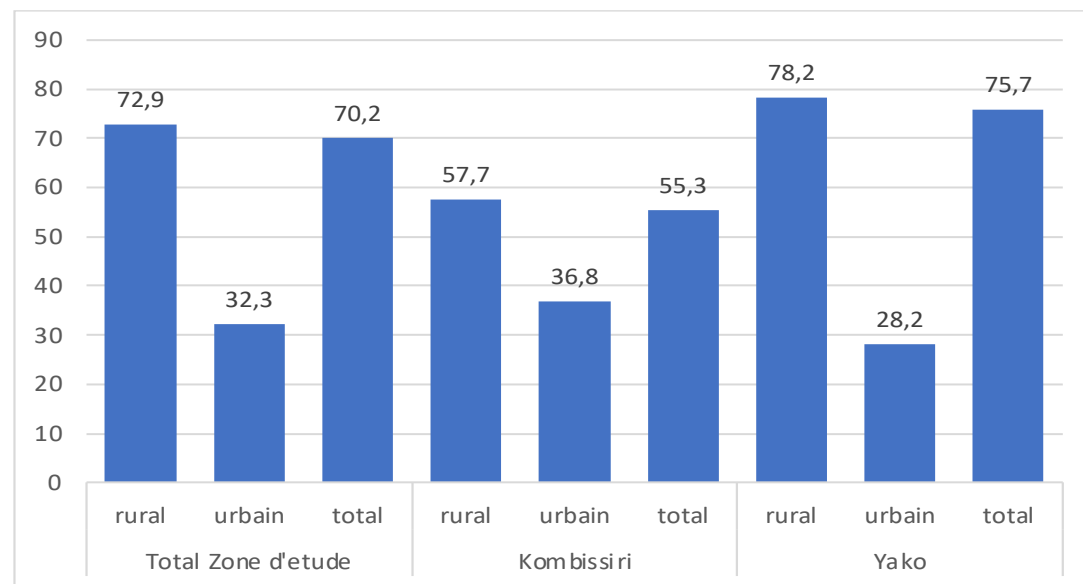


Chart 17. Malnutrition coverage by region and setting

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.3.2 Malnutrition screening coverage by gender

In all the districts, screening was practically the same according to sex with about 70%.

According to place of residence, there is no difference in screening according to sex, screening in rural areas being higher than in urban areas.

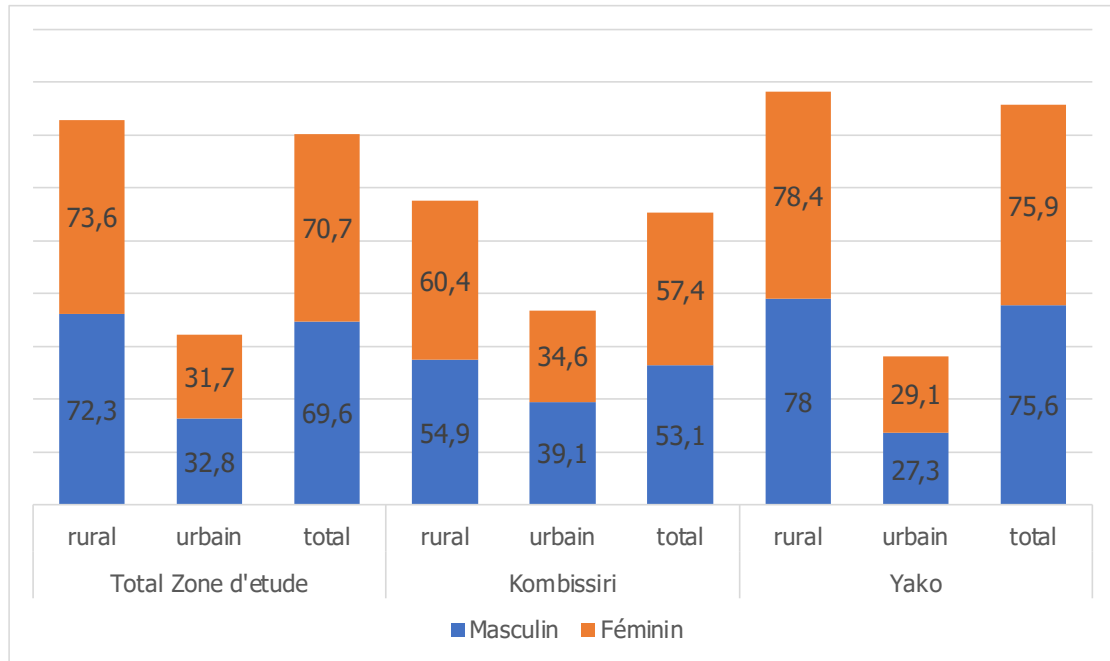


Chart 18. Malnutrition screening coverage by gender

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.3.3 Malnutrition screening coverage by age group

The coverage of acute malnutrition screening reported by age group showed practically the same proportions by district and by place of residence.

Among children aged 6 - 11 months, 61.5% were screened. For 12 - 23 month olds, this rate was 51.9%. Nearly 60% were screened for the 24-59 month age group.

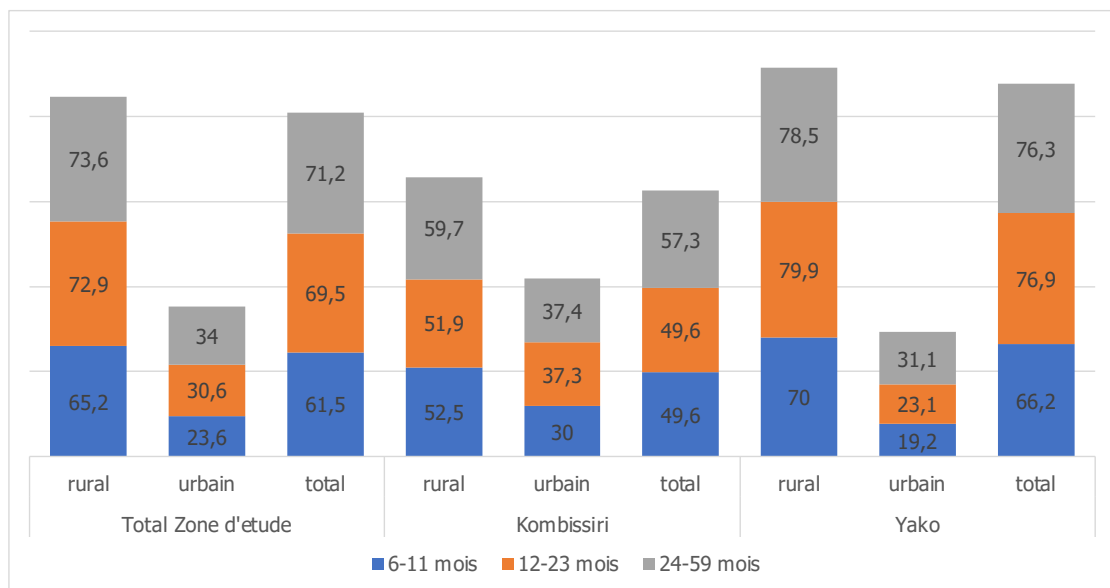


Chart 19. Screening coverage by age group

4.3.3.4 Acute malnutrition screening locations

Almost all of the children were screened at home, more than 99% depending on the district and place of residence.

A few children were screened in the streets/markets and at the urban health center in Kombissiri.

Table 13. Malnutrition screening location

	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Here at home / at the neighbor's	98.8	92.1	98.6	97.8	86.5	96.9	99	98.6	99
At the CSA house	0	1.2	0.1	0.2	1	0.3	0	1.4	0
Village/sector health center	0.1	1.7	0.2	0.6	3.1	0.8	0	0	0
School/ church /mosque	0.1	0.6	0.1	0.6	1	0.6	0	0	0
Street/market/field	0.2	4.5	0.3	0.4	8.3	1	0.1	0	0.1
Do not know	0.7	0	0.7	0.4	0	0.4	0.8	0	0.8

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.3.3.5 Malnutrition rate of screened children

Moderate acute malnutrition and severe acute malnutrition rates were 1.2% respectively. [0.7,2.1] and 0.3% [0.1,0.8].

The rate of moderate acute malnutrition was equal in the two districts, with a higher rate in urban areas of Kombissiri compared to Yako .

Table 14. Results of screening for acute malnutrition

	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Red color	0.3	1.7	0.3	0.7	0	0.6	0.2	3.7	0.2
Yellow color	1.1	3.8	1.2	0.9	5.5	1.2	1.1	1.9	1.2
Green color	98.6	94.5	98.5	98.5	94.5	98.2	98.7	94.4	98.6

Source: SERSAP/Helen Keller Intl , Post JVA+ coverage survey results, second pass 2021

4.4 JVA + communication strategy

4.4.1 Households informed of JVA+

More households in Kombissiri (75.3%) received information from the JVA+ campaign compared to households in Yako (66.8%), and even according to place of residence with respectively in urban areas 50.5% and 35.6%. Generally speaking, at the district level, it can be seen that the proportion of households informed of the holding of JVA+ was higher in rural areas than in urban areas.

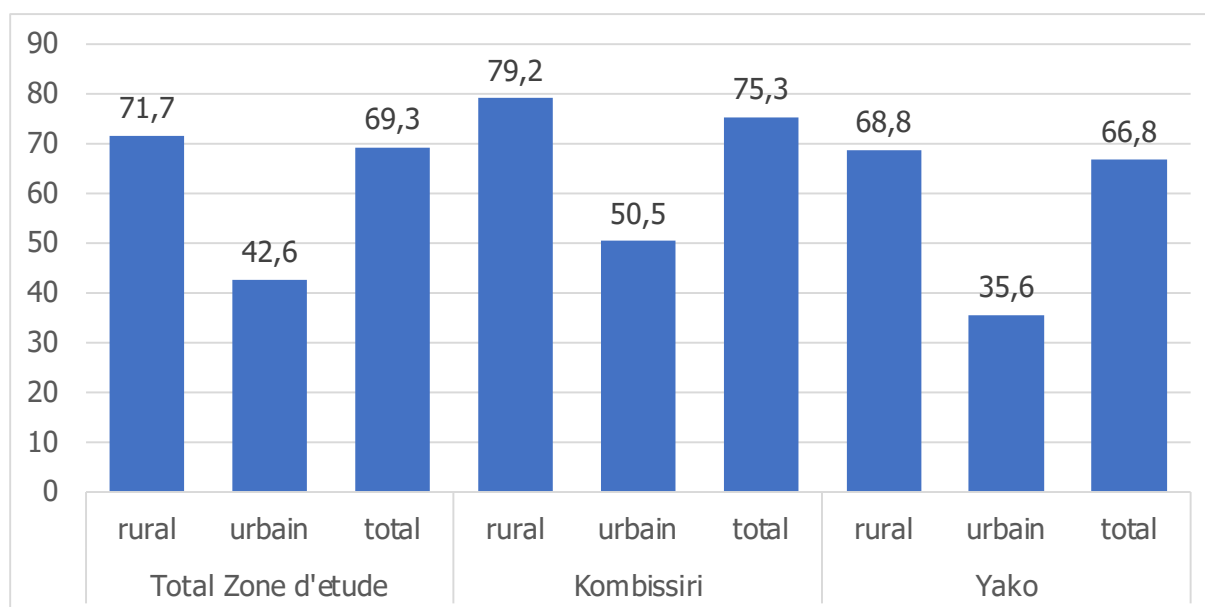


Chart 20. Household informed of the holding of JVA+

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

4.4.2 Mothers' sources of information on JVA+

The main sources of information for households on the holding of JVA+ remains by order, the town criers, the ASBCs/DCs and the health workers. Media such as radio come in fourth place. However, the order of the sources of information is not respected according to the districts and the place of residence. In urban areas, the media come second as a source of information.

Table 15. Household information sources

Q4.4 How were you informed of the JVA+?	Total study area			Kombissiri			yako		
	rural	urban	total	rural	urban	total	rural	urban	total
Town Criers	56.2	50.1	55.9	70.5	63.4	69.8	50.1	33.3	49.6
Health workers	11.6	20.6	12.1	8.4	19.6	9.4	13	21.8	13.3
ASBC/DC	52.3	35.5	51.4	34.5	32.1	34.3	59.9	39.7	59.2

Word of mouth	9.1	13	9.3	3.2	15.2	4.3	11.6	10.3	11.6
Person in the household (caretaker, maid, housewife, grandmother)	0.2	2.1	0.3	0	1.5	0.1	0.2	1.3	0.3
neighborhood	11.2	14.2	11.4	23.3	21.4	23.1	6	5.1	6
radio stations	8.5	25.2	9.3	20.1	41.1	22	3.5	5.1	3.5
Television	0.2	6	0.5	0	1.5	0.1	0.2	10.3	0.6
Opinion leaders (village chief, mosque, church)	5.1	1.5	4.9	14.7	2.7	13.6	0.9	0	0.4
Market	7.2	1.5	7	19.3	2.7	17.8	2.1	0	0.7

Source: SERSAP/HKI, Results of the post JVA+ coverage survey, second round 2021

4.5 Quality of JVA+ activities

4.5.1 Messages from the administering agent of vitamin A and deworming

According to the district and the place of residence, in almost 20% of the households, no message was given by the distributing agent.

The other messages (protected eyesight, growth and good nutrition) were given in the same proportions (more than 30%) regardless of the district or place of residence.

The same proportions are also observed for messages on deworming.

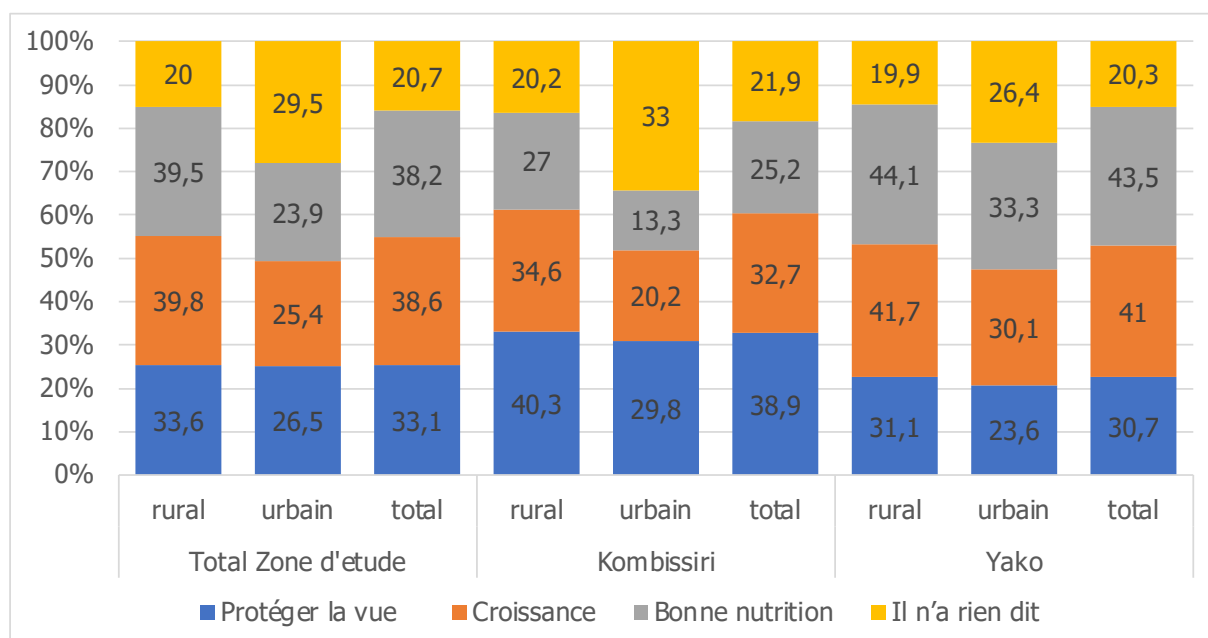


Chart 21. Message given by the administrative agent on Vitamin A

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

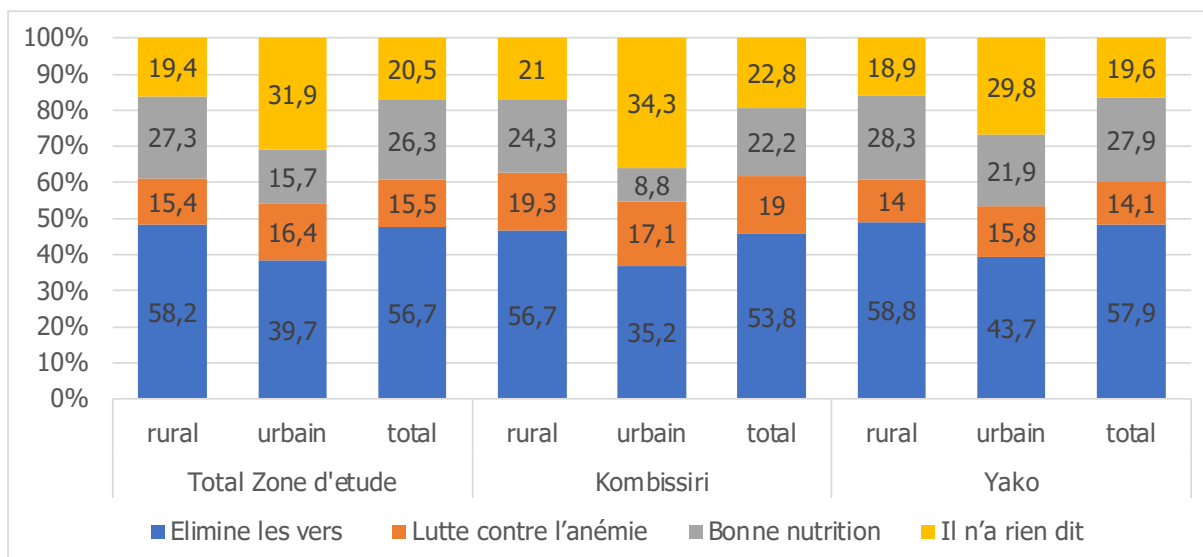
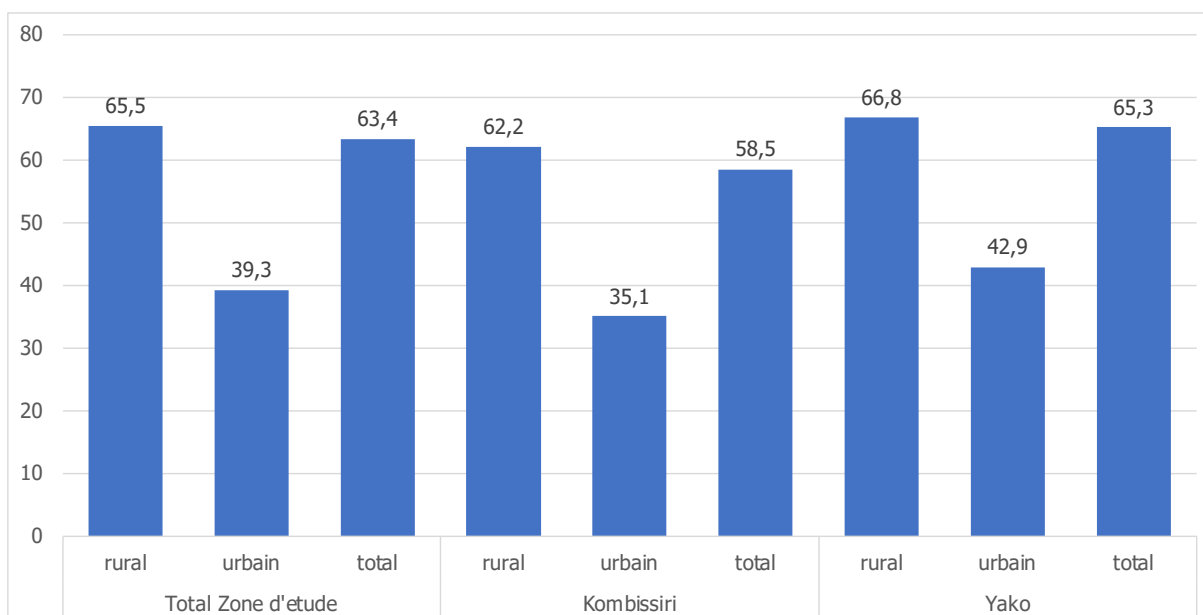


Chart 22. Message given by the admin agent about the dewormer

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

4.5.2 Administrator agent communication quality

The quality of the communication of the distributing agents was different according to the districts (65.3% in Yako and 58.5%) and the place of residence.



Graph 23: Quality of communication of the agent administering vitamin A and deworming

Source: SERSAP/Helen Keller Int, Post JVA+ coverage survey results, second round 2021

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion

This survey was able to achieve the initial objectives despite a particular context marked by security challenges in some localities.

This evaluation therefore made it possible to analyze the different levels of coverage of JVA+ services as well as screening for malnutrition and deworming.

Many achievements and points of interest are noted at the end of this evaluation.

- All of the two districts concerned have reached satisfactory levels of coverage
- The level of knowledge of the various actors in terms of vitamin A and deworming remains satisfactory.
- The practice of screening for acute malnutrition, although improved this year, is still low.

It should however be noted that certain difficulties are recurrent such as the insufficiency of inputs, the delay in deliveries, the insufficient number of DCs, irregularity of the monthly financial motivation of the ASBCs; poor performance of urban areas compared to rural areas.

This coverage survey has the particularity of offering the opportunity for an analysis of cost and effectiveness. This is an important step in the fight against micronutrient deficiencies and malnutrition.

5.2 Preliminary recommendations

5.2.1 To the Direction of Nutrition

- Advocate to increase resources for JVA+ implementation
- Use the results of post JVA+ surveys
- Advocate for wide coverage of post JVA+ surveys
- To arouse national interest in the appropriation of the results that will come from the cost-effectiveness study to make it a real tool for advocacy and planning
- In this sense, promote the realization of such a large-scale study

5.2.2 To health regions and districts

- Strengthen CDD competence in interpersonal communication
- Intensify field supervision of the campaign with rapid surveys of concessions
- Maintain the current momentum that allows for satisfactory results

5.2.3 To health workers and ASBCs/DCs

- Improve interpersonal communication between DC and parent or guardian of child
- Visit all the dealerships and make revisits
- Maintain their level of commitment despite the difficulties inherent in their position

5.2.4 To technical and financial partners

- Continue JVA+ campaigns
- Continue carrying out post-JVA+ surveys
- Use resources available for media/radio campaigns to increase the number of town criers
- Increase the number of DCs
- Provide the districts with enough inputs
- Support the realization of studies on a larger scale to have more evidence in terms of cost and effectiveness of the strategy