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Distribution of Free Safe Delivery Kits in all Public Health Facilities in Tanzania: Has it worked as Expected?

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Abstract:

This study was carried in Mkuranga District Hospital to assess the accessibility to free delivery kit in public health facilities. Specifically, the study examined public awareness of presence of delivery kit in public health facilities; it assessed the accessibility to free delivery kit during delivery as well as identifying predisposing factors for expecting women to access free delivery kit from Government owned health facilities. Both qualitative and quantitative data was collected from 96 respondents who were mothers attending post natal clinic. Respondents (mothers) were selected using systematic random sampling while key informants were selected using purposive sampling. Data was then analyzed using Statistical Package for Social Science (SPSS) programme. The results show that, despite of significant contribution of the delivery kit in providing a hygienic birthing environment, awareness and accessibility to delivery kit is still low, favoritism, delays in procuring kits and little budget allocated on delivery kits are the leading factors for inaccessibility to delivery kits. It is recommended that the ministry of health and social welfare has to advertise and promote delivery kit from national to community level, along with increasing the budget allocation on delivery kit as well as ensuring that appropriate monitoring on procurement and distribution of delivery kits to the end users is enhanced.

Keywords: Free delivery kits, public, health facilities, Tanzania, Countdown countries

1. Introduction

Around the world, a woman dies every minute from pregnancy related causes. Globally, there are more than 1,000,000 maternal deaths per year, the majority of which are in Africa where in many places the maternal mortality rate (MMR) is as high as 1,000 deaths per 100,000 live births (UNFPA, 2008). Although in more than 50 Countdown countries, the decline in child mortality has been accelerating, with a greater annual rate of reduction in 2000-2011 than in 1990-2000. However, some Countdown countries are lagging behind. In 24 countries – all of them, except Afghanistan, in sub-Saharan Africa – the under-five mortality rate in 2011 remained above 100 deaths per 1,000 live births. Efforts to improve child survival in sub-Saharan Africa must not only continue, but intensified (UNICEF, 2012).

Records show that the global under-five mortality rate has fallen while the proportion of child deaths that occur in the neonatal period has increased. Neonatal deaths now account for 40% or more of all child deaths in 35 countdown countries, and this percentage reached 50% or higher in 12 countries. Greater investment and attention to the newborn period, including the prevention of preterm births and stillbirths, and the scale-up of effective-low-cost interventions such as antenatal corticosteroids, cord care, and kangaroo mother care is needed if the world is to achieve MDG 4(WHO/UNICEF, 2013).

Millennium development goal number four and five aim at reducing child mortality as well as reducing child mortality by two third and maternal mortality by three fourth by the year 2015 (World Bank, 2004). The main causes for maternal deaths are known, these include; obstetric hemorrhage, puerperal sepsis, pregnancy-induced hypertension; including eclampsia, obstructed labor, ruptured uterus, and complication for unsafe abortion (WHO 1992) rigorous efforts are required in countdown country to curb the problem of high MMR.

The Demographic and health survey (DHS) carried out in Tanzania in 2004/2005 indicated MMR was 578 deaths per 100,000 Live births. Current data indicate the rate has not changed substantially as it stands at 454 per 100,000 Live births (DHS, 2010). However, studies have indicated that these MMR can be reduced substantially by encouraging women to use: antenatal health care services ,

skilled birth attendants during delivery in health facility as well as having readily access to delivery kits (Waggle *et al.*, 2004; Kolinsky *et al.*, 2006; Fotso *et al.*, 2009; Kamal, 2009; Some *et al.*, 2011; Pradesh *et al.*, 2011).

Findings from a systematic literature review done in 2010 found that although birth kits are available in more than 50 low resource countries, evidence regarding implementation is limited. Levels of birth kit use vary considerably (8–99%); with higher levels being reported where birth kits are distributed free as part of a research programme. Identifying the user of the birth kit was difficult in most reports and the evidence regarding training requirements for birth kit use was conflicting. Limited information exists regarding facilitators and barriers to birth kit use, and how birth kits fit within the wider service delivery of maternal and child health (Hundley, et al.2010)

In recognizing the importance of these interventions in reducing MMR, the government of Tanzania is geared towards increasing the network of health facilities with maternal health services as well as increasing the number of health personnel in most part of Tanzania. As a result, 42% of all pregnant women in Tanzania were assisted by midwives when giving birth. It is also reported that in Tanzania, the ratio of midwife to pregnant women in labor is 1:40 whereas the ideal ratio is 1:6 (TDHS, 2010). This makes delivery by the assistance of midwife becoming really challenging.

Besides, White Ribbon Alliance on Safe Motherhood Tanzania (WRATZ) reports that without midwives there is no safe motherhood, thus, WRATZ members have to advocate for midwives and provision of necessary birthing equipments and supplies (WRATZ 2011). It is from these grounds, the government of Tanzania has order national health services including delivery kit in public health facilities to be provided freely (Moshia and Winani 2007). In implementing this strategy, the Ministry of Health and Social Welfare (MoHSW) has been allocating funds for procurement and distributing free delivery kits¹ in Government funded health facilities. For example, in the fiscal year 2012/13 the budget allocated was 4 billion (SIKIKI, 2014). Following the reports on corrupt behaviour of health personnel and negative image of midwives to the general public and pregnant/expecting mothers in particular (WRATZ, 2011) there is a need of accessing the accessibility of free delivery kits among expecting mothers in Tanzania. In this regard, this research intended to undertake the assessment of expecting mothers' accessibility to free delivery kits in public health facilities.

2. Methods and Materials

This study was carried out in Mkuranga district hospital, located in Mkuranga township, in Mkwaria ward, in the Coast region. The selection of the study area was purposely done, by considering the fact that the Mukuranga District Hospital is near to Dar Es Salaam. Mkuranga district is one of the six districts forming Pwani Region. This district was established in 1995. This district is a relatively small district, covering 2,432 square kilometers, which is about a quarter of the size of Bagamoyo and about the size of the Zanzibar Islands. The district has about 90 kilometers of coastline, extending from the Temeke to the Rufiji districts. Almost 222,921 people live in the 18 wards in the Mkuranga District (NBS 2013).

This study is non-experimental employed a cross-sectional design, in which both quantitative and qualitative methods of data collection were used; discussions and asking questions to the representative sample of the population using Focus Group Discussion (FGDs) and interviews for data collection were done. The study involved 96 respondents and 4 key informants making a total sample

size of 100 respondents. The sample size was obtained through the following formula;
$$n = \frac{(Z\alpha/2)^2 P(1-P)}{\lambda^2}$$

Where n=Sample size, $Z\alpha/2$ =Critical value, α is level of significance, p =Percentage of women accessing delivery kit. q=1-p, λ is maximum error. By assuming, $Z\alpha/2 = 1.96$ (i.e. confidence interval of 95% or 5% level of significance). P = 0.5 (since it is not known, this value will ensure maximum sample size (Amin, 2003) and $\lambda = 0.1$

Therefore, sample size $n = \frac{(1.96)^2 \cdot 0.5 \cdot 0.5}{(0.1)^2} = 96$

Both probability and non-probability sampling techniques were employed. For probability, systematic random sampling was used to select women for interview whom were found at the district hospital and for non-probability the purposive procedure was used to get information from officials who were identified as key informants. A selection of these key informants depended on their knowledge and current understanding of health service delivery in the district.

Primary data was collected from expecting mothers waiting to give birth at the hospital and those who recently gave birth to new born babies. Data collection was achieved through the use of questionnaires, In-depth interview, and observation and focus group discussion.

The collected data was edited to detect errors, coded prior to analysis by computer aided data analysis Statistical package for social Science (SPSS).

Official ethical clearance for the study was obtained from the Institute of rural Development Planning (IRDP) through IRDP Research Committee. Permission to conduct the study in the district was also sought from Regional and District Medical and Administrative Offices. The study participants were informed about the study with assistance by local leaders. The individuals approached were also

¹ A delivery kit is an all-inclusive package of essential items for a facility-based birth, and often includes such items as sterile gauze, clean cotton, a cord tie, ergometrine (a drug to prevent bleeding), syringes, gloves, a razor blade, etc. The benefit of creating a "kit" is so that all items are available when needed, rather than the facility running out of gloves or gauze, which are used for other procedures (Bujari, et al., 2013)

given explanations about the objectives and expected benefits of the study. They were also informed about the chance that anyone would be allowed to participate willingly and voluntarily. Those who were unable to read (and or write) were asked to put a thumb print on the informed consent form. The rest signed the consent form voluntarily. Participants were assured of the anonymity of their names and confidentiality of the information they provided. All of the individual participated in this study were informed of their freedom to drop out of the study, any time they wished even after being enrolled in the study.

3. Results and Discussions

3.1. Demographic Characteristics of the Respondents

Age of the respondents ranged from 18-45years. Majority (52.1%) of the respondents aged between 25-30 years, followed by age group of 18-24 which comprised 42.7% of all respondents. About 55.2% were married, 14.6% were widow, and 30.2% were singles. As indicated in Table 1, majority of the respondents, 54.2% had attained primary school education level. Respondents with secondary education were 25.0%, followed by tertiary education 18.8%. The findings didn't neglect the contribution of 2.1% of the respondent who didn't attain formal Education. As findings show, the majority of respondents in the study area were literate hence they were able to respond to the study objective "expecting mothers' accessibility to delivery kits"

3.2. Awareness to Free Delivery Kit by Respondents

The clean delivery kit is one component of integrated safe motherhood programs that contributes to a hygienic birthing environment (Dandha, 2000; Vyagusa, et al, 2013). When introduced as part of maternal and neonatal health programs, it provides a convenient source of clean birth supplies and may reduce rates of sepsis and cord infection, hence reducing the high rate of maternal and newborn mortality in rural settings (Kayombo, 2013).

In this study, respondents were asked to indicate if they were aware of presence of delivery kit in public health facilities in Mkuranga District as well as to indicate how or where they got the information on presence Safe delivery kits in these facilities. Findings from Table 2 show that half of respondents (53.1 %), a noticeable proportion were not aware of the presence of free delivery kit in public health facilities and for those who knew, the source of information was through clinic visit.

Variables	Frequency	Percent
Age		
<25	41	42.7
25-30	50	52.1
>30	5	5.2
Total	96	100.0
Education level		
None	2	2.1
Primary	52	54.2
Secondary	24	25.0
Post sec/university	18	18.8
Total	96	100.0
Marital status		
Married	53	55.2
Single	29	30.2
Widow	14	14.2
Total	96	100.0

Table 1: Age, Education and Marital Status of respondents (n=96)

Variable	Frequency	Percent
Awareness to presence of delivery kit (n =96)		
Aware	45	46.9
Not aware	51	53.1
Total	96	100.0
Source of information of free delivery kit (n=45)		
Clinic visit	45	100.0
Total	45	100

Table 2: Distribution of respondents by awareness to free delivery kit

This observation implies that the presence of free delivery kit in public health facilities has not been adequately made known to the public. A quote from a member of FGDs illustrates;

“ we are not aware of free delivery kit because they are not promoted and advertised in medias such as Televisions and radios nor in notice boards instead we are used to other adverts like use of anti-malaria dosages, insect side treated nets, how to prepare a balanced diet to mention a few, it is rarely for those who do not attend clinic to be informed and aware of free delivery kits” said a women aged 33 in FGD 2.

The similar to above narration, a Clinical Officer at Mkuranga Hospital testified;

“I have never seen or heard of an advertisement related to promotion of free delivery kits be it on radio, Television of fixed posters at health facility”

More to what are reported above, the researchers did not observed any advert concerning delivery kit at the health facility, although other posters promoting other safe motherhood such as plans prior delivery, anti malaria dosage for expectant mothers and breast feeding were found as shown in photograph below.

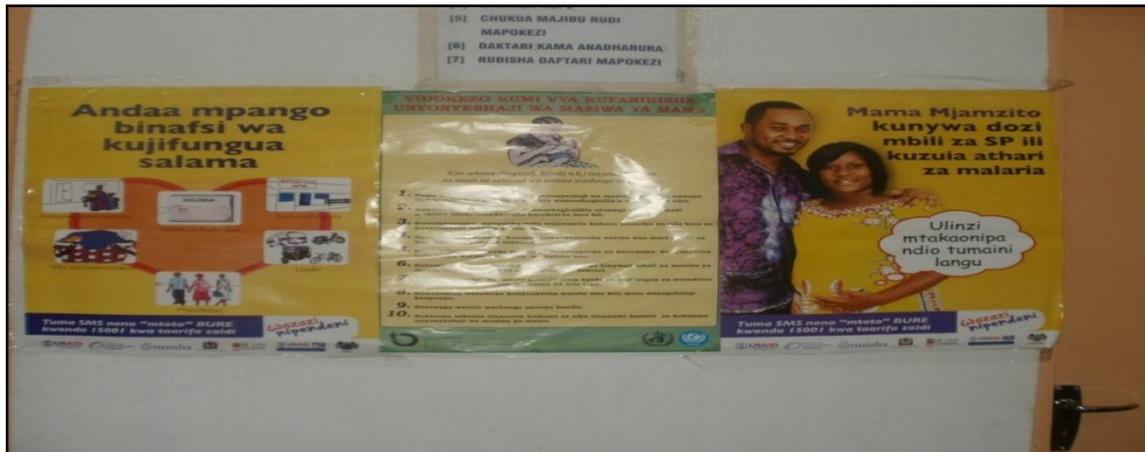


Figure 1: Posters advertised on safe delivery practices

On the contrary, the in- depth interview with key informants revealed that most women were not aware of presence of free delivery kit in public health facilities because distribution of free safe delivery kits is new intervention. The following quote from a midwife illustrate;

“Previously we were not distributing safe delivery packs to expecting mothers just on their arrival for labor. We used to attend them with all the required supplies free of charge. However, I am aware that distribution of free delivery kits started in midst of year 2012 where mothers were supposed to be given safe deliver kits freely, four weeks before going for labor and we have been doing so” Reports one of nurses at ANC section

Studies by Lwelamira *et al.*, 2012 has indicated that awareness to new intervention is one of key aspects for its widespread adoption. In this regard, observed lack of awareness to free safe delivery kit by a substantial proportion of respondents limit its access by significant proportion of pregnant women because of lack of awareness on the free delivery kits.

3.3. Accessibility to Free Delivery Kit by Respondents

Capturing the information on accessibility to free delivery kit among women in the study area respondents were asked to indicate whether delivery kit was obtained free during their recent delivery. Results from Table 3 reveal that majority of respondents (57.3%) purchased the kit and only 42.7% that is around four in every ten women who had delivered recently obtained the kit freely. Besides, for those who purchased (36.4%) perceived the price of the kit to be high; the price range from Tshs 4,000 to 6,000 Complains of women on high prices of the kit also featured during the focus group Discussion (FGD’S) as the following quote illustrate

“The price of kits is very high in pharmacies to the extent that majority of women cannot afford to buy , it costs not less than Tsh5000/-” said women aged 25 in FGD1.

Variable	Frequency	Percent
How did they acquired free delivery kit during delivery time		
Free of charge	41	42.7
Purchased	55	57.3
Total	96	100.0
How perceive the price of the kit if bought (n=55)		
High price	20	36.4
Medium	27	49.1
Low	8	14.5
Total	55	100.0

Table 3: Accessibility to free delivery kit by respondents

Under a strategy of free delivery kit to mothers, it is reported that in Ghana, birth kits were transferred to health centers and health posts to cover the costs of commodities required for delivery (Witter and Diadiou, 2008). The birth kit was intended to be free to women, but problems with supplies and costs relating to other factors meant that most women experienced a charge of some kind (Witter, 2007). Similar findings was also reported in some southern American countries by Garza (2009) who found that delivery kits are not available in all health facilities; and even when they are available, women are often charged for them or advised to bring their own delivery supplies.

In Tanzania similar finding has reported health facility deliveries were free of charge excluding delivery kits, which cost on average of 3 USD. Several women complained about difficulties in terms of mobilizing resources for the kits and accessing delivery kits in their villages respectively. Often, kits were not available at community level (Pfeiffer and Mwaipopo, 2013).

Reports show that budgeting and procuring of the delivery kits is the role done by the district hospitals. It was found that some district allocate inadequate funds for procuring these kits. For example, the allocation of free delivery kit from combined two financial years (2010/11 and 2011/12), indicate that Coast, Dar es Salaam and Arusha regions had very low budget of delivery kit (being below Tshs20, 000,000) in both years, in such a way that even the combined total of these regions is also below Tshs 20,000,000, (CCHPSD, 2011). This implies that free delivery kits are available in the study area although the availability might be inadequate, reliable or not free of charge.

Furthermore, the budget allocations for procuring delivery kits vary year by year. According to the data Gathered during CCHP assessment July 2011, it has observed that the previous financial year 2010/2011 budget was three times the current financial year 2011/2012 (Tshs1, 074,659,716 in 2010/11 and Tshs 390,351,793 in the current financial year). If combined together, the current budget is only 27% of both, hence lack of delivery kit in many public facilities (URT, 2012).

Delivery can be made safer by preventing infection through the use of a clean delivery kits, it’s believed that these items can reduce the maternal and child mortality. Therefore, reducing of budget in this area is a big challenge to the health sectors. Tanzania as among the developing countries, most births in rural areas take place at home without medical assistance (CCHPS, 2011).

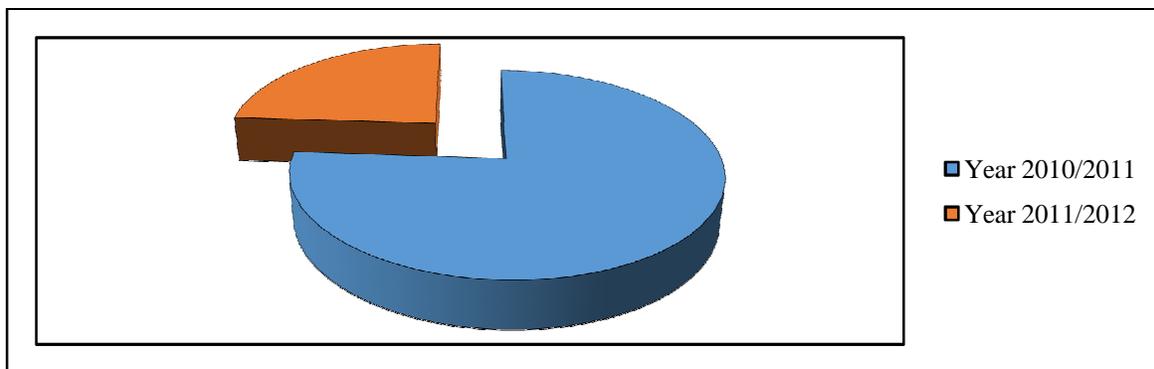


Figure 2: Budget allocation for Delivery Kits in Financial year 2010/2011 and 2011/2012

Source: Preliminary Report; Summary of the Analysis of Annual Comprehensive Council Health Plans (CCHPS) 2011/2012.

Delivery kit Budget	2010/2011		2011/2012	
	Councils	Percent	Council	Percent
Budgeted	102	77.3	73	55.3
Not budgeted	30	22.7	59	44.7

Table 4: Councils Budgeted for Delivery kit in Financial year 2010/2011 and 2011/2012

Source: Preliminary Report; Summary of the Analysis of Annual Comprehensive Council Health Plans (CCHPS) 2011/2012.

3.4. Challenges on Accessibility of Delivery Kit among Mothers in Public Health Facilities

This study was also interested in identifying reasons why some women didn’t access delivery kit during their recent delivery. Findings show that main reasons for not accessing free delivery kit during recent delivery by respondents was lack of awareness (35.3%), followed by delay of procuring the kits by health facilities (28.1%), not all women had equal chance of accessing the delivery kits-favoritism (27.2%), absence of delivery kit in facility, and lastly long distance to the facility (18.8%) this means failure to give birth at health facilities thus failure to access delivery kits.

Lack of awareness, long distance and Delay were also captured during FGD’S following quotes illustrates

“ Personally, I never heard of presence of free delivery kit prior to your interview this moment, and I have no idea why we are not informed it might be confidential issue or if kits are available, they might be given in favoritism in the way that some access them while others don’t” said a women aged 29 in FGD 2

Added another woman;

"I didn't receive a free delivery kit in my recent delivery as they were delivered late in facility, but for those who deliver four weeks ahead, they received them free of charge" said women aged 23 in FGD2

The narration above might be associated with either low budgeting or late procuring of the delivery kits or both.

Also long distance was reported as follows

"I heard about the presence of delivery kit from a friend who gave birth recently. Unfortunately I got labor pain while still at home and it was raining. Besides, the health facility is 4 km far from here so my husband called TBA who helped me to deliver safely without delivery a delivery kit" said women aged 29 in FGD1

This narration relates with results of previous studies, chance of delivery in health facility decreased with increasing distance to the nearest health facility and coming from low income group (i.e., low socio-economic status). Women whom their households were located more than 10 km from nearest health facility were less likely to deliver in health facility compared to those living within 5 km from nearest health facility (Nigussie et al., 2004; Mpembeni et al., 2007; Danforth et al., 2009)

As shown in table 5, lack of awareness, delays, and favoritism seems to be the leading factors for inaccessibility indicated by nearly one third of total respondents. Efforts to resolve these problems need to be put in place if access to delivery kit to majority of women is to be achieved. Lack of awareness as factor for inaccessibility to free delivery kit was also reported by Graham et al (2009).

Regarding language used by Midwives during provision of the kits and receipt of incomplete kit, more than half (53.7%) of total respondents who received free delivery kit indicated the language used by midwives during provision of the kit to be impolite and similar proportion (46.3) also reported to had received incomplete free delivery kit. . For example one participant from FGDs had the following to say

"I obtained a half packed delivery kit since some of the items were missing e.g. syringes, gloves and a razor blade. I decided to return it to the in charge supervisor, fortunately she changed it for me and apologized as it was due to misplacement during counting and checking items on arrival" said a women aged 27 in FGD1.

Incomplete or lack of safe and clean delivery equipments has been reported to be a challenge even among TBAs. A recent study reveals that majority of TBAs found in their study had delivery kits that were incomplete by missing some key items while others items dirty or torn depicting the poor environment in which TBA services were being (and might still be) delivered. For instance, conducting deliveries in thatched houses and some of the delivery kits reportedly having been issued to TBAs five years ago with no any follow-up from formal the health workers or their superiors to ensure necessary replacements is a great weakness in the service delivery environment of TBAs (Vyagusa, et. al.,2013).

Variable	Frequency	Percent
If purchased delivery kit during delivery, why did not obtained free delivery kit(n=127)		
Delay	27	28.1
Absence	22	22.9
Lack of awareness	31	35.3
Distance	18	18.8
Favoritism	29	27.2
Total	127	100.0
If language used by midwives during distribution of free delivery kit was polite (n=41)		
Yes	22	46.3
No	19	53.7
Total	41	100.0
If received incomplete free Delivery kit (n=41)		
Yes	22	53.7
No	19	46.3
Total	41	100.0

Table 5: Challenges to accessibility to free delivery kit

5. Conclusions and Recommendations

5.1. Conclusions

Despite the efforts done by the government of Tanzania on distribution of free delivery kits so as to free women and newborns from life-threatening infections and reduce maternal and child mortality. Pregnant women awareness towards free delivery kit is still low. On the other hand, it was reports show that the budget allocations on free safe delivery kits keep decreasing year by year while demand for these kits is at increase.

Awareness creation on the distribution of free delivery kits to the general public and pregnant women in particular revealed to be inadequate, in return women lacked information regarding presence of free safe delivery kits. Coupling lack of awareness and budget

allocation on delivery kits by Ministry of health and socio welfare led to inadequate distribution of delivery kits in councils and health facilities. Thus, expecting mothers or their relatives had to buy the delivery kit instead of getting them free of charge. Besides, delay in receiving the procured kits and favoritism was reported as factors hindering pregnant women to access safe delivery kits.

5.2. Recommendations

Ministry of health and social welfare has to design adverts, create educative and awareness creating programs to promote safe delivery kit at national level and local levels through Television and Radio programs, billboards, posters, stickers and other means so that information on free delivery kits may reach many people especially women.

The Ministry of health and social welfare and the Local governments (Districts/ municipals) have to increase the budget allocation on safe delivery kits so as to ensure that each government health facilities in Tanzania has adequate stock of safe delivery kits and women access these kits all the time

During the visits and supervision, district health officers have to ensure that there are enough safe delivery kits in every health facility in district. This will help those who stay far from district health facility and delay of delivery kits to women. Also they should ensure that posters concerning presence of free delivery kits are fixed on premises where members of the public can see them.

Also the distribution of these kits can be done 4- 6 weeks before the expecting date this will be helpful for pregnant women who live far from health facilities or deliver their babies at home so as to ensure a hygienic birth environment.

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