

〈Educational Report〉

GORIN Team No. 2

Master of Public Health in International Health

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Investigating the Motivating Factors Behind High Delivery Rates of the Urban HEART Birthing Facility in San Martin de Porres, Philippines

フィリピン国Urban HEART 助産施設における施設分娩を促進する要因について

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I. Introduction

1. Background

Urban HEART (Health Equity Assessment and Response Tool) is an instrument developed by WHO Kobe Center as a solution to health inequities resulting from high rates of urbanization¹⁾. Barangay San Martin de Porres (SMDP) was chosen by Paranaque City, Philippines as a site for the Urban HEART pilot as it was identified as having the highest percentage of depressed areas and the lowest percentage of facility-based deliveries²⁾. Paranaque City established the PAANAKAN (*Paranaque Ang Aalalay sa Nanay at Anak magpaKailAnmaN*) Birthing Facility in October 2008 in response to this health inequity. PAANAKAN is manned by five health workers, provides prenatal checkup, normal delivery, postnatal checkup, newborn screening and breastfeeding services for the price of 2,500 Philippine pesos (Php).

Less than a year after its operation, delivery rates at PAANAKAN Birthing Facility continued to increase every month while home delivery rates dropped to zero. However, there is no system in place to gather feedback from mothers or clients after rendering services. To maintain high facility-based delivery rates, it is therefore important to identify factors that motivate mothers to deliver at PAANAKAN.

2. Objectives of the study

The main objective of this study is to investigate the influential factor(s) that motivated mothers to deliver at PAANAKAN Birthing Facility. Specific objectives are to identify the physical, financial, socio-cultural, and knowledge and experience factors, as well as to analyze relationships between these factors.

II. Methods

Data was collected via self-administered questionnaire for groups of respondents. Volunteer health workers gathered respondents in selected places on November 3 and 4, 2009. Inclusion criteria of this study were residents of Paranaque City aged 18 years and above who had given birth at PAANAKAN Birthing Facility from January 1 to November 4, 2009 based on the SMDP health center's registry. Of the target population of 200, 73 respondents were eligible for this study. A cross-sectional descriptive survey was used to conduct this study.

Data was entered using Microsoft Excel and analyzed using Epi Info version 3.5.1 and Microsoft Excel. Simple calculation and cross-tabulations (Chi-square Test and Fisher's Exact Test) were used to describe the distribution and to verify the association between factors.

Fig. 1 illustrates the conceptual framework that was used in this study. This framework encompasses the general information of respondents, motivating factors and their

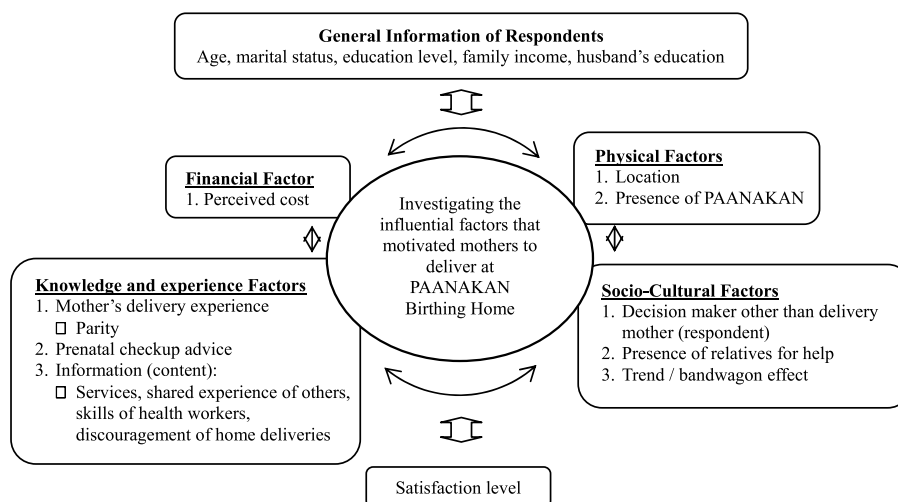


Fig. 1. Conceptual framework on motivating factors for delivering at PAANAKAN Birthing Home

relationships, and the satisfaction level of respondents. Four motivating factors were identified based on a review of literature.

Respondents voluntarily participated by signing an informed consent, separately, without any link to the questionnaires; therefore responses can not be traced to respective respondents. This study was approved by the College of Public Health Institutional Review Board of the University of the Philippines, Manila.

III. Results

The mean age of respondents is 26.2 ± 5 . Table 1 shows the other general characteristics. Accurate information could not be drawn regarding the parity of respondents because it was found that a considerable number have misunderstood the question.

1. Motivating Factors

Physical Factors. Of the 73 respondents, 71 (97.3%) knew the location of PAANAKAN Birthing Facility before they decided on where to deliver. Among this population, as seen in Table 2, all considered PAANAKAN's location.

Financial factors. As displayed in Table 2, 59 (93.7%) of 63 respondents considered the cost or price of delivering at PAANAKAN prior to their decision of utilizing its services. Cross-tabulations could not be done due to the small number of respondents who did not consider cost. Open-ended questions asked their opinions on a reasonable price for delivering at PAANAKAN considering the services they received. Forty two (60.9%) of 69 respondents believed that a reasonable price was higher than the actual price of Php

Table 1. Characteristics of respondents (n=73)

Variables	n	%
Residence		
SMDP	64	87.7
Others	9	12.3
Marital status		
Married or living together	66	90.4
Unmarried/single parent	1	1.4
Refused to disclose	5	6.8
Missing	1	1.4
Respondents Education		
Elementary	2	2.7
High school	43	58.9
College vocational	7	9.6
College	15	20.5
Missing	6	8.2
Parity	-	-

2,500, whereas the remaining 27 (39.1%) believed it should be lower.

Socio-cultural factors. Results of our study showed that 61 (83.6%) of 73 respondents noticed that it started to become popular to give birth at PAANAKAN. Among this population, as shown in Table 2, 34 (55.7%) respondents considered this information in their decision-making process.

When asked to identify who chose PAANAKAN as the place for giving birth, 66 (90.4%) of 73 respondents claimed that they themselves were the primary decision-makers.

Table 2 illustrates that of 73 respondents, 70 (95.9%) knew that their relatives would be allowed to take care of

Table 2. Factors considered by respondents (n=73)

Factors	Aware of factors		Considered		Not considered	
	n	%	n	%	n	%
Physical						
Location of PAANAKAN	71	97.3	71	100	0	0
Financial						
Cost or price of delivery	63	86.3	59	93.7	4	6.3
Socio-cultural						
Popularity or trend	61	83.6	34	55.7	27	44.3
Presence of relatives for help	70	95.9	66	94.3	4	5.7
Knowledge and experience						
Information heard on services at PAANAKAN	70	95.9	70	100	0	0
Information heard on the experience of other mothers	62	84.9	58	93.5	4	6.5
Information heard on health workers' skills at PAANAKAN	64	87.7	61	95.3	3	4.7
Information heard on discouraging home deliveries	59	80.8	59	100	0	0
Prenatal checkup advice to deliver at PAANAKAN	57	78.1	57	100	0	0

Table 3. Reputation of information heard

Information	Mainly good		Mainly fair or poor	
	n	%	n	%
Services at PAANAKAN	65	92.9	5	7.1
Experience of other mothers	52	83.9	10	16.1
Health workers' skills at PAANAKAN	53	82.8	11	17.2

them during their stay at PAANAKAN prior to deciding on where to deliver.

Knowledge and experience. Knowledge as a factor was divided into five basic components pertaining to specific information heard and prenatal checkup advice to deliver at PAANAKAN. Of respondents who were aware of specific knowledge factors, information heard about the services at PAANAKAN, about discouraging home deliveries and prenatal checkup advice to deliver at PAANAKAN were considered by 100% of respondents, as seen in Table 2. They were also asked to recall what the over-all impression was about the information they received. Table 3 shows that consistently more than 80% of information received about services, health workers' skills and experiences of other mothers was good.

2. Reasons respondents did not deliver at home

All 73 respondents were asked in an open-ended question for their reason(s), in retrospect, for not delivering at home. Out of 67 respondents 50 answered that they wanted to ensure a safe delivery, 19 answered infrastructure, human resources, presence of services, inconvenience of home delivery and the least number of respondents answered cost. This is represented in Table 4.

Table 4. Respondents' reasons for not delivering at home (n=67)

Reasons	n	%
Knowledge Factors		
Ensure safe delivery, fear of delivering at home, personal preference, past experience, health workers advice	50	74.6
Physical Factors		
Infrastructure, human resources, presence of services, inconvenience of home delivery	19	28.4
Socio-cultural Factor		
Decision maker influence	3	4.5
Financial Factor		
Cost	1	1.5

3. Recommendations for the improvement of PAANAKAN

A total of 62 respondents provided 67 recommendations for the improvement of PAANAKAN. Of those who responded, 23 (37.1%) wanted improvements in the infrastructure, equipment & supplies, 21 (33.9%) recommended the facility to maintain its good services, 18 (29%) recommended to improve human resource knowledge, skills and attitude, and 5 (8.1%) wanted to see improvements in the financing scheme or cost.

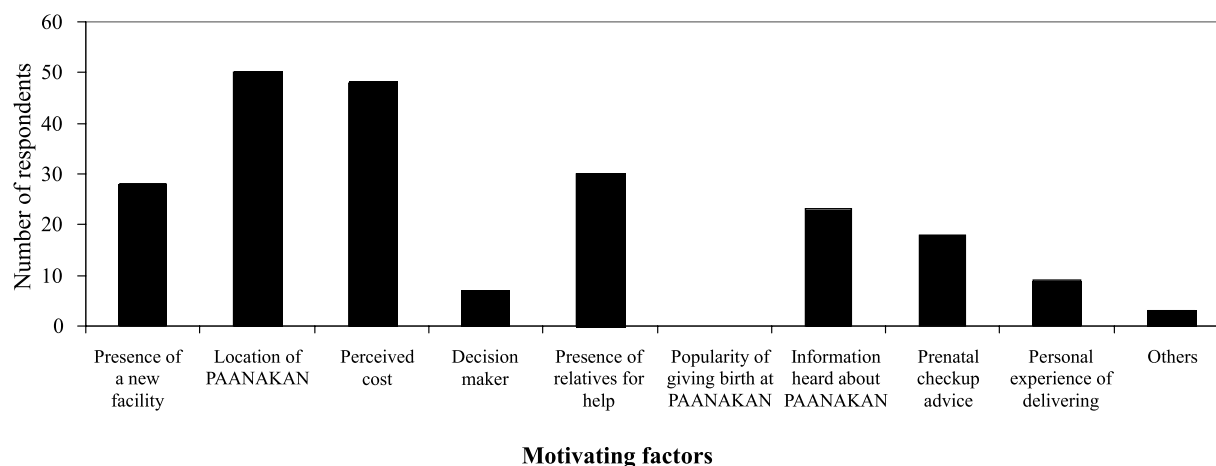


Fig. 2. Distribution of respondents' priority motivating factors

After receiving services from PAANAKAN, 62 (84.9%) respondents rated their satisfaction level as high. Among those with lower satisfaction levels, 11 (15.1%) recommendations were made to improve infrastructure, equipment & supplies and human resources (knowledge, skills and attitude).

4. Prioritization of factors

From a given set of choices, all 73 respondents were asked to provide their top three important factors that motivated them to deliver at PAANAKAN. Fig. 2 illustrates the three most common responses were location ($n=50$, 68.5%), perceived cost ($n=48$, 65.8%) and the presence of relatives for help ($n=30$, 41.1%).

IV. DISCUSSION

1. Motivating Factors

Physical Factors. Paranaque City constructed a new birthing facility within the premises of the SMDP health center with easy access. The presence and location of a new facility might lead respondents to deliver there. The presence of a new facility conveniently located within a vulnerable community could greatly increase the accessibility to healthcare services.

Financial Factors. The majority of respondents took cost into consideration in choosing where to deliver. This finding supports the results of another survey conducted within Paranaque City that identified cost as a financial barrier for facility-based delivery³⁾. As PAANAKAN was established to cater to the vulnerable population, this was an expected result. However, this contradicts the finding that more than half of the respondents believed that the

actual price of delivering at PAANAKAN is lower than what they considered as reasonable. One explanation is that the cost of a midwife-attended home delivery is higher at Php 4,000. Although midwife-based home deliveries in SMDP offer installment payment schemes to families who cannot afford to pay all at one time, respondents could feel more secure giving birth in a facility with more than one health professional, emergency medical equipment and supplies.

Socio-cultural factors. Compared to other factors, the trend factor received the least number of considerations. Since PAANAKAN was established, not all respondents would have noticed the trend of delivering in this new facility. Another reason is that other factors may have been prioritized over the trend to deliver there.

Most respondents made the decision themselves to deliver at PAANAKAN. At the same time, it was also found in this study that the educational attainment of respondents is mostly high school level or above. This finding is consistent with another research claiming that education is likely to enhance the status of women and enable them to develop greater confidence and capacity to make decisions about their own health⁴⁾.

The presence of relatives for help is considered in this study as various assistance from any relative willing to provide support and care for respondents before and after their delivery. This is most especially pronounced when services regularly offered in hospitals (e.g., serving of meals) is not available in birthing Facilities. The presence of relatives to prepare the daily meals and attend to other children of mothers (clients) becomes a crucial factor in decision making. The World Health Organization

recommends allowing mothers' relatives to stay at the facility for assistance and support. The adoption of this strategy by the PAANAKAN has contributed largely to its success as the presence of relatives for help was often considered by respondents.

Knowledge and experience. The skill of health workers is an important component of quality of service. As information about the services, skills of health workers and experiences of mothers was often good, we can infer that the good reputation of the facility contributed as an enabling factor. Moreover, since all deliveries were previously facilitated at home, it is likely that there is no baseline skill to compare with other than that from traditional birth attendants or midwives.

Newly established facilities such as PAANAKAN are prone to much speculation or doubt. In vulnerable communities, the tendency to rely more on word-of-mouth news or information from trusted sources such as neighbors or other members of the same community who have utilized this facility. Shared subjective experiences of community members play a critical role in shaping the overall reputation of PAANAKAN and could have positively affected a respondent's choice to deliver there. In contrast to the other information received, the discouragement of home deliveries is supported by new policies of Paranaque City and barangay SMDP. This might be one reason respondents considered this information.

Many of the respondents received and considered advice to deliver at PAANAKAN during their prenatal checkup. This is anticipated as health education campaigns towards facility delivery are conducted during prenatal checkups and Mother's Class Program. This strategy is consistent with studies that show antenatal care as a strong factor for enticing women to choose hospital delivery care^{5,6}. Further studies show that the association between prenatal checkups and facility-based deliveries are due to the mothers' concerns and their willingness to learn about facility-based deliveries⁷. Therefore, advocating delivery at PAANAKAN is an effective strategy to instill effective knowledge on facility delivery.

2. Prioritization of factors

Based on the results of this study, respondents have considered nearly all factors presented except for the popularity of giving birth at PAANAKAN. From this perspective, it is difficult to identify the factors that are most influential for their decision to deliver at a facility. By

having respondents prioritize their top three most important factors, we can gauge the weight of each. This will identify the most commonly considered factors for respondents.

Location was identified as the most important factor for delivering at PAANAKAN, followed by perceived cost and the presence of relatives for help. These are categorized into physical, financial and socio-cultural factors respectively. Previous studies show that these factors influence the decision of mothers as to the place of delivery^{5,6,8}.

Prior to the establishment of PAANAKAN, residents of SMDP could only choose from delivering in a hospital, a birthing facility in another district or at home. The high cost of hospital care and the inconvenience of traveling to another district to deliver in a facility had pushed mothers to deliver at the convenience of their own home for a lower price. With the establishment of a new public birthing facility within the vicinity of SMDP that offers standard facility care at a competitive price, physical and financial disabling factors may have been overcome. Furthermore, as PAANAKAN is located within their community, relatives of respondents are more accessible for support. With this, PAANAKAN has the advantage of physical, financial and socio-cultural enabling factors over other hospitals and private birthing facilities.

3. Reasons respondents did not deliver at home

When asked in retrospect why mothers avoided home delivery, awareness of safe delivery and concerns regarding the dangers of home delivery were most commonly identified. This awareness or gain in knowledge coincides with the health education campaigns of the PAANAKAN through prenatal checkups and the Mother's Class Program. In contrast to a previous survey done, the reasons for home delivery reflected physical and financial disabling factors³. The shift from identifying physical and financial barriers to improved knowledge and awareness reflects how health education can affect behavioral change and the decisions of respondents to deliver at a facility. Since almost all respondents were primary decision makers, health education programs that target expecting mothers would be the most beneficial.

4. Respondents' recommendations for the improvement of PAANAKAN

Amongst all respondents who gave recommendations, improvement in infrastructure, equipment and supplies was

the most popular answer. Respondents may also have felt the need for a larger room to accommodate their need for a companion or relative to stay with them. This reflected their preference to use more updated equipment, more medical supplies, medicines and better nursing supplies such as bedding. The second most common recommendation was to maintain the already good services. This shows the effort of PAANAKAN to fully utilize all available resources as this facility was initially funded by support agencies. The third most popular answer was to improve human resource knowledge, skills and attitude, which includes the recommendation to improve the health education skills of staff. This is reflective of our respondents' eagerness to receive better and more comprehensive health advice from the PAANAKAN health workers which eventually creates trust between the client and provider.

The least number of recommendations pertained to improving the financing scheme of PAANAKAN to render the facility even more financially accessible for the most economically deprived populations. This shows that an improvement of financing schemes was not given much priority among respondents, as opposed to a previous survey done²⁾. Taking into consideration the average amount respondents were willing to pay for delivery services, it can be seen that a majority believed that the actual cost (\geq Php 2,500) was reasonable. The low number of recommendations to improve financing schemes is consistent with the finding that more respondents believed that a reasonable price for delivering at PAANAKAN is higher than actual.

Recommendations from respondents serve as a reminder that despite the presence of a public birthing facility, inequity gaps in maternal health care service delivery still exists. Future assessments using the Urban HEART or further studies should be carried out to attend to these remaining gaps.

V. Conclusions

Physical, financial, socio-cultural, and knowledge and experience factors were all considered by respondents prior to their decision to deliver at PAANAKAN Birthing Facility.

Physical factors were identified as the most common motivating factor for respondents to deliver at PAANAKAN Birthing Facility. This was followed by financial and socio-cultural factors that ranked second and third respectively.

Knowledge factors were not important motivating factors

for respondents. However, the most common reasons respondents avoided home deliveries was related to their knowledge on the dangers of home deliveries. This inconsistency may have been brought about by interventions from the local government unit such as health education campaigns (prenatal checkup and Mother's Class) and new policies of Paranaque City to discourage home deliveries.

In contrast to the most common motivating factors identified, the presence of a facility, its equipment and professional health and the inconvenience of home delivery were less common compared to knowledge or awareness of ensuring safe deliveries. Therefore, despite interventions, the location and presence of an equipped facility is still an important underlying concern for respondents.

VI. Limitations of study

The survey, conducted in SMDP, relied on volunteer barangay health workers to gather respondents in chosen areas. Subsequently, health volunteers and some community members explained questions and watched respondents answer questionnaires. This may have resulted to bias the appraisal of PAANAKAN. Furthermore, the results of this research apply only to the respondents in this study and cannot be a basis for generalizations of characteristics of vulnerable populations within Paranaque City.

VII. Recommendations

An increase in knowledge on safe delivery as well as the efficacy of new policies on discouraging home deliveries has become evident in respondents. In contrast to the results of previous research, it was found that the top reasons for not delivering at home were more closely related to their improved knowledge rather than the previously identified financial barrier³⁾. It is therefore recommended that: (1) health education campaigns be strengthened and continued especially during prenatal checkups; and (2) a structured feedback system be installed to follow-up with clients and eventually maintain adequate health services.

VIII. Acknowledgements

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