Survey on correlation between unplan pregnancy and low birth weight in new infants

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Abstract

Introduction

weight in delivery is simplest and current health indication for assessment infant statues in each country. Purpose of this study is assessment correlation to unplan pregnancy and low birth weight in new infants also some key factors influencing on low birth weight.

Materials and Methods

in this study 838 pregnant mothers in two group wanted and unwanted performed. This study is descriptive and analytically based on cohort study. Sample size was all mothers who refer to nine health clinics in mashhad province in 2012. Questionnaire completed based on interview to mothers and observe health records. For analyzing data used chi-square and T-student tests.

Results

finding showed that in wanted group (n=602) and unwanted (n=236) , 10.3 % of infants are LWB, in wanted group 11% and unwanted group 8.5% reported however there was no significant relation between two groups. There was a significant relationship between two groups in number of pregnancy and time of first reference to health clinic and duration between recent and previous visit (p=0.05). T-STUDENT test showed that thre is a signigicant relationship between the mean of mothers age and number of pregnancy in two groups(p=0.05) also chi square test showed that some factors like lodging of mother, mothers job, mothers education and her husband education had significant difference between two groups of wanted and unwanted pregnancy . Some factors like unwanted pregnancy and hypertension, diabetes, smoking, separately had studied but the result showed that only drug abuse had a significant effect on LBW , however in mothers with drug abuse 40% and mothers without drugabuse 9.7% cause to LWB.

Conclusion

considering the importance of birth weight in health of infants and advers of unplanned pregnancy on it specialy in cases with high risk behaviours, pre-pregnancy caring and increase knowledge of mothersabout the importance of this cares are necessary.

Key words

low birth weight- unplaned pregnancy-wanted pregnancy- unwanted pregnancy

Introduction: Nowaday reproductive health proposed as aprequisite of developing in world and it due to special noticeon it in recent years(1) . One of the most important defects countriesRecent research suggests that infants from unintended pregnancies may be at a greater risk of low birth weight than infants from planned pregnancies (1). A US study that examined the separate impacts of *unwanted* (unintended, in women not wanting more children) (2),

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Mistimed (unintended, in women desiring a child in the future), and *planned* (intended) Pregnancies revealed that infants from unwanted but not mistimed pregnancies were slightly more likely than infants from planned pregnancies to be of low birth weight (3). Some studies showed that infants who delivery by unwanted mother pregnancy increase unhealthy behaviors (4). Considering weight in healthy infant and effects of unwanted pregnancy (5). When maternal Behaviors such as cigarette smoking were added to the model, however, unwanted Pregnancy was no longer a significant predictor of low birth weight in that study (6, 7).

Some studies showed that infants who delivery by unwanted mother pregnancy have mental and physically disorder (8, 9), also shiva rafati and colleagues (2005) and mostafa hoseini and colleagues (2005) found that unwanted pregnancy related to low weight birth deliver.

In IRAN survey on health population indications (2005), prevalence of unwanted pregnancy was 30.6%, in mashad medical university (31.5%) reported (10). Purpose of this study is assess the correlation between Unintentional pregnancy and low birth weight in delivery we also illustrate some key factors influencing low birth weight

Methods: The women in this study represented a subsample of women interviewed in the 1391

Who refer to health center no 9and participated in Health Survey, a sample of 838 women of reproductive age was selected. Pregnancy intention status was determined, as in most survey research, by opinion of man or woman did you want children [*unwanted*]?"In first mother refer to health center wanted or unwanted pregnancy determined. Exposed group (unwanted) size was 236, unexposed group (wanted) 602 persons participated. Infants weight was considered in data questioner. Infants weighing 2500 g or less were considered low-birth weight infants. A multivariate logistic regression model

Was usual to assess jointly the effects of pregnancy intention status and other factors on

Birth weight. The dependent variable was birth weight (low vs. other), and the independent variable of interest was pregnancy intention status. Control variables, identified in previous

Researches as covariates of low birth weight, included women's reports of pregnancy

And delivery characteristics (site of delivery, prenatal care, anemia, blood pressure, cigarette smoking,…) and socio demographic characteristics (age group, sex of infant, birth order, urban/rural residence, and maternal education). All data coded in SPSS statistical software and analyzed. Nominal variables reported, percentage and frequency, quantity variables reported by mean and standard deviation, level of significant was 0.05 p-value. Used chi-square and t-student for analyze and regression logistic for accurate and precise covariate on LWB.

Results: Purpose of this study is assessment correlation between Unwanted pregnancy and low birth weight findings showed that in wanted group (n=602) and unwanted (n=236) , 10.3 % of children have LWB respectivly, in wanted group 11% and unwanted group 8.5% reported. Age from term and pre-term determined. In unwanted group 9.3% and wanted group 9% were pre-term that there was not significant in two groups.

Demographic features and mothers statues separately shown in table 1. Using T-student test). T-STUDENT test showed that mean of mothers age and number of fertility in unwanted group is significantly related(p=0.05) also chi square test showed that some factors like residential place, mother job, mother education and husband education there were in significant relation. Some factors like unwanted pregnancy and blood pressure, diabetes, smoking, separately have effects on LWB however in mothers who use narcotics 40% and not use narcotic 9.7% had LWB.

Unwanted pregnancy was more in rural regions than urban regions and in housekeeper mother were more than in employed mother (private or public section) also op. It reveals that high level of education decrease unwanted pregnancy.in caring there was three items (1- not cared 2- second week to twenties week 3- between 21-40 weeks), it showed that 60%

without caring in unwanted pregnancy and 40% in wanted pregnancy.73% wanted pregnancy mothers have caring between second week to 20 th week and 27% were in unwanted group. Finding showed that in second item there was significant relation. Chi-square test showed that between interval pregnancy in two groups of less than 3 years and more than 3 years significant relation there was (p<0.05). In our research factors like mothers BMI, abortion and premature delivery there were not significant relations.

In blood pressure survey showed that 1.6% of mothers had high blood pressure, in unwanted group the rate was 2.5% and in wanted group was 1.2% have blood pressure and there is not significant relation.

In diabetes survey showed that in unwanted group was 2.2% and wanted group was 2% have diabetes and there is not significant relation between two groups.

Also chi square test showed that some factors like residential place, mothers job, mothers education and husbands education were significant relation. With LBW Some factors like unwanted pregnancy and blood pressure, diabetes, smoking, separately have effects to LWB however in mothers who use narcotic 40% and not use narcotic 9.7% cause to LWB. Using regression logistic for accurate and precise covariate on LWB and showed in multiply analyzed table 2 , only using narcotic was significant relation.

Table number1- Demographic features and mothers statues

Variables	wanted pregnancy n=602	unwanted pregnancy n=236	t	p-value
Mother's age	28.35 ± 5.12	29.34 ± 6.05	2.199	0.028
Number of fertility	1.08 ± 1.05	2.58 ± 1.39	7.696	<0.001
Number of delivery	1.50 ± 0.74	2.36 ± 1.18	10.230	<0.001

Variables	wanted pregnancy	unwanted pregnancy	t	p-value
Residence place				
Urban	522(73.3%)	201(26.7%)	4.877	0.027
Rural	48(61.5%)	30(38.5%)		
Mother's education				
Illiteracy	10(52.6%)	9(47.7%)	24.906	<0.001
Primary	72(61.5%)	45(38.5%)		
High school	107(65.6%)	56(34.4%)		
Diploma	212(73.6%)	76(26.4%)		
Further education	200(81.6%)	45(18.4%)		
Mother's job				
Household	500(70.4%)	210(29.6%)	8.668	0.013

Public	41(83.7%)	8(16.3%)		
Private	56(83.6%)	11(16.4%)		
Husband's job				
Illiteracy	13(91.6%)	8(38.1%)	19.795	0.0001
Primary	59(62.8%)	35(37.2%)		
High school	133(65.5%)	70(34.5%)		
Diploma	203(73.8%)	72(26.2%)		
Further education	194(81.2%)	45(18.8%)		

Variables	wanted pregnancy	unwanted pregnancy	t	p-value
Interval to last delivery				
Less 3 year	128(56.9%)	97(43.1%)	9.766	0.002
More 3 year	178(70.6%)	74(29.4%)		
First caring				
None cared	2(40%)	3(60%)	722.7	0.0019
2-20 week	588(73%)	218(27%)		
21-40 week	10(50%)	10(50%)		
Mothers BMI				
Underweight	31(70.5%)	13(29.5%)	0.716	0.720
Normal	263(72.9%)	98(27.1%)		
Overweight	201(75.3%)	66(24.7%)		
Infant age				
Premature	54(71.1%)	22(28.9%)	0.025	0.873
Mature	548(71.9%)	214(28.1%)		
Age at birth				
g2500<	66(76.7%)	20(23.3%)	2.097	0.350
g2500-4000	519(71.6%)	206(28.4%)		
>4000g	17(63%)	10(37%)		

Table 2- regression multiply logistic on covariate LWB

Variables	coefficient regression	standard error	R	odds ratio	p-value

Unwanted pregnanc	- 0.360	0.275	1.719	0.698	0.190
High blood pressure	- 0.393	0.811	0.235	0.675	0.628
Diabetes	0.572	1.041	0.302	1.773	0.583
Using narcotic	- 1.851	0.568	10.621	0.157	0.001
Smoking	- 0.046	0.413	0.012	0.955	0.912

Discussion:

In this research , infants from unwanted pregnancies were significantly more likely than those from planned pregnancies to be of low birth weight some studies showed that education has controversial relation (11,12,13,14). The mechanism by which pregnancy intention

Status affects birth weight is not yet fully understood, in some studies showed that anemia during pregnancy was 10, 3% reported, Mahmodi and colleague (2012) reported more than 70% prevalence of low weight birth (15). Based on world health organization 17% of children all over world has low birth Wight, 7% in developed countries and more than 19% in developing countries, In IRAN approximately 10% reported that plausibility to this research(23,37) , Unwanted pregnancy may contribute To low birth weight by means of maternal behaviors such as luck of prenatal care and smoking during pregnancy . Infants from unwanted pregnancies may also have been more likely to be low birth weight because their mothers nutritions was less than women with planned pregnancies and gained inadequate weight during pregnancy (16).

IMES research showed that more than 28.2% pregnancy were unwanted and in mashad medical university it was 31.5% reported.

Several measurement constraints should be kept in mind when considering the findings Of this study. First, numerous researchers have commented on the difficulty of quantifying

Women's feelings about their pregnancies (19), further work is needed to refine currently used measures of pregnancy, there was not significant relation between education and low birth weight (20.21,22) it may be attributed to low sample size.

Indicated that these women were more likely than others to have characteristics associated

With low birth weight. (We estimated a second logistic regression model among all women who experienced a live singleton birth in the time period of interest, using birth size as a proxy for weight among infants missing birth weight data. All women surveyed were asked, "In comparison to other newborns, what do you consider to be [your child's] size when he/she was born—very small, small, medium-sized, or large?" Mothers' assessments of birth size as "very small" were coded as low birth weight if birth weight was missing(19,23,24) in two groups there was significant relation to mean of number fertility. There is plausibility to nation survey and there is significant relation to unwanted pregnancy and number of fertility (25) however forum and colleagues showed that there is no relation (26). For Preventing to effects of pregnancy advice caring for first three month, special for women who are in low social-economics (27). Time of caring has important effect to mothers mortality and low birth weight (28). If weight was reported, low birth weight was coded according to numeric weight in our study it showed that 60% without caring in unwanted pregnancy and 40% in wanted pregnancy. Many studies reveal that unwanted pregnancy is related to none cared women or with delay caring (29.30), in north Carolina showed that delay caring and none cared women is more than 2.8% (31).Unwanted pregnancy remained a significant predictor of low birth weight and mistimed pregnancy was not as

associated with low birth weight (17,32,33). Despite the obvious limitations of birth as an indicator of birth weight, its use reinforced the findings of our analysis involving only infants with reported numeric birth weights.(34) study in 18 hospital Syria showed that there are not significant to BMI, abortion and premature delivery however there is significant relation to pregnancy duration and weighting (35), similarly to karimian and del aram and their colleagues (34,36). This low-birth weight study is one of the Few conducted among populations of developing countries, and it emphasizes the importance Of distinguishing between the effects of unwanted and mistimed pregnancies. Although the potential biases of the pregnancy intention status measure and the exclusion Of many women from the study as a result of missing birth weight data cannot be ignored, The study highlights the potential health value of helping women and couples avoid unwanted Pregnancy. Improving access to caring and quality of family planning services may contribute to reducing the proportion of infants low in birth weight (39).

Conclusion: considering weight in healthy infant and effects of unwanted pregnancy, pre-pregnancy caring for increase knowledge to families and mothers are necessary. Health staff have effective role to consulting and education to mothers.

References:
1.Madaani Pour A, Ahmadmia SH,Rostamiz ; Ahmadabadiz; Reproductive health;importance of income or education? Companative and Lysis of world Countnies , with emphasize on the Middle cast , North Africa And Central Asia .Gournal of Family Research 2009 ; 4(16) :441-459
2.Kilma CS .Unintended Pregnancy , Con sequences and solvtions for worldwide problem .JNurs Mid wifery 1998;43(6) 483-91
3.Cunningham FG ,Leveno KJ , Bloom SL ,Hauth JC ,Rouse DJ ,sponj CY .William s obstetrics 23thed Mc Graw-Hill;2010.P.189-190
4.Abdollahy F ,Mohamad pour . Evaluation of advense out comes of unwanted pregnancy on the women nef enning to Mazandaran medical univer sity hospitals .JMUMS 2004;14(49):87-93 [Persian]
5.Kliegman R. Nelson Textbook of pediatrics;SaunderesElsevier philadelpia;2007.
6. Rafiei M.[Prevalence of low Bith weight and obesity and some con comitant Factors in live off spring's in 2006 and compare with 2002 result's Arak Talleghani Hospital (porsion)] Iranian Jornal of Podiatrices .2007;17)1)
7. Talebian MH . AfrouzGA.[The relationship between Biological. Psychological-Cognitive and Social-Cultural Characteristics of Parents with Infants BirthWeight in Isfahan Province (persion)]. Health SystemResearch.2011;6)2)
8.Fawcus SR,crether CA,Van Ba elanp , Marumahokoj .Booked and unbooked mothers deliveoring at Hav are .Mater nity Haspital , Zimbabwe : a comparison of maternal characteristic and foetal outcme . cent Aafr j Med 1992 ; 38(10) :402-8
9. Speizer IS,Santelli JS, Afable-Munsuz A ,Kendall C. Measuring factors underlying intendedness of womens first and later peregnancies . Perspect Sex Reprod Health 2004;36(5):198-205.
10. Ministory of Health and Medical Education ,Integrate Monitoring Evaloiation System(IMES). Islam ic Repoblic of Iran : Tehran Office of Family Health and Population.2005
11.Chun HM. The Effect of Parental Occupation onLoww Birth Weight. Hong Kong: University of Hong Kong;2004.
12.Silva AAM, Vasconcelos AGG, Bettiol H, Barbieri MA.Socioeconomic status, birth weight, maternal smoking during pregnancyand adiposity in early adult life: an analysis using structural equation modeling. Cadernos de Saúde Pública. 2010;26 (1):15-29.
13.Sirikul Isaranurug M, Mo-Suwan L, Choprapawon C. Differences in socio-economic status, service utilization, and pregnancy outcomes between teenage and adult mothers. J Med Assoc Thai. 2006;89 (2):51-145
14.Yinghui L, Jianmeng L, Rongwei Y, Aiguo R, Song L, Zhu L.Association of Education and the Occurrence of Low Birthweight in Rural Southern China During the Early and Late 1990s.

AmericanJournal of Public Health. 2008;98 (4):687-91.

15.Mahmodi Z,Karimlo M,S ajadi M , Dejman M .[Related Factors of Low Birth Weight in Iran9PERSIAN)]. Archives of Iranian MEDICINE.2012;
)the thirteenth edition . No 2.summer of1391.serial no 52.

16.Elsenbruch S, Benson S, Rücke M, Rose M, Dudenhausen J,Pincus-Knackstedt M, et al. Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome.Human reproduction. 2006;22 (3):869.

17.Brown S, Yelland J, Sutherland G, Baghurst P, Robinson J. Stressful life events, social health issues and low birthweight in an Australian population-based birth cohort: challenges and opportunities in antenatal care. BMC Public Health. 2011;11 (1):196.

18.Young RL, Weinberg J, Vieira V, Aschengrau A, Webster TF.Research A multilevel non-hierarchical study of birth weight and socioeconomic status. 2010.

19.Dollar CB. A predictive study of selected biological, social,behavioral and environmental risk factors for low birth weight infant births to African-American women in Mississippi: The university of Mississippi Medical Center. 2005.

20.Jenabi E. [The relationshipbetween lifestyle and birth weight (pregnant women admitted to Fatemieh Hospital in Hamedan) (persion)].Iranian journal of Social Security. 2008;7 (41):223-6.

21.Kamali Fard M, Alizadeh R, Sehati Shafaei F, Gojazadeh M. [The Effect of Lifestyle on the Rate of Preterm Birth (persion)]. Iranian Journal of ardabil university of medical sciences. 2010;10 (1):55-63

22.Fallah MH, Afrouz GA, Haidari GA. Factors affecting birth weight infants in Yazd .1386. Iranian Journal of Toloe Behdasht. 2008;3 (4):57-63

23.Rafati S, Hajieh Borna M, Akhavirad MB. [Maternal DeterminANTS of Giving Birth to low-birth-weight Neonates (person)]. Archives of Iranian Medicine. 2005;8 (4):277-81

24.Cunningham F, Leveno K, Blomm S, HauthJ, Rouse D, Spong C. Williams Obstetrics. 23ra ed. Bethesda, Maryland: McGraw-Hill Companies. 2010

25.Abbasi Shovazi, M.J. and Hosseini Chavoshi, M. and Delavar B., 2003.Unwanted Pregnancies and Some factors associated with them in Iran. Journal of Fertility and Infertility Medicine. 1,pp.62-76 [In Persian].

26.Fourn, L., Goulet, L. and Sequin, L.,1996. Birth intervals and birth of LBW in Benin [in French]. Med Trop (Mars), 56,pp. 163 – 166.

27. Braveman P, Marchi K, Egerter S, Pearl M, Neuhaus J. Barriers to timely prenatal care among women with Insurance: The importance of pregnancy factors. Obstetrics & Gynecology 000;95(6):874-80

28. Ansari Niaki M, Izadi Sabet F. The quality of prenatal care performance on the basis of existing care stands in health centers.Koomesh 2004;5(1-2):81-86.

29. Abdollahy F, Mohamadpor R. Evaluation of adverse outcomes of unwanted pregnancy on the women referring to Mazandran medical university hospitals. JMUMS 2004;14(44):87-93.[Persian]

30. Marston C, Cleland J. Unintended pregnancy is linked to inadequate prenatal care, but not to unattended delivery or child health. International Family Planning Perspectives 2003;29(3).

31. Lepere EA. Relationship between unintended pregnancies and prenatal care. [cited 2009 March7]. Available from:URL: http//www.epidemialogy.vcu.edu/MPHpro gram/Reserch/Lepere.htm.

32.Bhutta ZA, Darmstadt GL, Hasan BS, Haws RA. Community-based interventions for improving perinatal and neonatal health outcomes in developing countries: a review of the evidence. Pediatrics. 2005;115 (2):519.

33.Khatiwada S, Cummings J, Kayongo-Male D. Prenatal Care, Smoking During Pregnancy, and Birth Outcomes in South Dakota: South Dakota State University, College of Agriculture and Biological Sciences; 2010.

34. Karimian S, Molla Mohammadi M, Jandaghi GhR. Prevalence of low birth weight infants and its related factors in Qom delivery units in 2000. FEYZ J 2003; 27(7): 76-80.

35. Wannous S, Arous S. Incidence and determinants of low birth weight in Syrian government hospitals.

East Mediterr health J 2001; 7(6): 966-74.

36.Delaram M, Ahmadi A,R. [Prevalence of Low Birth Weight and its Related Factors in Shahr-e-Kord (persion)]. Reproduction and Infertility Journal. 2008.

37. Hajian, K., 2000. The assessment of low birth weight prevalence and some its risk factors in Babul. Journal of MazandaranUniversity of Medical Sciences, 10(26),pp. 49-56 [In Persian].

38 .Housini M ,Ghavami B, Salimzadeh H, Eftekhari Ardabili H [The Relationship between low birth weight infants, and Un wanted Peregnancies in Ghazvin(persion)]. Health System
Research. 2011;6)2)

39.David, C., Reardon, D.C. and Cougle, J.,2002. Depression and Unintended Pregnancy in the National Longitudinal Survey of Youth a Cohort Study. *BMJ,*324, pp. 151-152.