Short Communications

Reducing the delay in eligible couple registration through networking with marriage registrars

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Abstract

Introduction:
The newly married couples are rarely encountered by the Medical Officer of Health (MOH) and there is a delay in registering them in the Eligible Couple Register (ECR). A new service model was developed with marriage registrars for newly married.

Objective:
To describe the delay in eligible couple registration before and after networking with marriage registrars (MR) and to describe the detected pre-pregnancy risk factors through this newly implemented model.

Methods:
A network was established with the MR to receive information of newly married in the Arachchikattuwa MOH area. Delay in eligible couple registration before and after the implementation of the new model was assessed using data from 06 January 2004 to 12 January 2006.

Results:
The mean delay in eligible couples registration before and after intervention were 518.9 days and 46.5 days respectively (p=0.001). Registered in the ECR on the same day or after pregnancy registration before and after intervention were 133 (71.1%) and 16 (50%) respectively (p<0.018).

The MOH had seen 52 newly married couples during the study period. The number of teenage pregnancies was 14 (26.9%). There were 17 (32.7%) females with a BMI, <18.5kg/m^2 and four (7.7%) were treated for malaria. Prevalence of each, consanguinity, short stature and high systolic blood pressure was 5.8% (n=3). Two (3.8%) had failed to obtain rubella vaccine. Rheumatic heart disease and anaemia were detected in one female (1.9%) each.

Conclusion:
Linking up with marriage registrars reduces the delay in eligible couple registration significantly. Through provision of services by MOH to newly married couples selected pre-pregnancy risk factors can be identified and addressed. It also provides an opportunity for provision of pre-pregnancy care.

Key Words
Newly married, pre-pregnancy risk factors, new service model, marriage registrars

Introduction

Sri Lanka lacks a formal institutional structure to counsel couples and newly married partners. On occasion Public Health Midwives (PHM) counsel during home visits. PHM seek and register newly married couples in the Eligible Couple Register (ECR) and provide necessary health advice (1,2), usually at the time of the registration of the first pregnancy. Newly married couples are rarely seen by the Medical Officer of Health (MOH). Thus an opportunity to identify modifiable risk factors of pregnancy before conception is often missed.

We initiated a service model with registrars of marriage to facilitate pre-pregnancy services for the newly married by the MOH in the Arachchikattuwa MOH area.

The model recruits newly married couples for MOH clinics providing for counseling and assessment of pre-pregnancy risk conditions and also facilitates for early registration in the ECR.

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Objective:

To describe the delay in eligible couple registration before and after networking with marriage registrars and to describe the detected pre-pregnancy risk factors through this newly implemented model.

Setting

The study was carried out at Arachchikattuwa MOH area, which lies 12km North of Chilaw Town on the Colombo – Puttalam Road. The population is approximately 49,526 with 9,684 house holds. The MOH area of Arachchikattuwa has 13 PHM areas and 05 Public Health Inspector (PHI) areas. There are four marriage registrars (MR) serving the area. According to the records of Arachchikattuwa District Secretariat, on average 04 marriages per month are registered by each MR and none were seen by the PHM or MOH. For the study two marriage registrars were involved covering 7 PHM areas.

Method

One of the authors (APDS) developed a simple referral form to be sent by the MR to the MOH office. The couples who visit the MR to obtain an appointment date for their registration were given the referral form and requested to meet their respective PHM prior to the date of marriage. No incentives were offered except to state that the form should be handed over to the MR on the date of registration. The couples took the referral form and met the PHM who counseled and advised them to come to the MOH clinic for screening for pre-pregnancy risk conditions. The PHM handed over the back-referral form to be given to the MR on the date of marriage registration, so that MR would know the couple had met the PHM. Those who sought emergency registration were also given the referral form at the time of the marriage and advised to meet the relevant PHM. Apart from the above referral methods PHM directed the newly married couples to the MOH at the time of the registration in the ECR.

The Office of MOH also receives a weekly return of newly married couples from the MR, which gave information for PHM to conduct home visits for early registration in the ECR. The PHM issued a booklet to the couple, titled "Blessing for Marriage" ("Yuga Diviyata Asiri") published by the Population Division (available in Sinhalese and Tamil) of the Family Health Bureau to be read and returned.

The clinics for the newly married couples were conducted on the same day as the relevant polyclinic and they were given appointments usually after 11.30 am (after seeing the antenatal mothers and children). At the clinic the anthropometric measurements, clinical examination and investigations (haemoglobin, urine sugar and urine albumin) were done. A record sheet was developed to record the data (socio-demographic data of the newly married couple and detected pre pregnancy risk conditions). The MOH also counseled the couples on pre-pregnancy screening, sexual health and contraception. If the necessity arose these newly married couples were referred to the General Hospital Chilaw (GHC).

The records of ECR from 06 January 2004 to 12 January 2006 and the records of all couples presented for MOH clinics in Arachchikattuwa MOH area from 23 May 2005 to 12 January 2006 were collected and analysed. Those who were residing out side the Arachchikattuwa MOH area before marriage were excluded from the study. The study was a quasy–experimental in design and the intervention commenced from the second week of May 2005. The delay in eligible couple registration was calculated as subtracting the date of marriage from the date of registration of the eligible couple in the ECR.

Delay of ECR registration = Date of ECR registration – Date of marriage

We also calculated the percentage registered in ECR on the same day or after pregnancy registration (among primigravidae) as an indicator to further compliment the delay in eligible couple registration.

Date of pregnancy registration – Date of ECR registration ≤ 0

Those who were reregistered in ECR on the same day or after pregnancy registration would have a value of 0 or less (minus value). Only primigravidae were included for this analysis as the inclusion of multigravidae would create a bias.

Results

There were 235 couples registered in the ECR before the intervention period (approximately 16 months) from 06 January 2004 to 22 May 2005 while 52 were registered during the intervention period (approximately 7 months) from 23 May 2005 to 12 January 2006. During the intervention period 63 marriages registered by the MR were reported through the weekly return to the MOH Office. Although MR referred all of them, none of these couples had met their relevant PHM. From the weekly returns PHM recruited 24 newly married to the MOH clinic, while the rest has left the Arachchikat tuwa MOH area as their place of residence. Table 01 describes analysis of ECR before and after the intervention. Among those registered in the ECR

before intervention, 219 were primigravidae while this was 32 in the after intervention group, at the time of data analysis.

Table 01: Analysis of ECR before and after the intervention

Analysis of eligible couples in the ECR	Intervention		Level of significance
	Before	After	
Couples registered in ECR	235	52	–
Mean delay of ECR registration (days)	518.9 (95% CI 390.52-647.28)	46.5 (95% CI 31.8-61.2)	p=0.001
*Reregistered in ECR on the same day or after pregnancy registration	133 (71.1%)	16 (50%)	P=0.018

*Only Primigravidae were included (before n=219, after n=32)
95% CI = 95% Confidence Interval

Of those registered during the intervention period 24 (46.2%) were detected from the weekly notifications of marriage registrars while other 28 (53.8%) were not notified by MR since their marriages were registered by MR who were not involved in the study as they were residing outside Arachchikattuwa MOH area. This group of 28 was detected by PHM. Table 02 describes analysis of ECR after the intervention among MR notified group and PHM detected group. There were 16 primigrvidae each in the MR notified group as well as PHM detected group, at the time of data analysis.

Table 02: Analysis of ECR after the intervention among MR directed group and PHM detected group

Analysis of eligible couples in the ECR	After the Intervention		Level of significance
	MR notified group	PHM detected group	
Couples registered in ECR	24	28	–
Mean delay of ECR registration (days)	20.1 (95% CI 4.81-35.39)	69.1 (95% CI 48.32-89.88)	p=0.001
*Reregistered in ECR on the same day or after pregnancy registration	03 (18.8%)	13 (81.2%)	p<0.001

*Only Primigravidae were included (before n=16, after n=16)
95% CI = 95% Confidence Interval

All 52 (100%) newly married couples presented to 05 MOH clinics from the 07 PHM areas involving the referrals from two MR from 23rd May 2005 to 12th January 2006 after their marriage. Mean age of male partner was 26.17 years (SD±3.618 years) and female partner was 22.23 years (SD±4.4 years).
Table 03 describes the individual and family history of risk conditions identified in the female partners. Four of the couples were referred to GH Chilaw.

Table 03: The risk conditions identified in the female partners

Risk conditions	Number	Percentage
Individual		
Low body mass index (<18.5kgm^2)	17	32.7%
Teenage	14	26.9%
Past malaria infection	04	07.7%
Consanguineous marriages	03	05.6%
Short stature	03	05.6%
High systolic blood pressure (>140/90mmHg)	03	05.6%
Not vaccinated for rubella	02	03.8%
Rheumatic heart disease	01	01.9%
Anaemia (haemiglobin<10mg/dl)	01	01.9%
Family history		
Hypertension	13	25.0%
Diabetes mellitus	08	15.4%
Twins	05	09.6%
Abortions	03	05.6%
Congenitally abnormal children	03	05.6%

Discussion

We described a service model initiated in Arachchikattuwa MOH area that reduces the delay in eligible couple registration and detection of pre pregnancy risk conditions. Prior to the intervention a substantial proportion of eligible couples were registered in the ECR only when the female partner presented for antenatal care. Even though following the intervention the majority (53.8%) of newly married couples was detected by PHM yet the overall reduction of the delay in registering the eligible couples was significant. Following the intervention the mean delay in registering the eligible couples among the PHM detected group is thrice higher compared to the mean delay among MR notified group yet it is significantly lesser ($p<0.01$) than the mean delay observed before the intervention. Possible reasons for this could be the motivation created due to the intervention among the PHM and the intervention creating community awareness through MR. Another possibility is that most in the PHM detected group got conceived and therefore they were registered in the ECR when they presented for pregnancy registration. This seems to be more likely since 81.2% were registered in the ECR after pregnancy registration when compared with 18.8% of the MR notified group.

Before the commencement of the intervention the teenage pregnancy rate was 12% in the Arachchikattuwa MOH area and after six months it came down to 8% ($p<0.05$).

The model helped to provide the following additional services:

- Relevant information was given to those who wanted to delay the first pregnancy
- The teenagers were counseled to delay their first pregnancy.
- Folic acid distributed to all those expecting a pregnancy.
- Health education (on one to one basis) by the MOH on following areas:
    1. Importance of folic acid
    2. Period of conception
    3. Delaying teenage pregnancies
    4. Natural family planning methods
    5. Early registration of pregnancy

The main limitation of this model is that the women who marry men from other MOH areas moves out of Archchikattuwa MOH area and thus unable to provide the above services.

It is feasible to replicate this model in areas (and countries) with a reasonably well developed marriage registration service and family health worker network.

Presently pre-pregnancy counseling and detection of pre-pregnancy risk conditions are done in Kalutara (3) and Beruwala (4) MOH areas administered by the National Institute of Health Sciences.

Conclusion:

Linking up with marriage registrars reduces the delay in eligible couple registration significantly.

Through provision of services by MOH to newly married couples selected pre-pregnancy risk conditions can be identified and addressed.

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