SURVEY ON THE KNOWLEDGE, ATTITUDES AND PRACTICES OF PARENTS IN BARANGAY 8A, DISTRICT 1, DAVAO CITY REGARDING THEIR CHILDREN'S IMMUNIZATION

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ABSTRACT
Background: Despite the success of the Expanded Program of Immunization, many vaccine-preventable diseases remain prevalent in developing countries.
Objective: This study aims to determine the knowledge, attitudes, and practices of parents regarding immunization of their children.
Methods: This is a descriptive study using a pre-tested, self-administered questionnaire pertaining to knowledge, attitudes, and practices of parents regarding immunization. The questionnaire was given to parents whose children were being immunized at a barangay health center within a one month period.
Results: Twenty-nine (93%) out of 31 mothers claimed they knew what vaccines were to be given, but only 22 (75.86%) were correct. Twenty-one (68.75%) learned of the immunization through barangay health workers. With regard to adverse reactions: giving of appropriate medication was applied by 18 (69.2%) respondents. Six mothers (23%) preferred going to a physician; 29 (93.5%) were aware of the next scheduled dates of visit. Major reasons for missed vaccinations were sickness and long waiting time before vaccine was given: accounting for 9 (29.03%) each. During the times when vaccines were not available at the health center, 19 (61.29%) preferred to wait for it to become available. 20 respondents (64.5%) knew of other recommended vaccines which were not included in the EPI (Non-EPI) vaccines, but only 3 (9.7%) availed of it from private physicians. Of this group, 14 (70%) were willing to avail of the vaccines; 17 (85%) were thought of these vaccines as expensive; 12 (71%) were willing to have their children vaccinated; and 3 (17.64%) opted to save money first prior to vaccination.
Conclusion: Parents still lacked knowledge with regards to their children's vaccination. The outcome of the child being fully immunized depends on the availability and affordability of vaccine, as well as, the willingness and effort of their parents.

INTRODUCTION

Each year more than 330,000 children die from vaccine-preventable diseases. The top killers in children under five years old include perinatal conditions (20%), respiratory infections (18%), diarrheal diseases (17%), vaccine preventable diseases (15%), and malaria (7%). Immunization is the most cost-effective and highest-impact health intervention which reduces hospitalization, treatment costs and mortality.

Through the combined effort of WHO and UNICEF, and governments, the Expanded Program of Immunization was launched; and the proportion of the world's children immunized against major vaccine-preventable diseases had increased from 20% in 1980 to over 80% in 1996—preventing more than 2.8M deaths in children, annually. Despite the success of EPI, many vaccine-preventable diseases have remained prevalent in developing countries (20% to 35% of all deaths in children under five). Vaccination efforts have doubled all over the world—following polio outbreaks in 18 countries since 2003, including in Nigeria and in neighboring Indonesia.

This study aims to determine the knowledge, attitudes, and practices of parents regarding immunization, on the following: a) source of information regarding immunization; b) response in the presence of adverse reactions; c) awareness on schedule of immunization; d) reasons for missed vaccinations; e) decisions made when vaccines were not available; f) stand on costly vaccines; and g) attitude towards visiting a private physician.

MATERIALS AND METHODS

A survey—using questionnaires pertaining to the knowledge, attitudes and practices regarding immunization, was conducted among parents, who brought their children for immunization at Barangay 8A Health Center, District 1, Davao City during the scheduled, weekly immunization. Every Wednesday, it has been the practice of said health center to give free immunization to children belonging to this community, based on EPI schedule. No lecture on immunization was given to parents prior to the survey.

RESULTS

The survey was given to thirty-one mothers who brought their children for immunization at Barangay 8A Health Center—one of whom brought 2 of her children; thus, thirty-two children were given vaccines according to EPI schedule (Table 1).

Of the thirty-two children immunized, 22 (68.75%) were firstborns, 9 (28.1%) were the youngest in the family, and 1 (3.1%) was a 4th child (Table 1-A).

Majority of the mothers (21 or 68.75%), learned that immunization was being given at the center, through the barangay health workers. All 31 (100%) mothers were aware that vaccines were given for free: twenty-nine (93%) of them claimed they knew what vaccine/s was/were to be given to their children, but only 22 (75.86%) were correct in identifying what these vaccines were (Table 2).

Table 1. Ages of Children Brought to Health Center for Immunization

Age	No. of Children	%
1mo	10	31.25
2mo	10	31.25
4mo	2	6.25
6mo	1	3.12
9mo	6	18.75
11mo	1	3.12
1yr2mo	1	3.12
1yr11mo	1	3.12
TOTAL	32	100

Table 1-A. Birth Rank of Children Brought In for Immunization

Birth Rank	No. of Children	%
Eldest	22	68.75
Youngest	9	28.10
4th	1	3.10
TOTAL	32	100

Table 2. Source of Information of Parents Regarding Immunization

Source of Information	No. of Children	%
Friend	5	15.62
BHW	21	68.75
Physician	5	15.62
TOTAL	31	100

Eighteen (69.2%) mothers gave appropriate medication, like antipyretic, when adverse reaction, like fever occurred; 6 (23%) preferred to bring their children to a physician for consultation (Table 3).

Table 3. Parents' Response to the Presence of Adverse Reactions

Action Done in the Presence of A/R	No. of Cases	%
Gave appropriate Meds(e.g. Paracetamol)	18	69.20
Brought to Physician for consult	6	23.10
Did nothing	2	7.70

Majority of mothers (29 or 93.5%) were aware of the date of the next scheduled visit to the health center for immunization (Table 4).

Table 4. Parents' Awareness of the Schedule of Immunization

Aware of the Date for the Next Immunization	No. of Mothers	%
Yes	29	93.50
No	2	6.45
TOTAL	31	100

The following reasons were provided as to why vaccines were not given on scheduled dates at the barangay health center: 9 (29.03%) due to sickness; 9 (29%) waited for a long time before vaccine could be given; 6 (19.35%) claimed that the health center ran out of vaccines during their visit (Table5).

Table 5. Reasons for Missed Vaccinations

Reason for Not Having the Vaccine	No. of Cases	%
My child got sick	9	29.03
Waited for a long time	9	29.03
No available vaccine	6	19.35
No Comment	7	22.58
TOTAL	31	100

During those times when the health center ran out of vaccines, 19 (61.29%) of the parents preferred to wait for the availability of the vaccine and had their children immunized immediately, while 9 (29%) unfortunately answered that when this happened during their visit, no immunization was given to their children (Table 6).

Table 6. Decisions Made When Vaccines Were Not Available

Decision When Vaccine Were Not Available	No. of Cases	%
Waited for the vaccine to be available, willing to return	19	61.29
No vaccine, not willing to return	9	29
No Comment	3	9.7
TOTAL	31	100

Most of the parents (20 or 64.5%) were aware of the other vaccines needed to be given to their children aside from those which the barangay health center provided for them according to EPI. Of these parents, 14 (70%) planned to have the vaccines administered to their children, and 17 (85%) were aware the vaccines were expensive (Table7).

For those who were aware that the vaccine was expensive, 12 (71%) were willing to have it as scheduled; 2 (11.8%) preferred not to; and another 3 (17.64%) opted to save enough money first and eventually have their children be immunized (Table 8).

Table 7. Knowledge and Attitudes towards Vaccines beyond EPI

Knowledge and attitudes towards vaccines aside from the EPI	Yes (%)	No (%)	Total
Aware of such vaccines	20 (64)	11(35)	31
Expensive	17(85)	3(15)	20
Agree to give these vaccines to child	14(70)	6(30)	20

Table 8. Parents' Stand on Costly Vaccines

Stand on Costly Vaccines	No. of Cases	%
Will have it as scheduled	12	71
Preferred not to give	2	11.80
Save money 1st	3	17.64
TOTAL	17	100

Of the population surveyed, 9 (29%) have consulted a private physician for their children's regular health status while majority of them about 22 (71%) never had a single check up with a private physician. However, almost half of them 14 (45.16%) were willing to have their children immunized by a private physician for the vaccines not provided for at the barangay health center (Table 9).

Table 9. Attitude towards Visiting a Private Physician

Mothers Attitude Towards Bringing Child to Physician	No. of Cases	%
Visit private physician	9	29
No visit to private physician	22	71
TOTAL	31	100

Mothers were also asked if they knew about the vaccines that were being given to their children. Most of them (about 80%) answered yes; but when asked about what they knew regarding such vaccines, some failed to give the correct answer. Because MMR was not part of the EPI, only a few (7 or 22.58%) knew about it (Table 10).

Table 10. Knowledge of Mothers on Specific Vaccines

Vaccines	Yes %)	Correct	No	No Comment	TOTAL
BCG	25(81)	16	4	2	31
DPT	29 (93)	22	2	0	31
OPV	27(87)	21	2	2	31
Measles	25(81)	16	6	0	31
Hep B	28(90)	16	3	0	31
MMR	7(23)	3	24	0	31

Of the vaccines given under Non-EPI, only Hib vaccine was availed by 3 (9.67%) mothers for their children. (Table 11)

Table 11. Number of Mothers Who Availed of the Non-Epi Vaccines for Their Children

Non-EPI vaccines	No. of Those Who availed	No. of Those Who Did Not Avail
Hib	3 (9.67%)	28 (90.33%)
Hep A	0	31
Meningococcal	0	31
Pneumococcal	0	31
Varicella	0	31

The same population was given a list of vaccines that were needed to be administered, including those covered by the EPI and Non-EPI. From said list, they were asked to choose which vaccines were to be given to their child apart from that in the EPI, which included MMR, Hepatitis A, HiB, Meningococcal and Pneumococcal vaccines. Unfortunately, more than half of the parents (11 or 35.48%) chose the inappropriate vaccines for the age of the patient.

DISCUSSION

The Department of Health in our country has mandated that Wednesdays should be allotted for the immunization of children in every barangay health centers[1]—they should cater to children 9 months and below, giving vaccines for free according to the Expanded Program of Immunization.

In the survey done among parents from Barangay 8A, 31 were included—with 1 mother bringing two of her children. The youngest children brought for immunization were 1 month old, who all received BCG, while the oldest child was 1 year and 11 months old. Most of the children were of the younger age group—1 month and 2 months old; this indicated that parents of these infants were informed early on that such vaccines were to be given at such ages. It is, therefore, important to educate parents, even before they plan to start a family, that immunizations are the first line of prevention from diseases for infants and children; and that these are free in the health centers.[2]

Majority of parents in this survey (21 or 68.75%) learned about immunization through barangay health workers, in their respective areas. Equal number of parents (5 or 15.62%) learned about it through their friends and/or physicians. A study done in Ethiopia showed that the health worker was the primary source of information and education on vaccines and vaccination for parents; and who can primarily respond to a mother's doubts, fears, and questions.[3]

All parents (31 or 100%) were aware that vaccines were given for free in the health center; and that they should take advantage of them. Of these parents, 29 (93%) claimed they knew what vaccines were to be given to their children, however, in the succeeding questions presented to them, only 22 (75.86%) were correct, which could somehow indicate that information given to them were either incomplete, or that they had not totally grasped them. However, despite the general lack of accurate knowledge, parents felt vaccination was important in preventing diseases in children.

Adverse reactions sometimes occur after immunization. When faced with such situation, the giving of appropriate medication, like antipyretic to relieve a fever, was done by 18 (69.2%) parents, while 6 (23%) parents preferred to seek the help of a physician. A couple of parents (7.7%) did nothing, since according to them, said reaction just disappeared even without medication. In study by Karay, et. al., very few mothers felt they were given the opportunity to ask questions; and health workers did not routinely provided mothers with key information during vaccination services. Less than half of the mothers said that the last time they went for a vaccination, they were told for which disease(s) the child was vaccinated; even fewer were told about side effects.[4]

Being aware of the date of the next scheduled immunization for their children was noted in majority of parents (29 or 93.5%): this indicated parents' concern for their children's health; and their willingness to have their children vaccinated.

Reasons on why vaccines were not given on scheduled dates at the barangay health center include: sickness (14 or 45.16%); long time of waiting before vaccines were given, so they decided to leave (9 or 29%); and there were no enough vaccines available (6 or 20%). According to DOH data, annually, an estimated 93% of infants were vaccinated with at least one vaccine. The country now ranks 13th among the 52 countries that had the most number of children gaining access to immunization. After the country was declared polio-free in 2004, the DOH was also able to reduce the number of measles cases by almost 96% through the launch of "Ligtas Tigdas", also in the same year. The program aimed for the country to be declared measles-free by 2008. [5] But the fact that a few parents from each barangay were complaining of the limited availability of vaccines, similar to the barangay where the survey was conducted, will eventually have a very big impact on the goal of the government to eradicate vaccine-preventable diseases. There is also the danger that the issue on vaccine availability may lessen public confidence in the immunization program.

In cases when there were no more vaccines available at the barangay health center, 19 (61.29%) parents preferred waiting for the

availability of the vaccine and had their children immunized immediately. Unfortunately, 9 (29%) answered that when there was no vaccine available; no immunization was given to their children. Immunizing one's child against diseases is very important; it will affect the health of one's child, family, and even the rest of the world. Although we do not have control over the current happenings in the world, prevention from harmful diseases through immunization is one thing we can control.[6] This fact should be realized by all parents.

Twenty (65%) parents knew there were other vaccines needed by their children aside from those included in the EPI. Out of these parents, 14 (70%) planned to have these vaccines administered to their children; and of the 17 (85%) who were very much aware of the high cost, 12 (70%) were willing to have it administered as scheduled, while 2 (11.8%) preferred not to. Another 3 (17.64%) opted to save enough money first and then have their children immunized.

Only 9 (29%) parents consulted a physician for their child's regular health status check-up, while the majority (22 or 71%) never had a check-up with a physician. However, almost half of them (14 or 45.16%) were willing to have their child immunized by a private physician for the vaccines under Non-EPI schedule.

When parents were asked if they knew the vaccines being given to their child, more than 80% answered "yes"; but when asked about what they knew regarding said vaccines, some failed to give the correct answer. Only 7 (22.58%) knew about MMR, which was part of the Non-EPI schedule. Educating parents regarding immunization, including those of the Non-EPI, is one of the most cost-effective, preventive health service the government and private sectors could provide and should be given consideration.[7] Community participation in health care can result to a better and healthier community, with locally-adapted organizational processes and improved health outcomes.[8]

CONCLUSIONS

Thirty-one (100%) availed of the EPI program and majority of them (22 or 75.86%) knew what vaccines were included in the program. Eleven (35.48%) had no knowledge regarding Non-EPI vaccines, but, nevertheless, 3 (27.2%) availed of them from private physicians, specifically Hib.

Parents' willingness and effort to avail of the vaccines for their children, as well as, the availability and lack of knowledge in the importance of immunization will have significant impacts on the government's goal of eradicating vaccine-preventable diseases.

RECOMMENDATIONS

Based on the results of the study, the researcher would encourage the following recommendations:

1. Give regular lectures on vaccine-preventable diseases (including those which are given beyond EPI) to parents, as well as, barangay health workers in order to improve awareness regarding such diseases and to enhance their knowledge about the vaccine and the importance of completing the immunization schedule;
2. Include in the health card provided by the health center the list of vaccines, which are given beyond EPI and are in the schedule of immunization for each child to be able to inform the parents of other vaccines needed by their children.

REFERENCES

1. Okoro JL. Essential factors in the implementation of an EPI in an urban-periurban community in Nigeria. Asia Pac J Public Health, 1994; 7(2):105-10.
2. CARE (1999). Rapid Impact Evaluation Survey (Qs. 29-31).
3. Lidetu S, Okubagzhi G. Childhood Diseases and Immunization. In: Kloos H, Zein ZA, editors. The Ecology of Health and Disease in Ethiopia. Boulder, San Francisco: West View Press, 191-199; 1993.
4. Karay H. An Interventional Study on Knowledge and Attitudes Concerning Selected Health Center Services Among Mothers of Barangay

Low Campo Islam(BLCI). Ateneo de Zamboanga University School of Medicine. October 20, 2004.
5. WHO State of the World's Vaccination and Immunization. Available at: http://www.pubmedcentral.nih.gov/redirect3.cgi2002text.shtnl
6. UNICEF (1995). Multiple Immunization Cluster Survey (vitamin A and immunization modules).
7. Cuevas RP, Reyes H, Pego U, et al. Immunization promotion activities: are they effective in encouraging mothers to immunize their children? Soc Sci Med 1999; 49:921-32.