



A Health Evaluation of the Community of Camilo Ortega, Managua, Nicaragua

Paola Gilsanz, MPH, Agnieszka Janicka, BA

July 2007

In order to best serve a community, a clinic must first understand the context in which it is to work. An evaluation of the health of the Camilo Ortega community was conducted between June 25th and 27th. A sample of 79 homes were interviewed using a questionnaire designed to examine maternal and child health, reproductive health, chronic diseases, and as well as health behaviors and barriers to care. This paper reports the survey's findings and provides suggestions for how the clinic may best serve the community as well as potential public health programs to prevent negative health outcomes in the community.

Survey Design

To ensure the safety of the researchers, all interviews were conducted in groups of at least two. Groups included at least one individual from the local elementary school and all interviewers were native speakers of Spanish. In order to encourage honesty as well as ensure the privacy of the participants, at the beginning of each interview each participant was assured of the confidentiality of their answers. While one researcher conducted the interview with the mother or father of the household, the second researcher wrote down observations regarding the construction of the home, hygiene assessment, presence of a latrine or animals as well as additional observations. Chronic diseases/conditions specifically mentioned in the questionnaire included: diabetes, high blood pressure, heart disease, kidney disease, liver disease, asthma, respiratory conditions, and problems related to eyes or ears. Acute conditions discussed included urinary tract infections, dengue, fever, chicken pox, and diarrhea. Several open-ended questions provided the community with the opportunity to discuss diseases or conditions they find to be of particular importance to the community. Refer to Appendix 1 for a copy of the questionnaire.

Limitations

Although the questionnaire and its coding were discussed with all the volunteer interviewers, the data entry process showed inconsistency in the interviewing method. The most common mistake was not properly following the skipping pattern, resulting in several questions being asked consistently. (Missing responses due to interviewer fault were coded as 999.) As a result several of the entries are not complete; however, in order to include as many participants as possible these individuals are still included in the results. Although this may affect the accuracy of health outcome measures, it should not introduce much bias due the random assignment of households to interviewers. Due to limited staffing, further inaccuracies may have been introduced to the study by not matching the interviewer and household members on sex, which may have discouraged participants to provide truthful answers.

Demographic and Household Information

Demographic information (e.g. age, sex, marital status) was collected at the beginning of each interview. The socioeconomic status of the individual was captured with information regarding education, literacy, and employment. Over 50% (n = 40) of participants received at least some “secundaria” education and 85% (n = 67) were literate. A total of 60 households contained a family member whom was employed. Individuals predominately worked in the fields of construction, security, and housekeeping. Following the questions regarding work status, individuals were then asked questions regarding family size as well as the sex and ages of their children. Please refer to Table 1 for information regarding family size and age distribution of children. Additionally, seventeen households cared for children who were not biologically their own. A total of 43 children lived in these situations, a little over half of which were boys (n= 24; 56%).

Table 1: Demographic and Household Information

Characteristic	Number (%)
Age:	
Average	33.5
Median	33
Range [min, max]	[14, 75]
Sex of participant	
Males	19 (24)
Females	60 (76)
Marital status	
Single	16 (20)
Married	20 (25)
In a relationship	40 (51)
Widowed	3 (4)
Cohabitation	
Lived with partner	55 (92)
Did not live with partner	5 (8)
Household member employed	
Yes	60 (76)
No	19 (24)
Children	
Total # Children	223
Average per household*	3.4
Total # Boys **	108 (48)
Total # Girls **	114 (51)
Pregnancy	
Currently Pregnant	7 (9)

* Average excluding families with no children

** The sex of a fetus was yet to be known

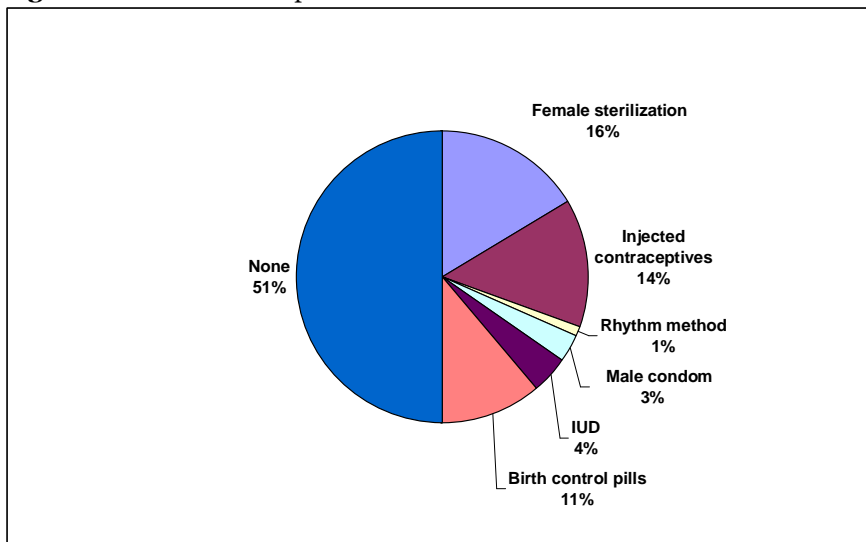
Reproductive Health

Reproductive health is an undoubtedly important part of any public health campaign addressing the needs of the urban poor in developing countries. The average family in Camilo Ortega

had 3.4 children, but 22% (n = 17) had at least 5 children. Moreover, the women with smaller family sizes were younger in age and the final family size will probably be closer to 4 children. A total of seven women from the sample were pregnant at the time of the interviews, all but one was receiving prenatal care (86%). Equally high rates of prenatal care were sought by all during previous pregnancies; only 5 women responded they received no care. The majority of women reported attending prenatal check ups once a month during their pregnancy. However, we believe that this is a gross exaggeration resulting from their desire to please the interviewers.

A series of questions assessed community knowledge regarding family planning methods and their use. Please refer to Table 2 and Figure 1 on the following page for the response rates to these questions. The most well known methods were birth control pills (66%), injected contraceptives (63%), male condoms (44%), and female sterilization (25%). While the number of individuals who said they knew of no contraceptive methods was only 12 (15%), almost 50% (n=39) said they used no contraceptive methods. Of those who did use contraceptives, female sterilization (n = 13), injected contraceptives (n = 11) and birth control pills (n = 9) were most frequently used. Although it is possible that these numbers are reflective of the knowledge and use of various methods of contraception, incomplete interviewer training could have led to an overestimate of knowledge of modern contraceptive methods and an underestimate of individuals' knowledge and use of more traditional family planning methods. A series of focus groups would be particularly valuable in understanding the women's current knowledge regarding contraceptives and barriers to contraceptive use.

Figure 1: Use of Contraceptive Methods



The high proportion of women who are currently not using family planning methods is mostly likely due to issues pertaining to access and cost, since the attitudes of women surveyed reflected a lack of desire for large families. The seven women who were currently pregnant were asked if they a)

wanted a child at that moment, b) had wanted to wait to have the child, or c) did want to have any more children. None of the women responded they had wanted a child at that moment, 2 responded they had wanted to wait, and 4 responded they hadn't wanted any more children. Two additional women who were not currently pregnant were accidentally asked this question and both responded they hadn't wanted any more children. A poignant example comes from a family in which a 16 year old daughter was lost due to complications from an illegal abortion. The stories of these women underscore the unmet need in the community for improved family planning methods.

Table 2. Community knowledge and use of family planning methods

Method	Knowledge (%)	Use (%)
Sterilization		
Male	12 (15)	0 (0)
Female	20 (25)	13 (16)
Emergency pill	3 (4)	0 (0)
Lactational amoherria	3 (4)	0 (0)
Injected contraceptives	50 (63)	11 (14)
Foams and jellies	7 (10)	0 (0)
Rhythm method	6 (8)	1 (1)
Implants (eg. Norplant)	0 (0)	0 (0)
Condoms		
Male	35 (44)	2 (3)
Female	2 (3)	0 (0)
Diaphragm	1 (1)	0 (0)
Withdraw	2 (3)	0 (0)
IUD	14 (18)	3 (4)
Birth control pills	52 (66)	9 (11)
None	12 (15)	39 (49)

Of the current contraceptives available, only condoms protect against sexually transmitted infections (STIs). Although only two (3%) individuals reported an STI diagnosis in the past 12 months, this number must be viewed with caution. Additionally, only three individuals in the community reported knowing an individual with HIV/AIDS. It is unclear whether the community truly has an extremely low incidence of STIs or if the infections are not being diagnosed or reported to the interviewers. Given the sensitive nature of STIs and the stigma associated, it is probable that participants did not feel comfortable reporting infections to the interviewer. The community has a high fertility rate and the methods of contraceptive commonly used do not protect against STIs. Given the likelihood of bias introduction in regards to this question, it is recommended that further studies be conducted to assess the prevalence of STIs in the community. Regardless of the current prevalence of STIs in the community, the low use of condoms leaves the population vulnerable for an STI outbreak.

Chronic Conditions

A series of questions regarding chronic conditions in families revealed several to be significant health concerns. The most prevalent conditions were: kidney diseases (n = 41; 52%), high blood

pressure (n = 37; 46%), asthma (n = 28; 35%), heart disease (n = 24; 30%), and eye problems (n = 26; 33%). An open-ended question referring to the conditions present in the participants immediate family often included these conditions as well as anemia (n = 8), gastritis (n = 7), allergies (n = 4), and arthritis (n = 8). Please refer to Table 3 for further information. Moreover, chronic conditions accounted for 2 out of the top 3 reasons adults sought medical treatment. Out of the 42 households in which an adult had a medical consultation in the past year, 8 consulted a physician due to kidney diseases while 6 sought out care for arthritis. The third most common reason adults sought medical care was gynecological/obstetric (n = 7).

Table 3: Chronic Conditions Present in Household

Chronic Condition	Number of Households Reporting Cases (%)
Diabetes	19 (24)
High Blood Pressure	37 (46)
Heart Diseases	24 (30)
Kidney Diseases	41 (52)
Liver Diseases	13 (16)
Asthma	28 (35)
Respiratory Conditions	23 (29)
Eye Problems	26 (33)
Ear Problems	13 (16)
Urinary Tract Infections	9 (11)
Anemia *	8
Allergies*	4
Gastritis*	7
Arthritis*	8

*These results reflect the answers to an open-ended question

Kidney Disease

Kidney disease was the most prevalent chronic condition in the community, affecting an individual in over half the households. World wide, approximately 2/3 of chronic kidney disease cases are attributable to diabetes and hypertension. During the survey approximately 25% and 45% of households reported cases of diabetes or hypertension, respectively, placing a large portion of the community at greater risk for chronic kidney disease. The specific type of kidney disease was not reported by participants and it is possible that acute infections were also included in this count.

An article by Rashad S. Barsoum,ⁱ examines the major causes of chronic kidney disease in developing countries. He discusses how the high prevalence of bacterial, viral and parasitic infections are reflected in the two primary causes of chronic kidney disease, chronic glomerulonephritis and interstitial nephritis. In turn, interstitial nephritis is associated with analgesic nephropathy and may be a side effect of medications such as antibiotics and non-steroidal anti-inflammatory drugs (NSAIDs). Although commonly used by community members, it is important individuals use these

medications only as necessary to reduce the risk of kidney disease. Preventative measures addressing bacterial, viral and parasitic infections should also decrease the prevalence of kidney disease.

Asthma

Asthma is a growing concern in developing countries as urbanization and its associated pollutions continue to spread. The urban poor of Camilo Ortega are no exception and the abundant presence of asthma is clear within the children of the community. Unfortunately, asthma also represents a huge unmet need and a failure of the public health system to respond to new situations. Although several families reported cases of asthma within their households (n = 29; 35%), this is most likely an underestimate due to the community's limited access to medical care. Moreover, the individuals in the community do not appear to be receiving treatment for their asthma, as demonstrated by the fact that only 5 families reported having taken asthma medications and 9% (n = 2) of the hospitalization noted in this study were due to asthma.

A public health intervention in this community must not only improve treatment rates but also look at reducing both the number of people who have asthma as well as the number of attacks endured by each individual. Although the number of things that may induce an asthma attack may at first appear overwhelming, they allow public health officials a multitude of pathways to work within. For example, allergens such as animal dander and cockroaches are well known triggers for asthma. To reduce asthma incidents in Camilo Ortega, residents should keep pets strictly outdoors and fumigate against cockroaches. Indoor air pollution is another cause of asthma attacks that can be addressed at the household level. Smoking is a large concern in the community considering 46% of the households reported a cigarette smoker living within the home. Improvements in air quality may be accomplished by not smoking, restricting smoking to outdoors areas (in order to reduce exposure to second hand smoke), and using gas stoves within the house. When necessary, due to limited gas availability, cooking with a wooden stove should be restricted to outdoor areas. Improvements in air quality will not only prevent asthma incidents but also improve the overall lung health of the entire family.

Acute Conditions

The community of Camilo Ortega has not completed the epidemiological transmission (i.e. the transmission from a predominantly infectious disease burden to one dominated by chronic diseases) and is currently experiencing a double burden. For example, Camilo Ortega not only has a significant prevalence of asthma (35%), it also suffers from acute respiratory conditions. A total of 23 households (29%) reported respiratory system problems other than asthma, most commonly bronchitis and pneumonia. Two of the nine losses noted in the community were due to pneumonia; a startling considering the well established antibiotic treatments. Please refer to Table 4 for information regarding other acute conditions in the community.

As commonly found in developing countries, diarrhea and fevers frequently occur among children. Over 50% of households reported cases of diarrhea and fevers (47% and 72%, respectively) within the last month. These infections generally occurred in the children; however, in several cases the adults in the household were also affected. While diarrhea can be the sole health problem an individual suffers, it can also be a manifestation of other conditions. The presence of diarrhea is associated with bacterial or viral infections, certain pancreatic conditions, inflammatory bowel disorders such as Crohn’s disease and intestinal parasites. Additionally, diarrhea may result from consumption of certain medication, caffeine, and contaminated food and water. It is likely that within the Camile Ortega community a variety of causes lead to the high frequency of diarrhea, however the particular cause from the public health perspective that should be addressed is the quality of the water supply as well as the overall access to water.

Diarrhea rates in the community must be addressed as they exacerbate the already high levels of malnutrition in children. Often when children have diarrhea they consume less food, either because of lack of appetite or because the parents restrict the diet. Regardless of the cause, this can be particularly detrimental to a child’s health as lack of nutrients further weakens his or her immune system. A low immune system then places the child at increase risk for further infections, starting the cycle again. Parents should be informed of the nutritional needs of children with diarrhea through educational campaigns.

Table 4: Household Reporting of Acute Conditions

Condition	# Households reporting cases (%)	Total # cases
Dengue	2 (3)	4
Chickenpox	16 (20)	38
Diarrhea	37 (47)	41
Fever	57 (72)	116

Dengue

Dengue is a vector-borne disease that has consistently been a concern in Nicaragua. In an attempt to capture the prevalence of this disease in Camlio Ortega, the questionnaire asked how many family members were affected by dengue in the past 6 months. Surprisingly, only two households reported a total of four cases of dengue. However, when asked what the major health concerns of the community were, several households indicated dengue. Further examination of this apparent contradiction led us to understand two main issues. First of which is the fact that, although the questionnaire included the rainy season (when dengue transmission is most common), this rainy season has been unusually dry. Secondly, the classic dengue fever, which we were referring to, is more commonly known as “quebradera” (bone-breaking fever). This may have led participants to believe the questionnaire was referring to hemorrhagic fever, which was not the case. For this reason,

although only 2 households responded with cases of dengue, it is most likely an underestimate of the true prevalence of the disease.

Domestic Violence

Domestic violence was reported as a community problem by an overwhelming majority (n = 59; 77%) of those asked specifically about this issue. It is well known that domestic violence can have long lasting effects on all family members' mental health. In households where domestic violence is present, the abused parent is often less emotionally available and capable of caring for children's basic needs, as demonstrated by the fact that abused women are more likely to have children who are malnourished. Children growing up in hostile environments develop severe psychological issues and often continue the cycle of abuse by either adopting the role of the victimizer or the victim in their adulthoods. The effects of domestic violence are also visible at elementary school located in Camilo Ortega. Discussions with several teachers revealed the wide range of psychological issues present in the students as a direct result of domestic violence. While some students become extremely withdrawal due to low self esteem, others mask insecurities by asserting dominance over other children. A child's behavioral problems not only inhibit their learning but also detract from other students' as teachers must continuously establish discipline in the class room during lessons.

While the depression, anxiety and an assortment of other psychological conditions associated with domestic violence are devastating, additional physical costs accompany this issue. A hospital-based case-control study was conducted by Yalladeres et al in Nicaragua to examine the effects of physical partner abuse during pregnancy upon birth weight. The study found that babies with low birth weight had 3.9 times the odds of having mothers who experiencing physical abuse while pregnant compared to babies that did not have low birth weight adjusting for age, parity, smoking and socioeconomic status (95% CI: 1.7, 9.3). Additionally, abused women are at a higher risk of miscarriages, stillbirths and infant death compared to their non-abused counterparts.

Use of Medicines and Vitamins in the Community

Medications

In order to evaluate the medication needs of the community the questioner included an open-ended question to assess the medications taken by the immediate family members within the last 3 months. While the responses varied between families, the majority of families responded that members of their family had taken medication within this time period (n = 63). The medications encountered with the highest frequency were over the counter (OTC) pain medications and antibiotics. The two types of OTC pain medications include Non-Steroidal Anti-inflammatory Drugs (NSAIDs; the most common one being ibuprofen), and acetaminophen (commonly referred to as Tylenol). These types of drugs are used for the relief of pain and fever, with the additional ability of

NSAIDs to relieve inflammation. Overwhelmingly, the most commonly encountered OTC was acetaminophen (n = 25).

The second category of commonly taken medications in the community were antibiotics, with amoxicillin being the most frequently used antibiotic. While there are various uses for these medications, the most common use found was treatment for respiratory track infections like bronchitis and pneumonia. Please refer to Table 5 for more in depth look at the medications.

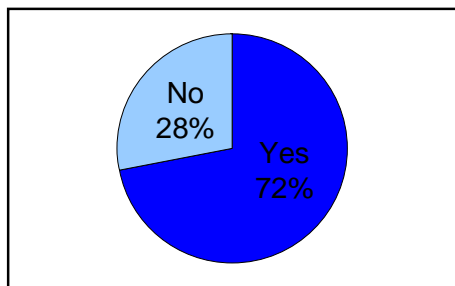
Table 5: Medications Commonly Used

Medication	# of households
OTC pain medication	27
Acetaminophen	25
NSAIDs	5
Aspirin	2
Antibiotics	26
Amoxicilline	19
Mucogenic agents	
Ambroxol	8
Cold Medication	8
Asthma medication	5

Parasite Medication

The three most prevalent forms of parasites infections in Camilo Ortega are ascariasis (roundworm infection), taeniasis (tapeworm infection), and amebiasis (amoeba infection). Although not always symptomatic, parasite infections can be very detrimental to children’s health by severely affecting their nutritional status. Infections may become complicated and spread to other organs in the body requiring immediate medical care.

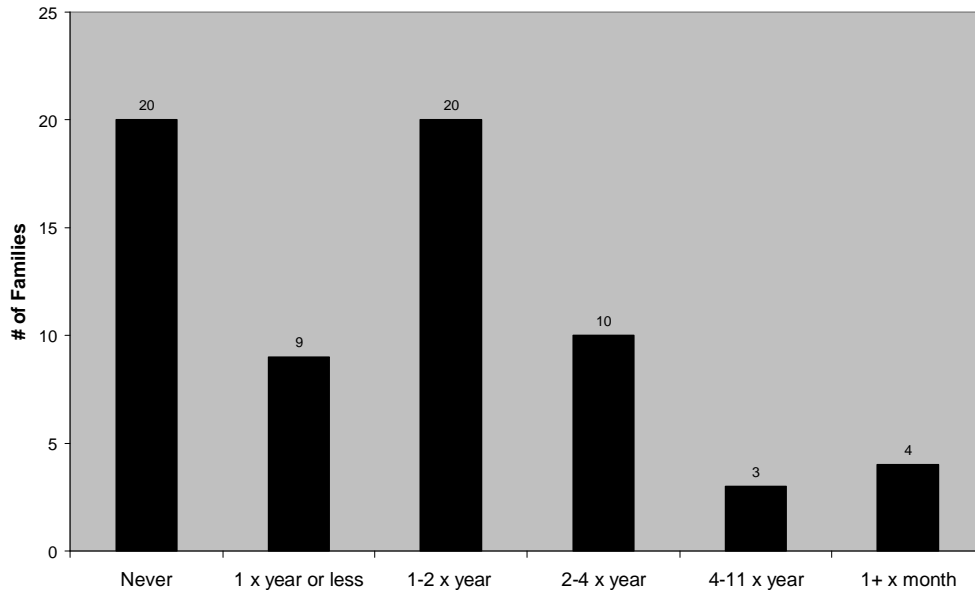
Figure 2: The Use of Parasite Medication in the Community



Parasitic infections are generally transmitted due to improper sanitation and food contamination. Given the difficulty in changing environmental conditions, oral prophylaxis is the main public health intervention. In Camilo Ortega, 72% of families with children received parasite medication. In the majority of cases (20 households), children received treatment twice a year. In

addition to treatments received through medical consultation, medication was also distributed at schools. In 32 households only the child who was prescribed the treatment received it while 26 households the entire family was treated. The ease of transmission from person to person requires that all individuals in the household be treated to stop transmission within the family.

Figure 3: Frequency of Parasite Treatments



*This figure reflects the number of families who responded in a quantitative manner to the question.

Call for Action

Clinic Suggestions

From the interviews that were conducted within the Camilo Ortega community it is clear that a clinic would not only be welcomed by the community, but that there is a strong need for an establishment of a clinic. While only a minor portion of the community found knowing where to seek health care a problem, there were many other obstacles that prevented them from seeking care. In response to questions regarding barriers to care, 57% responded that the distance to the nearest health facility and 54% responded that recruiting transportation were problems that led them not to seek care. Additionally, 53% of the respondents indicated that having no one to care for the children led them not to seek care in the past. A clinic with a closer proximity would eliminate these barriers.

Due to the large presence of children within the community it is clear that a clinic with primarily pediatric focus would be of most use. To address pediatric needs, the clinic should offer treatments for diarrhea, fever, respiratory infections, parasites, allergies, and asthma. Almost all mothers in the community had 100% of their children vaccinated, a services the clinic should also provide. Although many mothers had vaccination records easily assessable for at least one child, often

the records were incomplete for the entire household. To facilitate record keeping we suggested a copy of vaccination records be kept on file with patient records at the clinic.

Additionally, due to the large number of pregnancies a clinic should provide reproductive health services, including birth control. Different methods should be discussed between the physician and the woman considering both her family planning needs as well as protection against STIs. Out of the women who were asked about the barriers for seeking health care 28 indicated that being seen by male physicians was a problem that prevented them from seeking care, thus if possible a female physician should be recruited.

Considering that 70 % of the respondents indicated that obtaining money to see a physician was a problem a free based clinic would work best under these circumstances. However, if the resources make this option impossible, a clinic which charges affordable rates in relation to the small incomes of the members of the community would be of most use. On an additional note, the community has experience with foreign volunteer doctors, so a rotating staff of American physicians would be welcomed by the community of Camilo Ortega.

Workshops/Community health workers

The first step in improving health behaviors is informing the community about relevant issues. A clinic in this community could approach education in two ways, it could hold a series of workshops within in the clinic or it could train community health workers who work within their neighborhood holding “charlas”. Information regarding diabetes, kidney disease, and hypertension, could all be addressed through a series of nutritional workshops held at the clinic at a community members’ home. Cooking methods involving less salt and oils could potentially be demonstrated at a community home. On a similar note, these workshops could stress the importance of restricting wood burning stoves to outside the home in order to decrease indoor air pollution and therefore asthma and other respiratory infections.

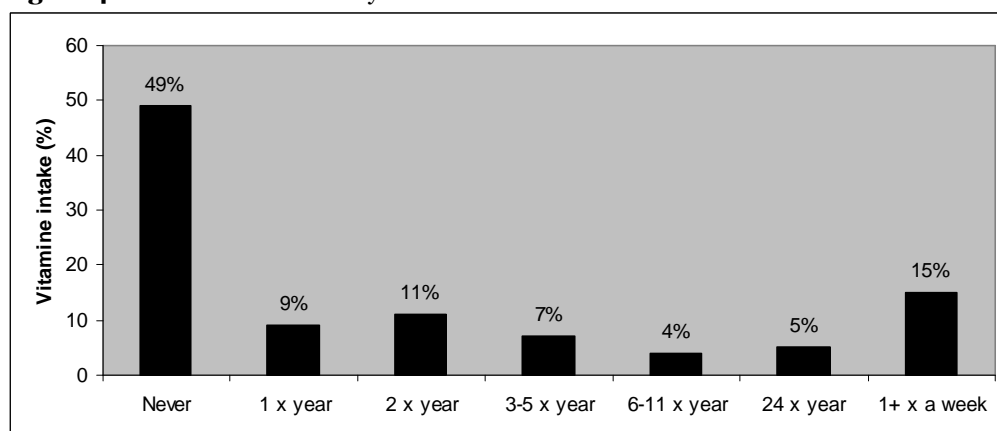
Family planning methods common in the community should be further researched and workshops should be designed as necessary. Barriers to contraceptive use most likely include problems with the supply of contraceptives, inability to consistently pay for contraceptives, and unfavorable power dynamic between partners. More sensitive issues such as alcohol use, or domestic violence should be approached in small groups led by trained community members and a specialist in the subject.

Charlas and other informal focus groups are extremely valuable tools in developing programs to address inequalities between men and women. In Camilo Ortega, men clearly hold a dominate position much to the detriment of women. As previously stated, concerns regarding domestic violence were reported amongst many households interviews. Changing cultural beliefs regarding equal rights for men and women is a slow process that must stem from the women in the community. A series of focus groups are a critical first step in further establishing the current situation, empowering women to believe in this change, and providing women with a wide range of tools to address these concerns.

Malnutrition

Considering the socioeconomic status of many of its residents, it is not surprising that malnutrition is a concern in Camilo Ortega. The primary concern regarding malnutrition is not the calorie intake but instead the availability of micronutrients. In response to a question on the types of food a family consumed within a week, rarely did the answers include consistent meat or vegetable intake. These answers are alarming considering that almost half of the families surveyed did not provide vitamins to their children. While there were some families that did supplement their diet with vitamins, their use was infrequent as reflected in Figure 4. The nutritional status of the community would be improved through a vitamin distribution campaign. The clinic could serve as a distribution center for vitamins, explaining to families the different types and the need to take them consistently.

Figure 4: The Use of Vitamins by Children



*These numbers reflect percentages based on those families with children that responded to the question

As previously stated, several cases of nutrient related health conditions, several cases of anemia, diabetes, and hypertension were indicated as health concerns. In the past year, anemia led the hospitalization of a child and the death of a 13 year old. All three of these conditions see drastic improvements through proper diet and exercise. A series of workshops should be designed to explain the importance of nutrients, which foods are nutrient dense, and include modifications on traditional dishes to include less salts, fats, and oils.

Although workshops and educational sessions regarding the important of a balanced diet are important public health interventions, they are insufficient to ensure that such a diet is available to residents. In response to food insecurity, it is suggested that the school begin a community garden. Not only will growing fruits and vegetables provide the students with hands on experience regarding plants and biology, it will also provide the students with nutrient dense food. Through this program the students also bring fruits and vegetables back to their families, improving the diet of the

households. Furthermore, a school based garden may serve as a pilot intervention that can assess the receptiveness of the community to a larger scale community garden; which in turn will not only provide food security, with an emphasis on essential micronutrients, on but also empower the community.

Water Access and Quality

Currently, community members obtain water through two methods, either at the few faucets located at the end of the row of homes, or from trucks that occasionally sell potable water to the community. The trucks stay at the top of the steep slopes of the community and residents may refill their own buckets at 10 cordobas each. Access to water is critical to preventive health measures as it facilitates proper personal hygiene and reduces food contaminations. A study conducted by Anna Groter et al in Nicaragua found a statistically significant relationship between water supply and the incidence of diarrhea.ⁱⁱ Children from homes obtaining water over 500 meters from their house had incidence rates of diarrhea 34% higher than children from homes with water supply at their residence.

In addition to water access, water quality also greatly effects a community's health. Water, especially stagnant water, serves as the main source of contamination for many vector borne diseases. Improvements in water quality can occur at the household level by either boiling the water or using solar power to reach temperatures lethal to bacteria. At the community level, the World Health Organization has created the Participatory Hygiene and Sanitation Transformation (PHAST), a step by step guide directed at improving community hygiene behavior and water quality and supply. The participatory methods used in this program lead to empowerment of the community members. Given the receptiveness of the community, it is recommended that this program, or those similar to it, be established in Camilo Ortega.

Concluding Thoughts

Although there are undoubtedly many health issues that must be address in Camilo Ortega, they do not stray far form the well known concerns of the urban poor in developing countries. The World Health Organization and many other health organizations have researched and piloted many interventions to address these needs and there is a plethora of evidence-based practices that may be implemented in the community. The data collection process found the community to be welcoming to outsiders seeking to improve the health status of residents. Many participants provided information beyond that requested by the questionnaire and some expressed desires to be further engaged in health initiatives. Often residents in the community turne to their neighbors for help in child care or house keeping, providing a social setting in which charlas or community health workers would be welcomed.

The non-governmental organization ATRAVES is in a particularly good position to establish a clinic in the community given the years it has already worked with its residents. A relationship with

Camilo Ortega was established through the local elementary school, Escuela de los Hermanos de Dunklee, and the teachers and administration are well regarded. There is much that can be done to aid the health status of the community of Camilo Ortega, and we have great faith that ATRAVES will work with the community to not only improve the quality of health care but the quality of life for the residents of the community.

¹References

Rashad S. Barsoum. Chronic kidney disease in the developing world. *The New England Journal of Medicine*. 2006. Vol 354(10):997-999

¹ Gorter, Anna C., Sandiford, Peter, Smith, George Davey, Pauw, Johanna P. Water supply, sanitation and diarrhoeal disease in Nicaragua: Results form a Case-Control Study. *International Journal of Epidemiology*. 1991. 20(2): 527-533

15. Esta usted embarazada actualmente? Si No
 a. Cuantos meses de embarazo tiene? _____
16. Has ido a por lo menos un chequeo durante este embarazo? Si No
 b. Cuantas? _____
17. Cuando quedo embarazada, usted quería quedar embarazada en ese momento, quería esperar mas tiempo, o no quería tener (mas) hijos?
 En ese momento
 Quería esperar
 No quería tener (mas) hijos
 No sabe
18. Has recibido por lo menos un chequeo durante tus previos embarazos? Si No

C. Anticoncepción

Ahora quisiera preguntarle acerca de un tema diferente. Hay varios métodos o maneras que una pareja puede usar para demorar o evitar un embarazo.

19. Que métodos o maneras conoce Ud. o de cuales ha oído hablar?
- | | |
|--|-----------------------|
| Esterilización Femenina | Implantes o Norplant |
| Esterilización Masculina | Preservativo o Condón |
| Anticoncepción de emergencia | Condón Femenino |
| Metodo de amenorrea por lactancia | Diafragma |
| Inyección Anticonceptiva | Retiro |
| Espuma, Jalea, Óvulos | DIU |
| Abstinencia periódica, Ritmo, Calendario | Píldora |

20. Que métodos o maneras usa Ud?
- | | |
|--|-----------------------|
| Esterilización Femenina | Implantes o Norplant |
| Esterilización Masculina | Preservativo o Condón |
| Anticoncepción de emergencia | Condón Femenino |
| Metodo de amenorrea por lactancia | Diafragma |
| Inyección Anticonceptiva | Retiro |
| Espuma, Jalea, Óvulos | DIU |
| Abstinencia periódica, Ritmo, Calendario | Píldora |
| Ninguna | |

D. Salude de la familia

21. Alguien en su familia a sido hospitalizado? Si No
- Quien _____ Porque _____
- Quien _____ Porque _____
- Quien _____ Porque _____
- Quien _____ Porque _____
- Quien _____ Porque _____

Quien _____ Porque _____

Quien _____ Porque _____

Quien _____ Porque _____

Quien _____ Porque _____

Quien _____ Porque _____

22. Has tendido una perdida de un familiar en el ultimo ano?

a. Que edad tenia? _____

b. Cual fue la causa? _____

23. De que enfermedades ha padecido su familia?

24. Alguien en su familia inmediata tiene:

a. Diabetes Si No No sabe

Quienes _____

b. Presión alta Si No No sabe

Quienes _____

c. Otra enfermedades relacionados al corazón Si No No sabe

Quienes _____

d. Problema con los riñones Si No No sabe

Quienes _____

e. Problema con el hígado Si No No sabe

Quienes _____

f. Asma Si No No sabe

Quienes _____

f. Otra enfermedades con el sistema respiratorio Si No No sabe

Quienes _____

g. Problemas relacionados a los ojos Si No No sabe

Quienes _____

h. Problemas de oído Si No No sabe

Quienes _____

i. Infección del aparato urinario Si No No sabe

Quienes _____

25. En los últimos 12 meses ha tenido alguna consulta para el cuidado de salud de sus hijos (o los niños que viven contigo)? Si No

c. Cual fui tu motivación? _____

d. Donde fueron? _____

26. En los últimos 12 meses ha tenido alguna consulta para el cuidado de los adultos en la familia? Si No

e. Cual fui tu motivación? _____

- f. Donde fueron? _____
27. Le han diagnosticado a Ud alguna enfermedad de transmisión sexual durante los últimos 12 meses? Si No
- a. Cual? _____
28. Cuales medicamentos ha tomado miembros de su familia en los últimos 3 meses? (Si no saben el nombre del medicamento, escribe para que servia)
- _____
- _____
- _____
29. Con que frecuencia das vitaminas a tus hijos? _____
30. A cuado cuanto das tratamiento de parásitos a tu familia? _____
- a. Cuando tomas tratamiento para los parásitos, el tratamiento lo toma toda la familia o solo la persona que recetaron el tratamiento?
- Todos solo el enfermo
31. Cuantos de tus hijos han sido vacunados? _____
32. Todavía tiene la tarjeta de vacunaciones de tus hijos? Si No
- Copie de la tarjeta cual vacunas han sido completado

	1	2	3	4	5	6	7
BCG							
Polio 1							
Polio 2							
Polio 3							
DPT 1							
DPT 2							
DPT 3							
Pentavalente 1							
Pentavalente 2							
Pentavalente 3							
Sarampión							
MMR							
Vitamina A							
Hierro							

33. En el ultimo mes alguien en tu familia ha tenido fiebre? Si No
- g. Quien? _____
- h. Busco usted consejo o tratamiento para la fiebre? Si No
- i. Donde fue atendido? _____
- i. Tomo algún medicamento para la fiebre? Si No
- i. Cual? _____
34. Cuantos de tu familia han tenido problema de dengue en los últimos 6 meses?
- _____
35. Cuantos de tu familia han tenido problema de varicela en 6 meses? _____
36. En el ultimo mes alguien en su familia ha tenido diarrea? Si No
- j. Quien? _____
- k. Le dio algo para la diarrea? Si No

i. Que? _____

l. Busco usted consejo o tratamiento medico para la diarrea? Si No

i. Donde? _____

37. Ha oído usted de algún producto especial llamado Suero de Rehidratación Oral que se puede usar para el tratamiento de la diarrea? Si No

38. Diferentes factores pueden influir la decisión de una mujer a ir al medico. Cuando Ud. se enferma y quiere recibir consejo o tratamiento medico, para ud es un gran problema o no, lo siguiente:

m. Sabe donde ir	gran problema	no es problema
n. Conseguir permiso para ir	gran problema	no es problema
o. Conseguir dinero para el tratamiento	problema	no es problema
p. La distancia de los servicios médicos	problema	no es problema
q. Contar una manera de transportarse	problema	no es problema
r. Ir sola	problema	no es problema
s. Que solo atiendan hombres	problema	no es problema
t. Las responsabilidades domesticas y/o cuidado de los niños	gran problema	no es problema

39. Que tipo de alimento normalmente consume tu familia?

40. Alguien en tu familia fuma cigarrillos, o puro o pipa en la actualidad?

Quien _____ cigarrillos puro pipa

E. Salud de la comunidad

41. Piensas que la violencia domestica es un problema en la comunidad? Si No

42. Conoce usted personalmente a alguien que tiene el virus que causa el SIDA o conoce a alguien que ha muerto de SIDA? Si No

43. Cuales piensa Ud que son los problemas de salud mas importantes en su comunidad?
