The Role of Traditional Health Practitioners in the Delivery of Health Care - A Secondary Analysis of NDS-SMS 1993 Data

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ABSTRACT

This study is a secondary analysis of data from the 1993 National Demographic Survey (NDS) and Safe Motherhood Survey (SMS). It aims to determine the extent to which traditional health practitioners are consulted for primary care, delivery of newborns, and management of gynecologic problems, diarrhea, and acute respiratory infection (ARI) among infants and children. It also tries to determine the socio-demographic characteristics of women and households who seek advice or treatment from traditional health practitioners. Likewise, it examines differences in management and outcomes, i.e., morbidity and mortality, between cases where traditional practitioners were consulted and cases where they were not consulted. Included in the study are women who had their last pregnancy during the last three years prior to the survey and children five years or less with episodes of diarrhea or ARI within the last two weeks prior to interview. Results show that women tend to consult traditional health practitioners for deliveries (50.9 percent) than for prenatal care (26 per cent) or other problems such as diarrhea (3.4 percent), ARI (3 percent) or gynecologic problems. Multivariate analysis results underscore the fact that certain factors frequently appear as predictors of choice of health care giver. Women who consult traditional practitioners tend to have less income, more children or pregnancies, less media exposure, and come from rural areas The women and their husbands tend to have less years of schooling and work in agriculture, if at all. Due to the accessibility and acceptability of the traditional health practitioners, they have the potential influence on postnatal care for the mother and her newborn. It is suggested that they be brought closer to the mainstream health care delivery system.

INTRODUCTION

Of the 141,727 deaths reported in 1994 in the Philippines, 51.7 percent were unattended by health personnel. This is not surprising considering that only 11,498 out of 41,924 barangays have health stations, and the physician (in government): population ratio is 1:98101 (DOH, 1995). For the same year, physicians delivered 28 percent of all births, midwives 30.7 percent, while traditional birth attendants (known as hilots) attended to 40 percent. Even in urban communities such as Muntinlupa where there is ready access to doctors and hospitals, up to 14 percent of births are delivered by *hilots* (Saniel, M. *et al.* 1991).

A qualitative study on diarrhea in young children (Santos-Acuin, et al., 1993) shows that mothers in both rural and urban areas tend to consult *hilots* or *albularyos* (traditional herbalists) when they feel that the cause is a folk illness such as *pilay* (Lieban, 1987). Along with *spiritistas* and psychic healers, these traditional practitioners continue to provide services outside the

formal, western oriented and dominated health care delivery system. Even in the United States, 34 percent of participants in a nationwide survey (Eisenberg et al., 1993) reported using "unconventional medicine" with out-of-pocket expenditure comparable to that spent for all hospitalizations in a year.

The recognition of the importance of these alternative forms of healing prompted the creation in 1993 of a Traditional Medicine Unit in the Department of Health. The unit is tasked "to incorporate the use of traditional medicine in the formal care delivery system of our country." One of its most pressing needs as it develops policies and guidelines is information about the practice of traditional medicine in the country. On-going efforts are focused on identifying who these healers are and what types of healing they do. There is as yet no information on the characteristics of people who consult with these healers or on what the typical outcomes of these healing practices are.

A National Demographic Survey (NDS) and Safe Motherhood Survey (SMS) conducted in 1993 by the National Statistics Office as part of a worldwide program on Demographic Health Surveys (DHS) provided the opportunity to look more closely at the role of traditional practitioners in the current health care delivery system. The surveys had questions regarding health seeking behaviors for pre natal and post natal care, gynecologic conditions, and diarrhea and acute respiratory infections (ARI) in infants and young children. Included among the choices for health practitioners consulted were *hilots* and other traditional health practitioners. With a sample of 15,000 women aged 15-49 years from 13,000 households throughout the land, the survey data provide a nationwide picture of the population served by traditional practitioners.

Previous research in this field has been limited to anthropologic studies that describe practices in-depth and the community context in which healers operate. Epidemiologic studies were conducted in small geographic areas or focused on specific disease entities. Others have looked into the characteristics of healers themselves (Tan, 1992) rather than those of the population they cater to. Among the traditional practitioners, the *hilot* has received the most attention (Mangay-Angara, 1981) because of initiatives during the '70s to provide them with training and a role in primary health care.

A study conducted in 1985 (Tan, 1992) covering a purposive sample of 15 provinces and Metro Manila estimates that there are about 6 traditional practitioners per barangay or roughly 250,000 for the entire country (1 practitioner:320 persons ratio). About half of these practitioners are *hilots.*

This paper seeks to build on the available information by utilizing the NDS-SMS data to answer the following questions: (1) What is the extent to which traditional health practitioners are consulted in the following: (a) prenatal care and delivery, (b) management of gynecologic problems, (c) management of diarrhea and ARI in infants and young children?; (2) What are the socio-demographic characteristics of women and of households who seek advice or treatment from traditional health practitioners for the above conditions?; (3) between cases where traditional practitioners are consulted and those where they are not?; and (4) Are there differences in morbidity and mortality

outcomes when traditional practitioners are consulted and when they are not?

METHODS AND ANALYSIS

Data on diarrhea and ARI morbidity as well as demographic information were obtained from the NDS, while SMS data were used for gynecologic morbidity and neonatal survival outcomes. For this study, the following were included: (1) women who had their last pregnancy during the three years preceding the survey; for women with more than one pregnancy during this period, only the last pregnancy was included in the analysis; and (2) children less than or equal to 5 years of age who had an episode of diarrhea or ARI within the last two weeks of the interview (if two or more children of the same woman had diarrhea or an ARI episode, only the youngest child was included in the analysis; if a child had both diarrhea and ARI in the last two weeks, only the diarrhea episode was considered).

The following definition of terms and variables are used throughout the text:

(1) Choice of health care provider for prenatal, delivery, and gynecologic problems

Hilot: Because the *hilot* is the most prevalent traditional healer, the term is used to represent all traditional health practitioners. In most instances, there was no available information regarding other healers. Unless indicated, the category includes all cases where a traditional healer was consulted, regardless of subsequent consultation with non-traditional practitioners.

Non-*hilot*: The term refers to all other health practitioners consulted for a particular problem and unless specified, does not include cases where no treatment/consultation was made.

(2) Housing and ownership variables (type of flooring, appliance ownership, source of drinking water, type of toilet facility, number of rooms in the house, electricity use, vehicle ownership) were included in a factor analysis in order to come up with a proxy measure for economic status.

(3) For the delivery outcomes, the following variables were included in the models: urban/rural residence, age, education, occupation, parity, and access to media (whether she reads a newspaper or magazine, listens to the radio or watches television at least once a week) of the respondent, husband's education, and occupation.

(4) For the child-related outcomes, aside from the above variables, the following were also included: child's age in months and whether he was ever breastfed.

(5) The outcome variables: (a) for delivery-birthweight in kilogram, infant size as perceived by the mother, neonatal survival in days, infant survival in months; (b) for morbidity, duration of ARI and diarrhea episodes in days, diarrhea of more than 3 days duration, giving recommended home fluids during a diarrhea episode such as oral rehydration solution, rice water *("am")*, or increasing breastfeeding.

Bivariate analysis relating each independent variable with choice of healer and with a disease/pregnancy outcome was carried

out. All independent variables considered for each outcome were included in the stepwise multivariate analysis, but only those which came out significant are contained in the model. When choice of healer did not come out significant, it was forced into the final model to determine its effect on the resulting equation. Dummy variables representing categories of variables were also forced into the model if at least one category came out significant.

RESULTS AND DISCUSSION

Factors associated with choice of *hilot* for prenatal care and delivery

A vast majority of women do consult for prenatal care (93.1 percent), with most of them consulting non-traditional practitioners like the government midwives. About a quarter 26.1 percent consult with *hilots* for pre-natal care but only 7.9 percent do so exclusively (Fig.1).

However, there is a marked change in care-seeking behaviors for prenatal care and for delivery.[1] A slight majority of women (50.9 percent) appear to prefer the *hilot's* assistance during birth (Fig. 2). As a group, these traditional birth attendants delivered the most births (34.1 percent) compared to medical doctors (17 percent), midwives (23 percent) and nurses (12 percent). Figure 3 illustrates the distribution of birth attendance by region. There were cases where women went to more than one birth attendant, hence an overlap in proportions. In the graph it is apparent that except for NCR, Regions I, III and CAR, the rest of the country is served mostly by *hilots* for birth deliveries.

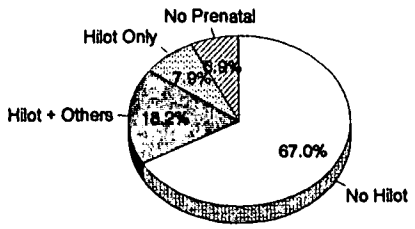
Dichotomizing by the respondents' types of residence (Figs. 4 and 5) it can be seen that whereas, women really go to non-*hilots* for pre-natal consultation regardless of place of residence, births among rural women are more likely to be delivered by *hilots* and those among urban women by non-*hilots*. Islamic women have a significant preference for traditional healers for both pre-natal and delivery assistance and post-natal care (Figs. 6 and 7).

Education and occupation appear to have similar effects on the choice of health practitioner for delivery. Women with high education, high school or more and who work as professionals or in administrative jobs are more likely to consult non-*hilots* while those who are in the agricultural sector or have had less than high school education tend to go to *hilots* (Figs. 8,9,10 and 11).

While the women's ages did not affect their choice of health practitioner for pre-natal care or delivery, the composite factor score for the economic status variable did (Tables 1a and 2a). Women from households with higher economic status (as reflected by the positive mean factor score) are more likely to seek non-*hilots* for both prenatal and delivery care while those with lower economic status factors score have higher probabilities to seek out a *hilot*. The education and occupation of the husbands seemed to have similar effects as the respondents' education and occupation (Tables 1a, 2b and 1b, 2a) Women with more children (mean no. of children=4.37 vs. 3.71 for those who had pre-natal care with non-hilots) and those without media access are

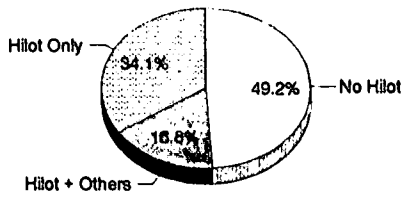
[1] The difference in the number of women included in the analysis for pre-natal care (n=4114) and for delivery (n=4043) may be due to fetal losses.

Figure 1 Health care providers of prenatal care for last pregnancies (1990 - 1993)
N=4114



p < .000001

Figure 2 Health care providers who attended deliveries of last pregnancies (1990 - 1993)
N=4043



p < 000001

Figure 3 Health care providers who attended deliveries in the different regions of the Philippines (last pregnancy, 1990 - 1993)
N= 4115 .

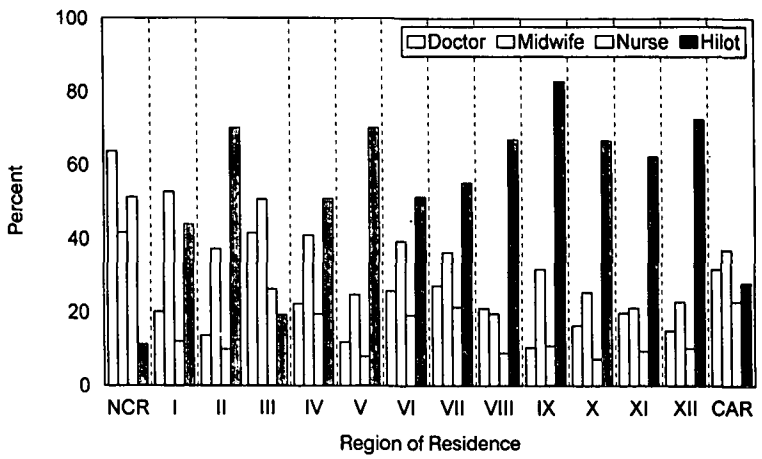


Figure 4 Prenatal care providers and type of residence of women (Last pregnancy since Jan. 1990)
N = 4114

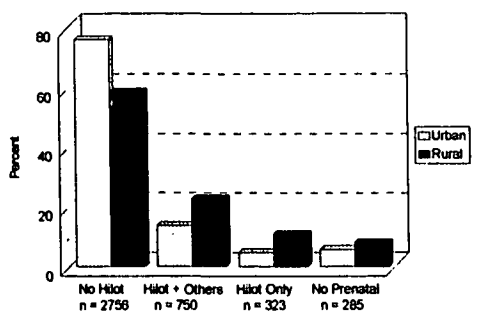


Figure 5 Assisted delivery and type of residence of women (Last pregnancy since Jan. 1990)
N = 4043

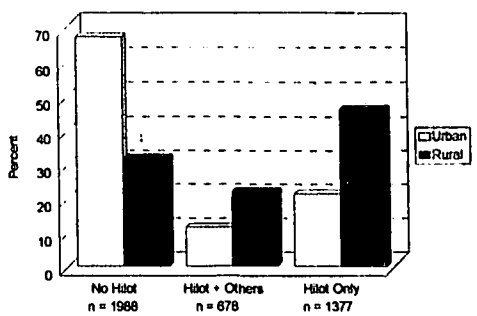


Figure 6 Prenatal Care Providers and Religion of Women (Last pregnancy, 1990 - 1993)
N = 4111

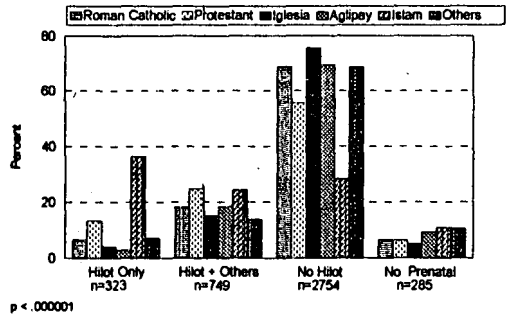


Figure 7 Assisted Delivery and Religion of Women (Last Pregnancy, 1990 - 1993)
N = 4040

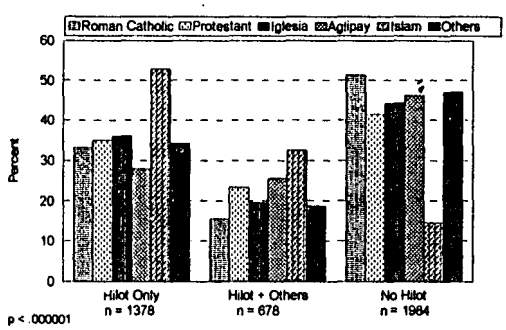


Figure 8 Prenatal Care Providers and Occupation of Women (Last Pregnancy, 1990-1993)
N = 1956

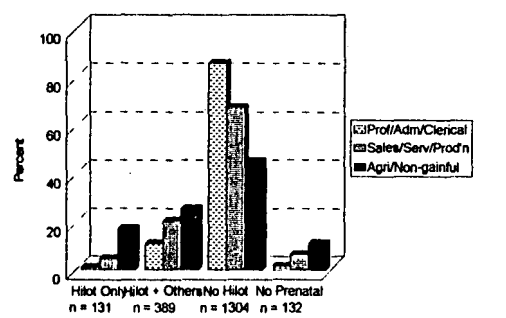


Figure 9 Assisted Delivery and Occupation of Women (Last Pregnancy, 1990-1993)
N = 1911

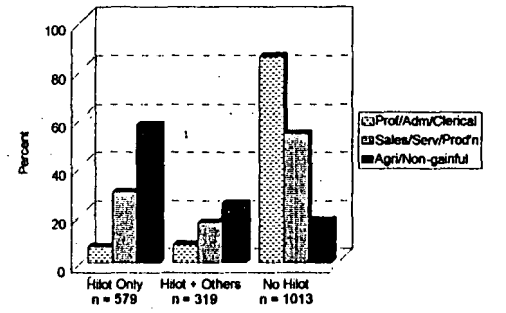


Figure 10 Prenatal Care Providers and Educational Level of Women (Last Pregnancy, 1990-1993)
N=3678

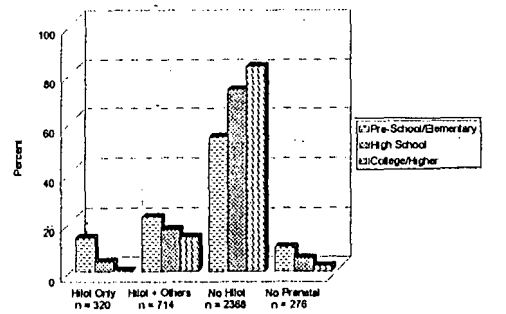


Figure 11 Assisted Delivery and Educational Level of Women (Last Pregnancy, 1990-1993)
N=3609

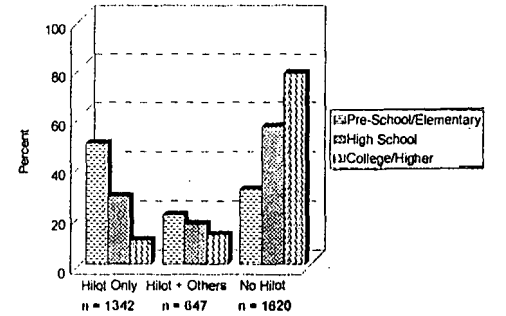


Table 1a. Bivariate Analysis for Pre-natal Consultation (T-test)

Variable	Mean		t-value	p
	Hilot	No Hilot		
Socio-economic factor *	-0.5007	0.1248	-19.36	<.0001
Age of the respondent	29.468	29.472	-0.02	.985
Number of years of education of respondent	7.08	8.89	-16.38	0.1248
Number of years of education of husband	6.86	8.58	-14.74	<.0001
Total number of births	4.37	3.71	6.91	<.0001

* includes source of drinking water, type of toilet facility, number of rooms for sleeping, main material of floor, electricity, ownership of cooking range, television, refrigerator, bicycle, motorcycle and car ---using factorial analysis.

Table 1b. Bivariate analysis for prenatal consultation (Chi-square test)

Variable	n	No.(%) consulted hilot	χ^2 value	p
Place of residence				
Urban	1819	406(22.3)	109.44	<.0001
Rural	2146	810(37.7)		
Respondent's Occupation				
Professional/administrative	352	52(14.8)	95.06	<.0001
Sales/services	1105	331(30.0)		
Agriculture/non-gainful	405	192(47.4)		
Husband's Occupation				
Professional/administrative	344	61(17.7)	195.11	<.0001
Sales/services	1796	397(22.1)		
Agriculture/non-gainful	1757	738(42.0)		
Media Accessibility				
With	3637	1024(28.2)	129.18	<.0001
Without	328	192(58.5)		

Table 1c. Logistic regression coefficient of factors associated with choice of *hilot* for prenatal care

Factor	β	p
Socio-economic factor	-0.351	<.0001
Respondent's no. of years of education	-0.136	<.0001
Number of pregnancies	0.051	0.014

Table 2a. Bivariate analysis for delivery (T-test)

Variable	Mean		t-value	p
	Hilot	No Hilot		
Socio -economic factor	-0.5129	0.4384	-35	<.0001
Age of the respondent	29.62	29.34	1.37	0.172
Number of years of education of respondent	7.03	9.69	-27	<.0001
Number of years of education of husband	6.69	9.49	-28	<.0001
Total number of births	4.45	3.37	13.3	<.0001

Table 2b. Bivariate analysis for delivery (Chi-square test)

Variable	n	No.(%) consulted hilot	χ^2 value	p
Place of residence				
Urban	1904	695(36.5)	448.14	<.0001
Rural	2261	1568(69.3)		
Respondent's Occupation				
Professional/administrative	356	61(17.1)	326.98	<.0001
Sales/services	1174	584(49.7)		
Agriculture/non-gainful	411	339(82.5)		
Husband's Occupation				
Professional/Administrative	352	85(24.1)	625.36	<.0001
Sales/Services	1872	738(39.4)		
Agricultural/Non-gainful	1865	1403(75.2)		
Media Accessibility				
With	3812	1973(51.8)	119.08	<.0001
Without	353	290(82.2)		

Table 2c. Logistic regression coefficient of factors associated with choice of *hilot* for delivery

Factor	β	p
Type of residence		
Rural	.804	<.0001
Urban*		
Socio-economic factor	-0.705	<.0001
Husband's Occupation		
Professional/administrative*		
Sales/services	.389	.055
Agricultural/non-gainful	.849	.001
Respondent's no. of years of education	-0.0795	0.002
Husband's no. of years of education	-0.1003	<.0001
Number of pregnancies	0.073	0.002

*reference category

are more likely to go to hilots (Tables 1b and 2b).

The multivariate analysis (Tables 1c and 2c) predicting choice of practitioner for pre-natal and delivery care showed that the economic status factor score, respondents' education,and number of children are in both models. In addition, the delivery model also includes type of residence, as well as husband's occupation and education. In both models, those who are likely to select a *hilot* for pre-natal and delivery care have lower economic status factor scores, less education, and more children. Rural residence and a husband with less education and/or working in agriculture predict choice of *hilot* for delivery. These results highlight the role of traditional practitioners in the delivery of health care to those in marginalized communities which form the bulk of the country's population.

Factors associated with choice of healer for gynecologic conditions

Data from the 1993 SMS contained information on the following gynecologic conditions: infertility, uterine prolapse, urinary incontinence, vaginal discharge, dysuria, dyspareunia, menstrual problems, and abortion. The number of women who responded to questions on each of these conditions varied greatly (from n=100 for vaginal discharge to n=894 for uterine prolapse) and, in general, are probably insufficient for the type of multivariate analysis used. As such, we have concentrated our attention on uterine prolapse while also reporting in brief on other conditions. No outcomes were reported in the survey, hence the analysis will focus on the choice of a health practitioner.

The *hilot* is the practitioner of choice for uterine prolapse and abortions. For all the other gynecologic conditions, women prefer non-traditional practitioners. The bivariate and multivariate analyses for the choice of practitioner for the different gynecologic conditions showed trends similar to those for pre-natal care and delivery, supporting the theory that it is the marginalized sector of the population that consults with hilots. No single independent variable was consistently significant for all the different conditions, however, and this may be because the cohort of women included in each gynecologic condition varies depending on her individual problem.[2]

The analysis for uterine prolapse (Tables 3a,3b,3c) provides some interesting insights. First, the condition was the most commonly reported (n=894) of all the gynecologic problems. This is surprising because uterine prolapse is a relatively rare condition. Second, the *hilot* is the most frequently consulted practitioner (Figure 12), seeing up to 43.5 percent of cases compared to 28.2 percent for non-traditional practitioners; the rest did not seek treatment. The frequency with which traditional practitioners were consulted for what is considered a surgical condition runs counter to the more common experience of bringing such cases to doctors and tertiary centers. Even in urban centers, 52.4 percent of cases are brought to a hilot. Third, the condition is reported by relatively young women (mean ages of 34.2 years and 35.7 years for those consulting *hilots* and non-*hilots*, respectively).

[2] Please see final report for more details on the gynecologic conditions.

Table 3a. Bivariate analysis of uterine prolapse (T-test)

Variable	Mean		t-value	p
	Hilot	No Hilot		
Socio-economic factor	-0.1422	0.2284	-5.34	<.0001
Age of the respondent	34.19	35.69	-2.92	0.004
Age of the husband	37.59	38.8	-2.02	0.043
Education in years of respondent	7.19	8.35	-4.78	<.0001
Education in years of husband	6.92	8.29	-5.44	<.0001
Parity	5.05	4.95	0.54	0.59

Table 3b. Bivariate analysis of uterine prolapse (Chi-square)

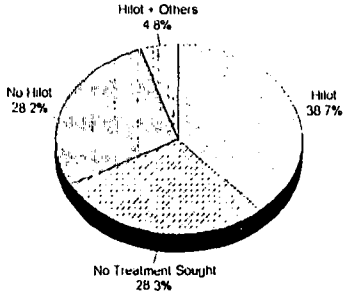
Variable	n	No. (%) consulted hilot	χ^2 value	p
Place of residence				
Urban	370	194(52.4)	17.76	.00003
Rural	574	348(66.4)		
Respondent's Occupation				
Prof/administrative	72	29(40.3)	18.261	.00011
Sales/services	281	171(60.9)		
Agriculture/non-gainful	119	85(71.4)		
Husband's Occupation				
Prof/administrative	80	33(41.3)	40.43	<.0001
Sales/services	336	175(52.1)		
Agriculture/non-gainful	448	315(70.3)		
Media Accessibility				
With	804	477(59.3)	5.64	.017
Without	90	65(72.2)		

Table 3c. Logistic regression of factors associated with choice of healer for uterine prolapse

Factor	β	p
Husband's Occupation		
Sales/services	.702	.051
Agriculture / non-gainful	1.177	.002
Respondent's age in years	-0.043	0.004
Wife's education in years	-.120	.0001

Lastly, in the multivariate model (Table 3c), parity does not come out as a significant predictor. This does not conform with the biomedical model for uterine prolapse which suggests that it is older women with multiple pregnancies who are more likely to have the condition.

Figure 12 Health Care Providers Consulted for Uterine Prolapse
N = 1247



These results cannot just be dismissed as errors in reporting. Rather, they reflect a systematic bias in recording. It is surmised that the term "uterine prolapse" may have been mistranslated. In Tagalog, for instance, this may have been translated as "mababa ang matris" (literally, low uterus), which does not have a medically recognized counterpart. "Mababa ang matris" is a commonly held folk belief that is associated with a variety of signs and symptoms such as infertility, abdominal pain, irregular menses, difficulty in delivery, and so on, but without any empirical evidence of disease. Being a "folk illness", the perceived (and preferred) care-giver would be the "folk healer". This is because the treatment for "mababa ang matris" is to massage the uterus, a procedure in which the *hilot* is considered the expert. The more appropriate Tagalog translation would actually be "buwa", a term referring to a condition that would approximate a severe and obvious prolapse of the uterus outside the vagina.

Choice of health practitioner as a factor in pregnancy outcomes: birthweight and infant size

Among the maternal outcomes, birthweight is used as an indicator of pre-natal care and maternal nutrition during pregnancy. However, in the Philippines, a majority of newborns are not weighed at birth because 80 percent of them are delivered at home where no weighing scales are available. The following table shows the distribution of infants, with information on birthweight by caregiver during delivery:

Hilot	WEIGHT OF CHILD AT BIRTH				TOTAL
	<2.5 kgs	> or =2.5 kgs.	don't know	not weighed	
-no	535(12.9%)	2920(70.7%)	203 (4.9%)	475(11.5%)	4133
yes	309(6.2%)	1478(29.8%)	155 (3.1%)	3015(60.8%)	4957
TOTAL	844(9.3%)	4938(48.4%)	358 (3.9%)	3490(38.4%)	9090

It is apparent from the table above that infants delivered by a *hilot* are most probably not weighed, whereas those not delivered by a *hilot* would most likely have birthweight data. The results from this analysis should therefore be interpreted, keeping this bias in mind.

The bivariate analysis (Table 4a, 4b, and 4c) shows that only education of both respondent and her husband correlate significantly with birthweight. In the multivariate analysis (Table 4d), however,

additional variables such as the economic factor score and the health care provider during delivery turn out significant. Higher education, higher economic factor scores, and delivery by a *hilot* predict higher birthweight. Considering the biases inherent to the data, as well as the fact that the *hilots* are not usually consulted for pre-natal care, it becomes difficult to rely too much on these findings as a basis for policy. It is possible that women with premature or difficult pregnancies which usually result in lower birthweight may be more likely to seek out non-traditional practitioners. What it does point out is the need for more information on the birthweights of infants delivered by traditional practitioners.

Choice of practitioner as a factor in child outcomes: survival to 1 month and up to 2 years, diarrhea and ARI duration, fluid-giving during a diarrhea episode.

At the bivariate analysis level, survival during infancy, defined as the period from birth to 24 months, significantly correlates only with the respondent's age: the older the mother the longer her child is likely to live. Caregiver at delivery was only marginally significant (t-test value =1.95; p=.051), with those delivered by a non-*hilot* having a mean survival time of 15.4 months as against 14.8 for those delivered by a hilot. The multivariate analysis did not show any significant variable in the equation, implying that the factors included are not the correct predictors of the infant survival.

Table 4a Correlation Coefficient of Selected Variables Associated with Birthweight
(Correlation; n = 2564)

Variable	r	p
Socio-economic factor	0.052	>.05
Age of the respondent	-0.0251	>.05
Age of the husband	-0.0066	>.05
Husband's no. of years of education	0.058	<.01
Respondent's no. of years of education	0.0525	<.01
Total no. of children (parity)	-0.006	>.05

Table 4b. Mean Birthweight by Selected Variables
(T-Test; n = 2564)

Variable	mean	t-value	p
Residence			
Urban	3.05	.25	.81
Rural	3.04		
Access to media			
With	2.96	-1.36	.17
Without	3.05		
Health care Provider			
Non-hilot	3.03	-1.75	.08
Hilot	3.08		

Table 4c. Mean Birthweight by Respondent's and Husband's Occupation
(One-way ANOVA; n = 2564)

Variable	mean	F-value	p
Respondent's occupation			
Professional/admin	3.05	2.87	.06
Service/production	3.06		
Agri/non-gainful	2.92		
Husband's occupation			
Professional/admin	3.02	.78	.46
Service/production	3.06		
Agri/non-gainful	3.03		

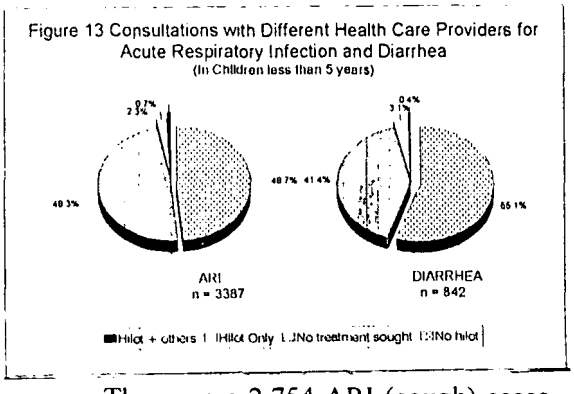
Table 4d. Logistic Regression Coefficients of Factors Associated with Birthweight

Factor	b	p
No. of years of education of husband	0.017	0.004
Socio-economic factor	0.054	0.016
Health care Provider		
Non-hilot*		
Hilot	.164	.0004

*reference group

An analysis of neonatal survival was done because this was felt to be a better outcome indicator of delivery care compared to infant survival. The bivariate analysis shows that the mother's age and total number of children are significantly correlated with survival during the neonatal period. However, the multivariate analysis indicates that only the mother's age entered the model. This means that the older the mother is the higher her child's chances of survival during the neonatal period.

Figure 13 shows the distribution of ARI and diarrhea cases included in the analysis according to care-provider. About half of the episodes are managed with self - care (no treatment sought) and only a small proportion is seen by the traditional practitioners. Most cases that do get treated are seen by non-*hilots*.



There were 2,754 ARI (cough) cases included in the analysis. The bivariate analysis shows that lower economic status factor scores, rural residence (52.6 percent; mean=5.10 days), and husbands working in agriculture (mean=5.14 days) are significantly related to longer cough duration (Tables 5a, 5b, and 5c). Based on the results of the multiple linear regression, the risk factor for longer episodes is a low economic status score (Table 5d). When the care giver for the episode is forced into the equation, the p-value of the economic factor improves, implying an interaction between the two factors that strengthens the model.

Table 5a. Mean Duration of ARI by Selected Variables
(T-test; n=2754)

Variable	mean	t-value	p
Place of residence			
Urban	4.57	-2.99	.003
Rural	5.10		
Media access			
With	4.83	-.99	.32
Without	5.17		
Ever breastfed			
Yes	4.83	-.35	.73
No	4.94		
Health Care Provider			
Non-hilot	5.34	-.95	.34
Hilot	5.90		

Table 5b. Correlation Coefficient of Selected Variables Associated with Duration of ARI
(Correlations; n = 2754)

Variable	r	p
Socio-economic factor	-0.079	.001
Age of the respondent	-0.029	.05
Respondent's education	-0.003	.05
Husband's education	-0.03	.05
Age of the child	-0.035	.05
Parity	-0.012	.05

Table 5c. Mean Duration of ARI by Selected Variables

(ANOVA; n= 2754)

Variable	mean	F-value	p
Respondent's occupation			
Prof./Adm.	4.99	0.09	91
Sales/Service	4.95		
Agri./Non-gainful	5.09		
Husband's occupation			
Prof./Adm.	4.50	5.34	.005
Sales/Service	4.55		
Agri./Non-gainful	5.14		

Table 5d. Logistic Regression Coefficient of Factors Associated with Duration of ARI

Factor	ß	p
Socio-economic factor	-0.452	0.001
Health Care Provider		
Non-hilot*		
Hilot	.376	.520

*reference group

Bivariate analysis of the 894 diarrhea cases (Tables 6a, 6b, and 6c) shows that longer episodes are associated with younger child age and husbands working as professionals/administrators (mean 4.23 days). However, the multiple linear regression model (Table 6d) includes only the child's age and the mother's education, with mother's education dropping out when care-giver is forced into the equation, probably because of an interaction with the latter. The paucity of predictors in the final model implies that other factors may be operating and had not been included in the analysis (for example, nutrition).

Table 6a. Mean Duration of Diarrhea by Selected Variables (T-test; n=849)

Variable	mean	t-value	p
Place of residence			
Urban	2.98	-.12	.90
Rural	3.01		
Media			
With access	2.97	-.86	.39
Without access	3.32		
Ever Breastfed			
Yes	3.00	-.21	.84
No	3.07		
Health care provider			
Non-hilot	3.28	-.21	.83
Hilot	3.40		

Table 6b. Correlation Coefficients of Variables Associated with Duration of Diarrhea (Correlations; n=849)

Variable	r	p
Socio-economic factor	-.007	>.05
Age of the respondent	-.031	>.05
Respondent's education	-.018	>.05
Husband's education	.008	>.05
Age of the child	-.151	<.001
Birth order	-.024	>.05

Table 6c. Mean Duration of Diarrhea by Selected Variables (Analysis of Variance; n=849)

Variable	mean	F-value	p
Respondent's occupation			
Prof./adm.	2.80	0.11	0.89
Sales/service	2.83		4
Agri./non-prod.	2.96		
Husband's occupation			
Prof./adm.	4.23	4.41	0.01
Sales/service	2.93		
Agri./non-prod.	2.95		

Table 6d. Logistic Regression Coefficients of Factors Associated with Duration of Diarrhea

Factor	ß	p
Age of the child	-.035	.001
Health care provider		
Non-hilot*		
Hilot	.136	.818

*reference group

For the child outcomes, the most interesting finding concerns the giving of more fluids (oral rehydration solution, rice, water,and increasing breastfeeding) during a diarrhea episode (as compared to giving the same or less fluids). This was used as a measure of the appropriateness of care during the episode. The bivariate analysis (Tables 7a, 7b,and 7c) shows that more years of education for the mother (mean = 8.05 yrs.), husband's work in the service/production sector (48 percent), and a non-*hilot* care provider (52 percent) are associated with giving more fluids. In the multivariate model, only the care provider comes out as a determinant of giving fluids. This last finding provides additional evidence of the importance of the care provider in health outcomes. It also points out the inadequacy of the care provided by the traditional practitioner during the few diarrhea episodes they handled.

Table 7a. Bivariate Analysis for Giving Recommended Home Fluids During a Diarrhea Episode (Chi-square; n=849)

Variable	n	No.(%) given fluids	χ^2 value	p value
Residence				
Urban	398	161(40.4)	.10	.75
Rural	451	188(41.7)		
Respondent's Occupation	54	20(37.6)	4.79	.09
Professional/adm.	265	122(45.9)		
Service production	93	31(33.5)		
Agri/non-gainful				
Husband's Occupation				
Prof/Admin	49	20(41.6)	14.7	.0006
Service/Production	376	181(48.0)	2	
Agri/Non-gainful	407	140(34.5)		
Access to media				
With	791	324(41.0)	.04	.85
Without	58	25(43.2)		
Ever Breastfed				
Yes	729	298(40.9)	.62	.43
No	83	38(46.0)		
Health Care Provider				
Non-hilot	349	182(52.0)	6.91	.008
Hilot	30	8(25.2)		

Table 7b. Bivariate Analysis for Giving Recommended Home Fluids During a Diarrhea Episode (T-test; n = 849)

Variable	Mean		t- value	p
	Given	Not Given		
Socio-economic factor	0.0261	-0.0182	0.63	0.53
Age of the respondent	29.59	29.68	-0.21	0.84
Respondent's no. of yrs. of education	8.05	7.52	2.22	0.03
Husband's no. of years of education	7.82	7.44	1.56	0.12
Total no. of children	4.32	4.39	-0.36	0.72
Age of child	23.12	23.64	-0.51	0.61

Table 7c. Logistic Regression of Coefficient of Health Care Provider Giving Recommended Home Fluids During a Diarrhea Episode (n=849)

Factor	b	p
Health Care Provider		
Non-hilot*		
Hilot	-1.167	.007

*reference group

CONCLUSIONS AND RECOMMENDATIONS

The results of the study confirm expectations regarding the choice of caregiver for prenatal and delivery are and outcomes of maternal and child health conditions. Although there are some limitations regarding the availability and the variability of the data, the strength of the study lies in its large and representative sample. This allows the drawing of conclusions on a nationwide scale that may guide policy makers regarding the role of traditional practitioners in our health care delivery systems. The study comes at a particularly crucial time as a bill is being proposed in the Senate that seeks to create a Traditional and Alternative Health Care Authority within the Department of Health.

Tan, in his study, gives the following reasons for the continued utilization of traditional practitioners: (1) economic - "western health care remains expensive and inaccessible for the majority of Filipinos," (2) "the highly personalized interaction between the traditional practitioner and the patient," and (3) the perception that "the treatment of some illnesses are not within the competence of physicians and other health professionals."

The preference for the *hilot* for delivery is probably due to the first reason, as western trained professionals do not only charge more, they are more likely to be in cities and town centers and are therefore not available for this health care need that requires a caregiver who is nearby and affordable. In contrast, prenatal consultation can be timed and planned ahead. To the credit of most of the women in these surveys, they did go for prenatal care and utilized government services and manpower for this. Their preference for the non-*hilot* for pre-natal services implies a perception of the inadequacy of the *hilot* for this type of service. Considering the need to have better coordination between the prenatal caregiver and the birth attendant in order to adequately prepare for delivery complications, it is the task of the policy makers to (1) train, equip, and promote the *hilot* to provide adequate pre-natal services and in the process improve on their capability to manage primary level birth deliveries; or (2) to discourage the utilization of *hilot* services and promote (or legislate) delivery by western trained professionals; or (3) to provide for an efficient referral network between the *hilots* and their western-trained counterparts to optimize the strengths of each type of health care. The last option is the most appealing, but it may be the most difficult because it requires attitudinal and behavioral changes that are beyond policy.

The *hilot*'s popularity as care-giver for so-called uterine prolapse, as explained previously, can be related to Tan's (1992) third reason. The women's explanatory model for the condition provides a logical framework for selecting the healer who can best manage the problem. Similarly, the few cases of ARI and diarrhea where the traditional practitioner was consulted may have been viewed as folk illnesses (Lieban, 1987). For self-limiting conditions, this may not be a problem. However, in the event that the perceived folk illness is a condition for which western type care may lead to better health outcomes, then consultation with a traditional practitioner may delay the administration of appropriate treatment. The options are not likely to be dealt with through legislation or policy alone. *Hilots* and other traditional practitioners have never been legal providers of health care and, therefore, operate in most instances, outside the law.

The second and third reasons given by Tan (1992) for preferring traditional practitioners can only be dealt with by understanding the contextual and cultural aspects of health care delivery. Legislation and policy can and should provide the environment in which people can make appropriate choices for health care. Government must see to it that these choices are safe and efficacious and that all sectors can have access to these options. Traditional practitioners can provide safe and efficacious care in certain (though not all) contexts and must be allowed to do so within the limits of their capability. It is these limits that laws must define so that people can decide.

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