

A Study to Assess Knowledge, Attitude and Practices of Antenatal Care among Antenatal Women Attending Outdoor in Tertiary Care Centre

Garima Maurya¹, Varuna Pathak², Juhi Agrawal³

¹Assistant Professor, Department of Obs and Gynae, Era's Lucknow Medical College

²Associate Professor, Department of Obs and Gynae, Gandhi Medical College, Bhopal

³Assistant Professor, Department of Obs and Gynae, Gandhi Medical College, Bhopal

Abstract: ***Aim & objectives:** 1) To assess the knowledge, attitude and practices of antenatal care among women attending SZH OPD. 2) To determine the association between the knowledge, attitude and practices of women attending OPD with selected demographic variable. 3) To measure the co-relation between knowledge, attitude, practices and antenatal care. 4) To measure the co-relation between antenatal care and maternal and fetal outcome. **Material and methods:** It was hospital based descriptive case-control study on the antenatal women attending the outpatient clinics of SZH, department of obstetrics and gynaecology, Gandhi Medical College, Bhopal. Duration of study was of 12 months. All antenatal women attending the OPD was included out of which unbooked antenatal women were categorized as study group and antenatal women booked at SZH were taken as control group. Early pregnancy, abortion, widow and divorcee were excluded from study. Data were collected by pre-designed and pre-tested questionnaire and participants were followed and fetomaternal outcome was noted. The Chi-square test was used to compare variables. **Results:** most of the respondents (52.7%) belonged to 20-24 years of age and most of them were hindus. 72.4% were resident of urban areas. Maximum women i.e. 53.1% were educated up to middle school out of them 70% were booked. 38.4% of the women were of class V of modified prasad's classification. 70-79% of women had correct knowledge regarding early registration, ANC checkups, immunization and requirement of proper diet and 70% of them adequately utilizing antenatal services. 70% of women shows positive attitude towards ANC check-ups at SZH, antenatal follow up and laboratory examinations and shows positive relationship with booking status. 88.9% of subjects shows positive attitude for hospital delivery. only 51.1% of antenatal women had adequate antenatal visits till date, 69.7% took IFA adequately and 91.9% received adequate immunization. Most of the women had normal vaginal delivery constituting 75.4% of the booked patients though even in unbooked group most of them had vaginal delivery. **Conclusion:** there is a need to target certain group of population such as rural, uneducated and economically backward and find the way through which the attendance of ANC Visits can be increased. Moreover strong political commitment, co-ordination between program implementing agencies, monitoring, evaluation and follow up of the programs will be needed.*

Keywords: antenatal care, knowledge, attitude, practices, booking, registration

1. Introduction

ACOG (2002) defined antenatal care as comprehensive antepartum care programme that involves co ordinate approach to medical care and psychosocial support that optimally begins before conception and extends throughout antepartum period.

Pregnant mothers contribute to a major vulnerable and priority group in any community, no less in India. According to the census 2011, maternal mortality rate in India accounts to an enormous figure of 212 [1]. Major causes include hemorrhage, obstructed labor, hypertension and other conditions [2]. The reason being lack of proper antenatal care coverage and lack of awareness among mothers particularly from rural parts of India, contributing the major population, about the need of early registration and compliance with proper and regular antenatal checkups [2].

2. Methods

It is hospital based descriptive case-control study on the antenatal women attending the outpatient clinics of SZH, department of obstetrics and gynaecology, Gandhi Medical College, Bhopal. Duration of study was of 12 months from

1st june 2013 to 31st may 2014. 960 antenatal women attending the OPD was included out of which unbooked antenatal women were taken as study group and antenatal women booked at SZH were taken as control group. Early pregnancy, abortion, widow and divorcee were excluded from study. Data was collected by pre-designed and pre-tested questionnaire and participants were traced prospectively and fetomaternal outcome was noted. Statistical calculation and subsequently analysis carried by using SPSS 16.0. The Chi-square test was used to compare variables. The p-value <0.05 was considered significant.

3. Results

Distribution of subjects according to sociodemographic profile

Age- wise(years)	N=960	percent
<20	104	10.8
20-25	506	52.7
26-30	304	31.7
>30	46	4.8
Residence		
Rural	265	27.6
Urban	695	72.4
Religion		
Hindu	537	55.9

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Muslim	423	44.1
Age at marriage(years)		
<18	188	19.6
18-30	726	75.6
>30	46	4.8
Parity		
<1	425	44.3
1-4	493	51.4
>4	42	4.4
Booking status		
Booked	647	67.4
unbooked	313	32.6

Distribution according to education status

education	Subject's husband education	percent	Subject education	percent
Illiterate	120	12.5	183	19.1
Primary	209	21.8	292	30.4
Middle school	221	23	218	22.7
High school	263	27.4	145	15.1
Graduate	86	9.0	76	7.9
Post graduate	61	6.4	46	4.8

Distribution according to the occupation

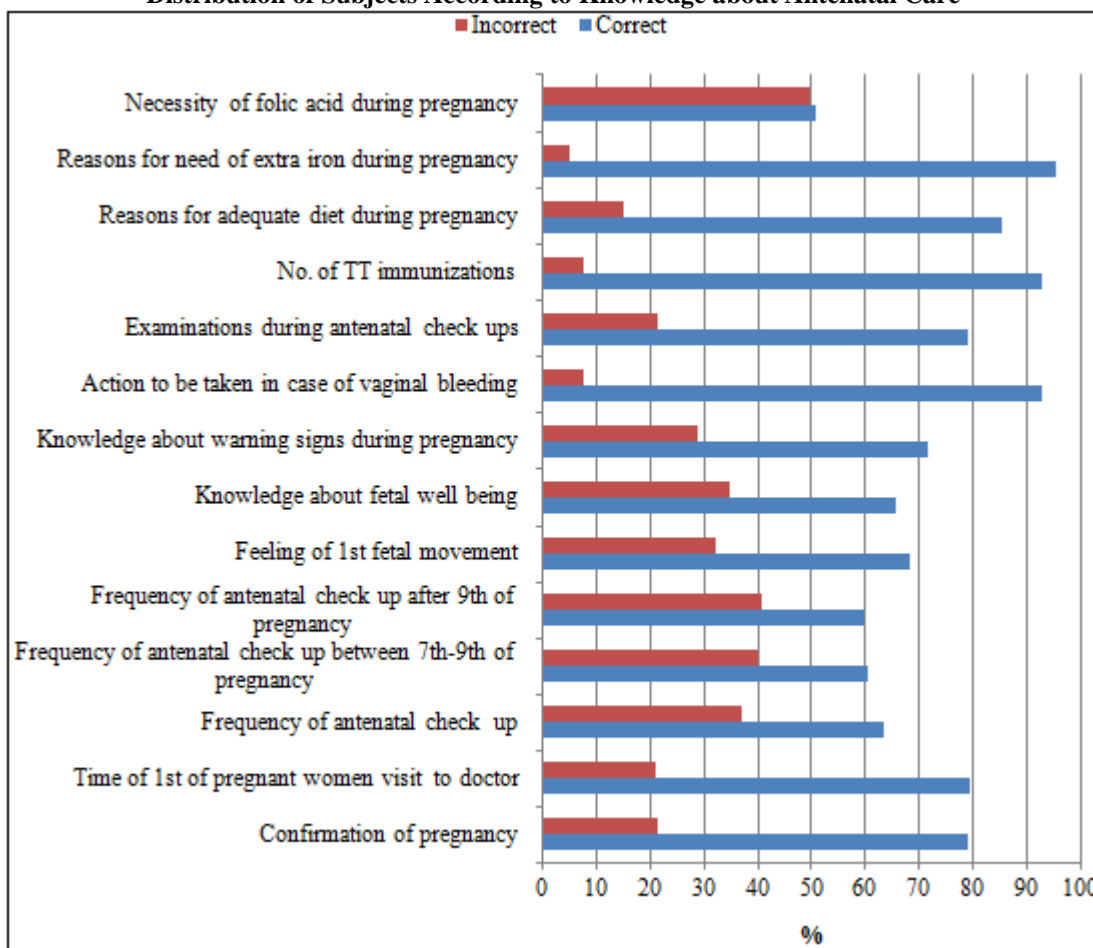
Subject's occupation	N=960	percent	Subject's husband occupation	N=960	percent
Housewife	690	71.9	unemployed	50	5.2
Unskilled worker	214	22.3	Unskilled worker	607	63.2
skilled worker	56	5.8	skilled worker	257	26.8
			professional	46	4.8

Distribution of Subjects according to Subject's Per Capita Income

Per capita income in Rs.	No. (n=960)	%
<500	137	14.3
500-1499	369	38.4
1500-2999	170	17.7
3000-4999	134	14.0
≥5000	150	15.6

In our study group most of the subjects were of low socioeconomic status

Distribution of Subjects According to Knowledge about Antenatal Care



In this study 78.9% of subject had correct knowledge that pregnancy is confirmed by urine pregnancy test and scanning. 65.5% subjects had correct knowledge that fetal well being is known by regular antenatal check up. 71.4% of subjects had knowledge about warning signs during pregnancy.

92.5% of study subjects had correct knowledge regarding tetanus immunisation and 85.3% of subjects had correct knowledge that adequate diet during pregnancy helps for growth and development of fetus. 95.1% of subjects had knowledge that extra iron is needed during pregnancy to prevent anaemia. While only 50.4% of subject had knowledge that folic acid is needed during pregnancy to prevent anaemia and birth deformities.

Distribution of Subjects According to Attitude towards Antenatal Care

Attitude towards	Adequate		Inadequate		Neutral	
	No.	%	No.	%	No.	%
Early booking of pregnancy	807	84.1	30	3.1	123	12.8
Early booking of pregnancy before 3 rd month	790	82.3	16	1.7	154	16.0
Vitamin supplementation is good for fetus	840	87.5	46	4.8	74	7.7
Smoking is harmful for fetus	882	91.9	33	3.4	45	4.7
Alcohol intake affect the fetal growth	912	95.0	33	3.4	15	1.6
Visit to SZH for antenatal check up	806	84.0	47	4.9	107	11.1
Antenatal follow-up is good for mother and fetus	859	89.5	54	5.6	47	4.9
Will allow doctor to take blood for screening	885	92.2	44	4.6	31	3.2
Will allow doctor to check blood pressure	898	93.5	31	3.2	31	3.2
Will check blood sugar level	844	87.9	57	5.9	59	6.1
Will have USG	960	100.0	0	0.0	0	0.0
Plan for delivery at hospital	853	88.9	15	1.6	92	9.6
Will make early preparations for delivery	525	54.7	189	19.7	246	25.6
Ready to face any pregnancy and delivery complication	420	43.8	172	17.9	368	38.3

82.3% of subject believed in first trimester booking in pregnancy. 87.5% of the total subjects believed that vitamin supplementation during pregnancy is good for fetus and majority of subject believed that addiction affect the fetus.

89.5% of total subjects believed that antenatal follow up is good for both mother and fetus and would allow their doctor for routine investigations.

88.9% of subjects prepare for delivery at hospital while 9.6% of subject had no planning regarding hospital delivery.

54.7% of subjects shows positive attitude for early preparations for delivery while one fourth of subjects had neutral attitude. This is because majority were hindu in our study and in their religion there is a myth regarding preparation for delivery that they thought it inauspicious.

Distribution of Subjects According to Practices during Pregnancy

Practices during pregnancy	Adequate		Inadequate	
	No.	%	No.	%
Knew her LMP	792	82.5	168	17.5
Place of first ANC at institution	806	84.0	154	16.0
first antenatal visit within 3 months of pregnancy	573	59.7	387	40.3
TT received at 4 th and 5 th month of pregnancy	882	91.9	78	8.1
Took IFA	669	69.7	291	30.3
No. of ANC visits till date	491	51.1	469	48.9
Tested blood and urine	868	90.4	92	9.6
Checked the blood pressure and weight	884	92.1	76	7.9
Had pregnancy complications till date (yes/no)	594	61.9	366	38.1

84% of subjects had their first antenatal checkup at institution out of which 59.7% subjects had their first antenatal check up in first trimester. Only 51.1% of subjects had adequate antenatal visits till date.

91.9% subjects received adequate TT immunization. 69.7% of subjects took IFA adequately. 90.4% of subjects had their blood and urine test and blood pressure and weight of 92.1% of total subjects has been checked adequately

Association of Demographic Profile with Booking Status

Demographic profile	No. of subjects	Booked		Unbooked		p-value ¹
		No.	%	No.	%	
Age in years						
<20	104	71	68.3	33	31.7	0.87
20-25	506	346	68.4	160	31.6	
26-30	304	200	65.8	104	34.2	
>30	46	30	65.2	16	34.8	
Place of residence						
Rural	283	168	59.4	115	40.6	0.001*
Urban	677	479	70.8	198	29.2	
Religion						
Hindu	537	378	70.4	159	29.6	0.02*
Muslim	423	269	63.6	154	36.4	
Education of subjects						
Illiterate	183	91	49.7	92	50.3	0.0001*
Primary	292	193	66.1	99	33.9	
Middle school	218	150	68.8	68	31.2	
High School	145	91	62.8	54	37.2	
Graduate	76	76	100.0	0	0.0	
Post graduate	46	46	100.0	0	0.0	
Education of subject's husband						
Illiterate	120	59	49.2	61	50.8	0.0001*
Primary	209	124	59.3	85	40.7	
Middle school	116	77	66.4	39	33.6	
High School	105	71	67.6	34	32.4	
Secondary	263	195	74.1	68	25.9	
Graduate	86	60	69.8	26	30.2	
Post graduate	61	61	100.0	0	0.0	
Occupation of subjects						
Housewife	690	464	67.2	226	32.8	0.03
Skilled worker	56	46	82.1	10	17.9	
Unskilled worker	214	137	64.0	77	36.0	
Occupation of subject's husband						
Professional	46	30	65.2	16	34.8	0.0001*
Skilled worker	257	210	81.7	47	18.3	
Unemployed	50	0	0.0	50	100.0	
Unskilled worker	607	407	67.1	200	32.9	
Per capita income in Rs.						
<500	137	76	55.5	61	44.5	0.0001*
500-1499	369	212	57.5	157	42.5	
1500-2999	170	122	71.8	48	28.2	
3000-4999	134	113	84.3	21	15.7	
≥5000	150	124	82.7	26	17.3	
Age of subjects at marriage in years						
<18	188	175	93.1	13	6.9	0.0001*
18-30	726	453	62.4	273	37.6	
>30	46	19	41.3	27	58.7	

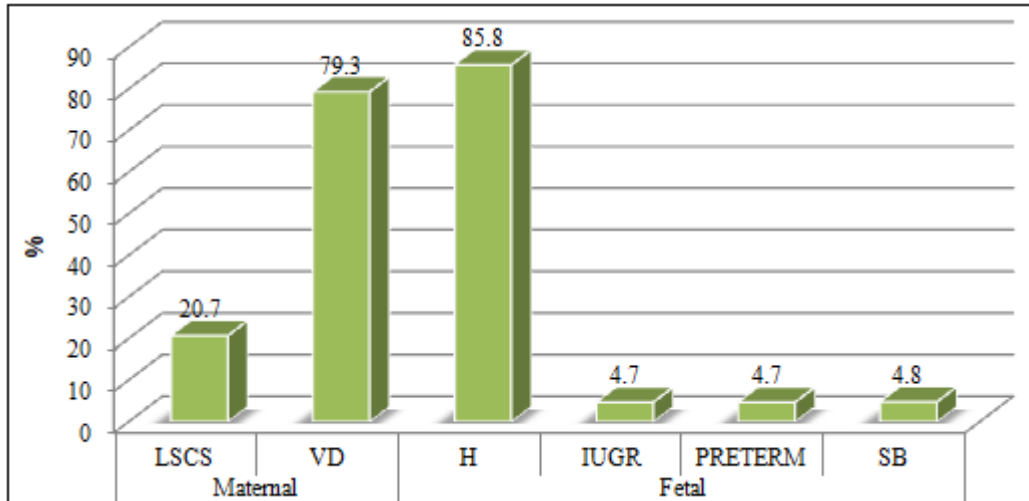
This table shows there is significant association of booking status with place of residence, education of subject and subject's husband, occupation of subject's husband socioeconomic status of subject and age of subject at marriage. This study shows that subjects belonged to Modified Prasad's Class IV and V only 60% were booked and 40% were unbooked while subjects above Modified Prasad's Class VI majority (80%) were booked and 20% were unbooked.

Association of Booked with Parity

Parity	No. of subjects	Booked		Unbooked		p-value ¹
		No.	%	No.	%	
<1	425	281	66.1	144	33.9	0.0001*
1-4	493	351	71.2	142	28.8	
>4	42	15	35.7	27	64.3	

in our study 66% of the total primigravida were booked and 34% were unbooked. Among multigravida subjects 71% were booked 29% were unbooked. Among grandmultigravida subjects 36% were booked and 64% were unbooked.

Association of Booked with Maternal and Fetal Outcome



in our study most of the subjects were having normal vaginal delivery constituting 75.4 percent of the booked patient and even in the unbooked group most of the patient were having normal vaginal delivery.

The proportion of subjects with normal birth weight babies were more in the booked group and the difference was significant. (P<0.01)

Association of Knowledge about Maternal Care with Booking Status

Knowledge about	No. of subjects	Correct knowledge				p-value ¹
		Booked		Unbooked		
		No.	%	No.	%	
Confirmation of pregnancy	757	541	71.5	216	28.5	0.0001*
Time of 1 st visit of antenatal care to doctor	760	543	71.4	217	28.6	0.0001*
Frequency of antenatal check up before 7 th month	607	448	73.8	159	26.2	0.0001*
Frequency of antenatal check up between 7 th -9 th of pregnancy	577	432	74.9	145	25.1	0.0001*
Frequency of antenatal check up after 9 th of pregnancy	571	448	78.5	123	21.5	0.0001*
Perception of 1 st fetal movement	654	486	74.3	168	25.7	0.0001*
Knowledge about fetal well being	629	445	70.7	184	29.3	0.002*
Knowledge about warning signs during pregnancy	685	468	68.3	217	31.7	0.33
Action to be taken in case of vaginal bleeding	890	608	68.3	282	31.7	0.03*
Examinations during antenatal check ups	757	509	67.2	248	32.8	0.84
No. of TT immunizations	888	578	65.1	310	34.9	0.0001*
Reasons for adequate diet during pregnancy	819	567	69.2	252	30.8	0.003*
Reasons for need of extra iron during pregnancy	913	615	67.4	298	32.6	0.91
Necessity of folic acid during pregnancy	484	350	72.3	134	27.7	0.001*

Out of total subjects who had knowledge about frequency of antenatal visits about 75% were booked and 25% were unbooked. Out of total subjects who had correct knowledge regarding the perception of 1st fetal movement 74.3% of subjects were booked at SZH.

There is significant association between the knowledge about fetal well being, Tetanus Toxoid immunization, need for adequate diet and necessity of folic acid during pregnancy with booking status of subjects.

Association of Adequate Attitude about Maternal Care with Booking Status

Attitude	No. of subjects	Adequate attitude				p-value ¹
		Booked		Unbooked		
		No.	%	No.	%	
Early booking of pregnancy	807	570	70.6	237	29.4	0.0001*
Early booking of pregnancy before 3 rd month	790	583	73.8	207	26.2	0.0001*
Vitamin supplementation is good for fetus	840	609	72.5	231	27.5	0.0001*
Smoking is harmful for fetus	882	584	66.2	298	33.8	0.0001*
Alcohol intake affect the fetal growth	912	614	67.3	298	32.7	0.0001*
Visit to SZH for antenatal check up	806	568	70.5	238	29.5	0.0001*
Antenatal follow-up is good for mother and fetus	858	588	68.5	270	31.5	0.0001*
Will allow doctor to take blood for screening	885	597	67.5	288	32.5	0.06
Will allow doctor to check blood pressure	898	606	67.5	292	32.5	0.05
Will check blood sugar level	844	583	69.1	261	30.9	0.0001*
Will have USG	960	647	67.4	313	32.6	NA
Plan for delivery at hospital	853	586	68.7	267	31.3	0.0001*
Will make early preparations for delivery	525	420	80.0	105	20.0	0.0001*
Ready to face any pregnancy and delivery complication	420	299	71.2	121	28.8	0.07

This table shows positive co relation between booking status with early booking ,vitamin supplementation during pregnancy, avoidance of addiction during antenatal period.(p value <0.01). This table shows that those people who had

positive attitude for delivery at hospital and make early preparations for delivery 68.7% and 80% of subjects were booked respectively this shows positive relationship with booking status.

Association of Adequate Practices during Pregnancy with Booking Status

Practices	No. of subjects	Adequate practices				p-value ¹
		Booked		Unbooked		
		No.	%	No.	%	
Know her LMP	792	555	70.1	237	29.9	0.0001*
Place of first ANC at institution	806	600	74.4	206	25.6	0.0001*
first ANC in first trimester	573	437	76.3	136	23.7	0.0001*
4 th -5 th Months of TT received	882	615	69.7	267	30.3	0.0001*
Took IFA	669	477	71.3	192	28.7	0.0001*
No. of ANC visits till date	491	404	82.3	87	17.7	0.0001*
Tested blood and urine	868	615	70.9	253	29.1	0.0001*
Checked the blood pressure and weight	884	631	71.4	253	28.6	0.0001*
Had no pregnancy complications till date	594	450	75.8	144	24.2	0.0001*

This table shows that subjects who had good practices majority of them were booked especially good practice was observed in regards of no. of ANC visits 82.3% followed by first ANC visit in first trimester 76%. 75.8% of booked patients had no pregnancy complications till enrolment in the study and 74.4 % of them were booked at institution.

In present study 30.4% of subjects were educated upto primary and half of the total subjects were not educated beyond high school. In similar study conducted by Rozliza et al (2011) 42.3% didn't received any primary or secondary education. In similar study conducted by Ali Yawar Alam et al (2003) 69.5% of subjects were illiterate.

These good practices showed statistically significant results (p value <0.0001) in the booked patients as compared to the unbooked patients who did not adapt good practices

The proportion of pregnant women who availed full ANC package was higher for literate women as compared to illiterate women (Padam Singh et al 2000)⁽⁴⁾.

Adequate knowledge, positive attitude and good practices has positive co relation with booking status.

Parity is significantly related to better utilisation of antenatal services. Women with parity>4 show adequate knowledge but poor attitude and practices. Among total no of grandmultigravidae 64% were not utilising proper antenatal services. In our study 71% of multigravidae subjects were booked i.e adequately practising antenatal care.

4. Discussion

In present study 52.7% of respondents belonged to age group 20-24 years. In a study conducted by Rozliza et al (2011)⁽¹⁾ majority of the respondents (46.2%) were from age group 20-29 year. In similar study conducted by Sonia Shirin(2010) et al⁽²⁾ mean age of women was 33.5± 10.4 years. In study conducted by Ali Yawar Alam et al (2003)⁽³⁾ the mean age of women was 29.57 ±7.1 years. In present study 72.4% were resident of urban areas and 27.6% from rural areas . This is because our study is an Urban hospital based study.

The use of antenatal care decreases significantly with increase in parity indicating negative relationship between use of antenatal care and parity of women. (M.S kulkarni et al 2008)⁽⁵⁾

In present study 79% of total subjects had correct knowledge about confirmation pregnancy and early registration i.e in first trimester and 71% of them utilized antenatal services adequately (p value < 0.01). Similar results were seen in a

study conducted by Rosliza AM et al(2000)⁽¹⁾ 73.1% of subjects had knowledge regarding early registration.

[8] William obstetrics 23rd edition ; prenatal care 195-211.

About 60% of subjects had correct knowledge regarding the adequate frequency of antenatal check ups during pregnancy trimester wise, out of them 75% took adequate antenatal care.

In similar study conducted by Soltani MS et al (1997) et al¹ 95% of subjects had knowledge about recommended number of antenatal visits.

Present study shows that 70% of subjects had positive attitude towards early booking, vitamin supplementation during pregnancy and avoidance of addiction during antenatal period.

Similar results seen in study conducted by Roszila AM et al⁽¹⁾ in which 82% shows positive attitude for early registration, almost 100% subjects shows positive attitude for importance of vitamin supplementation. And three quarter of respondents agree that addiction have harmful effects to pregnancy.

88.9% of subjects shows positive attitude for delivery at hospital while 9.6% of subject had no planning regarding hospital delivery. But only 68% of them were booked this may be due to benefit of incentives for hospital delivery.

In present study most of the subjects had normal vaginal delivery constituting 75.4 percent of the booked patient though even in the unbooked group most of the patient had normal vaginal delivery. The proportion of subjects with normal birth weight babies were more in the booked group and the difference was statistically significant.(P<0.01).

Therefore, adequate knowledge, positive attitude and good practices has positive relationship with booking status. This in turn results in better maternal and fetal outcome as evidenced in many other studies.

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