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TRIP REPORT: INDONESIA

**Maternal Referrals in the Regionalization of Perinatal Care Study
Tanjungsari, Indonesia**

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II EXECUTIVE SUMMARY

This report presents the results of both quantitative and qualitative research to investigate referral patterns and compliance of women for antenatal, delivery and postpartum referrals in the Perinatal Regionalization Project in Tanjungsari, West Java. Research results provide information on the impact of the project and its interventions including training for health providers, installation of birthing huts, provision of radios and free ambulance service and a social marketing campaign on the referral system, referral practices and acceptance of referrals. Project impact is measured by examining the difference between referral rates and compliance of the study area, Tanjungsari, and the control area, Cisalek. Of particular interest to this examination is whether or not referrals in the Study area are better targeted to women most in need, that is women with key complications.

Referral patterns and compliance for referrals from the Traditional Birth Attendants (Paraji) were analyzed using the answers women gave to Questionnaires one and two of the RAS series while data for Polindes and Puskesmas referrals were manually collected from client registers. Twenty-nine in-depth interviews in both the Study and the Control area were conducted with women who experienced key complications (bleeding, oedema and fever) to assess women's attitudes towards these complications, their referral history and perceptions of risk.

Major research results include:

- Women in the study area with complications during delivery such as malposition or extended labor are more likely to be referred by the Paraji than women with the same conditions in the control area. A similar pattern was not identified for antenatal and postpartum periods.
- The proportion of women referred by the Paraji is highest for the antenatal period and drops off sharply for delivery and postpartum periods. In the Polindes the greatest number of referrals are for delivery.
- Overall, remarkably few women are referred from the Polindes; 15 for the antenatal period, 37 for delivery and 5 for postpartum in a one year period.
- The reputations, credibility and the client-base of the Paraji are threatened if they increase the number of referrals made especially for delivery.
- Women who accept referral for a given complication during the antenatal period may not accept a recommendation for delivering in a place other than home for the same complication. Some women seem to feel that a given risk is better managed by staying at home for delivery. Traditionally, the period of labor is seen to place women in a status between life and death. The forces which keep the woman in labor on the side of life may be linked to the home and the inner calm found there.

- Cost, distance and the desire to stay privately at home are still the reasons most often cited by women for non-compliance with referral to Puskesmas or Hospital. Despite the availability of the ambulance distance may be an important factor as it prevents the family from staying with the woman. Or, women may not be fully aware that she has access to free ambulance service.

Recommendations:

- Future initiatives need to heighten the "sensitivity" of delivery referrals, especially from Paraji, to target women with key complications. Among interventions to improve referrals this is the area of greatest potential impact.
- Focused one-on-one counselling in the Polindes stressing the positive effects of accepting referral for women with potential delivery complications may address the problem posed by the unacceptability of the action card and other materials which use negative examples. The Polindes would have time and resources only to provide these services to women most in need; ~~the 20% or so with key complications.~~
- The Postpartum period deserves greater focus and targeted programs. As demonstrated by the low proportion of postpartum referrals to the Polindes, the Paraji do not perceive that the Polindes provide useful services for women with postpartum problems.
- Initiatives for community financing of labor referrals to Puskesmas or Hospital should be explored. These could take the form of a voluntary insurance or saving scheme at the village level or a service where families can rapidly liquidate material assets.

III. PURPOSE OF CONSULTANCY

The purpose of the consultancy was to assist in the collection and analysis of data pertaining to referral for the Tanjungsari Perinatal Regionalization Project (see Appendix C). The work consisted of two components: 1) Investigation of quantitative data on referral and compliance from the RAS questionnaires and from client register data from the Polindes, Puskesmas and Hospitals in the Study and Control Areas; and 2) Exploration of perceptions of complications and reasons for compliance and non-compliance for referrals through in-depth interviews with a purposefully selected set of women with self-identified complications (bleeding, oedema etc.)

IV. CONSULTANT ACTIVITIES

A. Research Plan

Quantitative Analysis:

I) Collect Data on referral rates and compliance for referrals made from the Polindes to the Puskesmas and Hospital, and from the Puskesmas to the Hospital and examine the **rates of acceptance of these referrals in both study and control areas**. Data were collected for two time periods; June to November 1992 and December, 1992 to May, 1993. Since the Polindes were implemented during and previous to the first time period, we were not able to use a pre-post framework of analysis.

1. Using the **Polindes records and the Second and Third RAS questionnaires** make a list of all women who were referred by the Paraji to the Polindes, Puskesmas or Hospital or from the Polindes to the Puskesmas or Hospital during pregnancy, for delivery or in the postpartum period. Data were collected on the following variables:

- Time of Referral (antenatal, delivery, postpartum)
- Status of Referral (emergency or routine)
- Type of Provider making referral (bidan, paraji)

II) Analyze TBA referral rates for women with specific complications (bleeding, oedema, fever) in both the study and the control areas.

This analysis aims to examine the impact of the project on TBA referral rates for women most at risk at different stages of pregnancy. All data for this analysis were available through the RAS questionnaires.

Qualitative Analysis:

The purpose of the qualitative investigation is to sketch a richer picture of the pregnancy and birthing experience of women with key complications in both the study and the control areas. A total of 29 respondents were selected for in-depth interviews exploring factors influencing awareness of risk condition, referral and acceptance of referral. These factors include the

respondent's:

- Perception of own risk status
- Referral history
- Understanding of reasons for referral (if she was referred)
- Exposure to Social Marketing Materials (in Study area)
- Access and acceptability of services provided at site to which she was referred
- Opinion of family decision-makers and other influencers about her risk condition and importance of referrals made.
- Previous pregnancy experience

The selection of respondents was purposeful. Respondents who experienced key risk conditions were chosen in both the study and the control area. Interview data were analyzed for evidence of differing patterns of risk recognition, care-seeking behavior, and acceptance of referral between the two areas.

A total of 29 interviews were conducted. Data from these interviews were collectively analyzed by the Social Marketing Team and analyzed and written up by Kirsten Lawrence and Matthew Belcher (See Appendix E). Relevant data and observations have been incorporated into this report to supplement the quantitative findings.

B. Research Findings: All Figures referred to in text can be found in Appendix A of this report

I Referral Rates at Different Stages of Pregnancy

- In general, women seem to receive more advice during the antenatal period than they do for delivery or in the postpartum period. This advice takes many forms; a mother in law prescribes an herbal remedy for fever, a husband suggests that his wife go to the Puskesmas to ask about her bleeding or the Paraji tells her client to go to see the Bidan at the Polindes. ~~Even for those women who approach delivery with a distinct problem which may complicate her labor, many do not seem to receive any specific advice or referral from family, friends or village-based provider about where and how she should deliver. An hypothesized explanation for this pattern is the belief that problems and complications can be managed and treated during the antenatal period but that once a woman enters labor her fate, and any complications which may develop, cannot be controlled.~~
- **Referral Rates from Paraji: Figure I(a)**
The data demonstrate a striking difference ~~between referral rates for the antenatal period, and for delivery and postpartum periods with antenatal referrals at least twice as common as delivery or postpartum referrals.~~ The unexpectedly low rates of referral suggest a need for increased focus on ~~appropriate referral during delivery and in the postpartum period.~~

Referral rates are significantly higher in the control area than in the study area for the antenatal and the postpartum periods and in the study area for deliveries. According to anecdotal data the control area may benefit from a better organized association between the TBA's and the formal health system thereby facilitating referrals.

Despite this difference favoring the control area we see higher rates of referral in the study area for deliveries. This difference may reflect the positive impact of the installation of Polindes with radio and ambulance service. A paraji may not refer a woman for delivery, **despite her clinical judgement of need**, if she feels that the woman **does not have the means and ability to accept delivery referral**. Means and ability to accept referral are increased by the provision of ambulance service and other services provided in the Polindes.

- **Referral Rates From Polindes: Figure I(b)**

In contrast to Paraji, Polindes make twice as many referrals for delivery as for the antenatal period. For 1629 antenatal visits to the Polindes less than 1% (15) resulted in referral. **Paraji referral rates for antenatal period are much higher but the majority are sent to the Posyandu or Polindes, not the Puskesmas**. To explain the difference in the spread of antenatal referrals between Paraji and Polindes we can suppose that many women with antenatal problems such as oedema, fever or light bleeding who may have been referred from the Paraji to Polindes will not be further referred to the Puskesmas or Hospital unless there is an acute problem. It is also possible, and indeed seems likely given the extremely low number of referrals, **that referrals for non-acute problems are never registered in the Polindes books**.

Polindes referral rates are much higher for delivery where 37 out of 142 or 26% of women were referred from Polindes.

Records are not maintained in the Polindes which clearly indicate the number of Postpartum visits women make but due to the cultural conscription against leaving the home for 40 days following delivery, Paraji and Kader say that there are very few visits to the Polindes by women during this period. That there are few postpartum referrals is therefore not surprising.

II Referral Compliance

- Consistently throughout the qualitative data run three threads of reasoning for non-compliance with referrals; **problems of cost and distance, and the desire to remain privately at home in proximity to family member during delivery**. Two quotes from the in-depth interviews illustrate:

(I did not want to deliver in the hospital because I was) worried for not having enough money, and there is a belief that giving birth is a private thing. (The) process is dirty and should be kept at home and private.

I dared not to go to Puskesmas because I had no money. It costs a lot of money and also too far away. It's cheaper to deliver at home. Also the Paraji is a relative.

Another important issue is the trustworthiness and expertise of the Paraji as compared to the Puskesmas staff. While some respondent's believe the Paraji, Puskesmas and Hospital provide ascending levels of care, others do not agree:

It's the community habit to deliver at home, helped by TBA's because it's cheaper. At Puskesmas the nurse was too young and inexperienced.

- **Compliance for Referrals from Paraji: Figure II(a)** In general, referral rates from paraji appear quite high; above 60% for delivery referrals and around 80% for antenatal. Postpartum compliance, which varies greatly between time periods and areas, appears much lower. Project implementers in Tanjungsari commonly say that women do not want to deliver outside the home even if they are referred. These data **suggest that in cases where women are referred most comply**. These data lend weight to the argument that the antenatal period is less needy of attention and focus than the postnatal period, where both referral rates and compliance are low. *compliance?*
- **Compliance for Referrals from Polindes: Figure II(b)** *57 total referrals* Compliance for Polindes referrals is very high; ~~100% for all referral types~~ except those to Puskesmas during the antenatal period. The ambulance was used for 33% of the antenatal referrals, 73% of the delivery referrals and 100% of the postpartum referrals.

It is unclear how the decision is made to use the ambulance for a given referral. Is this consistent across Polindes? Is this a provider decision only? Was the ambulance not available, although requested, for some of these referrals? These questions are of special value and importance and should be addressed.

III Spread of Referrals and Compliance for each Referral Type

- **Spread of Referrals from Paraji: Figure III(a) through III(f)**

Antenatal: Figures III(a) and III(b)

In comparison with the control area, the study area has a lower proportion of antenatal referrals directed to the Posyandu (23% as compared to 57%) and to the Puskesmas (23% as compared to 42%). In the study area referrals to these locations seem to be displaced by referrals to the Polindes. This suggests that the Polindes may serve two functions for the Paraji. First of all, the paraji may send women to the Polindes rather than to the Posyandu because the Polindes is seen to have higher quality service or because it is more frequently open with the certain availability of a Bidan. Second, referral to the Polindes may be seen either as a substitute for referral to the Puskesmas or as a means to secure more certain and direct referral to the Puskesmas possibly with

use of the radio and ambulance.

The perception that the Polindes is a substitute for the Puskesmas is potentially problematic as illustrated by feedback from the community to the social marketing team. At the outset many Tanjungsari residents believed the Polindes could supply the same maternity services as could the Puskesmas. The confidence of these residents has been tested as they see many of their friends and neighbors referred from the Polindes to the Puskesmas for problems that they believed the Polindes should have been able to handle.

In the control area compliance is consistently high across referral locations while in the study area compliance is markedly lower for referrals to the Posyandu and somewhat lower for referrals to the Polindes and Puskesmas.

Delivery: Figures III(c) and III(d)

The delivery referral pattern again suggests the displacement of Posyandu referrals to the Polindes. Another striking difference is the proportion of referrals to the Bidan and Dokter Swasta; 36% of referrals in the control area and 15% in the study area. The Paraji seem more willing or able to access hospital services directly in the study area where 20% of all Paraji referrals were to the hospital as compared to 8% in the control area.

While compliance rates for referrals to private doctors and midwives and to the hospital appear similar in the two areas, the compliance rate for puskesmas referrals is significantly higher in the study area (significance at .05 level for each of the two time periods using Pearson test of significance). The project appears to have had a real impact on women's choice of delivery location **after referral for delivery**.

Postpartum: Figures III(e) and III(f)

Again, for postpartum referrals the data show a lower proportion of referrals to the Posyandu in the study area as compared with the control. But in this case the difference is made up of a larger proportion of referrals to the Bidan Swasta/Dokter Swasta and the Puskesmas in the study area. ~~Referrals are not being shifted to the Polindes.~~ Only for Postnatal referrals do we see a larger proportion in the study than in the control area of ~~referrals to the private providers by the Paraji.~~ This pattern raises serious questions about the efficacy or awareness of postpartum services available at the Polindes.

Apart from referrals to the Puskesmas Pembantu, in both the Study and the Control area compliance is ~~universally low for postpartum referrals, ranging from 15 to 63%.~~ One is lead to wonder whether the Puskesmas Pembantu in the Study area, which boasts a compliance record of 11 out of 11 women referred, has special services or a high-quality reputation which make it particularly attractive to women with postpartum problems.

- **Spread of Referrals from Polindes: Figure II(b)**

Except for the antenatal period referrals from the Polindes seem evenly spread between

the Puskesmas and the Hospital. For antenatal referrals 80% were made to the Puskesmas, presumably reflecting the more routine nature of these referrals.

IV Referrals for Women with Key Complications from Paraji

- **Referral Rates: Figures IV(a) through IV(d):** In an effort to assess the "sensitivity" of the referral system, (i.e. were the women most in need of referral by reason of their status referred or not), the Paraji referral data were analyzed separately for women whose questionnaire responses indicated that they had a key risk condition.¹

Overall, very few of the women with key complications are referred. In the antenatal and postpartum periods the referral rates appear similar for the control and study area and stand at roughly 23% for women with complications in antenatal period and at around 7% for those with complications in the Postpartum period. Based on these data it is fair to state that Paraji in neither area are successfully targeting women for referral who have key complications. The situation is particularly troubling for the Postpartum period.

For delivery referrals the data reveal a distinctly higher proportion of women with complications referred in the study area, where approximately 18% of the women with complications are referred, than in the control area where the figure is roughly 7%. When comparing the level of referral for both the study and control area data for each of the two time periods; June through November 1992 and December 1992 to May 1993, the difference observed is significant (at .05 level using Pearson test of significance.) This is an extremely important finding. The project appears to have had a significant influence on Paraji referrals for women who face dangerous complications during delivery.

- **Compliance: Figures IV(b) and IV(e)**
Figure IV(b) shows that compliance for antenatal and delivery referrals of women with complications is relatively high; ~~between 70 and 90% of women referred~~. For these two periods there are no striking differences in level of compliance between the study and the control area.

¹ The key conditions are as follows:

Antenatal: Bleeding, Fever > 3days, Heavy Coughing, Oedema

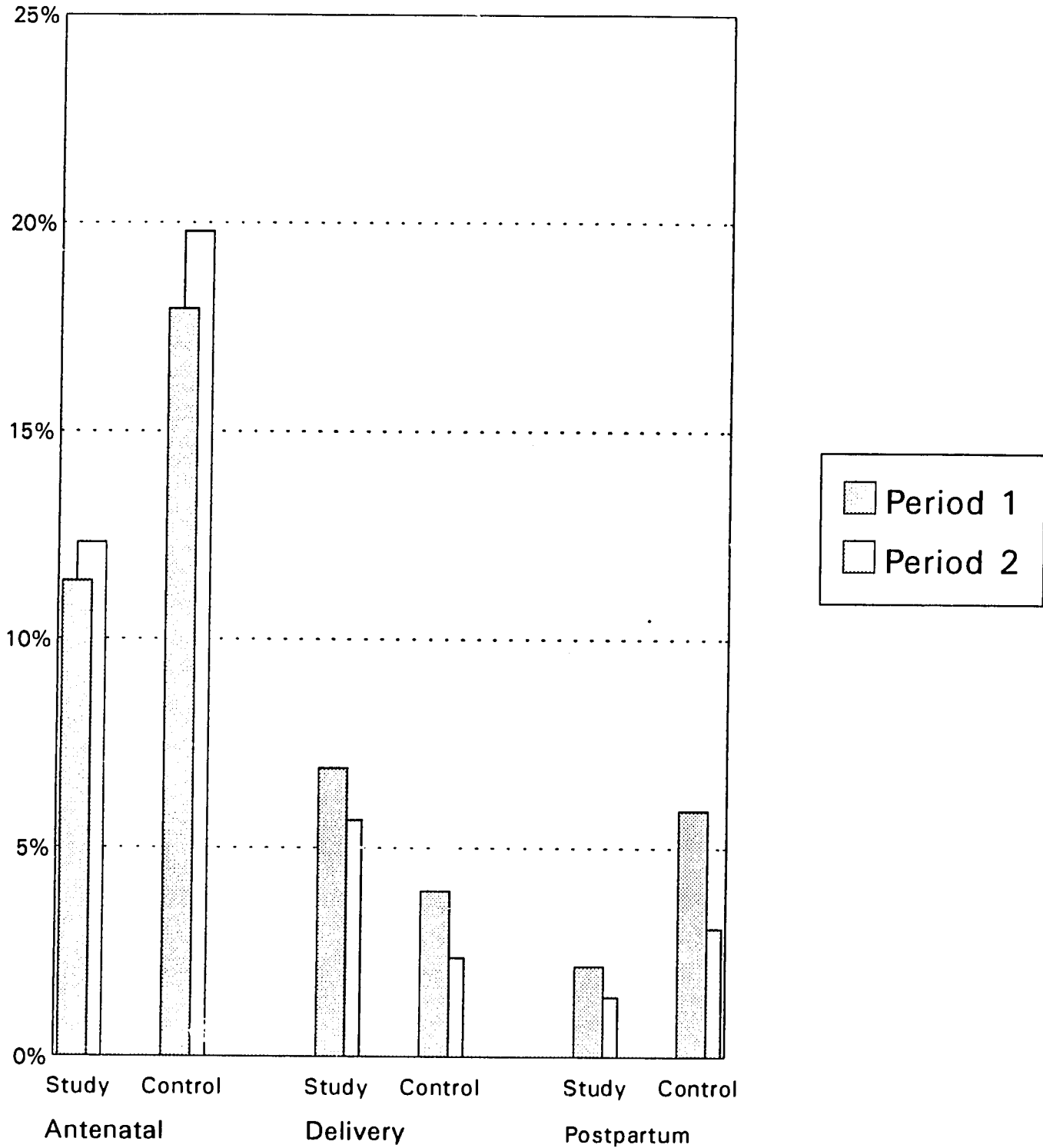
Delivery: Malposition, Extended Labor, Convulsions Before, During or After Labor, Bleeding, Fever, Infection (Foul Smelling Discharge)

Postpartum: Heavy Bleeding, Fever, Malposition, Convulsions

The data presented in Figure IV(e) are different from those in Figure IV(b) in that these data show the referral patterns for "emergency" vs. "routine" referrals classified by the reason women said they were referred, and not by the complications they said they experienced. These data show a marked increase between the two time periods and a higher overall level of compliance for "emergency" as compared to "routine" referrals in the study area. This general pattern is not apparent for the control area. These data suggest that women's classification of when a referral must be followed is consistent with the project's classification of the most important referrals, and that women are distinguishing between referrals that require action and those that do not. Taking both time periods together, the difference in compliance for "Routine" and "Emergency" referrals is most marked for delivery referrals.

Appendix A
Charts and Tables on Referral Data

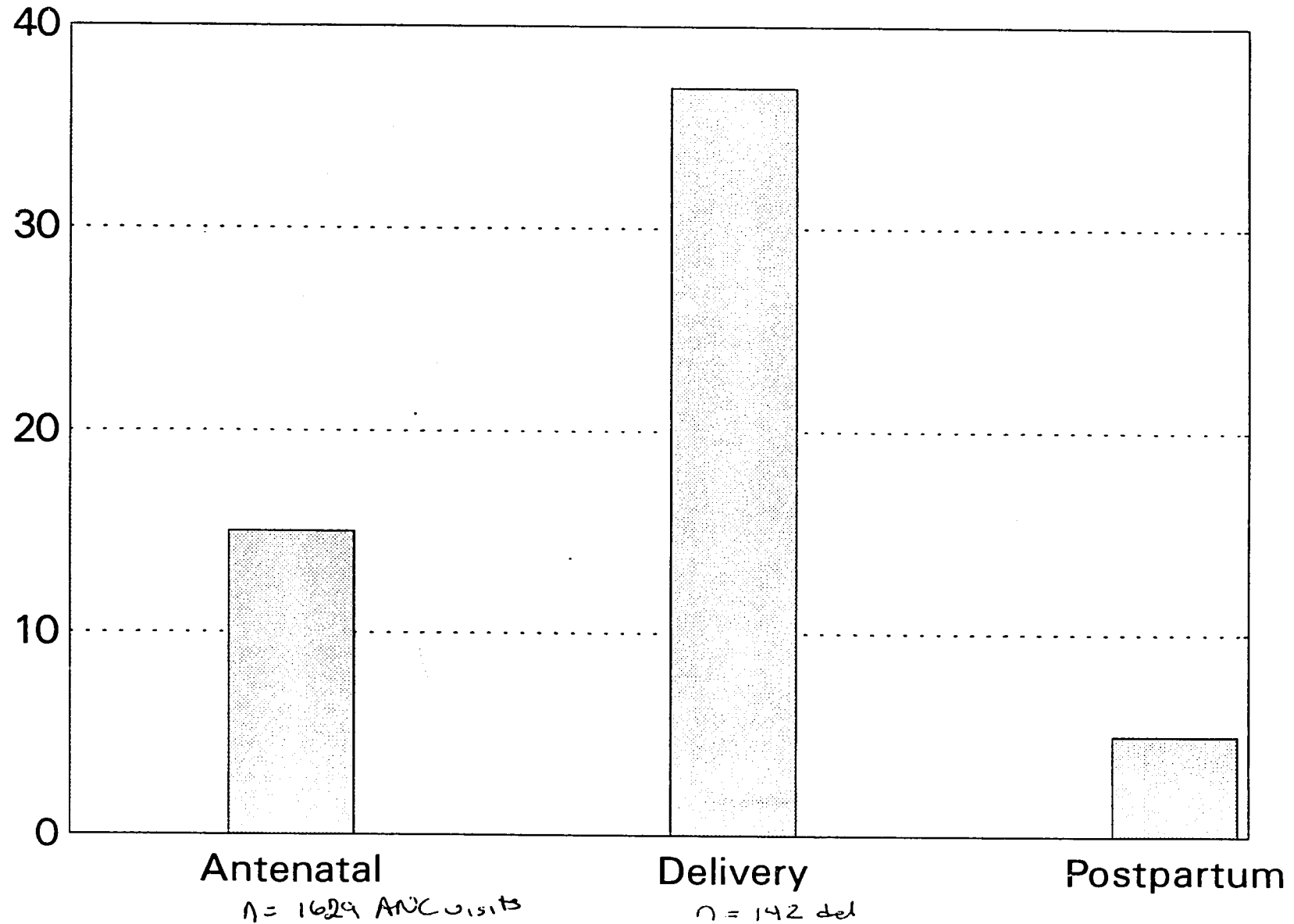
Percentage of Women Referred at Different Stages of Pregnancy Referrals from Paraji



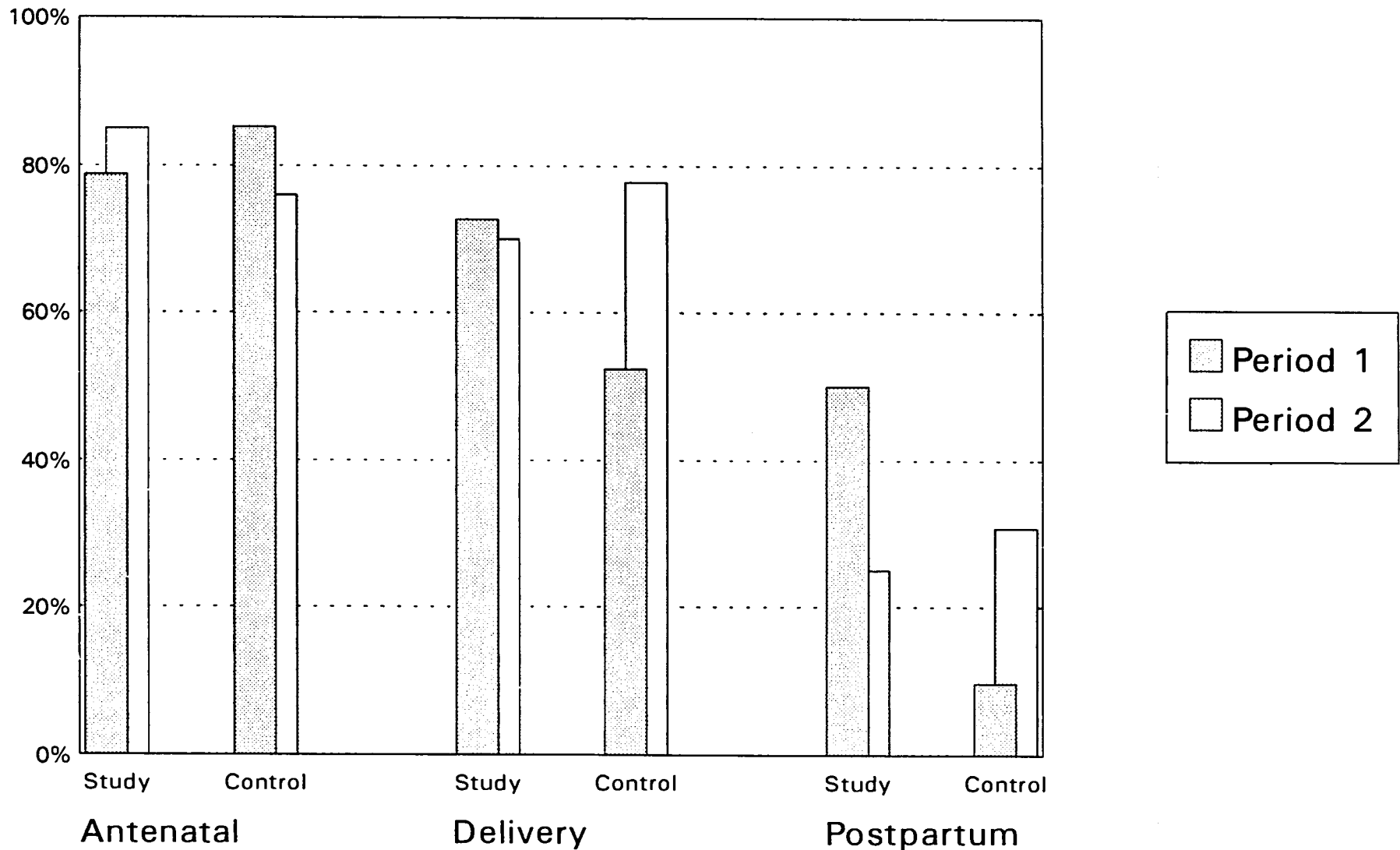
Period 1 = June to November 1992
Period 2 = December 1992 to May 1993
Data from Perinatal Regionalization Project

Number of Women Referred at Different Stages of Pregnancy

Referrals from Polindes June 1992 to May 1993



Percentage Compliance for Referrals at Different Stages of Pregnancy Referrals from Paraji



Period 1 = June to November 1992

Period 2 = December 1992 to May 1993

Data from Perinatal Regionalization Project



Referrals from Polindes

June 1992 to May 1993

Figure II(b)

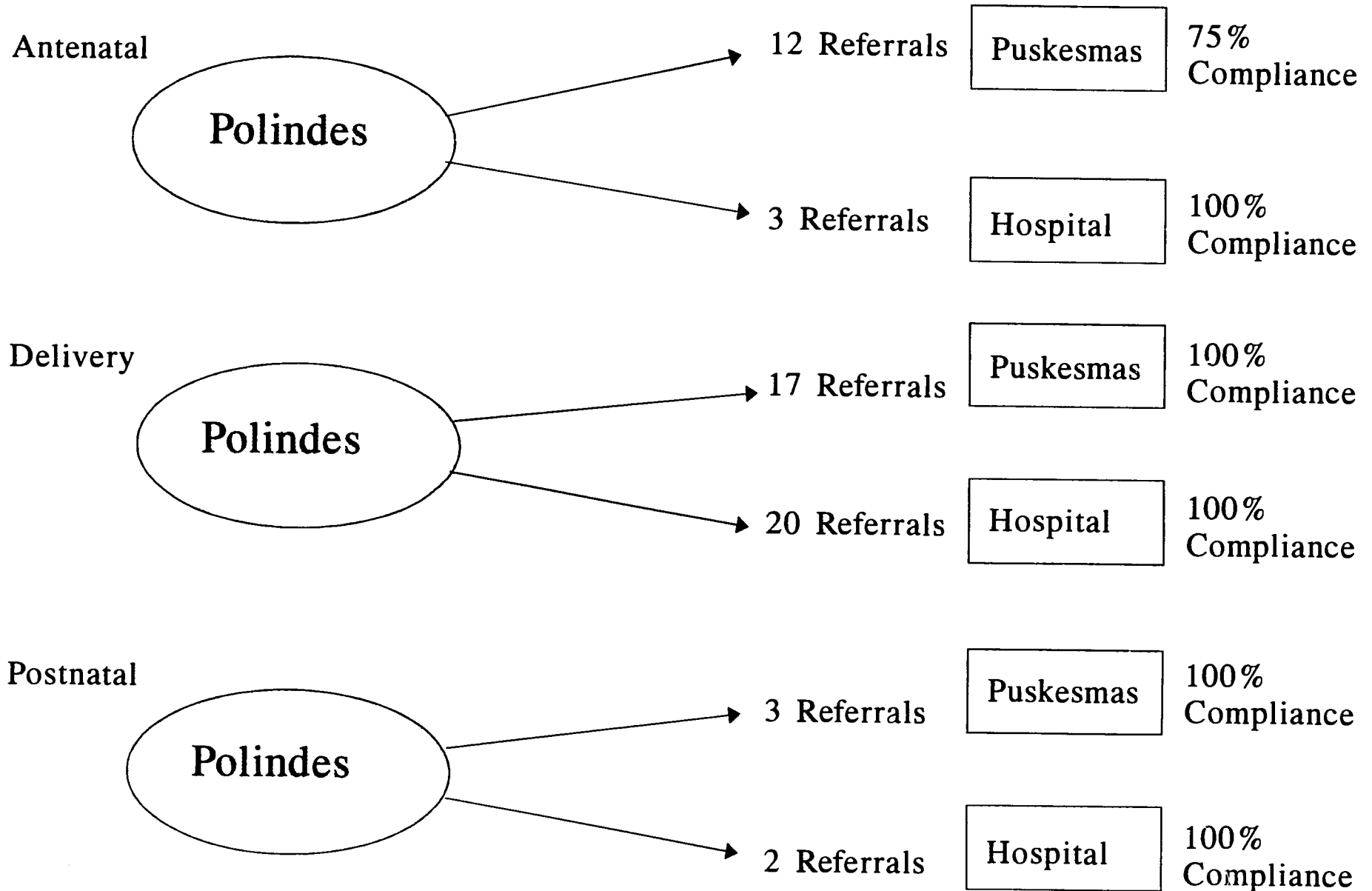
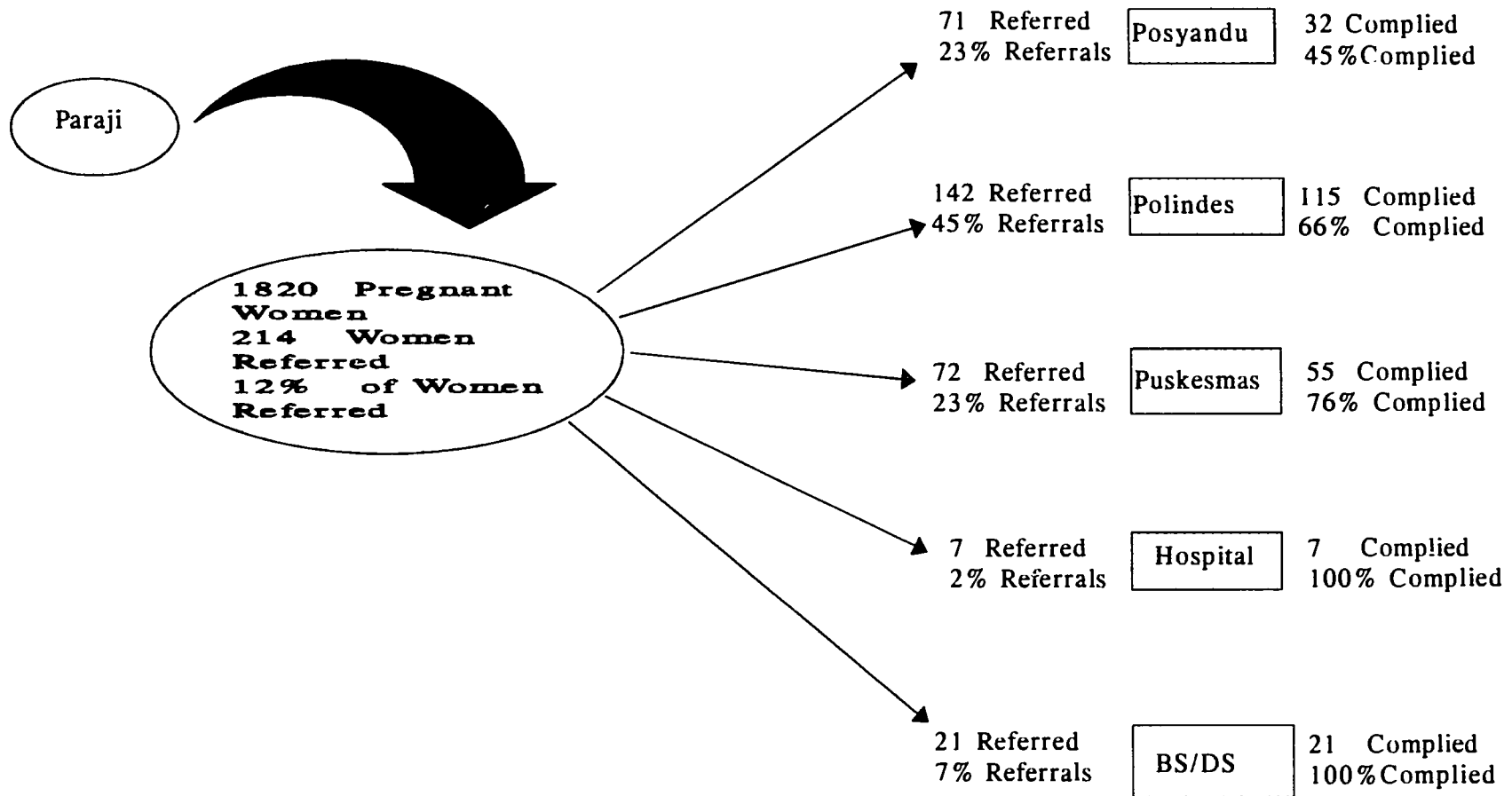


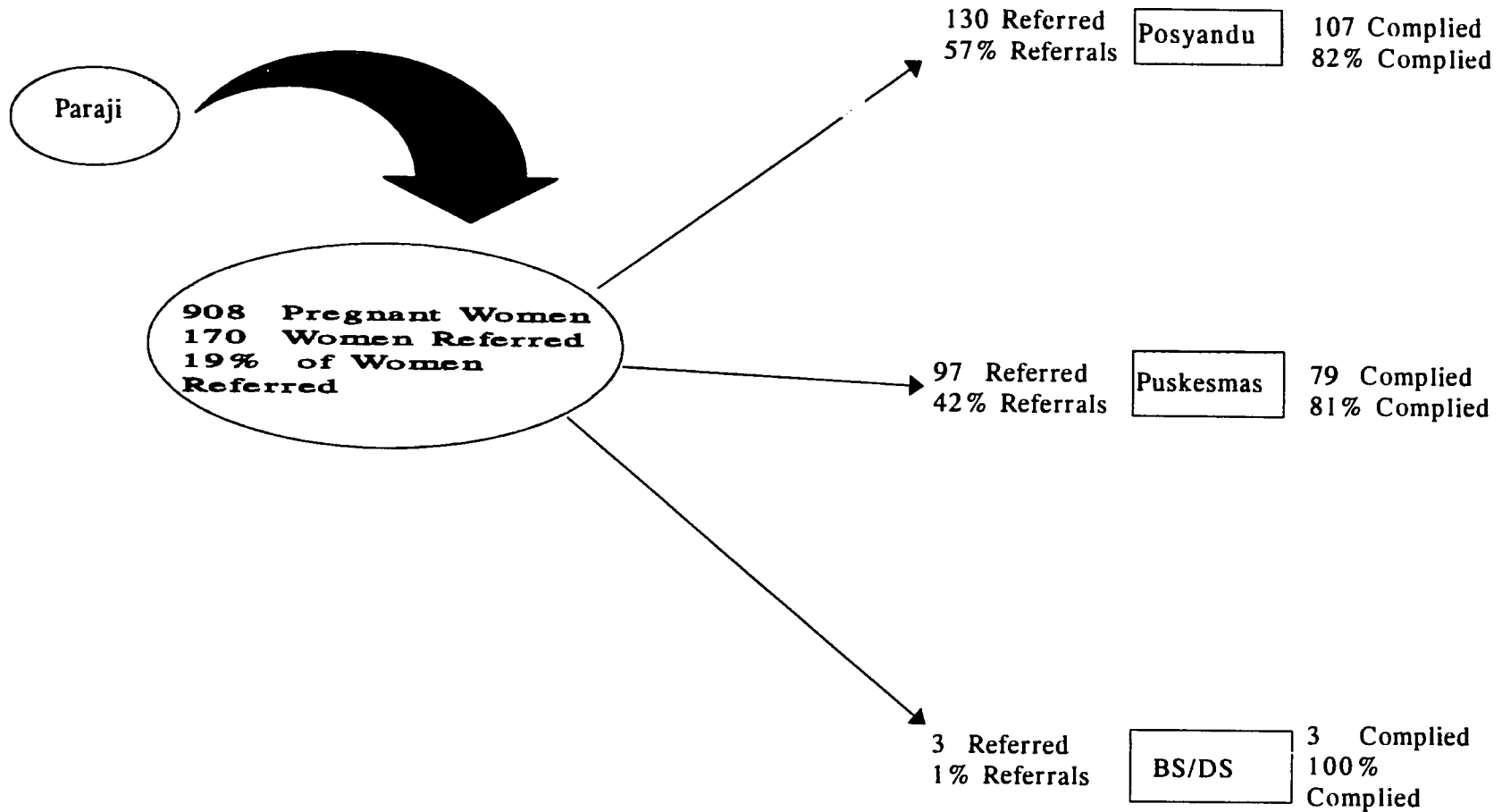
Figure III(a)

Antenatal Referrals in Study Area June 1992 to May 1993



BS = Bidan Swasta
 DS = Dokter Swasta

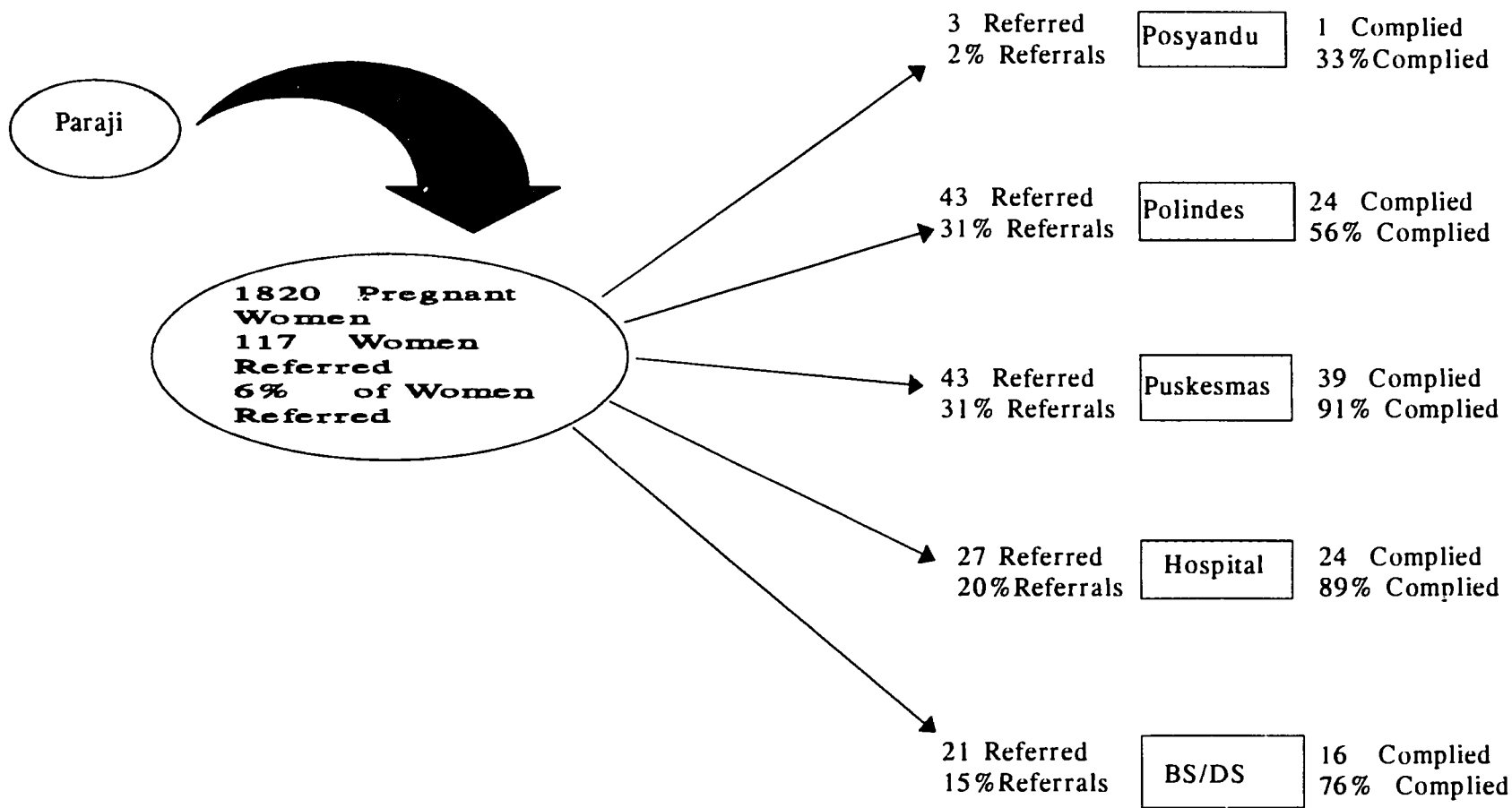
Antenatal Referrals In Control Area June 1992 to May 1993



BS = Bidan Swasta
DS = Dokter Swasta

Figure III(c)

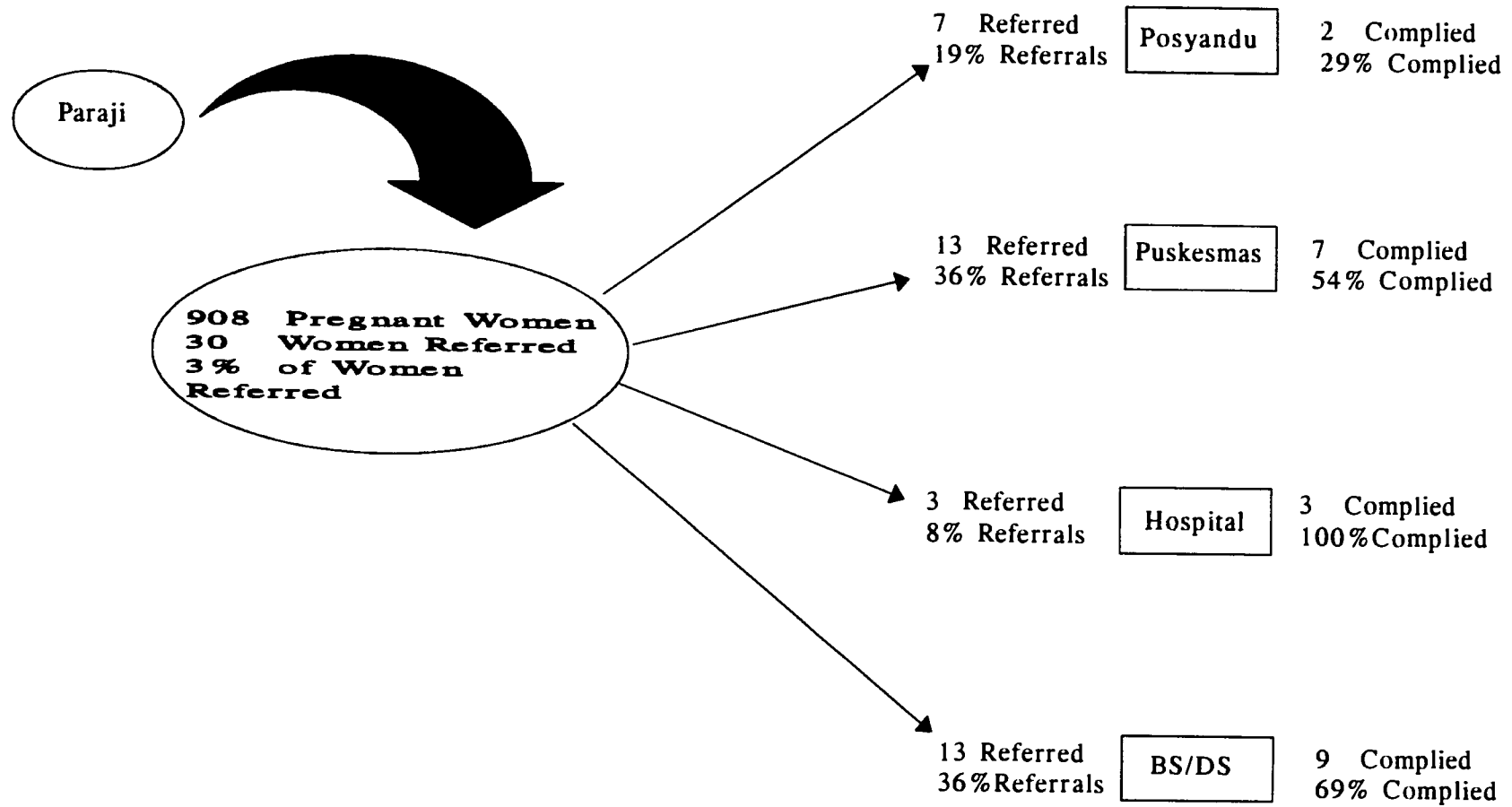
Delivery Referrals in Study Area June 1992 to May 1993



BS = Bidan Swasta
DS = Dokter Swasta

Figure III(d)

Delivery Referrals In Control Area June 1992 to May 1993



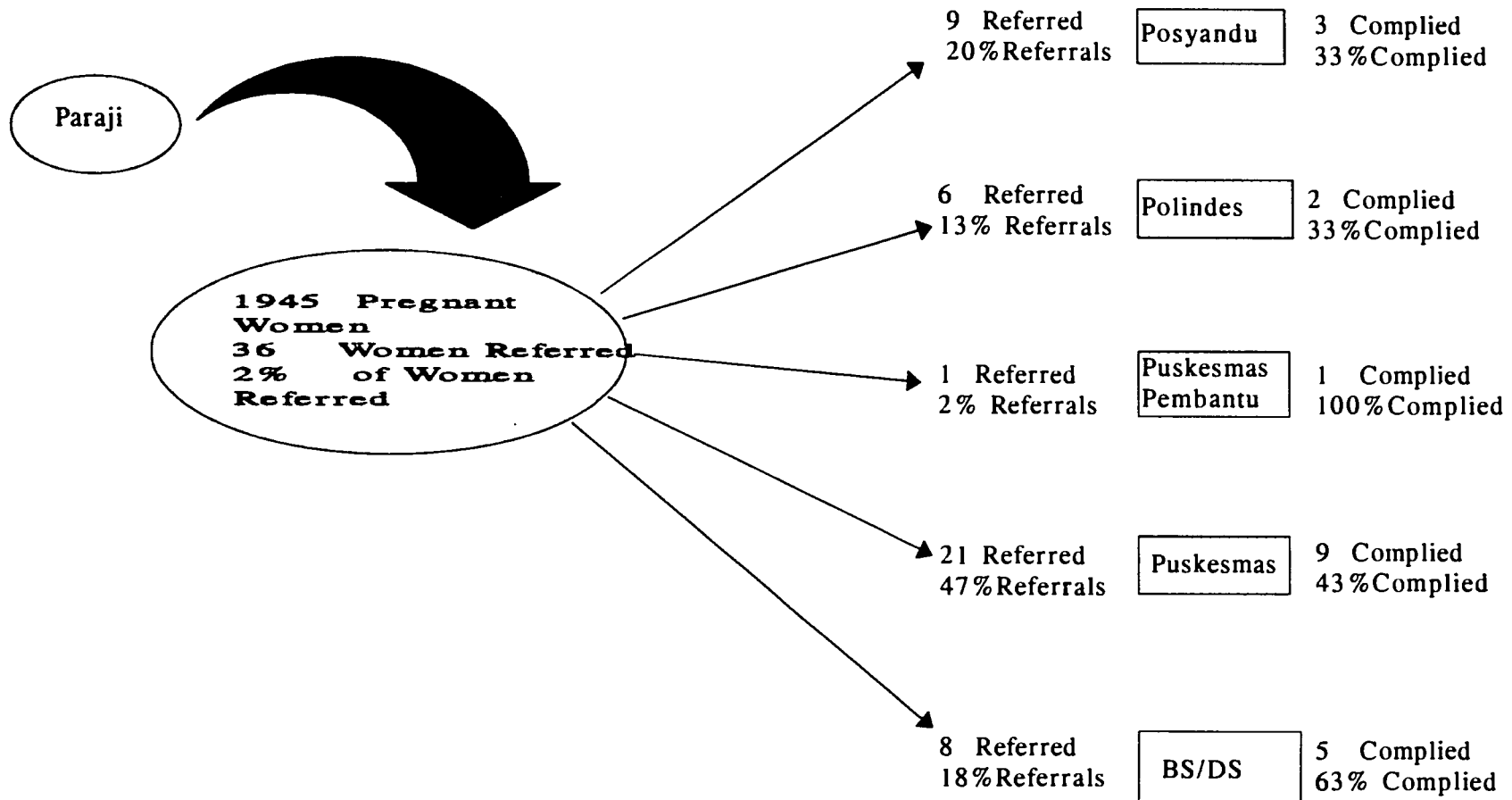
BS = Bi:Jan Swasta
DS = Dokter Swasta

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Figure III(e)

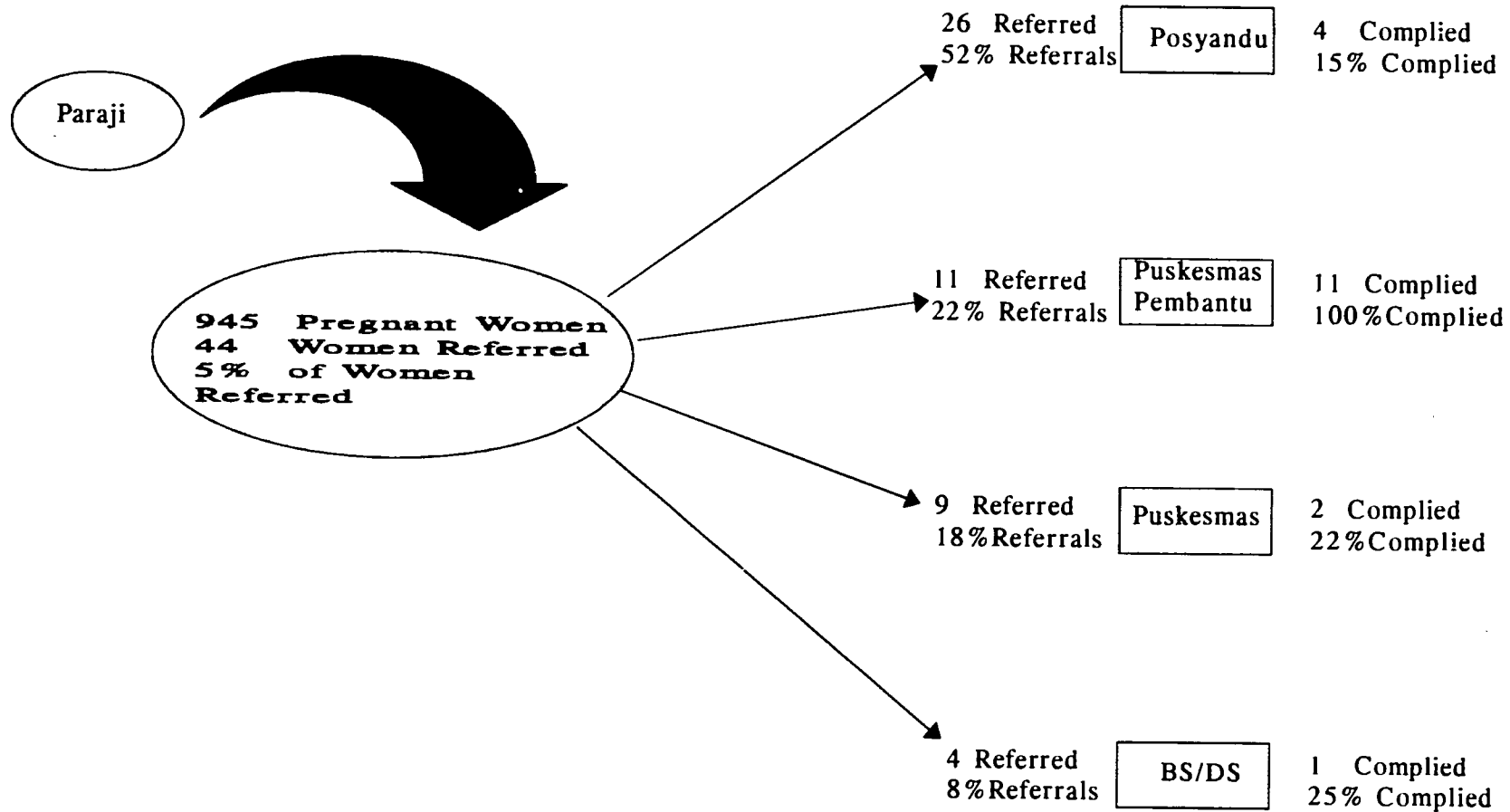
Postpartum Referrals in Study Area

June 1992 to May 1993



BS = Bidan Swasta
DS = Dokter Swasta

Postpartum Referrals In Control Area June 1992 to May 1993

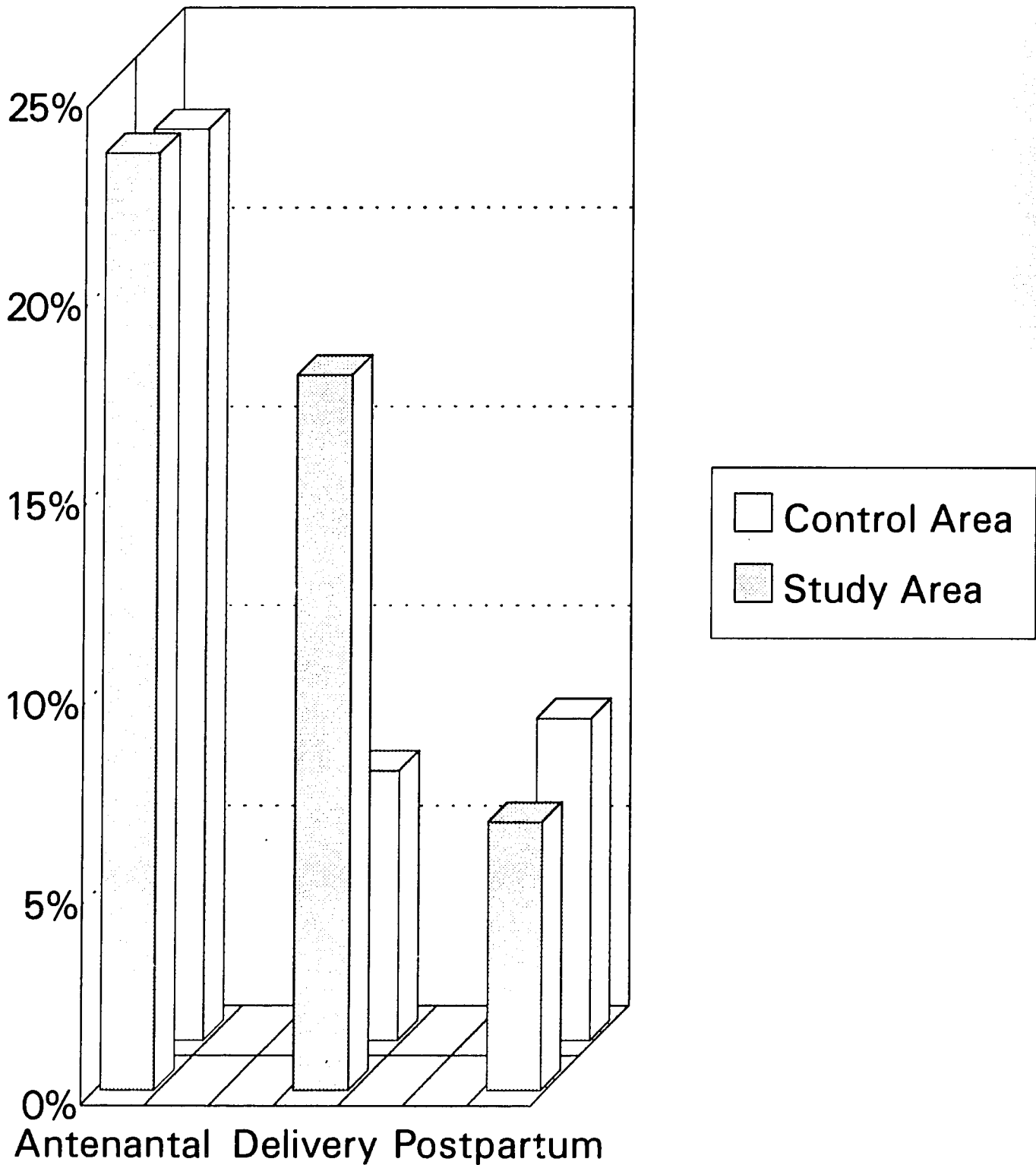


BS = Bidan Swasta
 DS = Dokter Swasta

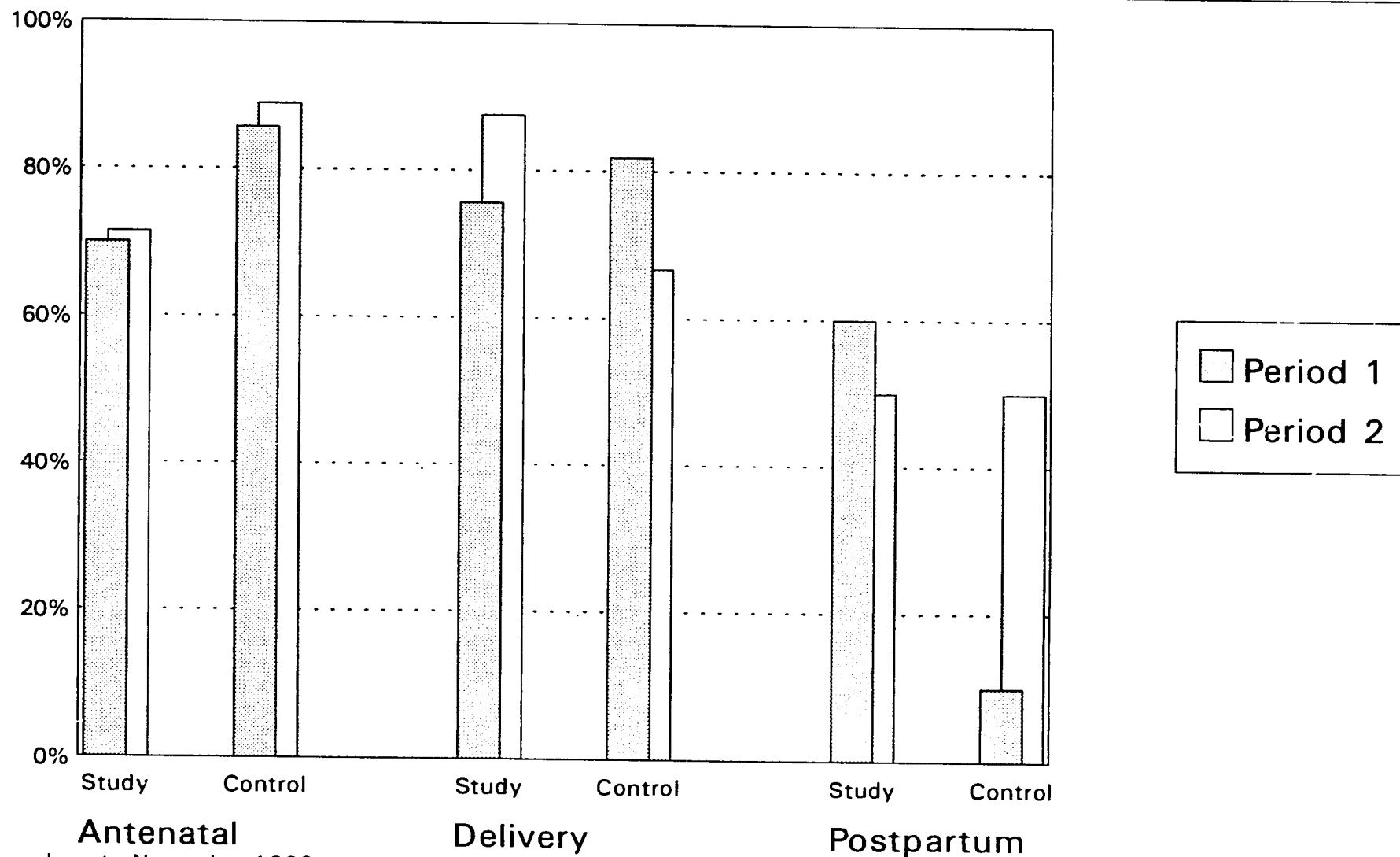
Percentage of Women with Complications Referred

Referrals from Paraji

June 1992 to May 1993



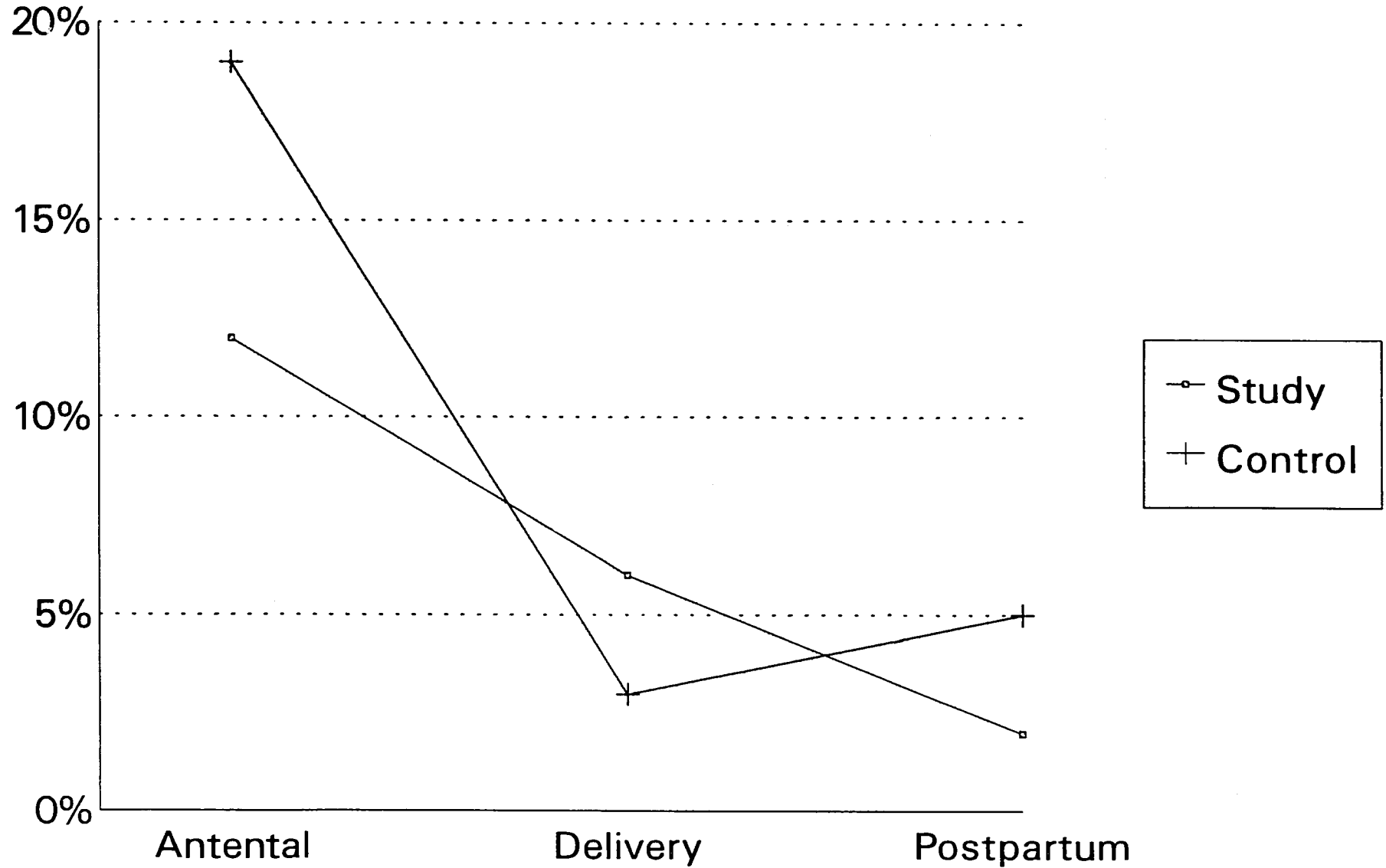
Percentage Compliance for Referrals for Women with Complications Referrals from Paraji



Period 1 = June to November 1992
 Period 2 = December 1992 to May 1993
 Data from Perinatal Regionalization Project

Percentage of Women Referred at Different Stages of Pregnancy

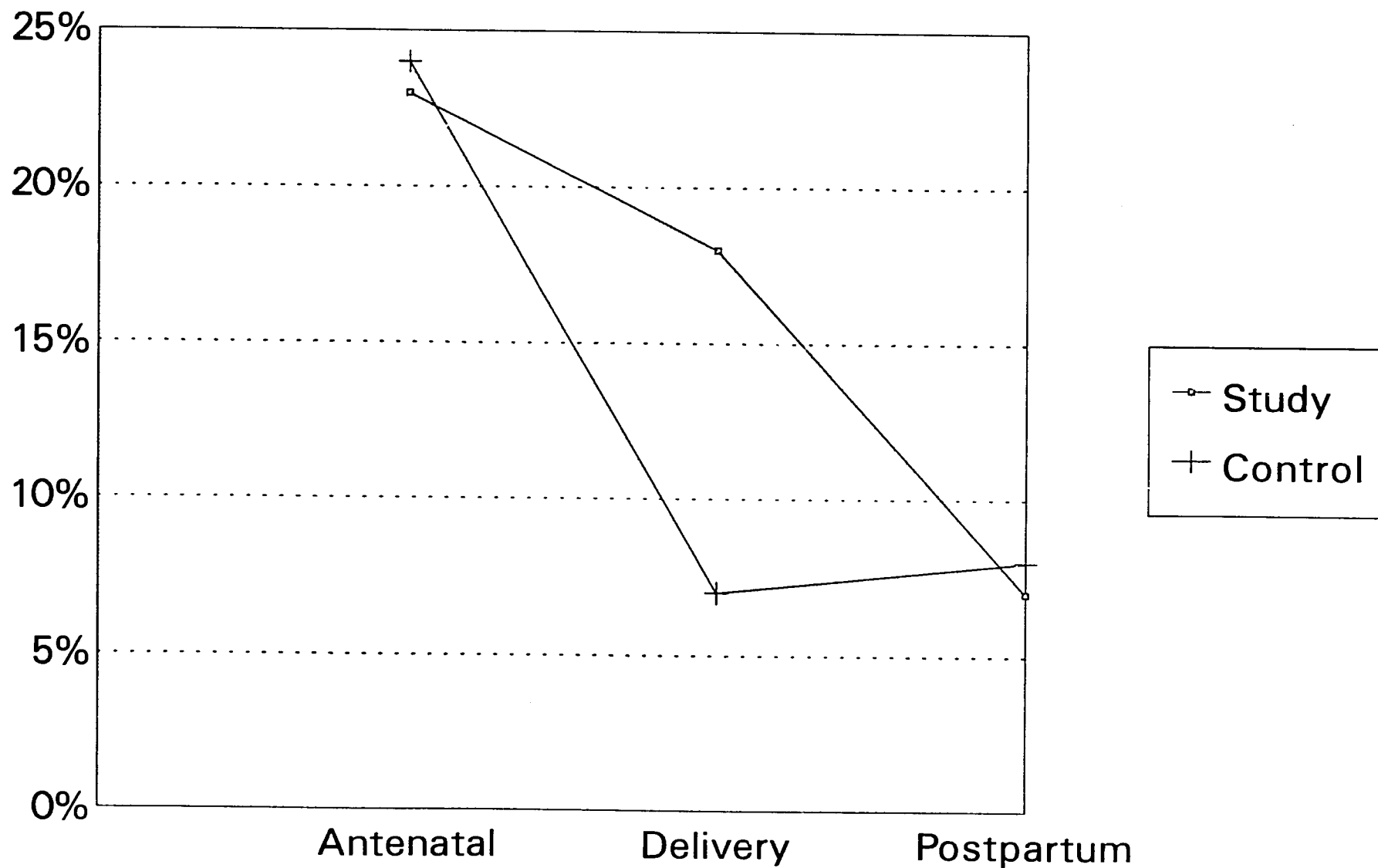
Referrals from Paraji June 1992 to May 1993



20

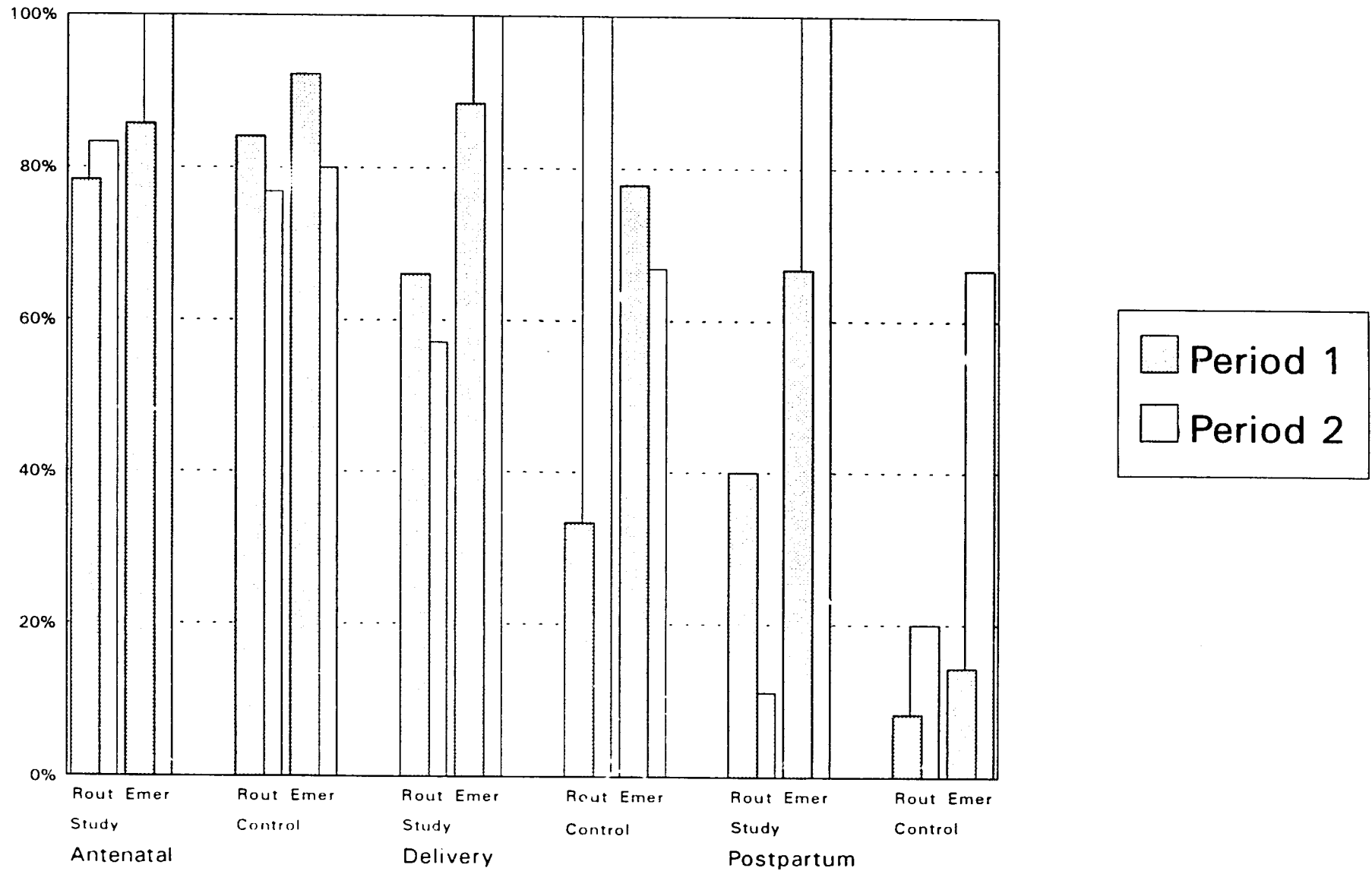
Percentage of Women with Complications Referred

Referrals from Paraji June 1992 to May 1993



1992

Percentage Compliance Comparing Routine and Emergency Referrals Referrals from Paraji



Period 1 = June to November 1992 Period 2 = December to May 1993
Data from Perinatal Regionalization Project

Appendix B
Data Tables for Referral Data

Tanjungsari Referral Data Analysis Guide

1. Routine Vs. Emergency Referrals From Paraji¹
2. Routine Vs. Emergency Referrals From Polindes
3. Referrals from Puskesmas
4. Spread of Referrals Between Provider Types by Paraji and Compliance for Each Type
5. Referrals for High Risk Women from the Paraji
6. Use of Antenatal Visits, Delivery Facilities, Radios and Ambulance

Question: At the Polindes and Puskesmas Levels we will not be able to use the registers to make determinations of whether women are being **appropriately referred**. Will it be possible to make an assessment based on peer observation at a sample of Polindes and Puskesmas?

Period 1: June-Nov 1992

Period 2: Dec-May 1992-93

I. Routine Vs. Emergency Referrals From Paraji - Antenatal

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Pregnant Women	1114	706	529	379
Number of Referrals From Paraji For Antenatal Period	11.4%** (127)	12.3%** (87)	18% (95)	19.8% (75)
Number (and Percentage) of Antenatal Referrals Which Were Emergency Referrals	5.5%* (7)	10.3% (9)	13.7% (13)	6.7% (5)
Number (and Percentage) Compliance for Emergency Antenatal Referrals	85.7% (6)	100% (9)	92.3% (12)	80% (4)
Number and Percentage Compliance for Routine Antenatal Referrals	78.3% (94)	83.3% (65)	84.1% (69)	76.8% (53)

¹ Based on Analyst's Classification and Woman's report of reason she was referred:

Antenatal Emergency: Bleeding, fever > 3 days, heavy coughing, oedema

Delivery Emergency: Malposition, extended labor, convulsions, heavy bleeding, fever, infection (foul smelling discharge)

Postnatal Emergency: Bleeding, fever, infection (foul smelling discharge), lack of Blood and Light-Headedness

2. Routine Vs. Emergency Referrals from Paraji - Delivery

	Study		Control	
	1	2	1	2
Number of Women Who Delivered	1114	706	529	379
Number of Referrals From Paraji For Delivery Period	6.9%* (77)	5.7%* (40)	4% (21)	2.4% (9)
Number (and Percentage) of Delivery Referrals Which Were Emergency Referrals	33.8% (26)	30%* (12)	42.9% (9)	66.7% (6)
Number (and Percentage) Compliance for Emergency Delivery Referrals	88.5% (23)	100% (12)	77.8% (7)	66.7% (4)
Number and Percentage Compliance for Routine Delivery Referrals	66%* (33)	57.1% (16)	33.3% (4)	100% (3)

3. Routine Vs. Emergency Referrals from Paraji - Postnatal

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Postnatal Women	1104	841	525	422
Number of Referrals From Paraji For Postnatal Period	2.2%*** (24)	1.4%* (12)	5.9% (31)	3.1% (13)
Number (and Percentage) of Postnatal Referrals Which Were Emergency Referrals	37.5% (9)	16.7% (2)	22.6% (7)	23.1% (3)
Number (and Percentage) Compliance for Emergency Postnatal Referrals	66.7%* (6)	100% (2)	14.3% (1)	66.7% (2)
Number and Percentage Compliance for Routine Postnatal Referrals	40%* (6)	11.1% (1)	8.3% (2)	20% (2)

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2. Routine Vs. Emergency Referrals From Polindes

Antenatal

Data Source: Polindes Registers Puskesmas Registers	Study	
	1	2
Number of Antenatal Visits	842	787
Number of Referrals From Polindes For Antenatal Period	5	10
Proportion of Antenatal Visits Resulting in Referral	0.6 %	1.2 %
Number and Percentage of Referrals to Puskesmas	80 % (4)	80 % (8)
Number and Percentage of Referrals to Hospital	20 % (1)	20 % (2)
Number (and Percentage) of Antenatal Referrals Which Were Emergency Referrals	80 % (4)	50 % (5)
Number and Percentage Compliance for Referrals	20 % (1)	100 % (10)
Number (and Percentage) Compliance for Emergency Antenatal Referrals	0 % 0	100 % (5)
Number and Percentage Compliance for Routine Antenatal Referrals	100 % (1)	100 % (5)

Delivery

Data Source: Polindes Registers Puskesmas Registers	Study	
	1	2
Number of Referrals From Polindes For Delivery Period	20	17
Number and Percentage of Referrals to Puskesmas	35 % (7)	59 % (10)
Number and Percentage of Referrals to Hospital	65 % (13)	41 % (7)
Number (and Percentage) of Delivery Referrals Which Were Emergency Referrals	100 % (20)	100 % (17)
Number and Percentage Compliance for Referrals	100 % (20)	100 % (17)

Postnatal

Data Source: Polindes Registers Puskesmas Registers	Study	
	1	2
Number of Referrals From Polindes For Postnatal Period	4	0
Number and Percentage of Referrals to Puskesmas	75% (3)	0
Number and Percentage of Referrals to Hospital	25% (1)	0
Number (and Percentage) of Postnatal Referrals Which Were Emergency Referrals	50% (2)	0
Number and Percentage Compliance for Referrals	100% (4)	0

3. Referrals from Puskesmas

Data Source: Puskesmas Registers Hospital Registers	Study		Control	
	1	2	1	2
Number of Referrals From Puskesmas For Antenatal Period	50	39		
Number (and Percentage) Compliance for Referrals	84% (42)	74% (29)		

Data Source: Puskesmas Registers Hospital Registers	Study		Control	
	1	2	1	2
Number of Referrals From Puskesmas For Delivery Period	45	42		
Number (and Percentage) Compliance for Referrals	98% (45)	93% (39)		

Data Source: Puskesmas Registers Hospital Registers	Study		Control	
	1	2	1	2
Number of Referrals From Puskesmas For Postnatal Period	4	9		
Number (and Percentage) Compliance for Referrals	100% (4)	100% (9)		

Spread of Referrals Between Provider Types by Paraji and Compliance for Each Type

Antenatal

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Antenatal Referrals	127	87	95	75
Number of Referrals to Posyandu and Percentage of all Referrals	33.9%*** (43)	32.2%*** (28)	70.5% (67)	84% (63)
Number and Percentage Compliance for referrals to Posyandu	93.0% (4)	100%* (28)	83.6% (56)	82.3% (51)
Number of Referrals to Polindes and Percentage of all referrals	62.2% (79)	72.4% (63)	
Number and percentage compliance for referrals to Polindes	78.5% (62)	84.1% (53)	
Number of Referrals to Puskesmas and Percentage of all Referrals	42.5%* (54)	20.7%*** (18)	61.1% (58)	52% (39)
Number and Percentage Compliance for referrals to Puskesmas	75.9% (41)	77.8% (14)	87.9% (51)	71.8% (28)
Number of Referrals to RS and Percentage of all Referrals	3.9%* (5)	2.3% (2)	0	0
Number and Percentage Compliance for referrals to RS	100% (5)	100% (2)	0	0
Number of Referrals to Dokter Swasta and Percentage of all referrals	4.7% (6)	1.1% (1)	1.1% (1)	0
Number and Percentage Compliance for Referrals to Dokter Swasta	100% (6)	100% (1)	100% (1)	0
Number of Referrals to Bidan Swasta and Percentage of all Referrals	10.2%* (13)	1.1% (1)	2.1% (2)	0
Number and Percentage Compliance for Referrals to Bidan Swasta	100% (13)	100% (1)	100% (2)	0

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Delivery

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Delivery Referrals	77	40	21	9
Number of Referrals to Posyandu and Percentage of all Referrals	1.3%*** (1)	5% (2)	28.6% (6)	11.1% (1)
Number and Percentage Compliance for referrals to Posyandu	0	50% (1)	16.7% (1)	100% (1)
Number of Referrals to Polindes and Percentage of all referrals	35.1% (27)	40% (16)	
Number and percentage compliance for referrals to Polindes	59.3% (16)	50% (8)	
Number of Referrals to Puskesmas and Percentage of all Referrals	33.8% (26)	42.5% (17)	42.9% (9)	44.4% (4)
Number and Percentage Compliance for referrals to Puskesmas	84.6%* (22)	100%* (17)	44.4% (4)	75% (3)
Number of Referrals to RS and Percentage of all Referrals	25.4% (18)	22.5% (9)	14.3% (3)	0
Number and Percentage Compliance for referrals to RS	94.1%* (16)	88.9% (8)	100% (3)	0
Number of Referrals to Dokter Swasta and Percentage of all referrals	1.3% (1)	0	4.8% (1)	0
Number and Percentage Compliance for Referrals to Dokter Swasta	100% (1)	0	100% (1)	0
Number of Referrals to Bidan Swasta and Percentage of All Referrals	20.8% (16)	10%* (4)	38.1% (8)	44.4% (4)
Number and Percentage Compliance for Referrals to Bidan Swasta	81.3% (13)	50% (2)	62.5% (5)	75% (3)

Postnatal

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Postnatal Referrals	24	12	31	13
Number of Referrals to Posyandu and Percentage of all Referrals	33.3%* (8)	8.3%* (1)	64.5% (20)	46.2% (6)
Number and Percentage Compliance for referrals to Posyandu	37.5%* (3)	0%	5% (1)	50% (3)
Number of Referrals to Polindes and Percentage of all referrals	12.5% (3)	25% (3)	
Number and percentage compliance for referrals to Polindes	33.3% (1)	50% (1)	
Number of Referrals to Puskesmas Pembantu and Percentage of all Referrals	0	8.3% (1)	25.8% (8)	23.1% (3)
Number and Percentage Compliance for Referrals to Puskesmas Pembantu	0	100% (1)	100% (8)	100% (3)
Number of Referrals to Puskesmas and Percentage of all Referrals	50%* (12)	75%* (9)	16.1% (5)	30.8% (4)
Number and Percentage Compliance for referrals to Puskesmas	50% (6)	37.5% (3)	20% (1)	25% (1)
Number of Referrals to RS and Percentage of all Referrals	0	0	0	0
Number and Percentage Compliance for referrals to RS	0	0	0	0
Number of Referrals to Dokter Swasta and Percentage of all referrals	4.2% (1)	0	3.2% (1)	0
Number and Percentage Compliance for Referrals to Dokter Swasta	100% (1)	0	100% (1)	0
Number of Referrals to Bidan Swasta and Percentage of All Referrals	16.7% (4)	25% (3)	6.5% (2)	7.7% (1)
Number and Percentage Compliance for Referrals to Bidan Swasta	50% (4)	33.3% (1)	50% (1)	0%

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Deliveries (Completed Questionnaire 2)	1114	706	529	379
Number (and Percentage) of Deliveries with Key Complications	20.9%** (233)	16%*** (113)	28.7% (152)	26.4% (100)
Number and Percentage of Women with Key Complications who were Referred	19.7%** (46)	14.2%* (16)	7.2% (11)	6% (6)
Number and Percentage of Deliveries with Key Complications who were Referred During Delivery and Complied	75.6% (34)	87.5% (14)	81.8% (9)	66.7% (4)

Data Source: RAS Questionnaires	Study		Control	
	1	2	1	2
Number of Women Postnatal (Completed Questionnaire 3)	1104	841	525	422
Number (and Percentage) of Postnatal Women with Key Complications	22.6%* (250)	15.8% (133)	18.3% (96)	12.6% (53)
Number and Percentage of Women with Key Complications who were Referred	6% (15)	3% (4)	10.4% (10)	3.8% (2)
Number of Postnatal Women with Key Complications who were Referred During Delivery and Percentage Complied	60%* (9)	50% (2)	10% (1)	50% (1)

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Use of Antenatal Services, Delivery Services, Radios and Ambulance

Data Source: Polindes Records	Study				
	1	2	3	4	5
Cinanjung # of Antenatal Visits # of Deliveries		36 2	54 2	43 4	3
Sukarapih # of Antenatal Visits # of Deliveries		38 3	29 3	32 0	30 0
Ciptasari # of Antenatal Visits # of Deliveries	9 0	12 4	10 1	27 1	35 2
Sukawangi # of Antenatal Visits # of Deliveries	- -	69 3	59 4	88 3	
Genteng # of Antenatal Visits # of Deliveries	44 0	43 7	46 17	66 5	30
Sindangsari # of Antenatal Visits # of Deliveries	24	36 3	35 2	48 1	46 0
Cijambu # of Antenatal Visits # of Deliveries	- -	41 13	56 5	44 8	56 6
Margajaya # of Antenatal Visits # of Deliveries	- -	45 4	91 6	52 -	29 1
Gungung Manik # of Antenatal Visits # of Deliveries	- -	12 7	73 3	104 7	37 3
Haurgombong # of Antenatal Visits # of Deliveries	- -	27 2	30 3	20 3	- 1

months?

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**Framework for Data Analysis
for the Referral System of the Tanjungsari
Perinatal Regionalization Project**

**Claudia Williams
MotherCare Consultant**

**Draft Report
April 12, 1993**

Appendix C
Framework for Data Analysis

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I. Background: Project Goals and Objectives Related to Referrals

A central hypothesis of the Tanjungsari MotherCare project is that appropriate and timely referral to a higher level health facility of high risk women during the antenatal period, for delivery and in the post-natal period would have a positive impact on maternal survival. To this end, the project proposal presents a variety of project interventions for improving the process and impact of referrals:

- **Social Marketing:** Improve the knowledge, attitudes and perception of the community towards use of appropriate services, risk factors and referral during pregnancy, delivery and in the immediate post-partum period. The social marketing campaign aims to influence families' choice of care strategies, especially for high risk women who had been referred.
- **Provider Training for Appropriate Referral:** Provide treatment and preventive care protocols and training to the village-level TBA's and all health personnel at the Puskesmas and hospital level plus those in the private sector, especially focused on appropriate antenatal care and on the identification, appropriate management and referral of high risk mothers and neonates.
- **Improving Communications:** All MCH huts would be linked by two-way radio with the Puskesmas and the hospital and a four wheel drive vehicle would be provided for no-cost emergency evacuations.

The referral consultant was engaged in April 1993 by MotherCare to work with UNPAD under Dr. Anna Alisjabahna's direction and in close collaboration with Dr. Swandari and the Social Marketing Team to collect and write up material from the Regionalization project related to referral with a focus on issues of client acceptance of provider referral.

The following framework for data collection and analysis on referral patterns was developed jointly by Dr. Anna Alisjabahna, Dr. Swandari, the social marketing team, Carrie Hessler-Radelet, Mary Jo Hansell and the consultant, Claudia Williams.

II. Data Needs for Impact Evaluation of Regionalization Project on Referral

The project is interested in examining the impact of the three streams of interventions detailed above on the referral system in the project's study area; the 27 villages of the Tanjungsari Kccamatan.

There are two main areas of investigation and data collection in this examination. The first is to collect and analyze quantitative data pertaining to referral patterns in the study area for the most recent period which can be compared to referral patterns and client acceptance in the control area. Secondly is to use qualitative methods to examine families' and women's attitudes

towards referral and reasons for choosing to accept or to not accept provider referrals in a variety of high-risk situations.

iii. Framework for Quantitative Data Collection on Referrals

A) Collect Data on number of referrals made from the TBA or the Polindes to the Polindes, Puskesmas and Hospital and the rates of acceptance of these referrals in both study and control areas.

1. Using the Polindes records and the Second and Third RAS questionnaires make a list of all women who were referred by the Paraji or Bidan to the Polindes, Puskesmas or Hospital during pregnancy, for delivery or in the post-natal period. We will collect data on the following variables:

- Client residence (village)
- Time of Referral (pre-natal, delivery, post-natal)
- Reason for Referral
- Status of Referral (routine or acute)
- Type of Provider making referral (bidan, paraji)

2. Cross-check the list with client registers at the Polindes, Puskesmas and Hospital to assess the proportion of the village-based referrals accepted by clients. We can also identify the time-lag in acceptance of referral.

Problems: This is a complicated multi-step process. During a field visit Dr. Swandari and the Consultant tested the procedure for one Polindes and its catchment area; it took one and one half days. Based on this experience we also predict that the sample size will be extremely small. For the three month period from October to December we only identified one referral.

Timing of Data Collection: The data will be collected by Dr. Swandari with support from the Consultant from May 24 to June 15. The data collection will take approximately 15 days.

B) Analyze TBA referral rates for women with specific risk symptoms (bleeding, oedema, fever) in both the study and the control areas.

We are interested in examining the impact of the project on TBA referral rates for women most at risk at different stages of pregnancy. All data for this analysis are currently available through the RAS questionnaires. This may already constitute an element of the general analysis plan for data from the RAS questionnaires. No additional data collection is needed.

Problems: According to staff at UNPAD questionnaire data input for the months of January through March is not yet complete. We may not be able to include the most recent months, for which we would anticipate the greatest impact, in the data analysis.

IV. Framework for Qualitative Data Collection on Referrals

Through qualitative investigation we hope to sketch a richer picture of the pregnancy and birthing experience of women with key risk conditions in both the study and the control areas. A total of 30 respondents will be selected for in-depth interviews which will explore factors influencing awareness of risk condition, referral and acceptance of referral. These factors will include the respondent's:

- Perception of own risk status
- Referral history
- Understanding of reasons for referral (if she was referred)
- Exposure to Social Marketing Materials (in Study area)
- Access and acceptability of services provided at site to which she was referred
- Distance to provider to which referred
- Opinion of family decision-makers and other influencers about her risk condition and importance of referrals made.
- Previous pregnancy experience

The selection of respondents will be purposeful. Respondents who experienced key risk conditions will be chosen in both the study and the control area. Interview data will be analyzed for evidence of differing patterns of risk recognition, care-seeking behavior, and acceptance of referral between the two areas. Interviews will be divided between the study and the control areas, and among the risk conditions as follows:

	<u>Study</u>	<u>Control</u>
Bleeding During Pregnancy	5 Women	5 Women
Oedema During Pregnancy	5 Women	5 Women
Fever After Delivery	5 Women	5 Women

A total of 30 interviews will be conducted. The Social Marketing Team will work with the Consultant and Carrie Hessler Radelet to design and pre-test the questionnaire, conduct the interviews and analyze the results.

Appendix D
Questionnaire for In-Depth Interviews on Referral

Questionnaire for In-Depth Interview
Women Who Have Recently Delivered
Tanjungsari Perinatal Regionalization Project

Date:

Day:

Time:

Name of Interviewer:

Name of Respondent:

Village:

Risk Condition:

Study or Control Area:

Introduction: We would like to ask you some questions about pregnancy to help us understand the problems women face in your area.

1. Overall how did you feel during your recent pregnancy? (probe for how she may have felt and problems she had at different stages of the pregnancy).
2. Tell me about the delivery and how you felt after the delivery.
3. Do you know about any problems a woman can have before, during or after delivery which can be dangerous to her health? (prompt for bleeding, swelling and fever if the woman does not mention them)
4. How do you know about these problems? (probe for information sources: paraji, bidan, mother, relatives, puskesmas, posters).
5. Did you experienced any of these problems during your last pregnancy? (prompt for the risk condition for which woman selected)
6. What about in past pregnancies?

I would like to ask you a few questions about the _____ (risk condition) you said you experienced during/after your last pregnancy.

7. How and when did you notice _____ (risk condition)?

What was the first thing you did when you noticed _____ (risk condition)?

What did you do after that?

8. With whom did you discuss _____ (risk condition)? (probe for family, friends, neighbors)

What advice did that person give you?

9. What did you think about the advice you received? why?

10. Were you able to follow this advice?

If NO, what were the reasons you were not able to follow this advice?

If YES, what were the reasons you followed this advice?

11. Did you see a caregiver about _____ (risk condition)? (probe for TBA, Bidan, Doctor)?

If YES, what advice did that person give you?

What did you think about the advice you received? why?

Were you able to follow this advice?

If not able to follow advice, what were the reasons you were not able to follow this advice?

If able to follow advice, what were the reasons you followed this advice?

12. While you were pregnant from whom did you receive care? (ask about each one)

a) paraji (where?) (how often?) (at what stages of pregnancy?)

b) bidan (where?) (how often?) (at what stages of pregnancy?)

c) doctor (where?) (how often?) (at what stages of pregnancy?)

d) nurse (where?) (how often?) (at what stages of pregnancy?)

e) mantri (where?) (how often?) (at what stages of pregnancy?)

f) other (specify)(how often?) (at what stages of pregnancy?)

13. Did _____ (provider mentioned in 12) advise you to go somewhere else for care during pregnancy? (probe for Polindes, Puskesmas, Hospital)

IF RESPONDENT ANSWERS NO TO 13 SKIP TO QUESTION 17

14. Do you know why the _____ advised you to go to _____? If so, what were the reasons? (probe for the risk condition)

15. What did you think about these reasons? Do you think these reasons are important? Is this condition dangerous? Why or why not?

16. Did you go to _____ (place to which referred)?

a) If NO, what were the reasons you chose not to go? (probe for distance, cost, opinion about referral, fear, other difficulties in access)

Did anyone else give you advice about whether or not you should go? If so, what did they say?

b) if YES, what were the reasons you chose to go? Did anyone give you advice about whether or not you should go? If so, what did they say?

When did _____ (referring provider) tell you to go? when were you able to go? Were you able to go when they suggested? If NO, why not?

What happened when you went to _____ (place to which referred)?

Did you have any difficulties during your examination?

Were you asked to return at another time?

Were you advised to see anyone else?

17. Where did you deliver and who helped you there?

18. What were the reasons you chose to deliver at _____ (place where woman delivered)?

19. Did anyone advise you to deliver somewhere else? If YES, who? Where did they want you to go? What were the reasons they thought you should go somewhere else? (probe for the risk condition)

20. What were the reasons you chose not to follow this advice? (probe for distance, cost, opinion about referral, fear, discomfort, other difficulties in access)

21. In the days and weeks after you delivered, did anyone such as the Paraji or the bidan check how you were doing? If YES, who?

22. Did _____ (provider mentioned in 21) advise you to go somewhere else for care after delivery? (probe for Polindes, Puskesmas, Hospital)

IF RESPONDENT ANSWERS NO TO 22 SKIP TO QUESTION 26

23. Do you know why the _____ advised you to go to _____? If so, what were the reasons? (probe for the risk condition)

24. What did you think about these reasons? Do you think these reasons are important? Is this condition dangerous? Why or why not?

25. Did you go to _____ (place to which referred)?

a) If NO, what were the reasons you chose not to go? (probe for distance, cost, opinion about referral, fear, other difficulties in access)

Did anyone give you advice about whether or not you should go? If so, what did they say?

b) if YES, what were the reasons you chose to go? Did anyone give you advice about whether or not you should go? If so, what did they say?

when did _____ (referring provider) tell you to go and when were you able to go?

Did you have any difficulties? What happened when you went there?

General Information

- 26. Age of respondent:
- 27. Education:
- 28. Job/Spouse's job:
- 29. Marital status:
- 30. How many children do you have?
- 31. How many times have you given birth?
- 32. Have you ever seen this? Where? (Show some examples of Social Marketing Materials)

Appendix E
Report by Matthew Belcher and Kirsten Lawrence
Analyzing Results of
In-Depth Interviews

Matthew K. Belcher
Kirsten Lawrence

Qualitative Data on the
Pregnancy and Birthing Experience
of Women with Key Complications

Through qualitative investigation, this study explores the pregnancy and birthing experience of women with key complications in both the study and control areas. For the sample, a total of twenty-nine women were selected. In an attempt to represent the experiences of women with the complications of bleeding, edema, and fever, a group of women who had experienced one of these conditions in her previous pregnancy was chosen from each of the two areas. In-depth interviews examined factors influencing their awareness of risk condition, referral, and acceptance of referral. We have identified several aspects of the study which may impact upon these factors.

INTERVIEW DATA: Knowledge of Risk Factors

Generally, women's level of knowledge of risk factors appears higher within the study group. When asked to list risk factors in pregnancy, most(13 of 15) study area respondents were able to answer spontaneously, correctly identifying at least one key risk factor. In contrast, most(10 of 14) control group respondents were unable to answer the question about risk factors, and required specific prompting. Furthermore, respondents within the control group more often characterized known risk factors as "normal" and therefore not dangerous. For example, no respondent identified edema as a risk factor while many perceived it as a routine consequence of pregnancy.

Of risk conditions identified, bleeding was the one most consistently named by both groups. Awareness of both edema and fever as risk factors was low in both groups, but appeared slightly higher within the study group. Other risks mentioned were twins, malposition, anemia, weight loss, coughing, and "anything not cured."

Sources of Knowledge

There exists a significant difference in the sources of knowledge identified by women in the study and control groups. Within the study group, the overall number of responses was much greater and women were readily able to identify specific sources. Those most commonly noted were TBAs, neighbors, cadres, and nurses. In the control group the most common responses were "no idea," "I knew after you asked," and "I just guessed."

Exposure to Social Marketing Materials

Of the 15 women within the study group, nine of the ten asked stated that they had seen the social marketing materials, and several(4) cited them as sources of knowledge without specific prompting.

Perceptions of Own Risk Status

There seems to be a significant disparity between what women denote as dangerous in pregnancy when asked, and a problem for which they are willing to seek care. For example, in the control group where no women noted edema as a risk factor, six of eight women with edema complied with a referral for antenatal care. Therefore, their apparent lack of knowledge, based on an assessment of their comprehension of risk factors, did not necessarily

translate into a lack of action. It appears that there are several factors involved in the definition of a problem as dangerous. According to women's responses, a problem may not be considered a risk if:

- * It is "curable" or treatable with medicine.
- * It does not inhibit daily activities.
- * It does not cause pain.
- * It is frequently associated with pregnancy.
- * It disappears after birth.
- * It seems inevitable.

It is therefore important to note that even those women who were unable to name "risk factors" when asked for them did in many cases seek care for those very same conditions.

Also, it seems that many women, though exhibiting clear knowledge of risk factors, minimized their own condition. For example, one woman who experienced heavy bleeding only mentioned it in association with the common symptoms of morning sickness. A second woman acknowledged that her bleeding was heavy (and therefore a risk factor) but said that it was not frequent (though she experienced 3-5 episodes per day). She decided to wait, not seeking care, in hopes that it would stop.

There may be some confusion in women's perception of bleeding as a risk factor. Prepartum bleeding is most clearly identified as being dangerous while perceptions of bleeding at delivery and postpartum bleeding are enigmatic. Postpartum bleeding was in several cases misconstrued as the normal delivery of the placenta, and thus not seen as a risk factor.

Sources of Advice Concerning Risk Condition

There was no significant variation in the sources of advice identified by the study and control groups. When women perceived that they had a risk condition, they sought the advice of many different people. From the women surveyed(29), twenty-six women received some advice concerning their condition, and there were forty-four total responses. Of those responses, twenty-two were family members, with the majority being the husband. The husband was cited with near equal frequency as all the health care professionals combined(TBA, cadre, and nurse), and therefore seems to play an important role in women's decision making. One woman commented, "he is my husband and should be responsible for my healthiness(sic)." This may exemplify a commonly held attitude based on both cultural and economic factors; the husband may play a fundamental role in a woman's access to family resources and therefore her decision and ability to seek care.

Advice in most instances took the form of referral to a formal health care facility. Rates of referral were not significantly different between the study and control groups, although informal advice(advice given by family, neighbors, friends) was more common within the study group and may reflect an overall heightened awareness of risk factors within that community. Finally, though twenty-three of the twenty-five women with prepartum complications received either formal advice(advice given by doctors, nurses, TBAs, cadres) or informal advice during the antenatal period, few(10) of them were given any advice pertaining to delivery.

Compliance with Referrals

Generally, there was a high rate of compliance with referrals in both groups. Compliance was highest during the antenatal period; of twenty-seven referrals for prepartum complications, women complied in twenty-two cases. Conversely, compliance was low during the delivery period; of ten women referred for delivery, only two complied. In nine of the twelve total cases of noncompliance for the antenatal and delivery periods, edema was the complication for which women were referred. It is unclear whether compliance rates differ depending on the source of advice, although in several instances of noncompliance women had only received advice from health care providers and not from family or friends. In some cases of noncompliance for delivery, reasons cited were cost, distance, and lack of trust in the expertise of the care provider.

Assessment of Referrals and Care Providers

In most cases, women who complied with referrals seemed satisfied with the care that they received. Women commented that the referrals were "good and useful;" these judgements seemed to be based mainly on the fact that the problems for which they sought care were resolved. Some respondents also noted that formal health care providers were "experts"--they seemed to trust their judgement and were willing to comply with their treatment plans. One woman commented, "I followed the advice because they are experienced and were willing to help me." Women's compliance may be linked as well to a definitive desire to "be healthy and have a healthy baby," according to several responses.

Choice of Birth Location

There is no significant difference between the study and control areas in terms of women's choice of birth location. Of twenty-eight respondents, nearly all gave birth at home. Furthermore, only nine of these women were advised to deliver elsewhere. Risk factors did impact upon the delivery location in that the few women who delivered outside of their homes experienced severe bleeding and thus had limited choice for delivery location. Four respondents expressed a desire to deliver at the polindes but commented that they were unable to do so because the birth was "unpredicted" or their condition required that they deliver at the hospital.

Women most frequently cited expense as the prime factor in their choice of birth location; other notable factors were the presence of family at home, distance from health care facility, and unexpected onset of labor. Some reasons cited for home birth were rather nebulous, these included "calmer," "safer," "no risk," "nicer," and "more relaxing." Additionally, there were three cases in which women said they would not go to the puskesmas for delivery because they did not feel assured that care givers would either be present or have enough experience to care for them. All of these cases were in the control area.

ANALYSIS

There are several patterns within the data which we feel represent important issues that need to be examined. First, there seems to be a difference in the perception of the term "risk condition" as held by respondents and workers in the formal health care system. In many instances women may not define as "risky" a condition for which they do understand the importance of seeking care. For these women, "risky" may only connote a condition which is severely debilitating or not readily treatable. In this sense, many key "risk factors", especially edema and fever, may not be thus identified. Hence, an assessment of women's knowledge and any effort to expand that knowledge should take into account this different definition of "risk."

Second, the role of the community seems vitally important in women's decision making and care seeking behavior. Women consistently name their families, friends, and neighbors as sources of both knowledge and advice for health care issues. In this sense, a single woman's interaction, either positive or negative, may have a profound effect on the community's perceptions as a whole and thus on other women's conceptions and actions. It seems therefore critical that efforts to alter women's care seeking behavior during pregnancy and delivery focus not only on those women but on the entire community.

Third, the antenatal and delivery periods seem to be dealt with very differently. Women receive a great deal of advice, both formal and informal, during their pregnancy and most often comply with that advice. However, around the time of delivery, advice is

in most instances nonexistent. Also, women cite as reasons for delivery at home several factors, such as cost and distance, which also may have been important during the antenatal period. It seems, though, that these factors do not deter them from seeking care at that time, but only become barriers at the time of delivery. In regards to postnatal referrals, there were so few(4) represented in the study that it would be difficult to draw any conclusions.

Lastly, the question "why do women want to deliver at home?" merits further examination. In this study, nearly all respondents chose to deliver at home, and many cite reasons that are at this point ill-defined. This finding may signify the existence of complex traditional beliefs which play a profound role in women's decision-making at delivery. We must more thoroughly explore these beliefs if we aim to alter their behavior.

Appendix E
Lessons Learned from Social Marketing Component

**Lessons Learned
from Social Marketing Component
Tanjungsari Perinatal Regionalization Project**

Social Marketing Team, Carrie Hessler-Radelet and Claudia Williams

Lessons Learned:

- **Materials with negative messages are not effective.** Women believe that by planning for or thinking about a negative event they will cause it to happen. Women do not like the Action Card, which depicts negative events for pregnant women. They like the poster which shows a happy family in the Polindes.
- **Polindes attached to the house of Paraji or Kepala Desa are used more than "stand-alone" units.** Women state that they prefer "stand-alone" Polindes but the average number of births over a nine month period in each of the "attached" Polindes was 24 as compared to 8 in the "stand-alone" Polindes.
- **The Hari Polindes campaign was an effective means to increase support for Polindes concept but was not an effective means to inform people of technical information i.e risk symptoms etc.**
- **Polindes seen as valuable because expands the availability of antenatal care.** Used extensively for antenatal care and much less for delivery.
- **In general people do not see Polindes as a comfortable place where they can be "at home".** Respondents feel the Polindes is an extension of the "bureaucratic" environment of the Puskesmas where they have to answer a lot of questions, there are many regulations, and there are not adequate facilities for the family.
- **Paraji's may feel caught between wanting to act on the advice of the project to refer complicated cases and the fact that their own reputations and credibility are threatened if they refer more clients.**
- **Initially communities believed that Polindes could provide the same service as Puskesmas. Communities lost faith in the Polindes when they saw many difficult cases referred directly to the Puskesmas or Hospital.**
- **Polindes seem to work best where there is one strong "manager" who is usually a Paraji or Kader.** This should be someone with good relationships with communities and a fairly high social status.

Recommendations:

- **Messages and Materials should not focus on risk.** This finding provokes the important question of whether the risk approach is valid and effective for community education.
- **Polindes will work best under the management of one strong community member and should ideally be located in or near that person's home.**
- **Efforts should be made to de-mystify and de-bureaucratize the Polindes.** Communities may be able to provide important insight into how the Polindes could be made to feel more like home than it is at present.
- **There is a need to clarify with communities the role and capacity of the Polindes (i.e. cannot provide same services as Polindes but can refer women if needed at low cost) and to try to explore how Paraji's could increase referrals for women at risk without endangering their own reputations and client-base.**