### AWARENESS OF PRIMARY HEALTH CARE PROVIDERS IN EL-MINIA GOVERNORATE ABOUT PRECONCEPTION CARE, EGYPT.

By

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### **ABSTRACT:**

**Background:** Preconception care (PC) is recognized as a critical component of health care for women of reproductive age. The main goal of PC is to provide health promotion, screening and interventions for women of reproductive age to reduce risk factors that might affect future pregnancies.

Aim.: Measure awareness of primary health care providers (HCPs) in El-Minia governorate about PC.

**Subjects and methods:** This study is a descriptive study. The target population included 328 HCPs working in some rural units selected randomly (group I) and maternal and child health (MCH) centers (group II) in El-Minia Governorate. All MCH centers of the governorate and only ten percent of rural units chosen randomly from each district were included in the study. Data were collected by a questionnaire which included personal, social data and data related to knowledge, attitude and practices towards PC. Scoring system was designed for assessment of HCP's knowledge, attitude and practice and one degree allocated for right answer.

Results: From this study it was found that 22% of HCPs in El-Minia governorate have good knowledge and 48.5% of them have positive attitude towards PC. Percentage of HCPs with good knowledge and positive attitude were higher among group II (HCPs of MCH centers) than that of group I (HCPs of rural units) but the difference was significant only regarding knowledge. Females had a higher percentage of those having good knowledge while males had a higher percentage of those having positive attitude with no significant difference. It was found that the mean age and years of experience of HCPs were highest among those with fair knowledge with a significant difference. There was a significant correlation between attitude and both age and years of experience of HCPs. Percentage of both HCPs having good knowledge and positive attitude were higher among those living in urban than rural areas with a significant difference regarding knowledge only. Physicians had the highest percentage of those having good knowledge and positive attitude but the difference was significant only regarding attitude. Previous attendance of PC training program affecting both knowledge and attitude towards PC as good knowledge and positive attitude were significantly higher among those who attended these programs before. Percentage of HCPs who had positive attitude towards PC increased gradually from those who had poor, fair to good knowledge with a significant difference. Twenty five percent of HCPs of El-Minia governorate did not apply any item of PC practice and 75% had poor practice (either they previously attend PC training program or they have a written plan about preconception care only). Sixty eight percent of HCPs attribute lack of PC application to absence of female's visit to primary health care (PHC) centers before pregnancy, 25% to lack of skills, 5% that they have no time and 2% that PC is not important.

**Conclusion:** Most HCPs in El-Minia governorate have poor to fair knowledge about PC. PC is not applied in PHC centers in El-Minia governorate as the females do not

visit these centers before they get pregnant. Females in the child-bearing period are not informed about the importance of PC.

# **KEY WORDS:**

Primary Health Care Preconception Care

# **INTRODUCTION:**

Preconception care is the visit that takes place several months before conception to identify any problems that might be harmful once pregnancy occurs and to teach healthy behaviors that will result in successful pregnancy experience. Unfortunately, a survey in USA showed that only 28% of women who planned their pregnancy had a preconception visit (Decker, et at., 2006).

A good pregnancy outcome is partly determined by a women's preconceptional health and healthy lifestyle. Nowadays the incidence of malformations. congenital preterm births, low birth weight and maternal mortality has not significantly declined over the years. The most vulnerable period for fetal defects is between 4 and 10 weeks of gestation, the period of embryogenesis, meaning that counseling for a healthy life style and reducing high-risk conditions should start preferably before conception (Witters I., et al., 2010).

During a preconception visit, the HCP obtains a complete history and physical examination to assess for health problems (such as diabetes, sexually transmissible infections), habits (such as use of alcohol or drugs), or social problems (such as domestic violence) that might unfavorably affect pregnancy (Katz, 2008).

There are steps a woman can take during PC to reduce the risk of certain problems during pregnancy, Health Care Providers El-Minia.

firstly folic acid – The U.S. Public Health Service recommends that women of childbearing age get at least 400 micrograms of folic acid every day, through food and/or supplements. Many HCPs recommend supplementing the diet with folic acid for 3 months before getting pregnant and at least during the first 3 months of pregnancy to reduce the risk of birth defects.

Then, proper immunizations for the mother – Women who are thinking about getting pregnant should make sure they have been properly vaccinated for certain diseases that could harm a developing fetus (such as chicken pox or rubella).

Finally, healthy behaviors – Having a healthy weight and diet and getting regular physical activity can help both the mother and fetus during pregnancy. Avoiding smoking, alcohol, or drug use is also important. In addition, certain medications and exposures in the environment can be harmful to the fetus and it is important to avoid them during pregnancy (such as chemicals, or cat and rodent feces) (National institute of child health and human development last updated 2007).

Ideally, women schedule appointments with physician or nursesmidwives before becoming pregnant to obtain accurate reproductive life planning information, receive reassurance about fertility, and any problems that may need correction through health history, pelvic examination, and Papanicolaou (PAP) test. At this visit, hemoglobin level and blood type (including Rh factor) can minor be determined; vaginal infections such as arising from Candida or Chlamydia can be corrected to help ensure fertility; and the women can be counseled on the importance of good protein diet, adequate intake of folic acid, and early prenatal care if she become pregnant (Moos MK, 2004).

Nurses are often the first HCPs to encounter women with preconception and prenatal issues. Nurses play an important role in beginning the preconception counseling process and referring women and their partners for further genetic testing when indicated. An accurate and thorough family history is an essential part of preconception counseling. Nurses in any practice setting can obtain patient's history during initial encounter. The purpose is to gather patient and family information that may provide clues as to whether the patient has a genetic trait, inherited condition, or inherited predisposition (Erlen, 2006).

Preconception care (PC) should be an integral part of the primary care services available to every woman with the potential for childbearing. A portion of each primary care visit for women of childbearing should focus on assessing the woman's risk for poor pregnancy outcome and offering intervention for improving those outcomes (Moos MK, 2004).

The health of the parents, prior to the woman's pregnancy, is vital to the ultimate health of the baby. Promoting the health of women, men, and families before pregnancy thus merits attention as an important aspect of family- centered maternity and newborn care. Throughout their reproductive lives, most women never really "know" when, or if they will become pregnant (Raphael-Lerr, 1991).

In current time, couples can become aware of the possible genetic risks to future offspring and of the reproductive options available. These options include not only prenatal diagnosis followed (or not) bv termination of the pregnancy in case of an affected fetus or by coming to terms with the risk, but also the choices of using preimplantation genetic diagnosis, using donor sperm or oocytes, seeking adoption or refraining from having children. In culturally related marriage practices, it could also result in choosing a different partner (Pascal B. et al., 2011).

Throughout their lifetimes. women and men see primary care practitioners for a variety of reasons. The majority of women, however, do not specifically access a practitioner for preconception information. It is therefore recommended that preconception health counseling be provided as part of general preventive care, or during primary care visit for other health problems, during review of birth control or during her premarital examination (Public Health Service Expert Panel, 1989; Frede, 1993).

Preconception focuses not only on the physical preparation for pregnancy and parenting, but also on the social, psychological, and spiritual elements. Positive and realistic attitudes about pregnancy and parenting, which are formed at an early age, are fine-turned throughout life. Although society at large must have general awareness of preconception health, interest in this information will be influenced by such factors as people's age and life stage, their childbearing history, and their life priorities (Public Health Service Expert Panel, 1989; Frede, 1993).

# AIM OF STUDY:

Measuring awareness of primary HCPs in El-Minia governorate about PC.

# Justification of study:

There have been important advances in medicine and prenatal care in recent years. Despite these advances, birth outcomes are worse. Many babies are born prematurely or have low birth weight. So women need be healthier before becoming to pregnant. While this is not a new idea. there has not been an organized effort to promote preconception health and health care until now.

# **SUBJECTS AND METHODS:**

**Design:** The research design used for the study was the descriptive design. Sample: A total of 328 HCPs working in rural units and MCH centers were included in the present study. All MCH centers of the Governorate were included (their number were 10, two in El-Minia City and one in each district of El-Minia governorate). Ten percent of villages were chosen randomly from each district to represent the rural units (36 rural units out of total 223 rural units were included). Those HCPs are classified into two groups, Group I (220 HCPs of rural units) and group II (108 HCPs from MCH centers) from El-Minia Governorate. Group I comprises 40 physicians and 180 nurses of rural units, Group II comprises 30 physicians and 78 nurses of MCH centers from El-Minia governorate.

**Tools:** Tools used for data collection consisted of: Interviewing sheet: Data were collected by a designed well structured questionnaire. Every HCP was inter-viewed, the aim of the study was explained, a verbal consent was taken from each person participated in the study and the questions were filled by the researcher. The questionnaire included: -Demographic data: name, age, sex, residence and occupation.

The questionnaire covered knowledge regarding definition and content of PC and questions about importance and application of PC. The questionnaire covered different aspects of PC in terms of importance of the following topics: checking rubella immunity, advising about folic acid supplementation, genetic and chronic health problems, screening for genital infections and for hepatitis, and maternity care.

A scoring system was designed for assessment of HCP's knowledge attitude and practice about PC, four questions were designed for knowledge, four for practice and 26 questions for attitude, one degree allocated for right answer. So four degrees for knowledge, four degrees for practice and 26 degrees for attitude would be considered. Three scoring levels were determined:

**<u>1. For knowledge:</u>** Poor knowledge (1 degree), fair knowledge (2 degrees) and good knowledge (3 or more degrees).

**<u>2. For attitude:</u>** Negative attitude (<13 degrees) and positive attitude (13 or more degrees).

**<u>3. For practice:</u>** No practice (0 degree), Poor practice (1 degree), fair practice (2 degrees) and good practice (3 or more degrees).

# Statistical analysis:

The data were coded and verified prior to data entry. The Statistical Package of SPSS version 16 for windows was used for data entry and analysis. Descriptive Statistics were calculated. For qualitative data, Chi<sup>2</sup> test was used and for quantitative

date, ANOVA test (for more than two groups) was used. Correlation was used to compare two quantitative data. A significant P-value was considered when P-value was less than 0.05.

# **RESULTS:**

This study measures the awareness of 328 HCPs in El-Minia governorate about PC. Two hundred and thirty of the studied HCPs (70.1%) were females and 98 (29.9%) were males and the mean age was 37.2±10.9 years.

PC is thought by HCPs in El-Minia governorate, to be most appropriately delivered in general practice despite a paucity of good training, practitioners feel they have the appropriate skills and are suitable people to offer this care. Conversely, however, it is not a high priority for them and they do not feel they have enough resources to offer this service. Most HCPs believe that women do not often plan their pregnancies, reducing the opportunity for PC to be given.

It was found that the percenttage of HCPs with good knowledge were higher among group II (HCPs of MCH centers) than that of group I (HCPs of rural units) and the difference was significant (P = 0.01) as shown in figure 1.

Regarding relation between knowledge towards PC and sex, it was found that 24.3% of females versus 16.4 % of males had good knowledge and this difference was not significant (P=0.07). In the regard of residence, 29% of the HCPs who live in urban areas versus 18.2 % of those living in areas had good knowledge rural towards PC and this difference was significant (P = 0.01). In comparing knowledge towards among PC different jobs of HCPs, it was found that physicians have the highest percentage of good knowledge (28.6%), but this difference was not significant (P = 0.3). Among HCPs who previously attended PC training program, 27.1% had good knowledge in comparison to 8.8% among those who did not attend and this difference was significant (P = 0.0001) as shown in table 1.

Regarding relation of knowledge towards PC and both age and years of experience of HCPs, it was found that the mean age and years of experience was highest among those with fair knowledge (P = 0.03 and 0.02) for age and years of experience respectively. On performing Post Hoc test the difference between those having poor and fair knowledge only was significant (P = 0.01 and 0.07) for both age and years of experience respectively as shown in table 2.

In comparing different groups regarding attitude towards PC, it was found that percentage of HCPs with positive attitude were higher among group II (HCPs of MCH centers) than that of group I (HCPs of rural units) but the difference was not significant P = 0.8) as shown in figure 2.

studying the relation On between attitude and sex, it was found that 47.4% of females versus 51 % of males had positive attitude and this difference was not significant (P=0.5). Regarding attitude, 49.1% of HCPs living in urban areas versus 48.2% of those living in rural areas had positive attitude towards PC but the difference was not significant (P = 0.8). In comparing attitude towards PC among different jobs of HCPs, it was found that the highest percentage of those having positive attitude (61.4%) was among physicians with a significant difference (P = 0.005). Nearly 59% of HCPs who previously attended PC training program versus 22% of those who did not attend had positive attitude and the difference was significant (0.0001) as shown in table 3.

Figure 3 showed that there was a significant fair correlation between attitude score of HCPs towards PC and their age (r= 0.28 and P= 0.0001). Figure 4 showed that there was a significant moderate correlation between attitude score of HCPs towards PC and their years of experience (r= 0.43 and P= 0.0001).

Figure 5 showed that percentage of HCPs who had positive attitude towards PC increased gradually from 33.8% among those who had poor knowledge to 47.2% and 68.1% among those who had fair and good knowledge respectively with a significant difference (P = 0.0001).

Twenty five percent of HCPs of El-Minia governorate did not apply any item of PC practice and 75% had poor practice (either they previously attend PC training program or they have a written plan about preconception care only) as shown in figure 6. Sixty eight percent of HCPs attribute lack of PC application to absence of female's visit to PHC centers before pregnancy, 25% to lack of skills, 5% that they have no time and 2% that PC is not important as shown in figure 7.

Figure (1): Knowledge towards PC in different study groups of HCPs, El-Minia governorate, 2010.



#### I = HCPs of rural units

**II** = **HCPs** of **MCH** centers

Some demographic charact		Knowledge							P-value	
and previous attendance			Poor Fair		Good		Total			
of PC training program		No	%	No	%	No	%	No	%	
		80	24.3	176	53.7	72	22	328	100	
Sex	Male	31	31.6	51	52	16	16.4	98	100	
	Female	49	21.3	125	54.3	56	24.3	230		0.07
Residence	Rural	63	28.6	117	53.2	40	18.2	220	100	
	Urban	17	15.7	59	54.7	32	29.6	108	100	0.01
Job	Nurse	62	5.9	126	52.8	51	21.3	239	100	
	Rural raeda	4	21.1	10	52.6	5	26.3	19	100	0.3
	Physician	10	14.3	40	57.1	20	28.6	70	100	
PC training	No	45	9.4	38	41.8	8	8.8	91	100	
Program	Yes	35	4.7	138	58.2	64	27.1	237	100	0.0001
attendance										

**Table (1):** Relation between knowledge towards PC and some demographiccharacters of HCPs in El-Minia governorate, 2010.

**Table (2):** Relation between knowledge towards PC, age and years of experience of<br/>HCPs in El-Minia governorate, 2010.

Item		<b>P-value</b>		
	Poor	Fair	Good	
	(mean ±SD	(mean ±SD	(mean ±SD	
Age	34.5±10.1	38.3±10.7	37.5±11.6	0.03
Years of	13±9.9	16.9±10.9	16.1±11.2	0.02
experience				

Post Hoc test

Item	Poor and fair	Poor and good	Fair and good		
Age	0.01	0.09	0.6		
Years of experience	0.007	0.07	0.5		





**I** = **HCPs** of rural units

**II = HCPs of MCH centers** 

	Attitude				Total		P-value	
Some demograp	Negative		Positive					
training program		No	%	No	%	No	%	
		169	51.5	159	48.5	328	100	
Sex	Male	48	49	50	51	98	100	
	Female	52.6		47.4		230	100	0.5
Residence	Rural	114	51.8	106	48.2	220	100	
	Urban	55	50.9	53	49.1	108	100	0.8
Job	Nurse	127	53.1	112	46.9	239	100	
	<b>Rural leader</b>	15	78.9	4	21.1	19	100	0.005
	Physician	27	38.6	43	61.4	70	100	
Attendance of	No	71	78	20	22	91	100	
PC training program	Yes	98	41.4	139	58.6	237	100	0.0001

**Table (3):** Relation between attitude towards PC and some demographic characters of<br/>HCPs in El-Minia governorate, 2010.

### Figure (3): Relation between attitude score towards PC and age of HCPs in El-Minia governorate, 2010.



# Figure (4): Relation between attitude score towards PC and years of experience of HCPs in El-Minia governorate, 2010.



Figure (5): Relation between knowledge and attitude towards PC among HCPs in El-Minia governorate, 2010.



### Figure (6): Practice towards PC among HCPs in El-Minia governorate, 2010.



# Figure (7): causes of lack of PC practice application among HCPs in El-Minia governorate, 2010.



#### **DISCUSSION:**

Every woman of reproductive age who is capable of becoming pregnant is a candidate for PC, regardless of whether she is planning to conceive. Preconception care is aimed at identifying and modifying biomedical, behavioral, and social risks through preventive and management interventions. Key components include risk assessment, health promotion, medical and psychosocial interventions. Patients should formulate a reproductive life plan that outlines personal goals about becoming pregnant based on the patient's values and resources. Preconception care can be provided in the primary care setting and through activities linked to schools, workplaces, and the comm.unity (Michael. L.U, David G., 2007)

The results of this study demonstrated that the HCPs in El-Minia governorate exhibited gaps in knowledge about specific preconception health topics, but they understood the importance of PC and realized that it should be obtained. Although they realized PC importance, the majority did not apply it in their work. This is in agreement with Henderson JT, et al, 2002 who found that all providers who routinely treat women for well-woman examinations or other routine visits play an important role in improving preconception health. However, only approximately one of six obstetrician/ gynecologists or family physicians had provided PC to the women for whom they provided prenatal care. Previous studies confirmed that women do have an increased awareness of the importance of folic acid supplementation (Morin et al., 2002); (De Jong et al., 2005); (Chacko et al., 2003) and (Per low, 2001).

PC is thought by HCPs in El-Minia governorate, to be most appropriately delivered in general practice. Despite a paucity of good training, practitioners feel they have the appropriate skills and are suitable people to offer this care. Conversely, however, it is not a high priority for them and they do not feel they have enough resources to offer this service. Most HCPs believe that women do not often plan their pregnancies, reducing the opportunity for PC to be given. In this study, 68% of HCPs attribute lack of PC application to absence of female's visit to PHC centers before pregnancy, 25% to lack of skills, 5% that they have no time and 2% that PC is not important. Woolf S.H. and Atkins D., 2001 said that, as with other types of preventive care services, time constraints limit physicians' ability to deliver health promotion interventions. It appears that service access problems

and resource constraints may be preventing the delivery of an important and useful service, PC which could benefit the health of the population (Rogers et al., 1998).

A Healthy People 2000 objective is that 60% of primary care physicians should provide age-appropriate PC. This objective was deleted from Healthy People 2010 because it was not being measured. Although no specific objective for preconception exists, several of those specified in Healthy People 2010 are relevant to preconception health (US, 2000).

# CONCLUSION:

Most HCPs in El-Minia governorate have poor to fair knowledge about PC. PC is not applied in PHC centers in El-Minia governorate as the females did not visit these centers before they get pregnant. Females in the child-bearing period are not informed about the importance of PC.

### **RECOMMENDATIONS:**

PC curriculum can serve as a roadmap for both graduate and continuing medical education to improve the knowledge and skill of the physician workforce in the delivery of comprehensive preconception health care. Health care providers also need accurate and up-to-date information on preconception health issues. Continuous PC training programs must be performed for HCPs, health education for women about PC importance is necessary. Ministry of health must put PC as a must in all PHC centers. It is recommended that preconception health counseling be provided as part of general preventive care, or during primary care visit for other health problems or during her premarital examination to improve women's health today and get healthy babies tomorrow.

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# الملخص العربى وعى مقدمي الخدمة الصحية الأولية بمحافظة المنيا عن رعاية ما قبل الحمل

# مقدمة

تعتبر رعاية ما قبل الحمل مكون أساسي للرعاية الصحية للنساء في عمر الإنجاب. كما أن الهدف الأساسي من رعاية ما قبل الحمل هو الارتقاء بالصحة والتدخل لتقليل عوامل الخطورة التي تؤثر على الحمل المستقبلي للنساء في سن الإنجاب.

# الهدف:

قياس وعى مقدمي الخدمة الصحية بمحافظة المنيا فيما يخص رعاية ما قبل الحمل و ذلك لتحسين صحة المرأة اليوم و الحصول على أطفال أصحاء في الغد.

# المرضى وطرق البحث:

نوع الدراسة: دراسة مقطعية. تضم المجموعة المستهدفة 328 من مقدمي الخدمة الصحية العاملين بمراكز صحة الأم والطفل وبعض الوحدات الريفية بمحافظة المنيا. وقد احتوت الدراسة على كل مراكز رعاية الأمومة والطفولة بالمحافظة وأربع وحدات ريفية فقط من كل مركز من مراكز المحافظة تم اختيارها عشوائيا. تم تجميع البيانات من خلال استبيان يحتوى على بيانات شخصية, اجتماعية وبيانات متعلقة بالمعلومات والاتجاهات والممارسات الخاصة برعاية ما قبل الحمل. وقد تم تصميم نظام لتقييم معلومات واتجاهات وممارسات مقدمى الخدمة الصحية وتم وضع درجة للإجابة الصحيحة.

# النتائج:

وجد من خلال هذه الدر اسة أن 22% من مقدمي الخدمة الصحية بمحافظة المنيا لديهم معلومات جيدة المستوى كما أن 48.5% منهم يتمتعون باتجاه إيجابي تجاه رعاية ما قبل الحمل. وكانت نسبة مقدمي الخدمة الصحية اللذين لديهم معلومات جيدة المستوى واتجاهات إيجابية أعلى بين العاملين في مراكز رعاية الأمومة و الطفولة عن العاملين في الوحدات الريفية مع وجود فرق إحصائي فيما يخص المعلومات فقط. كما وجد أن النسبة الأعلى من اللذين لديهم معلومات جيدة المستوى توجد بين النساء بينما توجد النسبة الأعلى من اللذين لديهم اتجاهات إيجابية بين الرجال. توجد علاقة طردية بين الاتجاه وكل من العمر وسنوات الخبرة لمقدمي الخدمة الصحية. مقدمي الخدمة الصحية اللذين يعيشون في الحضر لديهم نسبة أعلى من اللذين يعيشون في الريف فيما يخص المعلومات جيدة المستوى والاتجاهات الإيجابية. النسبة الأعلى ممن لديهم معلومات جيدة المستوى واتجاهات إيجابية توجد بين الأطباء. وجد أن حضور دورات تدريبية عن رعاية ما قبل الحمل يؤثر إيجابيا على كل من المعلومات والاتجاهات الخاصبة بر عاية ما قبل الحمل لدى مقدمي الخدمة الصحية. تز داد نسبة مقدمي الخدمة الصحية ذوى الاتجاه الإيجابي تدريجيا بين هؤلاء الذين لديهم مستوى سيء ثم متوسط ثم جيد من المعلومات. اتضح أن 25% من مقدمي الخدمة الصحية بمحافظة المنيا لا يطبقون نظام رعاية ما قبل الحمل علَّى الإطلاق و75% منهم لديهم تطبيق ضعيف و قد أرجع 68% من مقدمي الخدمة الصحية عدم تطبيق هذه الخدمة إلى عدم زيارة الإناث لمراكز الرعاية الصحية الأولية قبل الحمل و25% منهم إلى نقص المهارة الخاصة بهذه الخدمة كما أرجعها 5% إلى ضيق الوقت و2% إلى عدم أهمية هذه الخدمة.

# الخلاصة:

يتراوح مستوى المعلومات بين معظم مقدمى الخدمة الصحية بمحافظة المنيا بين المستوى السيء والمتوسط. لا يتم تطبيق نظام رُعاية ما قبل الحمل في مراكز الرعاية الصحية الأولية بمحافظة المنيا وذلك لعدم زيارة الإناث لهذه المراكز قبل الحمل. لا يتم تثقيف الإناث في فترة الإنجاب عن أهمية رعاية ما قبل الحمل.

التوصيات: لابد من وجود برامج تدريب مستمرة عن رعاية ما قبل الحمل لمقدمي الخدمة الصحية وزارة الصحة وكذلك تثقيف صحى للنساء عن أهمية رعاية ما قبل الحمل. يجب أن تضَّع وزارة الصحة ا رُعاية ما قُبل الحمل كمطلب ضروري في كل مراكز الرعاية الصحية الأولية. يوصى بتقديم مشورة ما قبل الحمل كجزء من الرعاية الوقائية العامة أو أثناء زيارة الرعاية الأولية لأسباب صحية أخرى أو فحص ما قبل الزواج.