

Assessment of the Implementation of Maternal and Child Health Services of Local Health Units in Tarlac City: Towards Development of an Action Plan

Alma M. Corpuz,⁺ Rosalina C. Garcia, Maria Agnes P. Ladia, Remedios D. Facun and Nelvin R. Nool

Tarlac State University, Tarlac City, Philippines

Abstract. This study assessed the Maternal and Child Health (MCH) services delivered by local health units or rural health units (RHUs) in Tarlac City and developed an action plan involving educational institutions in health promotion. Specifically, it aimed to (1) identify the MCH services available at the local city health units; (2) assess the implementation of the services based on the adequacy of budget and supplies, the competence of the health personnel in implementing the services; adequacy of the number of health personnel in implementing the services and their availability; adequacy of programs to ensure mother and child health; (3) identify the problems of the health personnel in delivering the health services and the obstacles of the mothers in availing of the health services; and (4) propose an action plan to actively involve educational institutions in the implementation of MCH services. This study involved 178 RHU personnel comprising of doctors, nurses, midwives and barangay health workers and 487 mothers as respondents who availed of the MCH services from January 2010 to August 2011.

Findings revealed that for mothers, among the top services are prenatal health management through tetanus toxoid administration, weight and vital signs monitoring, health education and giving of vitamins. For child health **services**, these are on immunization, giving of vitamins, deworming, supplemental feeding among undernourished, medical and dental consultations. As to the assessment of the implementation of these services, most services are adequately funded and supported except vitamin A supply, supplemental feeding, home visits, dental services and number of personnel. These were rated moderately adequate. The personnel were assessed to be competent but their number is moderately adequate especially in doing home visitations. The MHC services were generally assessed adequate to ensure the health of the mother and child except for those which were said to be moderately funded and supplied. The problems encountered by the personnel include insufficiency of budget and supplies, lack of health personnel, clients coming in only during emergency cases or when they are about to give birth, and their failure to strictly follow health management prescriptions. For the mothers, lack of free medicines, vitamins and supplies; long lines in the health units; and lack of time and budget to visit the RHUs. The action plan developed includes four programs, namely: strengthening of school clinic programs; enrichment of curricular and extra-curricular programs of the schools by integrating health promotion activities; partnership of schools and local health units; and integration of community announcements in the school information system.

The researchers recommend that Tarlac City must consider increasing the number of midwives, nurses, doctors and dentists to be able to attend to all target clients. The city government may tap private national and international organizations to augment supplies. We also recommend that mothers' club must be organized in each barangay to serve as a channel of health information, dissemination and health promotion.

Educational institutions could use the action plan proposed in this study as basis of developing their curricular, co-curricular and extension programs to help the health sector deliver health services to the mothers and children. Among the strategies include aligning schools' health programs with some of the City health programs, integrating health bulletins in the information system of the schools and integrating literacy and health education programs in their extension projects.

Keywords: Maternal and child health services, local health units or rural health units

⁺ Corresponding author. Tel.: +639491591595; fax: +(045)9820110.
E-mail address: marcelinoalma@yahoo.com.

1. Introduction

The United Nations Children Fund (UNICEF, 2010) recognized the central role of education in the Millennium Development Goals (MDGs) during the Summit 2010 High Level Round Table on September 22, 2010 at the United Nations, New York. Accordingly, the behaviour and habits of the future parents are determined by the education of today's children and youth. In fact, Goolam Mohamedbhai (2008), the president of the International Association of Universities, challenged all Higher Educational Institutions (HEIs) to create awareness of the MDGs that 192 United Nation member states and 23 international organizations have agreed to achieve by 2015. MDG 4 is reducing child mortality and MDG 5 is improving maternal health. He added that the MDGs are not just the business of the government but should be the business and responsibility of all stakeholders. This is because according to him, since MDGs deal with human, social and economic development issues, they must "de facto be of concern to HEIs." The World Health Organization (WHO, 2009) also cited efforts of schools in Maldives in promoting the MDGs.

In the Philippines, Izumi Murakami, chief advisor of JICA's Maternal and Child Health Project in Biliran and Ifugao, said "the lack of effective and sustainable implementation of health programs on the grassroots level, particularly in poor rural areas in the country, has undermined the Philippine government's efforts to meet the MDGs." According to Murakami, the Philippines will not be able to meet numbers 4 and 5 of the MDGs, which pertains to reducing child mortality and improving maternal health (Luci, 2009).

In Tarlac, the Provincial Health Office (PHO) Annual Report (Cacdac, 2010) indicated that the overall morbidity rate in 2009 is at 12,425/100,000 population and 5,785 deaths with a crude death rate of 4.45/1,000 population. In 2010, the number of death was 5,776. Infant mortality rate (IMR) average was at 5.8 deaths per 1,000 live births for the last three years. The provincial IMR was low as compared to the 2006 IMR national figure of 24 deaths per 1,000 live births. There were 140 infant deaths recorded in 2009. In 2010, this rose to 151. There were also 89 under five year-old children who died in 2010. The number of maternal deaths increased from 0.04/1,000 live births in 2006 to 0.43/1,000 in 2009. In 2010, this slightly rose to 0.45/1000.

In Tarlac City alone, the total death is 1,212 out of 341,082 population in 2010. A little less than 10% of this comprise maternal and child deaths (Yalung, 2010).

This study then focused on assessing the implementation of maternal and child health services in the Local Health Units (or the Rural Health Units) to determine the factors that could have contributed to the difficulty in substantially reducing morbidity and mortality. Most importantly, another goal of this study is to mobilize the educational institutions in incorporating health promotion in their curricula through an action plan that this study proposed. The partnership and cooperation of health agencies and schools will more likely bring about a stronger force to ensure maternal and child health.

2. Objectives

The objectives of the study were to: (1) identify the programs and services available in the local health units of Tarlac City to ensure maternal and child health; (2) assess the RHU personnel of the implementation of the MCH services or programs as to: adequacy in terms of their number in providing these services, their competence in providing the services, and adequacy of budget/supplies in providing the services; (3) determine how clients assess the implementation of the health services or programs as to: adequacy of health services or programs, and availability and adequacy of health providers when they are needed; (4) identify the common problems encountered by the health personnel and target clients in implementing and availing the MCH services or programs; and (5) develop an action plan involving educational institutions in implementing the MCH services in Tarlac City.

3. Methodology

The researchers developed two sets of questionnaires. One was intended for 178 RHU personnel and 487 mothers. Questionnaires consisted of 3-point Likert scale items wherein the responses were "adequate or competent (3)," "moderately adequate or moderately competent (2)," and "not adequate or not competent (1)." The researchers also interviewed the provincial and city health MCH coordinators for data on the number of health personnel, number of eligible population, number of infant and maternal deaths and

number of clients who availed of the MCH services. The assessment of the MCH programs from both groups of respondents was presented using the weighted mean. Frequencies and percentages were used to present the problems encountered by the health workers and the clients.

4. Findings

4.1. Services available for the pregnant mother and children at the RHUs

In the local units of Tarlac City, Prenatal checks are being done for pregnant mothers. According to the Tarlac PHO Maternal Care Program Accomplishment Report (Yalung, 2011), in the last quarter of 2010, there were 2,661 (24.33% of eligible population) pregnant mothers injected with 2 doses of tetanus toxoid and 2,721 (24.88% of the eligible population) received 2 doses of tetanus toxoid plus.

Vital signs and weights of pregnant mothers were monitored. Vitamin A and ferrous sulfate were also given. However, some mothers who were interviewed claimed that the supply of Vitamin A is moderately adequate because there were times when they were not given.

Other maternal health services include Health education on healthy and safe pregnancy; proper nutrition for the mother and child; family planning; and proper breast feeding. In the 2nd Quarter report of the MCH coordinator of the City Health Office for 2011, 715 babies were exclusively breastfed until 6 months. This figure may be small considering the 3,279 births in Year 2010 to the 2nd quarter of 2011.

Lastly, nurses, midwives and Barangay Health Workers (BHWs) conduct post natal home visits to those who gave birth at the birthing stations of the RHUs.

As to the health services for the children, immunization is the top priority of the health centers. In the same report, there were 1,721 infants given BCG; 1,708 injected with DPT 1; 1,677 injected with DPT 2; 1,844 injected with DPT 3; 1,708 received OPV 1; 1,677 received OPV 2; and 1,644 received OPV 3. For the Hepa B1 within 24 hours after birth, 225 babies were injected; Hepa B1 more than 24 hours after birth, 1,471 babies had it; 1,510 were injected with Hepatitis B2; and 1,495 with Hepatitis B3. For the measles vaccine, 1,844 had it; 1,796 0-11 months and 315 12-23 months children were fully immunized and 1,573 children were protected at birth (12-23 months). Another child health service is blood pressure monitoring. However, from the data collected, the clients claimed this was not always done.

Ferrous sulfate and Vitamin A are given free in the health centers. This is to ensure good eyesight (vitamin A) and healthy blood (ferrous sulfate) for the kids to prepare them for school. The mothers, however, expressed that vitamin A is moderately adequate in the health centers since there were times when the centers claimed they have no supplies available.

Deworming is also done in the health centers because parasitism is prevalent among Filipino children. "Operation timbang" is another program of the health centers.

Medical and Dental checks are also carried out in the health centers. Again, in the report of Yalung, there were 114 children aged 12-71 who were provided with BOHC. She also reported sick children who were seen in the health centers: 655 children aged 6-11 months, 1,068 children aged 12-59 months, and 472 children aged 60-71 months.

Supplemental feeding among the undernourished is another program of the health centers. There was no information on supplemental feeding in Yalung's 2nd Quarter accomplishment report since the City government does not have enough funds for this service. The health workers also indicated in the data collected that supplies and budget for supplemental feeding is moderately adequate.

4.2. RHU workers' assessment of the implementation of the MCH services

As to budget and supplies, the RHU personnel claimed that these are adequate to support the MCH services except for giving of vitamins ($\bar{x}=2.23$); and conducting home visits of the health workers ($\bar{x}=2.37$). As to the adequacy of the number of RHU personnel in delivering the MCH services, this got weighted means equivalent to "adequate," except for home visits ($\bar{x}=2.41$). The RHU personnel said they were competent to give all the services for the mothers.

For the child health services, Vitamin A supplementation ($\bar{x}=2.15$), ferrous sulfate ($\bar{x}=2.29$), dental check-up ($\bar{x}=2.44$) and supplemental feeding among undernourished ($\bar{x}=2.30$) are moderately adequate.

4.3. Clients' assessment of the implementation of the MCH services

For the mothers, in five RHUs they indicated that MCH services were adequate except giving of vitamin A and ferrous sulfate, mothers' response generated "moderately adequate." Supplemental feeding was moderately adequate also (\bar{x} =1.84). Giving of free medicines was also moderately adequate (\bar{x} =2.04). This is understandable since the budget of the local government units may not be enough to give medicines for free to all eligible clients.

4.4. Problems encountered by the health workers and clients in implementing the MCH services and programs

The RHU personnel indicated problems they have encountered in delivering the health services to the clients. Among the top five problems are: inadequate budget and supplies to deliver the MCH programs and services to ensure good health to the clients (N=156, 88%). This is consistent with the claim of the mothers that the health centers lack free medicines, vitamins and supplies. Another problem was the inadequate number of personnel to serve the clients (N=149, 84%). In addition, clients only come when their children are very sick (N=132, 74%), they do not exactly follow health instructions (N=123, 69%), clients are not interested to attend health education seminars or activities (N=112 or 63%).

For mothers, lack of free medicines, vitamins and supplies got the highest percentage (N=244, 50%); long lines in health centers were experienced by 192 mothers (39%); 162 mothers (33%) indicated that they do not have time to go to the health centers, 162 mothers (33%) claimed they are not informed of the available services in the health centers and 136 (28%) expressed that doctors, nurses and midwives were sometimes not present in the health centers.

4.5. Proposed Action Plan

The proposed action plan, which includes four programs, is outlined below:

1. Strengthening of school clinic programs
 - Health clinics must revisit their programs and assess if they are aligned with the DOH programs along MCH. They could develop short, medium and long term programs which will include health promotion for mothers and children.
 - School clinic personnel must not just serve the students and employees but must also be active in joining extension programs in the school's adopted communities.
2. Enrichment of curricular and extra-curricular programs of the schools by integrating health promotion activities
 - School programs such as nutrition month celebration should be enriched. Schools can sponsor medical mission by tying up with government and private health professional volunteers.
 - They could also conduct activities such as demonstration of preparing nutritious foods to booster good health to the pregnant mothers and children through the PTA.
 - Subjects with health topics must emphasize health for the mother and child. Teachers may invite the school physicians or nurses in their classes to provide more information about maintaining good health among the students. Topics on health must not just revolve around the mother and child but also emerging health diseases and epidemics in the community such as dengue, TB, pneumonia and others so that students are well-informed on what preventive measures to do. This would require teachers to undergo seminars and trainings if their knowledge is inadequate.
 - Campus-wide seminars may also be organized in case of disease epidemics.
 - Extension programs may include health promotion among mothers and children. The personnel in schools' clinics can be tapped to head these activities.
 - The association of the parents and teachers may also consider participating in the schools' health promotion programs. Through the PTAs mothers can be organized and health activities can be conducted among them. They could be given seminars and workshops. Supplemental feeding among undernourished preschool and grade school pupils may also be undertaken by the PTA.
3. Partnership of schools and local health units
 - Schools can initiate a talk with the local health units. They could allocate supplies in the schools to deliver to the children since they spend most of their time in the school. In this way, health

workers no longer go house to house to deliver services especially if their number is insufficient to reach all the target clients. Schools can also seek volunteer supports from private sponsors. School clinics may be used to inject vaccines to the students. Schools may raise funds to purchase vaccines or the RHUs can allocate supplies to them.

4. Integration of community announcements in the school information system
 - These could be accomplished by posting health information in conspicuous areas in the schools.
 - Information system such as announcements during flag ceremonies, release of school papers or gazettes and PTA meetings must include topics on health services and programs in the school and in the community.

5. Conclusions and Implications

Basic maternal and child health services are available in Tarlac City to ensure that these two important members of the family are protected. Most services are adequate except for number of health personnel, immunization with tetanus, blood pressure and weight monitoring, giving of vitamins, education on family planning, and home visits. Mothers claimed their children have received adequate vaccines but not in Blood Pressure monitoring, Vitamin A Supplementation, Ferrous Sulfate, Deworming, Operation “Timbang,” Dental check-up, Supplemental Feeding among undernourished, and Medical consultation.

Among the top three problems encountered by mothers were: lack of free medicines, vitamins and supplies; and long lines in health center. For RHU personnel, budget and supplies for vitamin A supplementation, supplemental feeding, ferrous sulfate, dental services, and home visits.

Educational institutions are vital channels of health promotion activities. They can be partners of the health agencies in providing health services to the mother and child. Second to the home, schools are where children spend most of their time. This makes the school potential for health promotion activities. Parents too, are stakeholders in schools. They can also learn about health information which will directly or indirectly affect the health of their families.

Health promotion activities involve direct delivery of health services to the target clients such as immunization and giving of food supplements such as vitamins. These are important in the prevention of diseases. These activities can be done in schools where children are found every day. It was found in the study that some mothers cannot go to the health centers to avail of free health services due to various reasons such as budget constraints. In this case, vaccines may be brought to the schools and health personnel can inject children there.

Another health promotion activity is health education. Again, the school is a sector where rich information-dissemination can be carried out. Hand washing can be taught in schools. This activity may be simple but this can do a lot in preventing diseases due to improper hygiene techniques.

Higher education institutions are also mandated to conduct extension services. Literacy programs, supplemental feeding, nutrition classes to mothers are just few of the various activities that can be included in the extension programs of the colleges and universities.

6. Recommendations

An organization of mothers should be created in all communities. This will serve as an avenue for health information-dissemination and education. This could be initiated by health workers or the schools in their adopted communities. Health workers have to strategize their schedules so that health centers open at 8:00 A.M. and close at 5:00 P.M. They could do shifts with the BHWs so that they can attend to other commitments outside the health centers. Schools should enhance their health services to the pupils. They could monitor weight and height of pupils to identify malnourished ones. From these data, they could put up supplemental feedings. They could work together with the Parents and Teachers Association (PTA). They may also do inventories of school children with or without immunizations. They could look for agencies to provide vaccines. HEIs could enhance their extension services to include literacy programs, health education and entrepreneurship activities so that mothers will be more involved in managing the health of the family. School health programs may be aligned with the MCH programs and services of the health centers so that they become partners in promoting health to the people. City health officers must prioritize allocating more

budget and supplies to support MCH programs and services. International organizations can be tapped to pledge support including local non-government organizations. Increasing hiring of professional health workers or allowance for BHWs for their transportation expenses in visiting homes must also be considered.

7. Acknowledgments

The government of Tarlac under the leadership of City Mayor Gelacio R. Manalang and Provincial Governor Victor Yap is recognized for the financial support provided to complete this project. The TSU administration is also acknowledged for making it possible for the researchers to collect data. The researchers are also grateful to CHED-ZRC under Dr. Roberto Pagulayan for technical assistance.

8. References

- [1] Cacdac, Pinky (2011). "Provincial Health Office Annual Report 2010." Tarlac City, Tarlac
- [2] Luci, Charissa M. (2009). "RP may not meet 8-point Millennium Development Goals in 2015 – JICA." Retrieved November 24, 2011 from <http://www.mb.com.ph/node/199668> .
- [3] Mohamedbhai, Goolam (2008). The Contribution of Higher Education to the Millennium Development Goals. *Lecture delivered during the 4th International Barcelona Conference on Higher Education*. Retrieved October 11, 2011 from http://www.slideshare.net/guni_rmies/closing-session-goolam-mohamedbhai
- [4] United Nations Children Fund (UNICEF, 2010). *The Central Role of Education in the Millennium Development Goals*. Retrieved October 10, 200 from http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/ED_new/images/education_for_all_international_coordination_new/PDF/MDGs_Final.pdf
- [5] World Health Organization (2009). *Accelerating Progress towards Achieving Maternal and Child Health Millennium Development Goals (MDGs) 4 and 5 in South-East Asia*. Retrieved October 12, 2011 from http://203.90.70.117/PDS_DOCS/B4208.pdf
- [6] Yalung, Maricel (2011). *FHSIS Accomplishment Report, 2nd Quarter 2011*. Tarlac City.