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NEONATAL OUTCOME IN PREGNANCIES IN WOMEN WITH SCHIZOPHRENIA

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Abstract:

Objectives:

The study aim was to identify whether pregnancies with schizophrenia as a risk factor are associated with adverse perinatal outcomes, considering the fact that the "paternalistic" approach regarding fertility in these patients is overcrossed.

Material and method:

Based on records linkage across birth register cases and neonatal assistance, the study compressed a number of 43 pregnant schizophrenic women who had given birth during 2005 – 2010 in Hospital "Elena Doamna" Iași. A comparison sample of 43 births to women without a psychiatric diagnose was randomly selected from women giving birth during 2005 – 2010.

Results:

Schizophrenic patients has increased risk of pregnancy, birth and neonatal complications, including placental abnormalities, antepartum hemorrhages and fetal distress, reflected in significant number of birth infants in the lowest weight/ growth population decile and children with cardiovascular con-

genital abnormalities. Neonatal complications were significantly more likely to occur in winter; low birth weight in spring. Surprising, no significant differences were related between the groups regarding labour complications such as C-section delivery. Complications other than low birth weight and congenital anomalies were higher in pregnancies after psychiatric illness than in pregnancies preceding the diagnosis.

Conclusions:

Since genetic susceptibility to schizophrenia is associated to obstetrics insults and varying degrees of parental genetic risk, in this respect, a research on neonatal complications on schizophrenic mothers and their offsprings named "strategic population" by Rosenthal, that shows that these children have an 8 to 10 fold high risk of developing schizophrenia comparing to the general population, the process of making assisted decision constitute key components of the ethical framework and of professional responses to impairment in autonomy, so the psychiatrist, family planning and sexual health services should be integrated in order to provide required assessment, monitoring and protection of patients and their children.

Keywords: neonatal, schizophrenia, complications

Rezumat:**Objective:**

Scopul studiului a fost de a identifica dacă femeile schizofrene însărcinate, ca un factor de risc, este asociat cu rezultate negative perinatale, având în vedere faptul că abordarea „paternalistă” cu privire la fertilitate la aceste paciente este depășită.

Material și metodă:

Bazat pe registrele de evidență a nașterilor și asistență neonatală, studiul a comprimat un număr de 43 femei schizofrene gravide, care au născut între anii 2005 – 2010 în Spitalul „Elena Doamna” Iași. Un eșantion de 43 de nașteri la femei, fără un diagnostic psihiatric, a fost selectat aleatoriu din rândul femeilor care dau naștere între anii 2005 – 2010.

Rezultate:

Pacientele cu schizofrenie au un risc crescut de complicații ale sarcinii, nașterii și perinatale, inclusiv anomalii placentare, hemoragii antepartum și suferință fetală, reflectat într-un număr semnificativ de copii cu greutate mică la naștere și a copiilor cu anomalii congenitale cardiovasculare. Complicații neonatale au fost semnificativ mai probabil să apară în timpul iernii, iar greutatea mică la naștere, primăvara. Surprinzător, nu au fost diferențe semnificative între grupurile legate de complicații în ceea ce privește modul nașterii, cum ar fi operația cezariană. Alte complicații decât greutatea mică la naștere și anomalii congenitale au mai fost înregistrate, însă într-un număr mult mai mare, în sarcini ale femeilor diagnosticate cu afecțiuni psihiatrice, spre deosebire de cele ale femeilor însărcinate, diagnosticate ulterior cu schizofrenie.

Concluzii:

Deoarece susceptibilitatea genetică a schizofreniei este asociată cu insulte obstetricale și diferite grade de risc pentru creșterea copilului, în acest sens, o cercetare privind complicațiile neonatale ale mamelor cu schizofrenie și copiii lor, numiți „populație strategică” de către Rosenthal, care arată că acești copii au un risc de 8 până la 10 ori mai ridicat de a dezvolta schizofrenie comparativ cu populația generală, procesul de luare a deciziilor informate constituie componente-cheie ale cadrului etic și a răspunsurilor profesionale pentru apărare în autonomie, astfel încât psihiatrul, planificarea familială și serviciile de sănătate ar trebui să fie integrate, în scopul oferirii unei evaluări necesare, monitorizării și protecției pacientelor și copiilor lor.

INTRODUCTION

The purpose of this study is to determine the incidence and type of pregnancy complications, labour and how the product of conception and the way that deliverance in mothers suffering from schizophrenia, considering the fact that the frequency of unwanted and unplanned pregnancies in this population is different compared to that of general population, which would be to sensitize all stakeholders in health care in the context of meeting the risk group of patients, in special, family planning programs.

Considering now that the sexual impulse is increased at the onset of schizophrenia, decreased gradually during evolution, and because of the stigma associated with it, that makes sick to experience social and emotional difficulties which result in lack of motivation to participate in life day by day due to desperation, confusion or various disease symptoms associated with type results and lack elusive relationships. It was assumed, in studies conducted before the adoption of neuroleptic medication (1950) that fertility is reduced, the conclusion is a major approach “paternalistic” of the subject.

Although these studies used data from register cases and making available records which would have to confirm a reduction in fertility of these patients (1), it was not actually seen any real decrease rather reduce the frequency of births are due to the social and cultural factors such as marital relations and the low number (when considered as a barrier to reproduction), and increased frequency of therapeutic abortions and the long duration of hospitalization of patients during the most fertile years.

How psychiatric practice has evolved since 1970 by changing its orientation from institutionalization to community care, its main argument is afferent to reduce social stigma mental illness and due to the fact that children born outside marriage become a common practice, the latest studies show a change of fertility (ability to conceive) and fecundity (number one for children) to schizophrenia (2, 3), without a clear assessment of the influence of psychotropic drugs on them.

METHOD

The study group consisted of 43 patients suffering from schizophrenia who were born in 2005 – 2010 in nursery Hospital “Elena Doamna” Iași compared with a group of 43 other patients without associated psychiatric pathology, evaluating the prognosis and neonatal complications in particularly: low birth weight, premature birth or fetal death, neonatal injuries and to discuss the case when the high frequency of neonatal complications in this group of patients with schizophrenia is due exclusively to genotype, and to birth or a flash of maternal risk factors (low socioeconomic status lack of social support, maternal age at conception, smoking etc.), are observing that, even when risk factors can be kept under control, the incidence of this category of risk to newborns remains high even in pregnancies that occur after onset of mental illness.

We must consider the possibility of interference between socio-economic factors and the adverse effects of antiepileptic drugs used during pregnancy, but also a complex interaction between maternal genotype, maternal behaviour and inadequate perinatal environment.

In a study that evaluates the date of birth, child’ sex, maternal age and parity as it is was observed that premature birth or neonatal mortality is significantly increased as clearly explained by the increased risk of sudden death. There was a statistically significant increase in premature births, although schizophrenic mothers and children do not demonstrate particularly high risk population compared to the opposite general population with malformations. (4) All this requires a new perspective on obstetric complications in terms of epidemiology: is absolutely clear that we deal with very few risk factors in the incidence of a disease (schizophrenia) of 1% of the general population.

Unfortunately, a pretty clear picture will never be done, but it seems that the lack of specificity may be “per se” influenced.

Obstetric events by their nature are inextricably crossed so that any complication during pregnancy appears to increase the risk of subsequent complications and has its impact on labour and birth. Genetic and maternal behaviour significantly affects fetal growth and development, and the complications of pregnancy will affect the opposite physical and mental condition of the mother (e.g. gestational diabetes increases the risk to amble preeclampsia and increase the risk for complications during childbirth). Both susceptibility and impact extend after birth, because of perinatal infections seem to increase risk for later schizophrenia. Animal studies show that obstetric injuries “sensitizes” dopaminergic transmission and are more susceptible to environmental risk factors. Moreover there appeared new evidence about risk factors for late-onset schizophrenia such as: use of cannabis (abuse), immigration, social events and daily events that could contribute to a pattern that would require a change of perception on the role of obstetrics complication, which undoubtedly plays a role in the etiology of obstetric complications, but whose nature and importance are not sufficiently clear.

Obstetric events certainly seem to constitute a risk factor with a nonspecific effect rather low importance in which are involved numerous other physical and psychological disorders (5.6); it is obvious that they are neither necessary nor sufficient causal factors of schizophrenia. Obstetrical complications occur in approximately 10 – 25% of the general population and a vast majority of these cases result in schizophrenia. On the other hand, it has been revealed that remarkable events in obstetrical history can not therefore be considered as a causal factor in schizophrenia but be included in risk factors group.

Paraphrasing Kendler (7), in his presentation about the impact of genetic risk factors for obstetric complications on the individual risk of schizophrenia it is the opposite of “small, usually non-specific” and rooted in pathological cases of surprising complexity. However genetic factors can not be ignored even if they are of minimal effect. It is evident that shaped genetic risk, obstetrical risk or other risk factors exist for schizophrenia.

Obstetric complications effectively represent one of the best environmental risk factors and should stay at the forefront of any research to elucidate causal genetic mechanism and interaction – with environmental factors that lead to installation of this highly complex disorder.

The attitude of schizophrenic women, towards the pregnancy, continued, they wish to become pregnant but too few realize they have fewer opportunities to be parents and give the right answers to “bizarre” questions about pregnancy, showing that their ideas about contraception and pregnancy are damaged by the mental illness, which leads to the conclusion that implementing a family planning program is of certain need.

High risks for pregnancies, births and neonatal complications (8) are increased in schizophrenic patients including placental abnormalities, ante partum hemorrhage and fetal distress. Women with schizophrenia were significantly more than *abruptio placentae* (23%) give birth to a larger number of low birth weight babies (47%) or congenital cardiovascular abnormalities (32%). Important neonatal complications are higher in winter and the peak incidence of low birth weight is reached in the spring. Other complications (51%) out of low birth weight and congenital anomalies are higher in pregnancies after the onset of mental illness compare with preceding diagnosis.

Although pregnancy is considered as a moment of delight and joy to many pregnant women, it might develop severe anxiety disorders during pregnancy. Pregnancy can also complicate their previous mental illness. Psychiatric medications can provide relief of symptoms and allow women to enjoy life again.

But how safe it is to take psychiatric medication during pregnancy? It can affect the developing of the fetus? 20% of women suffer from one or another mental disorder during pregnancy. From depression and anxiety to schizophrenia, pregnant women are suffering from the same disease as women who are not pregnant. Doctors are very hesitant to prescribe psychiatric medication to pregnant women. In fact, most pregnant women are discouraged to take any medication for fear that drugs and pregnancy doesn't go well together. Today more information is available about the effect of psychiatric medications on the fetus and to conclude, more women are able to maintain treatment for their mental illness. All products are tested for use at a certain time during pregnancy. There are fewer available data about the effects of new atypical psychiatric medications on pregnancy because there was no time to carry out studies that had to prove facts we should be certain of.

Several types of medications have little or no side effects during pregnancy and therefore are safe to take. Others, on the contrary, have many risks with pregnancy and congenital malformations, perinatal syndromes and behavioural disorders, and medications are avoided during pregnancy. All psychiatric drugs cross the placenta during pregnancy even in small quantities.

When is tested the effect of psychiatric medications on pregnancy there are evaluated three important issues: the frequency of birth defect (structural teratogenicity), the frequency of behavioural problems (behavioural teratogenicity) and frequency of unusual symptoms that occur directly after birth. The risk is greater in structural teratogenicity from the second until the eight week after fertilization, during which most organs and system are developing. Behavioural teratogenicity is represented by the frequency of behaviour disorders or presence of neuropsychiatric symptoms in newborns after exposure to drugs or toxins. Perinatal syndromes are caused by psychiatric medication admi-

nistration almost during the process of birth similar to poisoning. In some cases, these effects are well plausible, like drowsiness and hypotonia of infants exposed to intrapartum benzodiazepines.

Antipsychotic agents can be grouped into three categories: high potential (as haloperidol) chlorpromazine and with low potential as new agents like risperidone (Risperdal), clozapine (Clozaril), olanzapine (Zyprexa). A small but statistically significant risk for nonspecific teratogenic effects has been associated with exposure to drugs with low potential, in the first quarter.

Among the high-potential pharmacological agents, haloperidol has been extensively studied showing that not giving birth defect in the first quarter and is preferred during pregnancy. Data on behavioral teratogenic effect is limited and insufficient, even on the new pharmacological agents. The individualization of treatment decisions should take into consideration that the most important factor is releasing patients from pain under medication.

Natural history of symptoms and various disorders of pregnancy and childbirth must be taken specifically into account.

CONCLUSIONS

In the context of permanent change of family structure, we found that 38% of births occurred outside marriage and the number of divorced and separated women has increased. It is common sense that parents have an important role in protecting and promoting children's physical and emotional health, on the second row standing efforts to ensure child safety and, in the third row, the potential of child bearing may act as an engine to suit adversities, poverty or delinquent influences and can also be a mediator of disaster and in child sexual abuse. There is a reasonable consensus about what it means to be "bad parent", we don't have the same consensus on what "good parenting" means. This represents a complex and demanding job (24 hours) and the support is fragmented between different health services that do little to involve the families in preventive action. Mothers that had bad experiences in childhood are less likely to receive help from child care or social support in order to get them into their new role. Single teenage mothers are a particularly vulnerable group, and the women fearful of the obligation to give children in care services don't trust or feel inhibited to ask for help. A significant proportion of mothers with psychiatric disease should be helped by mental health professionals, as they tend to ignore their role as parents considering motherhood as a service issue than a health problem.

A study in the University of Heidelberg, Germany analyzed the interaction between 30 mothers and their schizophrenic children. Using video techniques, it has been shown that many mothers are suffering from deficient attention and severely affected the motor function, but also, across other functions needed across these interactions. Negative symptoms and experiencing paranoid dysfunction may severely affect the sensitivity of maternal innate sensitivity to intuitive competence. Maternal response to infants signals can be greatly reduced. On the other hand, another study at the University of Toronto, Canada, showed that 50% of women with schizophrenia are mothers, which is approximately equal to the number of those who become mothers in the healthy population, representing above one third in favour of losing custody to family members, former partners, social services or even adoption; few maintain their child custody, which is a tough decision for social workers to make an comprehensive approach when they should take into account not only the right of the woman to be the mother of her child, but the child's right to be raised by his biological family. On the other hand, this definitely involves taking in to account the emotional safety of children diagnosed should not be the basis for this decision, and closely observing the mother and child based on his mothers disease that is to be judged.

Maternal abilities may be severely affected appreciating wrong the opposite intentions of child, relieving it, or higher authority children. Moreover the mother's ability to care of her child may be affected by psychotic interpretations, delusions and other symptoms associated with schizophrenia.

The positive aspects of motherhood in women with schizophrenia include pride, motivation and a sense of importance for mother and mobilization of the family.

The negative aspects can be a combination of stress and the progression representing motherhood and the same time, stopping the medication to stay awake, being afraid of loosing custody which may cause the patient to seek help when they are not en relapse. Financial problems, usually, day by day, housekeeping and partner may complicate the life of single mothers, which is very common among patients with schizophrenia, and other problems may arise due to poor education and the concomitant abuse of various substances. Children of mothers with schizophrenia develop more behavioural problems than healthy children, and the mothers have different disorders as adults. Partial explanation could be given but the genetic transmission was observed in children raised elsewhere, but also because of negative experiences from childhood. Schizophrenic women aid must be urgently and not include a psychiatric nurse but only family counselling, social assistance and support as parents, making necessary the establishment of mother child care units. (9)

Given all this, Health and Family Planning Services should assess the sexual behaviour of each group of patients, their background, level of mental illness and to account for the strict use of any type of contraception in order to achieve family planning. In this analysis must be regarded as the primary coordinates compliance and availability of all those involved in order to obtain a certain level of quality of life, even in compelling the existence of this category of patients “disadvantaged” because of mental illness.

Acknowledgments and disclosure

The authors declare that they have no potential conflicts of interest to disclose

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