Resumption of Activities of Daily Living (ADL): A Comparative Study between Normal and Caesarean Delivery

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Abstract :

Introduction: One of the main goals of every medical team, dealing with childbirth is performing a safe delivery. Resumption of ADL like sleeping, grooming, toileting, cooking, eating, watching TV and many other seated activities are earlier in normal delivery as compared to caesarean delivery. The present study intended study the proportion of different modes of delivery and to measure the time required for resumption of ADL by women after delivery. **Method:** A cross sectional study was carried out amongst 250 women who had delivered within last one year and attended paediatric OPD, wards and post-partum unit of a tertiary care teaching institute of Ahmedabad city as selected by simple random sampling technique. Predesigned and pretested proforma was used to note responses of women by personal interview by investigators. Information about mode of delivery and time taken for resumption of eight defined ADL during the last delivery was obtained from respondents. **Results:** Mean age of study population was 25.03±3.88 years. Mean Gravida was 2.26±1.2. Mean parity was 2.18±1.16. Mean of abortion was 0.18±0.49. Majority had delivered within last one month in a tertiary care institute. 69.2% had normal delivery and 30.8% had caesarean delivery. Assessment of time taken for resumption of eight ADL was carried out and a comparison was made. There was no significant difference between normal delivery with or without episiotomy except for the seated activities which took significantly longer time in deliveries with episiotomy. Resumption of all activities was significantly late in caesarean deliveries except for watching TV where there was no statistically significant difference. **Conclusions:** All the ADL are resumed late in caesarean deliveries as compared to normal delivery with or without episiotomy. The proportion of caesarean delivery has to be restricted for absolute indications. There is a need for postpartum guidelines for physical activity which can help women quickly achieve good levels of physical activity.

Key Words : Activities of Daily Living (ADL), Caesarean delivery, Episiotomy, Normal delivery, Tertiary Care Institute

Introduction :

Caesarean section was first introduced to reduce the risks for the mother and foetus. However, today, C-section is perceived as an escape from labour pain, and the false assumption that C-section is painless, safer, and healthier. Large proportions of the women voluntarily choose C-section as the preferred mode of delivery.

Many changes occur in the body during pregnancy. Hormonal changes plus fetal growth and development impact the functional ability of the mother during and afterpregnancy. These changes cause secondary effects of pregnancy which include joint laxity, postural changes, muscle imbalances, low back pain, changes in functional ability and psychosocial changes. [1] Lack of physical activity is a problem for women across all age groups [2,3] but is a particular concern for women during pregnancy.[4-7] Moderate to vigorous physical activity during pregnancy has been linked to better health outcomes for mothers and their children and can be protective against the development of chronic illness. [8]

Postpartum physical activity guidelines have the potential to assist women to initiate or resume physical activity following childbirth, so that they can meet recommended levels of physical activity. Health

care providers have a critical role in encouraging women to be active at this time, and the availability of more explicit guidelines may assist them to routinely include physical activity advice in their postpartum care.[9] The postpartum period provides an opportunity for women to begin or reengage in physical activity. The short-term benefits of postpartum physical activity include improvement in mood and cardiorespiratory fitness, promotion of weight loss, and a reduction in postpartum depression and anxiety. [10, 11] Despite these benefits, the majority of women do not resume their pre-pregnancy physical activity levels after the birth of a baby. [12] As the early postpartum period focuses on recovering from delivery and caring for the infant, the importance of resuming physical activity during this time is often not made clear to women, many of whom need guidance to begin or resume physical activity.[13] This period is therefore often a missed life course opportunity for beginning or resuming physical activity. Previously active women who do not resume their pre-pregnancy physical activity levels may remain inactive for many years. The world health organization's guideline on physical activity recommends that adults age18 to 64 years engage in at least 150 minutes of moderate intensity aerobic activitythroughout the week in bouts of at least 10 minutes, or at least 75 minutes of vigorousintensity aerobic activity, or an equivalent combination of the two.[14] Postpartum women may need extra precaution and should seek medical advice before striving to achieve these recommendations.[9] Though women may take longer time to achieve that level of physical activity but they can at least resume their ADL earlier without much of extra supervision by medical experts.

The current study which was carried out amongst the women attending OPD and ward at a tertiary care institute to know the proportion of total deliveries conducted by caesarean section, average time taken for resumption of ADL in all types of deliveries and also whether the resumption of ADL like sleeping, grooming, toileting, cooking, eating, watching TV and many other seated activities are earlier in normal delivery as compared to caesarean delivery or not.

Methods:

A cross-sectional study was carried out amongst 250 women who had delivered within last one year and attended paediatric OPD, paediatric wards and postpartum unit of a tertiary care teaching institute in Ahmedabad city. In absence of reference data for resumption of ADL, the prevalence of 50% was taken as reference and considering the allowable error of 15%, the sample size was calculated as 171. Since undergraduate students were involved in the survey, to make them learn more about communication skills with the community, more number of women were interviewed so as to make total of 250 women. It was decided to include 100 women each from paediatric OPD and PP unit and 50 women from paediatric ward taking sample in proportion to the number of women vising these three places. Survey for the present study was carried out in months of May and June 2017 and interviews were carried out till the desired number of respondents was met as per the sample size mentioned above. A predesigned and pre-tested proforma was used to collect information from each respondent by personal interview method by final year undergraduate students of a medical college. Informed consent was obtained from the respondents before taking their interview.

The proforma included besides socio-demographic profile, information about the resumption of eight ADL. Activities of daily living (ADL) is a term used in healthcare to refer to people'sdaily self-care activities. Professionals often use a person's ability or inability to perform ADL as a measurement of their functional status, particularly in regard to people post injury, with disabilities and the elderly. Resumption time for ADL which were identified, defined and studied in a study by Stucki RA et al, were studied in the present study. [15] For the purpose of simplification and better understanding by the respondents, the definitions were explained by the interviewers during the survey taking examples as will suit the Indian context. Data were analysed using microsoft excel and spss version 17. Calculation of percentages, proportions, mean, SD was carried out and test of significance i.e. SE of difference between two means was applied to find out the significance of difference between mean duration required for resumption of ADL.

ADL definitions [15] for eight activities which were used in present study were as under:

Sleeping	Includes: night rest, taking a nap (either in bed or on the couch). Excludes: Lying down (not sleeping) for recovery.
Grooming	Includes: personal hygiene: showering, toileting, shaving, brushing teeth, and Styling as one activity. Excludes: simple toileting and hand washing.
Toileting	Includes: simple toileting with washing hands. Excludes: other or additional personal hygiene.
Getting ready For bed	Includes: personal hygiene before bedtime. Excludes: pre-bedtime rituals.
Cooking	Includes: Preparing food in the kitchen. Excludes: Cutting pizza from delivery service, making popcorn, etc, making tea or coffee.
Eating	Includes: having a meal (also delivered food). Excludes: snacking (eg, while watching TV), having just a cup of coffee or a glass of water.
Watching TV	Includes: watching TV with main focus on the TV. Excludes: other activities while the TV is just on.
Seated activity	Includes: sitting at a table or in an easy chair while reading, solving a puzzle, doing crosswords, embroidering, doing crafts, or listening to the radio. Excluding: taking a nap.

Results:

The current study which was carried out amongst the women attending OPD and ward at a tertiary care teaching institute in Ahmedabad city to know the proportion of total deliveries conducted by caesarean section, average time taken for resumption of ADL in all types of deliveries and also whether the resumption of ADL like sleeping, grooming, toileting, cooking, eating, watching TV and many other seated activities are earlier in normal delivery as compared to caesarean delivery or not.

Age wise distribution of study population shows that age range of the respondents was 15-44 years. Maximum respondents i.e. 106(42.4%) belonged to age category 20-24 years followed by 97(38.8%) respondents belonging to 25-29 years and only 1(0.4%) respondent belonged to age range 40-44 years. Mean age of study population was 25.03±3.88 yrs. 139(55.6%) resided in Joint family. Education wise distribution shows that maximum i.e. 70(28%) respondents were Illiterate followed by 66(26.4%) who had education up to Primary standards. As far as occupation is concerned, majority 233(93.2%) respondents were housewives. Study population was categorized as per Modified Prasad SES classification. [16] Majority i.e. 163(69.2%) respondents belonged to social classes 2 and 3. (Table1)

Obstetrics history of respondents show that maximum respondents had Gravida 2(32.8%) followed by Gravida 1 (31.2%). Mean Gravida was 2.26±1.2. Maximum respondents had Parity 1 (33.6%), followed by Parity 2 (32.8%). Mean Parity was 2.18±1.16. Maximum respondents had 2 live children (37.2%) followed by 1 live child (34%). Mean live children were 2.04±1. Maximum number of respondents had no Abortion (85.6%). Mean number of abortions was0.18±0.49. (Table2)Majority of respondents had last delivery in last 1 month (38%) followed by in last 1.5-6 months (36%). Most of respondents had their last delivery in tertiary care centre (80.8%). Five deliveries were at home out of the total deliveries.

Table1: Socio-demographic profile of respondents

Sr. No	Variable	Number (n=250)	Per centage
1.	**Age (years)**		
	15-19	11	4.4
	20-24	106	42.4
	25-29	97	38.8
	30-34	29	11.6
	35-39	6	2.4
	40-44	1	0.6
2.	**Type of family**		
	Nuclear	111	44.4
	Joint	139	55.6
3.	**Education**		
	Illiterate	70	28
	Just literate	12	4.8
	Primary	66	26.4
	Secondary	45	18
	Higher secondary	27	10.8
	Under graduation	5	2
	Post graduation	25	10
4.	**Occupation**		
	Housewife	233	93.2
	Service	16	6.4
	Self employed	1	0.4
5.	**Socio-Economic Status (SES) Class**		
	I	8	3.2
	II	75	30
	III	98	39.2
	IV	54	21.6
	V	15	6

Maximum respondents had a Normal Delivery without Episiotomy (42.8%) followed byCaesarean Section (30.8%) and No respondent had Normal Assisted delivery. It was observed that during the

Table2: Distribution of respondents as per Obstetric History

Sr. No	Variable	Number	Percentage
1.	**Gravida**		
	1	78	31.2
	2	82	32.8
	3	55	22
	≥4	35	14
2.	**Parity**		
	1	84	33.6
	2	82	32.8
	3	56	22.4
	≥4	28	11.2
3.	**Live children**		
	1	85	34
	2	93	37.2
	3	54	21.6
	4	15	6
	5	2	0.8
	6	1	0.4
4.	**Abortions**		
	0	214	85.6
	1	27	10.8
	2	8	3.2
	3	1	0.4

period of delivery and postpartum period maximum respondents were taken care of by Relative along with the self-care (43.2%) for performing their ADL. (Table3)

Time taken for resumption of all the ADLs (as defined in the methodology section) was studied in all the respondents. It was observed that the Mean time taken for resumption of ADLs, in all three types of deliveries maximum time was taken to resume cooking (approx. 38 days) and watching TV (approx. 30 days) whereas least time was taken to resume toileting (i.e. 4-12 days).

As far as Sleeping, Grooming, Toileting, Eating, Cooking, Getting ready for bed,Watching TV are concerned there was no significant difference between Normal deliverywithout Episiotomy and Normal delivery with Episiotomy with p value (>0.05)However, the resumption of Seated activity was statistically significantly earlier inNormal

Table 3: Information about last delivery:

Sr. No.	Variable	Number	Percentage
1.	**Time since last delivery (in months)**		
	<1	95	38
	1-1.5	5	2
	1.5-6	90	36
	6-12	60	24
2.	**Place of delivery**		
	Tertiary care centre	202	80.8
	Secondary care centre	9	3.6
	Primary care centre	19	7.6
	Home	5	2
	Private nursing home	15	6
3.	**Type of delivery**		
	Normal		
	With episiotomy	66	26.4
	Without episiotomy	107	42.8
	Normal assisted	0	0
	Caesarean section	77	30.8
4.	**Care taken**		
	Self+relative	108	43.2
	Self+maid	0	0
	Self	56	22.4
	Relative	86	34.4

Delivery without Episiotomy as compared to Normal Delivery with Episiotomy.When the resumption of all the above-mentioned activities were compared betweenNormal Delivery without Episiotomy and Caesarean Section, it was observed that inwomen where delivery was conducted by Caesarean Section all ADL were resumed lateas compared to Normal Delivery without Episiotomy except Watching TV where therewas no significant difference.

In all the 3 types of deliveries, the time taken for resuming TV Watching was almostequal and late (roughly 1 month). The reason may be scarcity of time and not habituatedto watch TV and as such this is non-essential ADL. (Table 4)

Discussion:

The present study was carried out among women in reproductive age group (15-44 years) with mean age of respondent was 25.03±3.88 years. In another study the age range of participants was 28-79 years and mean age was 48.8+20 years.[15] In still another study the age group studied was 22-29 years and the study was a qualitative type of study. [1] The obstetric history of the respondents showed mean gravida of 2.26+1.2, mean parity 2.18+1.6 and mean number of children was 2.04+1 in the present study. In the present study the proportion of caesarean delivery out of total number of deliveries was 30.8% which was higher and the reason may be because the study was in a tertiary care institute which caters to many of the referral cases from the primary and secondary care institutes. Further, the hospital being a teaching institute, provides round the clock, free of cost, and good quality services, thereby facilitate availability and affordability. In addition, emergency ambulance service also functions at zero cost to the patient and makes the hospital easily accessible. The rate of caesarean delivery ranged between 1-15% in a systematic review by Jiang H. [17] In another study the rate of caesarean section was observed as 9.4% and 15.6% in tribal and non-tribal population respectively.[18] The World Health Organization (WHO) has suggested that a caesarean delivery rate of 15% should be taken as a threshold that should not be exceeded – rather than a target to be achieved. [19]

Mean time taken for resumption of eight ADL by women after birth of the baby was studied in the present study. Overall time taken for resumption was lowest for the normal delivery without episiotomy and highest for caesarean delivery. With the increase in proportion of caesarean delivery there is delay in resumption of activities of daily living of the women which reduces autonomy and increases need for care of women and their babies. In a qualitative study amongst nulliparous and post-partum women researcher saw a decline in women's functional ability after pregnancy and thus identified a need for therapeutic intervention. [1] Since it was observed in the present study that all the ADL were resumed late in the caesarean delivery as compared to normal delivery (with or without episiotomy) there is a need

Table 4: Resumption of Activities of Daily Living (ADL) after delivery

Duration of resumption of ADL (Days)								p value of normal delivery without episiotomy versus normal delivery with episiotomy	p value of normal delivery without episiotomy versus caesarean section
Sr No.	Type of ADL	Normal delivery without episiotomy n=107		Normal delivery with episiotomy (n=66)		Caesarean delivery (n=77)			
		Mean	SD	Mean	SD	Mean	SD		
1	Sleeping	11.54	17.67	13.86	28.12	19.29	32.96	0.5058	0.0353
2	Grooming	8.32	9.43	8.35	12.16	22.74	30.15	0.9855	<0.0001
3	Toileting	5.34	7.88	4.18	5.96	12.07	14.38	0.3055	0.0001
4	Getting ready for bed	7.63	6.84	12.43	27.22	16.86	17.63	0.0817	<0.0001
5	Cooking	39.99	30.77	37.3	21.2	58.70	37.34	0.5230	0.0004
6	Eating	10.48	13.19	10.12	15.12	17.38	20.77	0.8638	0.0082
7	Watching TV	31.68	20.86	33.09	10.61	29.00	13.28	0.5869	0.3521
8	Seated activity	16.66	19.66	24.84	17.62	27.88	30.30	0.0041	0.0027

to sensitize all the health care providers to restrict the use of caesarean delivery to their absolute indications only.

In a systematic review, guidelines of six countries regarding resumption of physical activities during post-partum period are mentioned and the Australian, Canadian, and UK guidelines considered type of delivery, and suggested that women who experienced a caesarean should consult with their healthcare professional about resumption of physical activity. None of the guidelines specified different recommendations for women who had a vaginal delivery but required stitches. [9] However, the guidelines for physical activities during postpartum period are currently not there in our country and there is a need to formulate the same.

Conclusions:

Postpartum guidelines for physical activity should be made available for our country which will help women quickly achieve levels of physical activity that are commensurate with all other adults. Postpartum physical activity guidelines have the potential to assist women to initiate or resume physical activity following childbirth, so that they can transition to meet recommended levels of physical activity. Health

care providers have a critical role in encouraging women to be active at this time, and the availability of more explicit guidelines may assist them to routinely include physical activity advice in their postpartum care after normal delivery and delivery by caesarean section. Further, the proportion of caesarean delivery has to be restricted for absolute indications.

Declaration:

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