
**SUPPORTIVE CARE PROVIDED BY COMPANION DURING
CHILDBIRTH AND IT'S EFFECT ON LABOR PROGRESS AND
MATERNAL SATISFACTION**

**Prof. Samia Mohamad Eid¹, Assist.Prof. Nagat Salah Salama², Assist.Prof. Manar Fathy
Heeba³, Rehab Ibrahim younes mohamad⁴**

Professor of Obstetrics and Gynecology medicine ,Faculty of Medicine ,Al Azhar University¹

Assistant prof of Maternity, Obstetrics and Gynecological Nursing²

Assistant prof of Maternity, Obstetrics and Gynecological Nursing³

Demonstrator of Maternity, Obstetrics and Gynecological Nursing⁴

Faculty of Nursing - Port said University^{2,3,4}

ABSTRACT

Background: Childbirth is physically challenging and can be accompanied by psychological stress. Women have a strong desire for safe, supportive, kind, respectful and responsive care during labor and birth. **Aim:** Evaluate the effect of supportive care provided to women by companion during labor on labor progress and maternal satisfaction. **Subjects and Method:** Design: Quasi-experimental design was used. **Setting :** study conduct at antenatal clinic in medical center in Damietta city at labor unit in Al-Azhar university hospital on 150 parturient women divided to two groups (control group and study group each group was 75 participants) who attending the labor unit. **Tools:** data collected using structured interviewed questionnaire, Observation checklists and Satisfaction scale. **Results:** 84% of the companions demonstrated adequate supportive care. Significantly shorter durations of Stage I and Stage II were revealed among women in the study group compared with control group. In total, 86.7% of the women in the study group were satisfied with the labor process, compared with 20.0% in the control group ($p < 0.001$). **Conclusion:** supportive care from a companion is effective in shortening the duration of labor and higher levels of satisfaction among laboring women. **Recommendations:** Establish systems, protocols, policies and strategies to enhance the application of companion support during labor.

Key words: Companion, Labor progress, Maternal satisfaction, Supportive care.

INTRODUCTION

Few human interactions can be compared to labour and childbirth's physical, psychological and social strength. Beyond the physiological component, childbirth is an occurrence of broad cultural and geographical diversity that is socially and historically influenced. (Diniz, Simone, Diniz, D'orsi, Soares, Domingues, et al., 2014).

Labor support is a term used to describe the involvement of an empathic individual who provides guidance, knowledge, measures of comfort, and other types of tangible assistance to help a woman cope with labour and birth stress. There is a tremendous need for companionship empathy and support for women in labour. The main components of treatment during childbirth have been identified in the form of emotional reinforcement, praise and reassurance, listening and a constant physical presence. Labor support is a key component of sensitive and attentive woman-centered care; however, this element of core midwifery input extends equally to the needs of the birth partner of the woman. (Monguihott, Brüggemann, Freitas, and d'Orsi, 2018).

Certain theories have been put forth to explain the beneficial effect of companionship during labor and childbirth. One of such hypothesis states that companionship enhances labor physiology and mother's feeling of control and competence, and reduces reliance on medical interventions in labor (Hodnett, Gates, Hofmeyr, and Sakala, 2016). The provision of companionship during labor is reported to have several positive effects, including a reduced requirement for analgesics and a satisfactory experience of labor and delivery. Research showed an association between companionship during labor and enhanced maternal and fetal outcomes, as well as improved childbirth experiences (Kungwimba, Maluwa, and Chirwa, 2013; Bohren, Hofmeyr, Sakala, Fukuzawa, and Cuthbert, 2017).

Women's experiences during childbirth are a powerful determinant of use of maternal healthcare services (Bohren et al., 2014). The World Health Organization (WHO) Quality of Care Framework for maternal and newborn health outlines access to emotional and social support of women's choice as core to the experience of care and to achieving positive person-centered health outcomes (Tunçalp et al., 2015). Thus, the WHO recommends that every woman is offered the option to experience labor and childbirth with a companion of her choice (World Health Organization [WHO], 2017).

The WHO (2015; 2016) has released two guidelines recommending the provision of constant companionship during birth. However, due to obstacles that involve negative perceptions of key stakeholders such as health workers; physical infrastructure challenges; and the absence of suitable

policy mechanisms, these strategies are not commonly practised in Egypt and many other low-income and middle-income countries (Oladapo, Adetoro, Ekele, Chama, Etuk, Aboyeji, et al., 2016; Vogel, Bohren, Tunçalp, Oladapo, and Gülmezoglu, 2016).

There is, however, a lack of research on consumer predictors of having companionship care at birth. Some evidence indicates that women who want a partner is more likely to be younger, to have more formal education, to undergo their first pregnancy, and to have more prenatal care visits (Senanayake, Wijesinghe, and Nayar, 2017). There is no documented literature concerning women-level companionship predictors examining their actual maternity ward experience. (Oladapo, Adetoro, Ekele, Chama, Etuk, Aboyeji, et al., 2016; Vogel, Bohren, Tunçalp, Oladapo, and Gülmezoglu, 2016).

Significance of the study:

Women are supported by their family members throughout pregnancy and after birth, this natural support is interrupted during labor for women giving birth in governmental hospitals. Many of the women are left on their own for long periods during childbirth without anyone to help them attend to their needs. They are often left alone during nurses' shifts changeover. In addition, most hospitals in developing countries including Egypt do not allow relatives into the labor room and companionship during childbirth is not a routine practice. Therefore, the present study was designed to evaluate the effects of the presence of a continuous support person during labor on labor progress and maternal satisfaction at Al-Azhar University Hospital.

AIM OF STUDY

The aim of the present study is to; evaluate the effect of supportive care provided to women by companion during labor on labor progress and maternal satisfaction.

Study hypotheses:

Laboring Women who receive supportive care from a chosen companion will experience shorter duration of labor, Higher incidence of spontaneous vaginal delivery and have higher levels of satisfaction with birth experience compared with women who received routine care.

SUBJECTS AND METHOD

Technical design:

This design includes a description of the research design, study settings, subjects, and tools for data collection.

Research design:

A Quazi-exprimental study design was used to evaluate the Effect of Presence of companion on labor progress and maternal satisfaction.

Study setting:

The study was carried out at the antenatal clinic of the medical center in Damietta city, and in the labor unit of Al-Azhar University Hospital.

Sampling procedure :

Purposive sampling was used to select the subjects for the study.

Sample Size:

The sample size was determined to demonstrate a higher satisfaction (Relative Risk = 2) among women in the study group in comparison with the control group. Using the Open-Epi statistical software package for clinical trial sample size with two proportions, with 80% study power and 95% level of confidence, the required sample size was 60 women per group. This was increased to 75 women per group to account for a dropout rate of about 20%.

Sample criteria:

The study population consisted of parturient women attending the labor unit of Al-Azhar University Hospital during the time of the study. Women were eligible for the study upon fulfilling the following criteria.

Inclusion criteria:

- 20–35 years of age.
- At gestational age 34weeks or more.
- Singleton pregnancy, with cephalic presentation.

Exclusion criteria: Women who had:

- History of medical and surgical problems.
- Indication for elective caesarean section.
- Mental problems.
- High risk pregnancy.

Sampling technique:

A total of 150 women were recruited in the study sample according to the eligibility criteria. They were randomly assigned to:

- Study group: 75 women with companion

- Control group: 75 women with no companion.

All women in both groups were receiving the same routine care provided in the study setting. A sample of 150 women who attended the previously mentioned study settings and fulfilling the inclusion criteria were enrolled in this study.

Tools for data collection:

Three different tools were used for data collection, namely a structured interview questionnaire, an observation checklist, and a satisfaction scale.

Tool I: Structured Interviewing Questionnaire

This tool was developed and constructed by the researcher after reviewing the literature and with the guidance of experts. It was designed in Arabic language to avoid misunderstanding, and included the following parts:

Part (1): Sociodemographic characteristics such as: age, level of education, occupation etc.....

Part (2): Obstetric history such as: gravid, parity, previous method of delivery etc.....

Part (3): woman's perceptions and attitudes regarding care provided by companion before and after labor, and their related expectations. It consisted of 13 items such as "labor is scary", "I like to have a companion during labor", "the presence of a companion would make labor easier."

Scoring: The responses to items were on a 3-point Likert scale: "Agree/Somewhat agree/Disagree." These were scored from 3 to 1 respectively. The scoring was reversed for negatively stated items so that a higher score indicates a more positive attitude towards companion support. The scores of the items 61 were summed-up, divided by the number of items, and converted into a percent score. A woman attaining 60% or more was considered to have a positive attitude, while a score <60% was considered negative attitude.

Tool II: Observation checklists

This tool was developed by the researcher to document the progress and outcome of labor. It consisted of the following parts.

Part(1): This consisted of a partograph to follow the progress of labor. It involved documentation of the duration of the labor stages, type of delivery, as well as the maternal and fetal complications. This part was for both groups.

Part (2): This part was only for the women in the study (intervention) group. It was used to assess the adequacy of companion's supportive care during labor. It covered the three stages of labor:

- Stage I: involved 12 items with sub-items such as encouraging and supporting woman to walk and mobilize.
- Stage II: 10 items such as encouraging push-ups and massaging feet.
- Stage III-IV: 23 items such as reassuring woman about newborn state, caring for baby, communication, etc.

Scoring: The items were to be checked as "Done/Not done/Not applicable. A score 1 was given to the "done" items, and zero to the "not done." The "not applicable items were skipped and discounted from the total. The scores of the items of each part and for the total scale were summed-up, divided by the number of items, and converted into percent scores. The companion practice was considered adequate if 60% or more and inadequate if <60%.

Tool III: Satisfaction scale:

This tool was adopted and modified from the Labor and Delivery Satisfaction Index (LADSI) developed by *Lomas, Dore, Enkin and Mitchell (1989)*. It is used to measure technical and caring components of satisfaction during labor. It consists of 43 items relating to the care received by woman during labor. These are classified into seven categories as following:

- Cleanliness: 4 items as cleanliness of delivery room, beds, clothes and bathrooms, etc.
- General environment: 8 items such as labor room calmness, lightening, temperature, odor, crowdedness and arrangement, etc.
- Communication: 10 items such as nurses or companion attentiveness, patience, kindness, calmness, support, respect, reassurance and informing woman about labor progress, etc.
- Physical care: 8 items such as relief of labor pain, helping woman during walking, in taking comfortable positions, to change her clothes and take warm bath, provide quiet atmosphere for sleep, care of the baby, etc.
- Psychological care: 5 items such maintaining privacy during labor, encouragement, reassurance, emotional bonding between the woman and her baby, etc.
- Continuity of care: 3 items such as the presence of nurse or companion near to woman, providing continual care during labor, etc.
- Mother involvement in decision-making: 5 items such as woman's freedom to move about and to be in any position she likes, making decisions about drugs, pain relief methods, etc.

Scoring: The response to each item was on a 5-point Likert scale ranging from “Very satisfied” to “Very unsatisfied.” These were scored respectively from 5 to 1 so that a higher score means more satisfaction. The scores of the items of each part and of the total scale were summed-up and the totals divided by the number of corresponding items, giving a mean score. These were then converted into percent scores. The woman was considered to be satisfied if the score was 60% or higher and unsatisfied if <60%.

B- Operational design:

This design involves description of the preparatory phase, pilot study, and fieldwork.

Preparatory phase:

This phase included reviewing of the relevant literature, including different local and international studies. This served to acquire more theoretical knowledge related to the various aspects of the study. This was done using textbooks, research articles, internet search, periodicals, and magazines.

Tools validity:

Once prepared in their preliminary form, the tools were presented to a jury group representing 5 experts from nursing and medical disciplines. They included members from obstetrics and gynecology, medical-surgical, community, and psychiatric nursing departments. They face and content-validated to tools through reviewing their clarity, relevance and comprehensiveness. No modifications were suggested and the tools were finalized.

Content reliability:

The reliability of the satisfaction scale was tested through assessing its internal consistency. It showed excellent reliability with Cronbach's alpha coefficient 0.99.

Pilot study:

An experimental study was conducted on 15 mothers, representing 10% of the main study sample. The main objective of this was to test the applicability, clarity and feasibility of the research instruments, and to determine the time required to complete the interviews and fill out the forms. It also helped discover any issues and obstacles that might interfere with the data collection process. Based on the results of the pilot study, some modifications were made on some words in the forms. Thus, the pilot subjects were excluded.

Field work:**➤ Obtaining official permission:**

Upon obtaining official permissions to carry out the study, the researcher visited the study settings and arranged with the nursing director for the actual implementation of the study. Then, the process of recruitment of parturient women according to the inclusion and exclusion criteria was started during the antenatal care visit in the last month before delivery.

➤ Explanation of the study aim and assignment of the participants:

The researcher met with each woman individually, explained the aim and procedures of the study, and invited her to participate. The woman who gave her informed consent to participate was randomly assigned to either the study (intervention) group with companion support, or to the control group submitted to the routine care in the setting.

At the time of admission for labor, each woman in the study as well as control groups was interviewed using the interview questionnaire form covering the history as well as the perceptions and attitudes. Then, all women in both groups were followed for labor progress using the observation checklist including the partograph, with control group women receiving routine care, and study group women receiving the intervention.

*The intervention:***➤ Preparation of women and her companion:**

Each woman in the study group was asked to select a companion she wanted during childbirth to accompany her and to carry her to her next prenatal appointment, scheduled for the next week. The woman and her companion attended a 2-hour planning class during the subsequent antenatal visit to obtain a better understanding of the supporting positions that a companion can use during childbirth. This also included some understanding of the routine of the labour unit, behaviour that most women consider supportive during labor, and appropriate activities and behaviours. In addition to the role required at any stage of the work from an informal supporting individual.

➤ Provide teaching programme about supportive care using instruction pamphlet:

The researcher has also prepared an instruction pamphlet for companion support. The pamphlet included information about supportive measures covering psychological, educational, and physical aspects as following:

- Psychological and emotional support: touching, empathy, encouraging to continue cooperation

in the labor process, reassurance, creating a sense of trust and confidence, etc.

- Educational support: informing woman about the natural process of childbirth and answering her questions, etc.
 - Physical support: cooling, satisfying hunger and thirst, helping change positions in various stages of labor, etc.
- **The period the companion should be present with the woman:**

The companion was told to accompany the woman to the labour unit at the moment of labour onset. When the woman was admitted, the researcher who arrived at the setting within 30 minutes of the call was called by an intrapartum nurse or woman's companion. The researcher introduced the companion to medical staff and reviewed supporting functions during childbirth. During labour and until 2 hours after childbirth, the partner offered motivating activities.

During this time, the researcher tracked the companion's behaviour because of institutional requirements. Relevant support tasks included "being there" from early labour (admission) until 2 hours after birth, with the exception of brief meals and bathroom breaks, as continuous as possible. This consistency is the nature of emotional support and is mirrored in many of the following actions: holding hands, touching, kissing, communicating, maintaining eye contact, supporting and celebrating maternal contact.

- **The researcher observe the supportive care provided by the companion:**

The researcher evaluated the quality of implementation of companion support using the corresponding tools (Part II of the observation checklist).

- **The care provided to the control group:**

The standard treatment rendered by health practitioners in the environment was offered to women in the control group. Intravenous hydration, regular monitoring of uterine contractions, foetal heart monitoring, cervical examinations as appropriate for the stage of labour, analgesia when required, and occasional physical, emotional, and informative help are included in this treatment. It is not permitted for family members, including husbands, to remain with women.

- **Evaluation of the attitude and the satisfaction of women after labor process:**

After the end of the process of labor, the attitude of the women in both groups, as well as their satisfaction with the labor process were evaluated using the designated tools.

The data was obtained all over week and in compliance with admission times. It lasted from the first of January 2019 to the end of October 2019 for a period of 10 months. To maintain

confidentiality and privacy, the data collection process was performed using face to face interview

techniques on an individual basis and in a private environment. The researcher ensured, after completion, that all statements included in the forms were completed. Then they gave gratitude to the pregnant women for their cooperation.

C- Administrative design:

Before starting any step in the study, official permissions to conduct the study were obtained. This was done through an official letter issued from the Dean of the Faculty of Nursing, Port Said University, to the Directors of the study settings explaining the study aim and procedures and requesting permission to conduct the study and seeking cooperation.

Ethical considerations:

The study protocol was approved by the research ethics committee at the Faculty of Nursing, Port -Said University. All research ethics principles were complied with according to Helsinki Declaration. Oral informed consents were obtained from women after explaining the aim of the study and its procedures and informing them about their rights. Participation was totally voluntary, and women were informed about their right to withdraw at any time with no consequences. They were reassured that any information obtained would be confidential and only used for the purpose of the study, and anonymity was guaranteed. The study maneuvers could not have any actual or potential harms to participants.

Statistical design

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. Cronbach alpha coefficient was calculated to assess the reliability of the satisfaction scale through its internal consistency. Quantitative continuous data were compared using Student t-test in case of comparisons between two independent groups, or the non-parametric Mann-Whitney as suitable. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of labor stages duration and satisfaction, multiple

linear regression analysis was used and analysis of variance for the full regression models was done. Statistical significance was considered at p-value <0.05.

RESULTS:

Table (1): Demonstrates similar socio-demographic characteristics of women in study and control groups, with no statistically significant differences. They had an almost equal median age, 25 and 26 years respectively, with higher percentages of housewives and living in rural areas. There were slightly more women with no formal education in the study (37.3%) in comparison with the control (20.0%) group, but the difference was not statistically significant. Only one woman in each group was divorced, and the median duration of marriage .

Table(2) : For the majority of the women in the study and control groups, labor was considered scary, 86.7% and 88.0% respectively. Meanwhile, significantly more women in the control group were liking to have a companion in labor (p=0.001). Moreover, more than two thirds (69.3%) of these women were having a positive attitude towards labor, compared to only 37.3% of those in the study group (p<0.001).

Table (3): indicates statistically significantly shorter durations of Stage I (p=0.03) and Stage II (p=0.002) among the women in the study group compared with those in the control group. The medians of Stage I were respectively 7.0 and 8.0 hours, and for stage II 30.0 and 45.0 minutes. Slightly more women in the control group had arrest (6.7%) and delay (8.0%) in comparison with those in the study group, but the differences were not statistically significant. As regards the mode of delivery, it was normal vaginal for the majority of the women in both groups, although slightly lower in the control group. Moreover, women in this latter group had more assisted (6.7%) and cesarean (5.3%) deliveries, compared with 1.3% and 2.7% in the study group.

Table (4): shows that 34.7% of the women in the study group still considered labor as a scary process compared with 94.7% in the control group, and the difference was statistically significant (p <0.001). Meanwhile, almost all women in the study and control groups were liking to have a companion in labor, with no significant difference

Table (5) : Illustrates, a statistically significant relation was shown between study group women's satisfaction with the labor process and the duration of Stage II of labor (p =

0.045). It is noticed that more women with Stage II duration less than 60 minutes were satisfied with the labor process.

Figure (1): Demonstrates that the adequacy of companions' supporting care to parturient women was lowest in stage II (43.8%) and highest in stage IV (94.6%) and in communication. Overall, 84% of the companions demonstrated adequate supportive care.

Figure (2): Demonstrates that 86.7% of the women in the study group were satisfied with the labor process, compared with only 20.0% of those in the control group. This difference was statistically significant ($p < 0.001$).

Table (1): Distribution of the Studied Women According to their Socio-demographic Characteristics (n=150):

	Group				X2 test	P-value
	Study (n=75)		Control (n=75)			
	No.		No.			
Age :						
<25	24	32.0	36	48.0		
25+	51	68.0	39	52.0		
Range	20.0-35.0		16.0-40.0			
Mean \pm SD	26.2 \pm 3.9		25.7 \pm 6.2		t=0.92	.034
Median	26.00		25.00			
Residence :						
Rural	46	61.3	48	64.0		
Urban	29	38.7	27	36.0	0.11	0.74
Education :						
Non	28	37.3	15	20.0		
Basic/Secondary	23	30.7	33	44.0	5.89	0.053
University/Postgraduate	24	32.0	27	36.0		
Marital status:						
Married	74	98.7	74	98.7		
Divorced	1	1.3	1	1.3	Fisher	1.00
Marriage years:						
<5	32	42.7	32	42.7		
5+	43	57.3	43	57.3		
Range	0.0-18.0		0.0-19.0			
Mean \pm SD	5.5 \pm 3.5		5.9 \pm 4.8		t=0.01	0.91
Median	5.00		5.00			
Job status:						
Housewife	59	78.7	51	68.0		
Working	16	21.3	24	32.0	2.18	0.14
Income:						
Insufficient	3	4.0	14	18.7		
Sufficient	72	96.0	61	81.3	8.03	0.005*

Table (2): opinions and attitudes towards labor among women in the study and control groups before labor:

	Group				X2 test	P-value
	Study (n=75)		Control (n=75)			
	No.	%	No.	%		
Labor is scary:						
No	10	13.3	9	12.0	0.06	0.001*
Yes	65	86.7	66	88.0		
I like to have a companion in labor					10.17	0.001*
No	24	32.0	8	10.7		
Yes	51	68.0	67	89.3		
Attitude:					15.43	<0.001*
Positive (60%)	28	37.3	52	69.3		
Negative (<60%)	47	62.7	23	30.7		

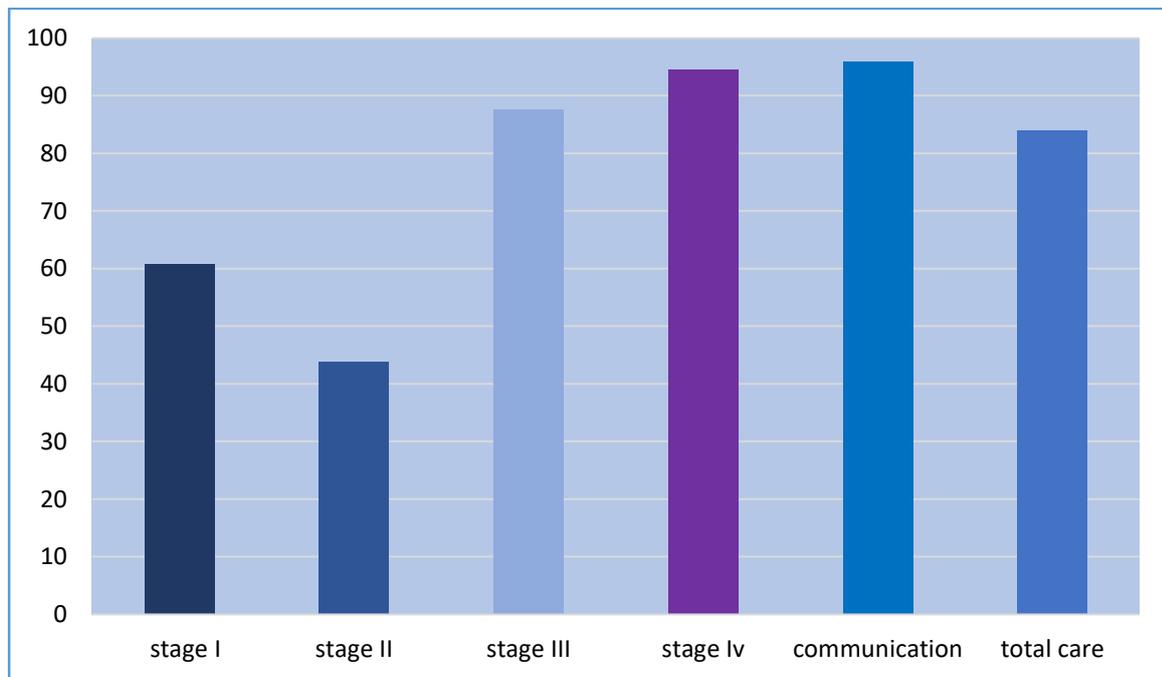


Figure (1): Total supportive care provided by companion of women in the study group during labor stages

Table (3): details of labor among women in the study and control groups (n=150):

	Group				X2 test	P-value
	Study (n=75)		Control (n=75)			
	No.	%	No.	%		
Stage I (hours):						
3-8	61	81.3	44	58.7		
9+	14	18.7	31	41.3	9.17	0.002*
Range	5-13		3-14			
Mean \pm SD	7.4 \pm 1.7		8.4 \pm 2.7		H=4.45	0.03*
Median	7.0		8.0			
Stage II(min):						
<60	72	96.0	59	78.7	10.18	0.001*
60+	3	4.0	16	21.3	H=9.53	
Range	35.3 \pm 17.6		51.9 \pm 39.1			0.002*
Mean \pm SD	0.0-90.0		0.0-240.0			
Median	30.0		45.0			
Labor mode:						
SVD	72	96.0	66	88.0		
Assisted	1	1.3	5	6.7	--	--
C.S	2	2.7	4	5.3		
Partograph progress:						
Normal	70	93.3	63	84.0	3.25	0.07
Arrest	2	2.7	5	6.7	Fisher	0.44
Delay	3	4.0	6	8.0	Fisher	0.49
Action taken	10	13.3	12	16.0	0.21	0.64
AROM	4	40.0	8	66.7	Fisher	0.39
Oxytocin	6	60.0	8	66.7	Fisher	1.00
C.s	2	20.0	4	33.3	Fisher	0.65

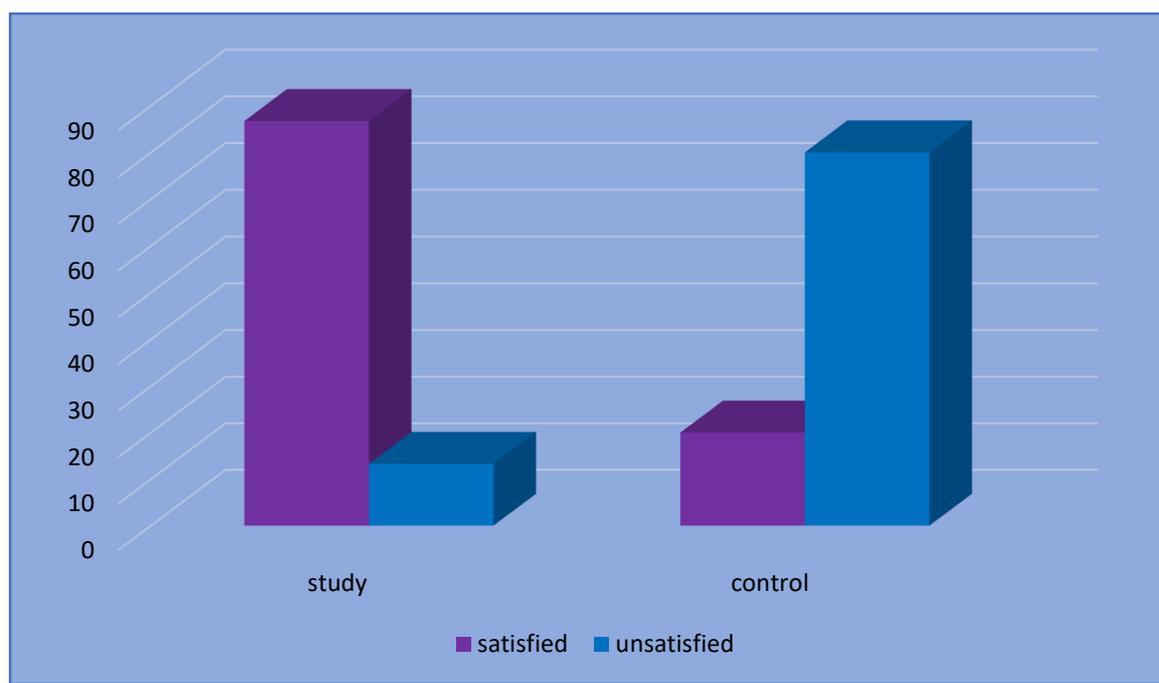


Figure (2): Total satisfaction with labor process among women in the study and control groups

Table (4): Opinions among women in the study and control groups after labor:

	Group				X2 test	P-value
	Study (n=75)		Control (n=75)			
	No.	%	No.	%		
Labor is scary:						
No	49	65.3	4	5.3	0.06	<0.001*
Yes	26	34.7	71	94.7		
I like to have a companion in labor						
No	1	1.3	4	5.3	Fisher	0.37
Yes	74	98.7	71	94.7		

Table (5): Relations between study group women’s satisfaction and their labor outcomes.

	Satisfaction				X2 test	P-value
	Satisfied		Not satisfied			
	No.	%	No.	%		
Stage I (hours):						
3-8	54	88.5	7	11.5	Fisher	0.38
9+	11	78.6	3	21.4		
Stage II (min):						
<60	64	88.9	8	11.1	Fisher	0.045*
60+	1	33.3	2	66.7		

DISCUSSION:

Childbirth is a vital life event needing to considerate care to woman and newborn. Although it is a natural event, it is accompanied by severe pains and stress, with increased catecholamine levels that negatively affect uterine activity, increase pain, and reduce fetal heart rate (Moridi et al., 2020). Continuous support during this process could have a positive impact on its outcomes (Bohren et al., 2017) and can reduce unnecessary interventions such as the use of epidural, assisted and caesarean section births, and neonatal ICU admissions (Lunda et al., 2018). However, the lack of knowledge about non-pharmacological approaches to relieve pain is still a major barrier among labor companions (Almushait and Ghani, 2015).

This study aim was to evaluate the effect of supportive care provided to women by companion during labor on labor progress and maternal satisfaction. The research hypotheses were that the laboring women who receive supportive care from a chosen companion from the onset of active labor until two hours post - delivery compared with women who received a routine care will experience shorter duration of labor, higher incidence of spontaneous vaginal delivery, and higher levels of satisfaction with their overall labor and birth experience. The findings led to acceptance of these set research hypotheses.

The present study was carried out on 150 pregnant women at gestational age 34 weeks or more, with singleton uncomplicated pregnancy who were randomly assigned to a study group of 75 women with companion, and a control group of 75 women with no companion. The research design used in this study was an open - label quasi - experimental design with a control group. In this design, there is no true randomization since it was not possible due to logistic reasons. Therefore, it was essential to ensure the similarity of the two groups in all their socio - demographic and obstetric characteristics. This was done, and no significant differences were revealed between the two groups in almost all characteristics.

The study intervention consisted of the application and practice of supportive care by the companions of the women in the study group at all labor stages. The results showed that the application of the intervention was mostly adequate as demonstrated by the majority of these companions. This is due to the efforts exerted by the researcher in training them in how to provide this care along with the clear instructions given to them before the start of labor. The prepared instruction booklet also could be an important factor underlying their adequate practice. More importantly, was the inclusion of the companions early during ANC, which

provided them with more confidence and sense of being more involved as recommended by Bohren et al. (2019) in systematic reviews.

Moreover, the present study intervention and associated booklet were prepared on evidence - based information regarding labor companion support. It involved assisting parturient woman with mobilization and taking comfortable positions during the process to avoid long periods of pain or discomfort (Sapkota et al., 2011; Green and Hotelling, 2014). Physical pain relief and comfort measures involved relaxation techniques, massages, warm baths, and holding hands (Kungwimba et al., 2013). The labor companionship model was also taken into account in structuring the intervention (Kabakian - Khasholian et al., 2018).

Meanwhile, the present study findings illustrated that the adequacy of companions' practice of supporting care to women was relatively low in Stage II of labor and highest in Stage IV. This is quite expected given that the second stage of labor is the most crucial; the woman is at the acme of pain. In congruence with this, Hofmeyr and Singata - Madliki (2020) highlighted that the second stage of labor is the stage associated with the highest risks for the mother and particularly for the fetus; Thus, the mother and fetus need very close monitoring during this stage, in addition to the emotional support and encouragement.

Moreover, other care providers are present in the labor room during the second stage; they often resist the presence of people other than the team members. In such circumstances, the companion might not be able to easily provide the needed support. Conversely, at Stage IV, the environment is more relaxed, thus helping the companion to execute her / his supporting role.

In line with these abovementioned current study findings, Batista et al. (2017) mentioned that many hospitals in Brazil do not accept companions during labor, and this was attributed to inadequate organizational structure of the services and lack of supplies necessary. Additionally, a study in Kenia reported that the healthcare professionals considered the role of companions as just helpers to execute some of their non - clinical orders rather than being providers of continuous support to the woman in labor (Afulani et al., 2018).

The first research hypothesis to be tested in the current study was that the laboring women who receive supportive care from a chosen companion from the onset of active labor until two hours post - delivery compared with women who received a routine care will experience a shorter duration of labor. The study results revealed that both Stage 1 and Stage II of labor were significantly less among the study group women in comparison with the control group, which leads to acceptance of this hypothesis.

According to the present study results of multivariate analyzes, the study intervention, i.e. The companion supportive care during labor, was identified as the main independent negative predictor of the duration of both Stage I and II of labor. The findings confirm the positive effect (shortening of the duration of labor stages) of the intervention. The time shortening was about one hour in Stage I and about 15 minutes in Stage II. A similar positive impact of companion support on the duration of labor was reported by Khresheh (2010) in a study in Jordan, although not statistically significant due to small sample size. Meanwhile, Bangal et al., (2018) demonstrated a significant shortening of labor duration attributed to companion support in a study in Maharashtra.

The positive impact of the intervention on the duration of labor among the women in the study group could have several explanations. Firstly, the presence of a significant one close to the woman would relieve her stress and strain, thus helping her to control the autonomic responses that might negatively affect the labor progress such as tachycardia, increased blood pressure, as well as nervousness. Secondly, the encouragement provided by the companion to mobilize during Stage I would certainly help the proper progress of labor in terms of cervical ripening and dilatation. Thirdly, the companion instructions and support would help the woman to push properly during Stage II, which would help her to utilize her efforts efficiently, leading to shortening of this stage.

In congruence with these present study results, a study in Santa Catarina demonstrated that the labor support companion who was well prepared and instructed by the healthcare providers helped in providing the parturient woman with sound clear information about the labor procedures; this assisted her throughout the labor stages (Alves et al., 2013). Moreover, Bohren et al. (2017) in a study in Switzerland found that continuous support to parturient women was associated with significantly better maternal and fetal outcomes. On the same line, Quitete and Monteiro (2018) clarified that the continuous companion support, both physical as massages and emotional as encouragement and care, helped in pain relief with no need for medical interventions.

Meanwhile, the present study results have identified the number of ANC visits as an independent positive predictor of the duration of Stage I of labor, although of borderline significance. This implies that the more frequent ANC visits predict a longer duration of Stage I of labor. This might be explained by that the more frequent ANC visits could be due to experience of more pregnancy - related complaints, which would have a negative impact on labor progress. It could also imply more apprehension among those women seeking repeated

ANC services. In agreement with this, a study in Norway reported that the women with previous obstetric problems had more frequent ANC visits in their current pregnancies (Gravensteen et al., 2018).

The second research hypothesis tested in the current study was that the laboring women who receive supportive care from a chosen companion from the onset of active labor until two hours post - delivery compared with women who received routine care will experience a higher incidence of spontaneous vaginal delivery. The study findings revealed higher incidence of assisted and cesarean deliveries among the women in the control group in comparison with those in the study group. Moreover, they had more incidence of arrest and delay. However, the differences did not reach statistical significance probably due to that the mode of delivery was normal vaginal in the majority of both groups. Thus, a larger sample size might have been required to detect such a difference. In congruence with this, a systematic review found that companionship was an effective approach to improve labor outcomes and reduce the need for cesarean deliveries (Betrán et al., 2018).

The third research hypothesis tested in the current study was that the laboring women who receive supportive care from a chosen companion from the onset of active labor until two hours post - delivery compared with women who received a routine care will experience higher levels of satisfaction with their overall labor and birth experience. The results of the study demonstrated a significantly higher satisfaction with the process of labor among the women in the study group compared with those in the control group. The finding leads to acceptance of this third hypothesis, and is in agreement with the findings of Kabakian - Khasholian et al. (2018) in a study in three Arab countries.

In further support of the positive effect of the present study intervention on women's satisfaction with the process of labor, the study results demonstrated a positive correlation study group women's scores of satisfaction and the scores of companion care. Thus, a more adequate companion supportive care is associated with a higher level of satisfaction.

The present study has also assessed women's attitudes and feelings towards labor. The results showed that the majority of the women in the study group and control groups before the start of labor viewed labor as a scary experience. This relatively high percentages of potentially scared women might be attributed to the high percentages of nulliparous and primiparous women who might have less past experience with labor in comparison to multiparous women.

After the end of the labor process, the percentages of study group women who were still considering labor as scary significantly decreased. This was noticed in comparison to the percentages of study group women before the start of labor, as well as in comparison with the control group women. The findings demonstrate the positive impact of the companion support during labor on women's feelings of the frightening experience of labor. It is certainly attributed to the psychological support provided by the companion, and the woman's feeling of comfort provided by the presence of a caring person close to her.

In agreement with these foregoing present study findings, Fathi Najafi et al. (2017) in a study in Iran reported that parturient women had a strong belief that the presence of their partners as companions during labor played a significant role in reducing their pains.

The present study results demonstrated that, before a lower percentage of the women in the study group expressed their preference of having a companion in labor, in comparison with those in the control group. Similarly, low percentages of parturient women preferring companionship during labor were reported in a study in Nigeria (Adeyemi et al., 2018).

However, after labor, the percentages of women in the study group who preferred companionship significantly increased so that almost all of them expressed this preference after labor. This implies a high contentment and satisfaction with the presence of a companion during labor and with the support and care provided by this companion.

The attitude of women towards labor tended to be mostly negative, particularly among those in the study group before the start of labor. However, after labor, the attitude significantly changed among the majority of those women in the study group to become more positive. This reflects their good experience with the labor process in the presence of supportive companion care. In congruence with this, Kabakian - Khasholian et al. (2015) explained that the presence of a trustable companion gave the parturient woman a feeling of security that helped her to remain focused, and to express herself freely.

CONCLUSION:

Based on the findings of the present study, it can be concluded that:

Compared to labour women who receive supportive care from a chosen companion from the beginning of active labour until two hours after neonatal birth, delivery led to a shorter period of labour among them, along with a higher incidence of spontaneous vaginal delivery, although not statistically significant, and higher levels of satisfac

ction compared to control women with their birth experience. The findings contribute to the acceptance of the hypotheses of the set analysis.

RECOMMENDATIONS:

Based on the results of the present study, the following recommendations were suggested:

For hospital administration

- Establish systems, protocols, policies and strategies to enhance the application of companion support during labor.
- Nursing staff knowledge about companionship during labor and its impact on labor progress and maternal satisfaction need to be fostered through regular meetings with their leaderships.
- Active involvement of all the concerned medical, nursing and administrative staff in the companion support during labor should be fostered.

For nursing managers

- Provide training programs to nursing staff to enhance their knowledge and practice regarding companion support during labor and its benefits to mother and fetus and increase their awareness about labor rules and regulations to avoid any ethical problems that might arise from companionship during labor.
- Continuous evaluation of nursing staff performance regarding their help and support of the companion during labor.

For further studies

Research is proposed to evaluate the effect of supportive care provided to women by companion during labor on maternal postpartum depression.

REFERENCES:

Adeyemi AB, Fatusi AO, Phillips AS, Olajide FO, Awowole IO, and Orisawayi AO,(2018): Factors associated with the desire for companionship during labor in a Nigerian community. Int J Gynaecol Obstet. 2018 Jun;141(3):360-365. doi: 10.1002/ijgo.12471. Epub 2018 Mar 24.

Afulani A, Takudzwa S. Sayi & Montagu D(2018): Predictors of person-centered maternity care: the role of socioeconomic status, empowerment, and facility type. BMC Health Services Research volume 18, Article number: 360 (2018)

Ai-ateeq MA, Ai-rusaieess AA (2015): Health education during antenatal care: the need for more. Int J Womens Health. 2015; 7(1):239-42.

Akhavan S, Edge D (2012): Foreign-born women's experiences of Community-Based Doulas in Sweden--a qualitative study. *Health Care Women Int.* 2012; 33(9):833-48.

Almushait M, Ghani RA (2015): Perception toward non-pharmacological strategies in relieving labor pain: an analytical descriptive study. *J Nat Sci Res.* 2014; 4(2):1-12.

Alves MC, Brüggemann OM, Bampi RR, Godinho VG.(2013): The support of the companion chosen by the pregnant mother in a maternity school. *Rev. pesqui. cuidado fundam. (Online)* 2013; 5(3):153-4. DOI: <http://dx.doi.org/10.9789/2175-5361.2013v5n3p153>

Bakhta Y, Lee RH. (2010): A survey of Russian women regarding the presence of a companion during labor. *Int J Gynaecol Obstet.* 2010 Jun; 109(3):201-3.

Bangal V, Bayaskar V, Arjun A, Khan I, Thorat U(2018): Opinions of pregnant women regarding desire and choice of labour companion. *MOJ Womens Health.* 2018;7(4):114–118.

Batista DB, Bruggemann OM, Junges CF, Velho MB, Costa R.(2017): Factors associated with the birth companion's satisfaction with the care provided to the parturient woman. *Cogitare Enferm.* 2017; 22(3): e51355.

Bitew K, Ayichiluhm M and Yimam K.(2015): Maternal Satisfaction on Delivery Service and Its Associated Factors among Mothers Who Gave Birth in Public Health Facilities of Debre Markos Town, Northwest Ethiopia . *Hindawi Publishing Corporation BioMed Research International* Volume 2015, Article ID 460767, 6 pages

Bohren MA, Hofmeyr GJ, Sakala C, Fukuzawa RK, Cuthbert A,(2017): Continuous support for women during childbirth. *Cochrane Database Syst Rev.* 2017; 7:CD003766.

Bohren A, Hunter EC, Munthe-kaas HM, Souza JP, Vogel JP, Gulmezoglu AM. (2014): Facilitators and barriers to facility-based delivery in low- and middle-income countries: a qualitative evidence synthesis

Boie S, Glavind J and Uldbjerg N, (2019): Studyprotocol: CONDISOX-continued versus discontinued oxytocin stimulation of induced labour in a double-blind randomised controlled trial

Dencker A, Taft C, Bergqvist L, Lilja H, Berg M. (2010). Childbirth experience questionnaire (CEQ): development and evaluation of a multidimensional instrument. *BMC Pregnancy and Childbirth* 10(81):1-8.

Diniz CS, D'Orsi E, Domingues RMSM, Torres JA, Dias MA, Lansky S, Schneck CA, et al.(2014): Implementation of the presence of companions during hospital admission for childbirth: data from the Birth in Brazil national survey. *Cad Saúde Pública*. 2014; 30:140-53. doi: <http://dx.doi.org/10.1590/0102-311X00127013>.

Druguet M, Nuño L, Rodó C, Arévalo S, Carreras Moratonas E, Gómez-Benito J.(2017): Influence of farewell rituals and previous psychological vulnerability on grief following perinatal loss in monochorionic twin pregnancy. *J. Matern. Fetal. Neonatal. Med*. 2017; 32: 1033–1035.

Fathi Najafi T, LatifnejadRoudsari R, Ebrahimipour H (2017): The best encouraging persons in labor: a content analysis of Iranian mothers' experiences of labor support. *PLoS ONE*. 2017;12(7): e0179702.

Gallo RB, Santana LS, Marcolin AC, Quintana SM.(2014): Swiss ball to relieve pain of primiparous in active labor. *Rev Dor*. 2014; 15(4):253-5. doi: <http://dx.doi.org/10.5935/1806-0013.20140054>

Garite TJ, Simpson KR.(2011): Intrauterine resuscitation during labor. *Clin Obstet Gynecol*. 2011; 54(1):28–39.

Gravensteen IK, Jacobsen EM, Sandset PM, Helgadottir LB, Rådestad I, Sandvik L & Ekeberg O (2018): Anxiety, depression and relationship satisfaction in the pregnancy following stillbirth and after the birth of a live-born baby: a prospective study. *BMC Pregnancy and Childbirth* volume 18, Article number: 41

Green J, Hotelling BA.(2014): Healthy birth practice #3: bring a loved one, friend, or doula for continuous support. *J Perinat Educ*. 2014 Fall; 23(4):194-7.

Hodnett ED, Gates S, Hofmeyr GJ & Sakala C (2016): Continuous support for women during childbirth. *Cochrane Database Syst Rev.*, 7: CD003766

Hoseini BL, Saeidi M, Beheshti Norouzi Z, Kiani MA, Rakhshani MH.(2019): Assessment of Maternal Satisfaction with the Quality of Obstetric Care Provided in the Maternity Unit of Mobini Hospital, Sabzevar, Iran. *Int J Pediatr* 2019; 7(5): 9369-77. DOI: 10.22038/ijp.2019.36862.3283

Isbir GG and Serçeku P, (2017): The Effects of Intrapartum Supportive Care on Fear of Delivery and Labor Outcomes: A Single-Blind Randomized Controlled Trial *J Nurs Res.* 2017 Apr;25(2):112-119. doi: 10.1097/JNR.000000000000129.

Kabakian-Khasholian T & Portela A (2018): Companion of choice at birth: factors affecting implementation *BMC Pregnancy and Childbirth*, 17: 265-68.

Khresheh R (2010): Support in the first stage of labour from a female relative: the first step in improving the quality of maternity services. *Midwifery*. 2010; 26(6):21–4.

Kungwimba E, Malata A, Maluwa A, Chirwa E.(2013): Experiences of women with support they received from their birth companion during labour and delivery. *Health*. 2013; 5:45–52.

Li YP, Yeh CH, Lin SY, Chen TC, Yang YL, Lee CN, et al. (2015). A proposed mother-friendly childbirth model for Taiwanese women, the implementation and satisfaction survey. *Taiwanese Journal of Obstetrics and Gynecology* 54(6); 731-36.

Lothian J A. (2010): How do women who plan home birth prepare for childbirth? *The Journal of Perinatal Education*, 2010; 19(3), 62-67.

Lundgren I.(2010): Swedish women's experiences of doula support during childbirth. *Midwifery*. 2010; 26(2):173-80.

Lunda P, Catharina S, Petronella B.(2018): Women's experiences of continuous support during childbirth: a meta-synthesis. *BMC Pregnancy Childbirth*. 2018; 18: 167.

Moridi M, Pazandeh F, Hajian S, Potrata B.(2020): Midwives' perspectives of respectful maternity care during childbirth: A qualitative study. *PLoS ONE*. 2020; 15(3): e0229941.

(Monguihott, Brüggemann, Freitas, and d'Orsi, 2018): Client and Provider Factors Associated with Companionship during Labor and Birth in Kigoma Region, Tanzania

Oliveira AS, Damasceno AK, Moraes JL, Moreira K.A, Teles LM, Gomes LF (2014): Technology used by companions in labor and childbirth: a descriptive study. *Online Braz J Nurs.* [Internet]. 2014 [cited Nov 20, 2015]; 12(1):36-45.

Poh HL, Koh SS, He HG.(2014): An integrative review of fathers' experiences during pregnancy and childbirth. *International Nursing Review.* 2014; 61:543-54.

Oladapo OT, Adetoro OO, Ekele BA, Chama C, Etuk SJ , Aboyeji AP, et al (2016): When getting there is not enough: a nationwide cross-sectional study of 998 maternal deaths and 1451 near-misses in public tertiary hospitals in a low-income country. *BJOG.*2016 May;123(6):928-38. doi: 10.1111/1471-0528.13450. Epub 2015 May 14.

Quitete JB, Monteiro JB. (2018): Father's participation in planned home birth: a meaningful act for woman. *Rev. enferm. UERJ.* 2018; 26:e18682.

Sapkota S, Kobayashi T, Takase M.(2011): Women's experience of giving birth with their husband's support in Nepal. *J Brit Midwifery.* 2011;19(7):427–432.

Senanayake H, Wijesignhe RD, and Nayar KR, (2017): Is the policy of allowing a female labor companion feasible in developing countries? Results from a cross sectional study among Sri Lankan practitioners. Article number: 392 (2017). Published: 22 November 2017

Taddese AA, Gashaye KT, Dagne H, and Andualem Z(2020): Maternal and partner's level of satisfaction on the delivery room service in University of Gondar Referral Hospital, northwest, Ethiopia: a comparative cross-sectional study. Article number: 233. [Published: 19 March 2020](#)

Tuncalp, Were WM, MacLennan C, Oladapo OT, Gulmezoglu AM, Bahl R, Daelmans B, Mathai M, Say L & Kristensen F (2015): Quality of care for pregnant women and newborns- the WHO vision. *BJOG.*, 122(8): 1045–9.

Vogel JP, Bohren MA, Tunçalp Ö, Oladapo OT & Gülmezoglu AM (2016): Promoting respect and preventing mistreatment during childbirth. *BJOG.*, 123(5):671–4.

Wang M, Qing S, Jun X, Zheng H, Yingying G, Arier C and Qi C (2018): Continuous support during labour in childbirth: a Cross-Sectional study in a university teaching hospital in Shanghai, China. *BMC Pregnancy and Childbirth* (2018) 18:480.

Warren CE, Njue R, Ndwiga C, and Abuya T (2017): Manifestations and drivers of mistreatment of women during childbirth in Kenya: implications for measurement and developing interventions. BMC Pregnancy Childbirth. 2017 Mar 28;17(1):102. doi: 10.1186/s12884-017-1288-6.

World Health Organization (2016): WHO recommendation on companionship during labour and childbirth. The WHO Reproductive Health Library; Geneva: World Health Organization.

الرعاية المساندة المقدمة بواسطة المرافق أثناء الولادة وتأثيرها على تقدم الولادة ورضا الامهات

أ.د سامية محمد عيد - أ.م.د / نجاة صلاح شلبي-أ.م.د/ منار فتحي هيبية- - رحاب ابراهيم يونس محمد
 أستاذة طب النساء والتوليد- كلية الطب - جامعة الأزهر- أستاذة مساعد تمريض الأمومة والنساء والتوليد
 - كلية التمريض - جامعة بورسعيد - أستاذة مساعد تمريض الأمومة والنساء والتوليد - كلية التمريض - جامعة بورسعيد -
 معيد تمريض الأمومة والنساء والتوليد- كلية التمريض- جامعة بورسعيد

الخلاصة

تعتبر الولادة اجتماعيا وتاريخيا حدث يتسم بتنوع ثقافي إذ عادة ما كانت النساء تلدن في المنزل محاطات بقريبات لها يعملن كمراقبات للمعاونة في عملية الولادة. ولكن عندما صارت الولادة تتم في المستشفى كقاعدة في الرعاية الصحية بدأت النساء في الولادة دون شخص مألوف لديهن مما قد يزيد من توترهن. كما أن العديد من الظروف في محيط المستشفى تساهم في التوتر والقلق الذي تشعر به النساء أثناء الولادة لذلك فهن بحاجة الى مرافقة مساندة كعنصر مهم في رعاية الامومة الجيدة. الهدف: تهدف الدراسة الحالية إلى: تقييم تأثير الرعاية المساندة المقدمة للمرأة بواسطة المرافق أثناء الولادة على تقدم الولادة ورضا الأمهات. نفذت هذه الدراسة في عيادات متابعة الحمل والولادة بالمركز الطبي وقسم الولادة بمستشفى الأزهر بمدينة دمياط وكونت من مائة وخمسين سيدة من المترددات علي المركز واللاتي وضعن بقسم الولادة بمستشفى الأزهر. وقد جمعت المعلومات الخاصة بالرسالة عن طريق استمارة استبيان المقابلة الشخصية واستمارة لملاحظة لتقدم الولادة ولدور المرافق واستمارة لتقييم مستوى الرضا عند الأمهات من عملية الولادة. وقد أظهرت نتائج الدراسة أن رأي أغلبية السيدات في المجموعتين عن عملية الولادة أنها مخيفة بالنسبة لهم أنهم يفضلون وجود مرافق يقدم لهم رعاية مساندة أثناء الولادة وبعدها ولقد تقدمت عملية الولادة بشكل أفضل لدى السيدات اللاتي حصلن على رعاية مساندة فكانت مدة المرحلة الاولى والثانية أقصر إضافة إلى قلة وجود مضاعفات او مشاكل سواء للأُم او للطفل وكان مستوى الرضا عند السيدات اللاتي حصلن على رعاية مساندة أعلى من اللاتي لم يحصلن عليها بنسبة (86.7%). وقد تلخصت الدراسة بأهمية دور المرافق أثناء الولادة حيث قدم رعاية داعمة أثناء الولادة للنساء اللاتي اخترن المشاركة في هذه الدراسة وارتبط وجوده بقصر مدة المخاض خاصة في المرحلتين الأولى والثانية وتعزيز رضا الأمهات عن الولادة. وأوصت الدراسة بأنه لا بد إنشاء أنظمة وبروتوكولات وسياسات واستراتيجيات لتعزيز تطبيق دعم المرافق أثناء الولادة ويقترح عمل بحث لتقييم تأثير الرعاية الداعمة المقدمة للسيدات من قبل المرافق أثناء الولادة على الاكتئاب بعد الولادة.

الكلمات المرشدة: المرافق ، الرضا عن الولادة ، تقدم الولادة ، الرعاية المساندة.