Assessment of Knowledge on Diastasis Rectus Abdominis Muscle during Pregnancy among Staff Nurses

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Abstract

INTRODUCTION: Diastasis rectus is commonly defined as a gap of roughly 2.7cm or greater between the two sides of the rectus abdominis muscle. The distance between the right and left rectus abdominis muscles is created by the stretching of the linea alba, a connective collagen sheath created by the aponeurosis insertions of the transverse abdominis, internal oblique, and external oblique. **AIM:** To assess the knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses. **METHODOLOGY:** Descriptive research design was adopted for the study. 50 Staff nurses who fulfilled inclusion criteria were selected by non-probability convenient sampling technique. Structured questionnaire was used to assess the demographic variables and the knowledge regarding diastasis rectus abdominis muscle during pregnancy among staff nurses. **MAJOR FINDINGS OF THE STUDY:** The results revealed that, majority of staff nurses 34(68%) of them had inadequate knowledge, 12(24%) of them had moderately adequate knowledge and, only 4(8%) of them had adequate knowledge on diastasis rectus abdominis muscle during pregnancy. The results indicated that, there was no significant association found between the levels of knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses with their demographic variables. **CONCLUSION:** The study concludes that, majority 34 (68%) of staff nurses had inadequate knowledge on diastasis rectus abdominis muscle during pregnancy. In-service educational program on diastasis rectus abdominis muscle during pregnancy can be organized in hospitals to improve the knowledge of staff nurses.

Keywords

Knowledge, Diastasis Rectus Abdominis Muscle, Pregnancy

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INTRODUCTION:

Diastasis rectus is commonly defined as a gap of roughly 2.7cm or greater between the two sides of the rectus abdominis muscle. This condition has no associated morbidity or mortality. The distance between the right and left rectus abdominis muscles is created by the stretching of the linea alba, a connective collagen sheath created by the aponeurosis insertions of the transverse abdominis, internal oblique, and external oblique.[1]

D.R Benjamin (2014) reported that diastasis of the rectus abdominis muscle is common during pregnancy, and has been related to lumbopelvic instability and pelvic floor weakness. Women with diastasis rectus abdominis muscle are commonly referred to physiotherapist for conservative management, but little is known as effectiveness of such strategies.[2]

During pregnancy, as the fetus grows, the two muscle bellies of the rectus abdominis, connected by the

linea alba elongate and curve round as the abdominal wall expands, with most separation occurring at the umbilicus. The Diastasis rectus abdominis muscle is defined as a modification in the abdominal musculature, precisely in the linea alba and rectus abdominis sheath, with beginning in the last trimester of pregnancy and whose peak of incidence occurs immediately after birth and the first weeks following childbirth.[3]

Selecting a gold standard technique to test criterion validity is not a simple task. Computed tomography (CT) and magnetic resonance imaging (MRI) are presently considered as the procedures of choice to examine the abdominal wall. Nevertheless these procedures are expensive and CT exposes in pregnant women. Hence, ultrasonography has been suggested as a safe and non- invasive method that can be repeated numerous times during pregnancy. Ultrasound measures the Inter recti diastasis in a scale of millimeters and such levels of evaluations are hard to distinguish by palpation.[4]

In the majority of women, DRA resolves spontaneously in the postpartum period. In case of the persistence of the inter-recti distance, the conservative treatment is applied, namely physiotherapy. It is considered to be the only treatment method that may potentially result in the decrease of IRD. Although numerous studies confirm the positive influence of exercises on reducing the inter-recti distance no generally acceptable protocol of therapeutic exercises has been formulated so far. It has not been assessed which abdominal exercises are the most effective. The most commonly applied are an abdominal exercise programme (strengthening of transverses abdominis muscles or rectus abdominis muscles), a postural training, education and training on appropriate mobility techniques and lifting techniques, methods strengthening transverses abdominis muscles (Pilates, functional training, the Tupler's technique exercises with or without abdominal splinting), the Noble technique (manual approximation of rectus abdominis muscles during a partial sit-up), a manual therapy (soft tissue mobilization, myofascial release), abdominal bracing and taping, the tubigrip or a corset[5]. The present study aims to assess the knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses working in Maternity units at SRM General Hospital, Kattankulathur.

METHODOLOGY:
A Non experimental descriptive research design was used to assess the knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses. The study was conducted at SRM General Hospital, Kattankulathur, Kanchipuram district. 50 staff nurses who were working at SRM General Hospital were selected by Non- probability convenient sampling technique. The inclusion criteria were a) staff nurses of both gender, b) Staff nurses who were available during data collection periodic) staff nurses with B.Sc Nursing & Diploma Nursing. The exclusion criteria was staff nurses who were not willing to participate in this study.

TOOL FOR THE DATA COLLECTION:
The tool consisted of 2 sections. Section A dealt with demographic details of staff nurses such as age, sex, religion, educational status, income of staff nurses, residency, year of experience, area of working. Section B consisted of structured questionnaire to assess the knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses working in Maternity units. There are 25 questions and the correct answer was awarded one mark, the wrong answer was awarded zero mark. Each question was given 4 options.

SCORING INTERPRETATION

LEVEL OF KNOWLEDGE	PERCENTAGE
Adequate knowledge	>75%
Moderately adequate knowledge	>50- 75%
Inadequate knowledge	0-50%

ETHICAL CONSIDERATIONS:
The research was approved by research committee of SRM College of Nursing, SRM Institute of science and technology, Kattankulathur. Permission was obtained from the Dean, SRM College of Nursing.

Informed consent was obtained from the study participants, after explaining the nature and duration of the study. Assurance was given to the group that report will be kept confidential.

RESULTS:

Descriptive and Inferential Statistics were used to assess the knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses.

Table 1: Frequency and percentage distribution of demographic variables of staff nurses N = 50

S. No.	Demographic Variables	Class	No. of respondents (n)	Percentage distribution (%)
1	Age	22-25 Years	17	34
		26-29 Years	13	26
		30-33 Years	10	20
		34-37 Years	6	12
		>37 Years	4	8
2	Sex	Male	6	12
		Female	44	88
3	Religion	Hindu	30	60
		Christian	20	40
		Muslims	0	0
		Others	0	0
4	Educational Status	B.Sc. Nursing	33	66
		Diploma in Nursing	17	34
5	Monthly Income	Rs.6000-9000	11	22
		Rs.9000-10000	19	38
		Rs.10000-15000	14	28
		Rs.15000-Rs.22000	6	12
6	Residency	Urban	27	54
		Rural	18	36
		Semi Urban	5	10
7	Year of experience	< 2 Years	14	28
		2-4 Years	12	24
		4-6 Years	18	36
		> 6 Years	6	12
8	Area of working	Antenatal ward & OPD	19	38
		Postnatal ward	15	30
		Labour ward	16	32

Regarding age of the staff nurses, majority 17(34%) of them belonged to the age group of 22-25 years, 13(26%) of them belonged to the age group of 26-29 years, 10(20%) of them belonged to the age group of 30-33 years, 6(12%) of them belonged to the age group of 34-37 years, and 4(8%) of them belonged to the age group of >37 years. Regarding the sex of staff nurses, majority 44(88%) of them belonged to female category and only 6(12%) of them belonged to male category. Regarding the religion of staff nurses, majority 30(60%) of them belonged to Hindu religion and 20(40%) of them belonged to Christian religion, and none of them belonged to Muslim and others. With regard to educational status of staff nurses, majority 33(66%) of them completed B.Sc Nursing and 17(34%) of them completed Diploma in Nursing. With regard to earning of staff nurses, majority 19(38%) of them are earning Rs.9000-Rs.10000, 14(28%) of them are earning Rs.10000-Rs.15000, 11(22%) of them are earning Rs. 6000-Rs.9000, and only 6(12%) of them are earning Rs.15000-Rs.22000. With regard to residency of staff nurses, majority 27(54%) of them are living in urban area, 18(36%) of them are living in rural area and 5(10%) of them are living in semi urban area. With regard to year of experience of staff nurses, majority 18(36%) of them have 4-6 years of experience, 14(28%) of them have < 2 years of experience, 12(24%) of them have 2-4 years of experience, 6(12%) of them have > 6 years of experience .With regard to area of working of staff nurses, majority 19(38%) of them are working in antenatal ward & OPD, 16(32%) of them are working in labour ward and 15(30%) of them are working in Postnatal ward.

Table 2: Frequency and percentage distribution of level of knowledge regarding diastasis rectus abdominis muscle during pregnancy among staff nurses N = 50

S. No.	Level of Knowledge	No. of respondents (n)	Percentage Distribution (%)
1	Inadequate	34	68
2	Moderately adequate	12	24
3	Adequate	4	8

The results revealed that, majority of staff nurses, 34 (68%) of them had inadequate knowledge, 12 (24%) of them had moderately adequate knowledge and, only 4(8%) of them had adequate knowledge on diastasis rectus abdominis muscle during pregnancy.

DISCUSSION:

Diastasis rectus abdominis is the excessive separation between the bellies recti abdominis muscles. The diastasis rectus abdominis muscle can occur anywhere along the linea alba, form the Xiphoid process to the public bone, and is quantified by the inter-recti distance (IRD**). [6]**

Mota p, et al. (2012) described that diastasis rectus is the separation of the 2 rectus abdominis muscle, with a reported prevalence between 30% and 70% in women during pregnancy and in the postpartum period. The condition is difficult to measure, and ultrasound imaging has been suggested as a useful method to quantify the diastasis. However, to data, no studies have investigated intra tester on inter tester reliability of ultrasound to measure the distance between the rectus abdominis muscles during rest and contraction. [7]

The current study results revealed that, majority of staff nurses, 34 (68%) of them had inadequate knowledge, 12 (24%) of them had moderately adequate knowledge and, only 4(8%) of them had adequate knowledge on diastasis rectus abdominis muscle during pregnancy.

Hickey F, et al. (2011) a conducted study on a systematic review on the outcomes of correlation of diastasis of the recti and found that prevalence of DRA was 33.1% , 60.0% , 45.4%, and 32.6% at gestation week 21, 6 weeks, 6 months and 12 3 months postpartum, respectively. No difference in risk factors was found when comparing women with and without DRA.[8]

Regarding the association of knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses with demographic variables, the results indicated that, there was no significant association found between the levels of knowledge on diastasis rectus abdominis muscle during pregnancy among staff nurses with their demographic variables.

CONCLUSION:

The current study results conclude that, majority 34 (68%) of staff nurses had inadequate knowledge on diastasis rectus abdominis muscle during pregnancy. So in service educational program on diastasis rectus abdominis muscle during pregnancy can be organised in a hospitals to improve the knowledge of staff nurses.

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