

Assessment of Risk Factors of Associated with occurrence of Premature Deliveries in Rania City

Asst. lecturer. Shakhawan A. Ahmed
College of Nursing
University of Raparin

Abstract

Background: Pre-term birth (PTB) is a major determinant of neonatal mortality, Morbidity and childhood disability and remains as one of the most serious problems in obstetrics (Al-Dabbagh, S.A, 2006).

Prematurity is now considered as the second-leading cause of death in children aged less than 5 years and as the most important cause of death in the critical first month of life (Liu et. al, 2012). There are about 13 million of PTBs annually worldwide. The incidence is about 11 % in North America, while 5.6% in Oceania and about 5.8% in Europe (Kaempf et . al , 2006).

Objective: This study aims to identify the factors associated with the occurrence of premature deliveries and the relationship between some of socio demographic attributes and the factors related to premature deliveries.

Methodology: quantitative design A descriptive study, with sample of (consists of 60 woman) who attend the primary health care centers in Rania district, of the period from 10th July 2015 to 25th march 2016. Were selected questionnaire was constructed to investigate the potential risk factors of premature delivery; which consist of two part 1st sociodemographic data 2nd type of premature ,the data were collected through interviewing face to face technique. The dates were analyzed utilizing descriptive & inferential statistics in addition to SPSS.

Conclusions:- The present study concluded that Women aged more than 35 years are more affected by premature delivery and more common in the urban areas than rural area. This study has also concluded that Women's levels of education have an effect on the premature deliveries & Housewife women are more affected by premature deliveries than employee. According to the finding, factors such as previous history of preterm labor, hypertension, anemia and urinary tract infections during pregnancy rise premature birth.

Recommendations:-

- 1- Verbalizing nursing role to provide nursing management and to give advice to all pregnant women.
- 2- Collaborative work is needed between the Ministry of Higher Education and the Ministry of Health in prevention of risks of preterm labour and complication of prematurity. To develop an Nursing program regarding the risk of premature delivery.

- 4- Conducting of programs for women in primary health care centers for risky mother to increase their awareness of pregnancy and deliveries complication.
- 5-Intensive courses regarding the risk of premature deliveries have to be implemented for all Nursing ladder in educational agencies by University & Schools.

Introduction

Pre-term birth (PTB) is a major determinant of neonatal mortality, morbidity and childhood disability and remains as one of the most serious problems in obstetrics (Al-Tae, W.Y, 2006). Prematurity is now considered as the second-leading cause of death in children aged less than 5 years and as the most important cause of death in the critical first month of life. There are about 13 million PTBs annually worldwide. The incidence is about 11 % in North America, about 5.6% in Oceania and about 5.8% in Europe (Kaempf JW, Tomlinson M, Arduza C, et al. 2006).

In the US, on average, one preterm baby is born every minute. Since 1990, for reasons that are not fully understood, worldwide the preterm birth rate has risen by approximately 14%. The increase over the past decade may in part be explained by increasing iatrogenic preterm births. The shorter the term of pregnancy, the greater the risks of mortality and morbidity for the baby is primarily due to the related prematurity. Preterm-premature babies ("preemies" or "premmies") have an increased risk of death in the first year of life (infant mortality), with most of that occurring in the first month of life (neonatal mortality), prematurity accounted for 10% of neonatal mortality, or around 500,000 deaths per year (Allen, 2008). In the U.S. where many infections and other causes of neonatal death have been markedly reduced, prematurity is the leading cause of neonatal mortality at 25 % (Mathew TJ, 2006).

New WHO estimates the global rates of preterm births indicate that of the 135 million live births worldwide in 2010, about 15 million babies were born too early, representing a preterm birth rate of 11.1% (- Martius JA, Steck T, et:al ,1998). Over 60% of preterm births occurred in sub-Saharan Africa and South Asia where 9.1 million births (12.8%) annually are estimated to be preterm. The high absolute number of preterm births in Africa and Asia are related, in part, to high fertility and the large number of births in those two regions in comparison to other parts of the world. The variation in the rate of preterm birth among regions and countries is substantial and yield a different picture to other conditions in that some high - income countries have very high rates. Rates are highest on average for low-income countries (11.8%), followed by lower middle-income countries (11.3%) and lowest for upper middle- and high-income countries (9.4% and 9.3%). However, relatively high preterm birth rates are seen in many individual high-income countries where they contribute substantially to neonatal mortality and morbidity. Of the 1.2 million preterm births estimated to occur in high-income regions, more than 0.5 million (42%) occur in the United States.

The etiology of preterm delivery is unclear, but is likely to be complex and influenced by genetics and environmental factors. A number of factors have been identified that are linked to a higher risk of a preterm birth: age at the upper and lower

end of the reproductive years, aged more than 35(Martius JA,1998) . Or less than 18 years of age (Goldenberg, RL,2008)

Pregnancy interval makes a difference as women with a 6 months span or less between pregnancies have a two-fold increase in preterm birth (Dobbie. R ,2003): Studies on such type of work and physical activity have given conflicting results, but it is opined that stressful conditions, hard labor, and long hours are probably linked to preterm birth⁷. Women who have undergone previous surgically induced abortions have been shown to have a higher risk of preterm birth (less than 37 weeks), as well as extreme preterm birth (less than 28 weeks)(Mercer, B.M,1999): Adequate maternal nutrition is important. Women with a low BMI are at increased risk for preterm birth (Hendler, I,2005).

Moreover, women with poor nutritional status may also be deficient in vitamins and minerals. Adequate nutrition is critical for fetal development and a diet low in saturated fat and cholesterol may help reduce the risk of a preterm delivery. Obesity does not directly lead to preterm birth; however, it is associated with diabetes and hypertension which are risk factors by themselves (Iams, JD,2008)

Women with a previous preterm birth are at higher risk for a recurrence at a rate of 15–50% depending on number of previous events and their timing (, Moawad AH, et al. 2006). To some degree those individuals may have underlying conditions (i.e. uterine malformation, hypertension, diabetes) that persist. Genetic make-up is a factor in the causality of preterm birth. An intra- and Trans generational increase in the risk of preterm delivery has been demonstrated(Bhattacharya, S, 2010)

Methodology

A quantitative design descriptive study was carried out from 10th July 2015 to 25 march 2016 in order to investigate the risk factors associated with occurrence of premature deliveries in Rania district. The present study was conducted in two Primary Health Care centers (PHC) and maternal and child hospitals at Rania District. (60) women who were attending the typical primary health care center and maternal and child hospitals were selected purposively . The questionnaire format was designed on relevant literatures. It was reviewed by the experts, who suggested changes in some items in order to improve internal validity and reliability of the questionnaire. All recommended modifications, were implemented. The study instrument was comprised of two parts socio-demographic characteristics and medical information about risk factors of premature delivery. Data were collected through using the questionnaire. by Interview technique with the woman was for PHCC attended done in the primary health care centers.

Results:

Table (1) Pattern of socio demographic attributes of the sample:

Variables			
		F	%
Age group	less than 18	17	28.3
	18-26	16	26.7
	27-35	8	13.3
	more than 35	19	31.7
Total		60	100
Address	Urban	34	56.7
	Rural	26	43.3
Total		60	100
Level of Education	Illiterate	19	31.7
	Primary graduated	25	41.7
	Secondary graduated	10	16.7
	University graduated	6	10.0
Total		60	100
Occupational status	Employer	20	33.3
	house wife	40	66.7
Total		60	100
consanguinity	Relative	34	56.7
	non relative	26	43.3
Total		60	100

Table (2):Type of risk factors and their association with the occurrence of premature delivery :

				X ² tab.	P.value
		F	%		
Smoking	YES	1	1.7	3.84	0.053
	NO	59	98.3		
Heavy work	YES	37	61.7	3.84	0.034
	NO	23	38.3		
Animals in house	YES	22	36.7	3.84	0.185
	NO	38	63.3		
Domestic Violence	YES	23	38.3	3.84	0.264
	NO	37	61.7		

This table shows that the Domestic violence had highly percentage and significant association with heavy work as a role of premature delivery occurrence.

Discussion:

Study shows that high percentage of women their age than 35y and the rate was 31.7% (table1). According to Abu Hamad and others (2007), the estimated prevalence is of the highest percentage with the present study (Abu Hamad, K.H,2007) . In addition the rate of premature deliveries was significantly greater for women age between 20–29 years .This finding is contradicts with the present study (Al-Dabbagh, S.A. 2006) .

A Study conducted in Palestine found that the occurrence of premature deliveries was higher among women aged between 36-43years and their rate was 67.4% (Ishraf , 2004). This finding is consistent of with the findings of the present study (Fararjeh, I.A.A.H., 2004). Shingariai & others (2004) found that the incidence of premature deliveries among women aged between 20-34 years and their rate was 71.7%.This finding is inconsistent with the findings of present study¹⁵. Finally, a study in Saudi Arabia showed no statistically significant associated with preterm births(Youssef and Hassan ,1994) .

1.1 Residency:

The results of study show that the women who lived in the urban areas had more chance to have premature deliveries than those living in the rural area. The percentage is 56.7% as show in (table 1) .

A study conducted in Palestine found that women in rural areas were at a greater risk to have premature delivery than women in urban areas. The percentage was (63%) (Abu Hamad & others ,2007).

A study found that women who lived in the urban areas are likely to have premature delivery than those living in the rural areas. The percentage was (88%).This finding is in agreement with the present study (Ghina . H, 2010).

While (Shingariai & others (2004) did not show any significant relationship between the residence of mothers and preterm birth of the present study (Youssef , 2000).

1.2 educations

The results of the study show that women who completed primary education and those who were illiterate education had similar chances for premature delivery as the percentages are (41.7%; 31.7%) see (Table 1) . A study in Mosul city in Iraq found that women who were illiterate had similar chances for premature deliveries (Al-Dabbagh, S.A,2006). This study agrees with the findings of in present study (Al-Taee, W.Y., 2006). The present study is incongruent with the study of (Shingariai & others ,2004) who found that the women who had completed secondary school had more risk to have premature deliveries than other level.

1.3 Consanguinity

The results of the present study show that Parental Consanguinity percentage is higher in relative consanguinity; the percentage is (56.7%) see (table1)page 5.

(Ghina et.al,2010) showed that infants of consanguineous parents had a statistically significant to birth prematurely. This finding agrees with the finding of our study in term of the relation between consanguinity and preterm labour

(Youssef and Hassan, 1994) show that consanguineous marriages were at a great risk for preterm delivery .This finding is in line with our study findings that there is a relation between consanguinity and preterm labour.

2 life style:

A prevalent social problem in the United States is that approximately 44% of women experience domestic violence in their lifetime.(Thompson and other,2006). While the rates of intimate Partner Violence(IPV) reported by women seem to be higher, the actual numbers are most likely higher since the statistics are based on reported cases—which tend to be lower than the total number of victimizations (Rennison, 2003).

Young women between the ages of 16 and 24 years appear to be at the greatest risk for experiencing IPV (Rennison, 2003; Thompsonandother,2006)

Low birth weight and preterm birth occurred in 10.9% and 10.2% of the pregnant women, respectively. Logistic regression analyses indicated that injury due to physical abuse within the past year was significantly associated with both preterm births. This finding agrees with the present study as it found relation between violence and preterm birth(Neggery,2002).

A 2004 systematic review of 30 studies on the relationship between intimate partner violence and birth outcomes concluded that preterm birth and other adverse outcomes, including death, are higher among abused pregnant women than among non-abused women ([ugboma and akani ,2004](#)). This finding agrees with the present study as it found relation between violence and preterm birth.

6.1 conclusions:-

On the basis of the discussion of the results and their interpretation, the present study concluded that Women aged more than 35 years are more affected by premature deliveries than other ages and the premature deliveries are more common in urban areas than rural area. In addition Women's level of education can have effect on the premature deliveries &housewife women are more affected by premature deliveries than employee. According to the finding, factors such as previous history of preterm labor, hypertension, anemia and urinary tract infections during pregnancy rising premature birth.

Recommendations:-

- 1-Verbalizing nursing role to provide nursing management and to give advice to all pregnant women.
- 2- Collaborative work is needed between the Ministry of Higher Education and the Ministry of Health in prevention of risks of preterm labour and complication of prematurity.
- 3- Further research recommended with a larger sample.
- 4- Conducting of programs for women in primary health care centers for risky mother to increase their awareness of pregnancy and deliveries complication.
- 5-providng intensive course concerned with the risk of premature birth in nursing schools and colleges is suggested.

Reference:

- 1- Al-Dabbagh, S.A. and Al-Taee, W.Y., 2006. Risk factors for pre-term birth in Iraq: a case-control study. *BMC pregnancy and childbirth*, 6(1), p.1.
- 2-Kaempf JW, Tomlinson M, Arduza C, et al. (2006).["Medical staff guidelines for periviability pregnancy counseling and medical treatment of extremely premature infants".*Pediatrics* 117 \(1\): 22–29. .](#)
- 3- Allen, MC. (2008). Neurodevelopmental outcomes of preterm infants. *Current Opinion in Neurology*. Vol. 21, No. 2, (Apr 2008), pp. 123-128.
- 4- Mathew TJ, MacDorman MF (2006). "Infant Mortality Statistics from the 2003 Period Linked Birth/Infant Death Data Set". [*National Vital Statistics Reports* 54 \(16\).](#)
- 5- Blencowe, H., Cousens, S., Mullany, L.C., Lee, A.C., Kerber, K., Wall, S., Darmstadt, G.L. and Lawn, J.E., 2011. Clean birth and postnatal care practices to reduce neonatal deaths from sepsis and tetanus: a systematic review and Delphi estimation of mortality effect. *BMC Public Health*, 11(3), p.1.
- 6 - Martius JA, Steck T, Oehler MK, Wulf KH (1998). "Risk factors associated with preterm (<37+0 weeks) and early preterm birth (<32+0 weeks): univariate and multivariate analysis of 106 345 singleton births from the 1994 statewide perinatal survey of Bavaria". [*European Journal of Obstetrics & Gynecology and Reproductive Biology* 80 \(2\): 183–189.](#)
- 7- Goldenberg, R.L., Culhane, J.F., Iams, J.D., & Romero, R. (2008). Epidemiology and causes of preterm birth. *Lancet*. Vol. 371, No. 9606 (Jan 2008), pp 75-84..
- 8- Smith GC, Pell JP, Dobbie R (2003). "Interpregnancy interval and risk of preterm birth and neonatal death: retrospective cohort study". *British Medical Journal* 327 (7410): 313.
- 9-Mercer, B.M., Goldenberg, R.L., Moawad, A.H., Meis, P.J., Iams, J.D., Das, A.F., Caritis, S.N., Miodovnik, M., Menard, M.K., Thurnau, G.R. and Dombrowski, M.P., 1999. The preterm prediction study: effect of

- gestational age and cause of preterm birth on subsequent obstetric outcome. [American journal of obstetrics and gynecology](#), 181(5), pp.1216-1221.
- 10-Hendler, I., Goldenberg, R.L., Mercer, B.M., Iams, J.D., Meis, P.J., Moawad, A.H., MacPherson, C.A., Caritis, S.N., Miodovnik, M., Menard, K.M. and Thurnau, G.R., 2005. The Preterm Prediction Study: association between maternal body mass index and spontaneous and indicated preterm birth. *American journal of obstetrics and gynecology*, 192(3), pp.882-886.
- 11- Mercer BM, Goldenberg RL, Moawad AH, et al. (2006). "The preterm prediction study: effect of gestational age and cause of preterm birth on subsequent obstetric outcome". *American Journal of Obstetrics & Gynecology* 181 (5 Pt 1): 1216–1221.
- 12-.Bhattacharya, S., Raja, E.A., Mirazo, E.R., Campbell, D.M., Lee, A.J., Norman, J.E. and Bhattacharya, S., 2010. Inherited predisposition to spontaneous preterm delivery. *Obstetrics & Gynecology*, 115(6), pp.1125-1133.
- 13-Abu Hamad, K.H., Abed, Y. and Abu Hamad, B., 2007. Risk factors associated with preterm birth in the Gaza Strip: hospital-based case-control study. *Eastern Mediterranean health journal*, 13(5), pp.1132-1141.
- 14- (ishraf)Fararjeh, I.A.A.H., 2004. Risk Factors Associated with the Occurrence of Premature Delivery at Al-Maqassed Hospital Between 2000-2002 (Doctoral dissertation, An-Najah National University).
- 15-Shingairi.,A,2009 Risk factors for prematurity at Harare Maternity Hospital ,Zimbabwe, Thesis,Medical School , university of Zimbabwe , ,p;p 1195-1199,Feresu, S.A., Harlow, S.D. and Woelk, G.B., 2004. Risk factors for prematurity at Harare maternity hospital, Zimbabwe. *International journal of epidemiology*, 33(6), pp.1194-1201.
- 16- Youssef , 2000 Risk Factors for spontaneous preterm birth in asaudi population , thesis , collage of medicine , king abdula university, ,pp,1-50 .
- 17- Lang, J.M., Lieberman, E. and Cohen, A., 1996. A comparison of risk factors for preterm labor and term small-for-gestational-age birth. *Epidemiology*, 7(4), pp.369-376.
- 18- Ghina ., H , 2010 Risk factor for preterm birth at less than 33 weeks gestation , Thesis , school of public health , university of Oxfort, pp., 1-7 .
- 19- Thompson, R. S., Bonomi, A. E., Anderson, M., Reid, R. J., Dimer, J.A., Carrell, D., et al. (2006). Intimate partner violence: Prevalence, types, and chronicity in adult women. *American Journal of Preventive Medicine*, 30(6), 447–457.
- 20-Rennison, C. M. (2003). *Intimate Partner Violence 1993-2001: Bureau of Justice Statistics Crime Data Brief*. Washington: US Department of Justice.
- 21-Neggars .,Y ,2002 Effect of domestic violence on preterm birth and low birth weight ,Thesis , department of Obstetrics and Gynecology university of Hawaii, pp,1-13.

22-Ugboma, H.A. and Akani, C.I., 2003. Abdominal massage: another cause of maternal mortality. Nigerian journal of medicine: journal of the National Association of Resident Doctors of Nigeria, 13(3), pp.259-262.

پوخته

پيشينه: له دايكبوني پيش وخت برپاردان له سهر شتيك كه دهبيتته هوې مردنى ساوايهك يان ژيانى يان مندالى بى توانا لاواز، يان هيشتنه وهى يه كيك له و هوکاره ترسناکه کان له کاتى منالون.

منالى پينه گه يشتوو نيسا کرينگه کی زورى هه يه به دووم هوکارى مردن داده نرى له منالدا له و ته مهنه که له خوار 5 پينج ساله و من وه هه روها هويه کی گرنگه بومردنى له ناكاو له يه که م مانگى ته مهنه نيندا، 13 مليون منالى له دايكبوى پيشوخت هه مو ساليك له جيهاندا هه يه، ريژى له سه دا 11% له نه مريکاي باکوره وه هه روها له سه دا 5.6% له ناسيايه لو سه دا 5.8% له نه وروپايه

نامنج: هه ده فى نه م تويزينه وه يه ناساندنى هوکاره کانى که په يوه نديان هه يه به له دايكبوني پيش وخت وه هه روها دويزينه وهى په يوه ندى له نيوان ناستى زانيارى هه ندى له سيفه تى جوگرافى که سه کان هه يه.

ميتودولوچى: تويزينه وه يه کی وه سفیه به شيوهى برى نمونه ي تويزينه وه که مه به ستداره بونا هه رهمه کی پيکه اتوه له 60 نافرته که سهردانى مه لبه نده ته ندروستيکانى شارى رانيه ده که ن له به روارى 10 ته مووز 2015 بو 20 ي نازار 2016 بو نه و مه به ستش راپرسيه ك نوسراوه به شيوهى جاوپيکه وتن پرکراوه ته وه له سهر هوکاره کانى له دايكبوني پيشوخت وه زانياريان له سهر نه و پرسه. زانياريو داتاكان به شيوهى نامارى شيکراوه بووه سفى و په يوه نديدارى به به کاره ينانى ريژى که رتى هه روها به به کاره ينانى ريژى ي چوارکوشه ي کاي بو زانينى ناستى زانياريو په يوه ندى نيوان داتاكان .

نه نجام :- تويزينه وه که ده ريخت نه و نافرته تانه ي که ته مهنه يان له سه روى 35 ساله وه يه زياتر کارى گه ريان له سه ره بو بونى منالى پينه گه يشتوو واته پيش وخت وه هه روها وه که متر نه مه روده دات له وانه ي له ناو شار نه زين وه ك نه وانه ي له ناو گوندو ناحيه کان نه زين، وه له م تويزينه وه يه ده رکه وتوه نه و کارى گه ريانه ده رکه وتوه له سه ر نه و نافرته تانه ي ژنى ماله وهن وه کو ملى هوکارى تر کارى گه ريان هه يه له سه ر له دايكبوني منالى پيشوخت وه کو به رزبونه وهى په ستانى خوين وه نيلتياهى ميزدان له کاتى سکرپيدا .

پيشنياره کان:- له م تويزينه وه يه دا پيشنيارکراوه که پلانو پروگرامو ناموزگارى تايبه ت هه بى به نافرته ي سکرپ و، هه روها له گهل وه زارته ي ته ندروستى که پلانو پروگرامى توکمه دابنرى بو رونکردنه وه و جار سه رکردنى هوکاره کانى له دايكبوني پيشوخت، هه روها دانانى کورسى تايبه ت ناماده بکرى بو په رستارى هه مو به شه کان له ناو خسته خانه و مه لبه نده ته ندروستيه کان.

الخلاصة

الخلفية: الولادة ماقبل الاوان تعتبر من اكبر المشاكل الحقيقية التي تواجه الاطفال المولودين حديثا من ناحيتي نسبة الوفيات ونسبة المشكلات الصحية والعيوق، وكذلك تبقى المصدر الاول للمخاطر الحقيقية عند عملية الولادة. الولادة ماقبل الاوان تعتبر اليوم السبب الرئيسي الثاني لنسبة الوفيات بين الاطفال خلال السنوات الخمس الاولى من اعمارهم والسبب الرئيس الاول للوفيات خلال الشهر الاول من عمر الطفل. وهناك حوالي 13 مليون من الوفيات سنويا في ارجاء العالم بسبب الولادات ماقبل الاوان.

الاهداف: تهدف الدراسة للتعريف بالعوامل المرافقة لحدوث الولادة ماقبل الاوان والعلاقة مابينها وبين بعض الصفات الديموغرافية المرافقة لهذه الحالة.

منهجية البحث: دراسة وصفية بتصميم كمي، واشتملت عينة البحث على 60 امرأة من اللواتي حضرن للمراكز الرعاية الاولى في قضاء رانية للمدة من العاشر من تموز 2015 ولغاية الخامس والعشرون من أذار 2016. وضمت استبانة لهذا الغرض لمعرفة المخاطر الجديدة للولادة ماقبل الاوان وتشمل على جزئين الاول منها المعلومات الديموغرافية لعينة البحث والجزء الثاني نوع المعطيات والاسباب . وتم جمع المعلومات من خلال اسلوب المقابلة وجها لوجه. وتم تحليل المعطيات من خلال الاحصاء الوصفي والتفريقي باستخدام برنامج الـSPSS.

النتائج: توصلت الدراسة الى ان اعمار الامهات الاكثر من 35 سنة هن اكثر تعرضا لحالات الولادة ماقبل الاوان وكذلك الساكنين في الحضر اكثر من القرى. وكذلك توصلت الدراسة ان المستوى العلمي له تاثير على الموضوع وكذلك وجدت ان ربات البيوت هن اكثر تعرض للولادة ماقبل الاوان من النساء الموظفات. وحسب معطيات المسببات المرافقة وجدت ان هناك علاقة بين حدوث الولادة ماقبل الاوان والتأريخ السابق للمرأة وكذلك مع حالات ارتفاع ضغط الدم وفقر الدم والتهابات المجاري البولية خلال فترة الحمل.