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Mental health and maternal risk appraisal among parents with fetal life-limiting condition diagnosis

Abstract

Introduction: Diagnosis of fetal life-limiting condition (FLLC) means a painful loss. Prenatal medical care is carried out in situations of emotional overload for parents, and the method of its implementation carries a serious risk of additional traumatization. The study aimed to evaluate the parents' mental condition after the diagnosis and its correlation with subjective maternal risk appraisal.

Methods: Retrospective analysis of medical records including General Health Questionnaire and maternal risk appraisal.

Results: Fifty-one couples qualified for perinatal palliative care participated in the study. The final analysis included 32 couples. Parents obtained very high results in general health evaluation and high in all dimensions (apart from depression) and mental health of the mothers in whom the genetic background of FLC was confirmed as significantly worse. Parents evaluated the current health state of mothers as relatively high but projected deterioration of it after delivery. Fetal well-being was assessed as low; parents prognosed worsening of the child's condition after delivery. Subjective analysis of mother's and child's health did not correlate with their mental health. In the case of the fathers, however, the more they were convinced about the bad health condition of the child (present and after delivery), the higher their results in the area of somatization were.

Conclusions: During medical and psychological consultations in perinatal palliative care, special attention should be paid to parents with a genetic background of LLFC due to worse mental health especially in mothers and to fathers who reported somatic problems connected with conviction of a child's bad health condition.

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Keywords: fetal life-limiting condition, mental health, maternal risk appraisal, perinatal palliative care, perinatal hospice

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Introduction

Diagnosis of fetal life-limiting condition (FLLC) means a painful loss — not only of a desired healthy child but also of the fulfillment of parents' crucial emotional needs. It is a critical event of extreme stress. It becomes a turning point for the future development of an individual. Couples diagnosed with FLLC should be qualified for multidimensional care offered in perinatal hospice (PH). Prenatal medical care is carried out in situations of emotional overload for parents, and the method of its implementation (communication, procedures) carries a serious risk of additional traumatization [1, 2]. In the perinatal hospice, the authors have been providing medical and psychological support but also aiming at recognition of the nature of parental experience after FLLC diagnosis. The aim of the study was the evaluation of parents' mental condition after the diagnosis of FLLC and its correlation with subjective maternal risk appraisal.

Patients and methods

A retrospective analysis of medical data was performed, including metrical data, obstetric history details, diagnosis of FLLC, course of pregnancy, and PH care, and a set of questionnaires completed during the couple's first visit at the perinatal hospice as a part of the procedure in psychological support at PH: the results were analyzed by psychologists and used in the management of the couple. The following questionnaires were used:

- General Health Questionnaire (GHQ-28) developed by Goldberg [3] and used to measure mental health;
- Maternal risk appraisal [4].

The following single-item measures were taken to reflect aspects of women's appraisal of risk to themselves and risk to their children:

1. How healthy do you feel now?
2. How confident are you that you will be healthy after delivery?
3. How confident are you that your baby is healthy now?
4. How confident are you that your baby will be healthy after delivery?

Fathers were asked about the mother's health at the study time and after delivery; questions 3 and 4 were the same. Parents were asked to rate their answers on a five-point scale (0 = not at all, to 4 = extremely). A Bioethics Committee of the Medical University was consulted, which formally decided that this study did not need ethical approval

(RNN/140/22/KE). The study was performed by the Declaration of Helsinki.

Statistical analysis

Statistical analysis was performed using IBM SPSS Statistics version 26. The Kolmogorov–Smirnov test was used to test the normality of distribution. Statistical analyses were performed using appropriate tests of differences (Student's t-test and ANOVA). Pearson's correlation coefficient was used to measure the strength of a linear association between variables. Results were assessed using a confidence level of 95% and a statistical significance of $p < 0.05$.

Results

The study comprised 51 couples who were qualified for the perinatal palliative. After rejecting questionnaires improperly filled the final analysis included 32 couples (Table 1).

Mental health

Parents obtained very high results in general health evaluation and high in all dimensions (apart from depression). The highest results were seen in the anxiety and insomnia areas. There were no differences between the results of the mothers and the fathers (Table 1). The mental health of the mothers in whom the genetic background of FLLC was confirmed was significantly worse as compared to that of the mothers in whom FLCC was not genetically related. There were no such differences in the fathers. There was no correlation between the general mental health of the parents and the sex of the child, the age of the parents, or data from obstetric history.

Maternal risk appraisal

Mothers evaluated their current health state as relatively high but projected deterioration after delivery (Table 1). Similar results were given by the fathers evaluating the health condition of their partners. Fetal well-being was assessed as low: mothers evaluated fetal health condition as more critical than fathers; parents prognosed worsening of the child's condition after delivery.

Mental health and maternal risk appraisal — mutual dependencies

Subjective analysis of mother's and child's health did not correlate with their mental health. In the case of the fathers, however, the more they were convinced about the bad health condition of the child (present and after delivery), the higher their results in the area

Table 1. The characteristics of study participants

	Mothers	Fathers	p-value
Age, years			
Mean (SD)	33.3 (6.2)	34.2 (6.12)	
Minimum–maximum	19–44	21–46	
Place of residence, n of pairs (%)			
Village	12 (36.4)		
City < 50,000 inhabitants	4 (12.1)		
City 50,000–100,000 inhabitants	4 (12.1)		
City 100,000–500,000 inhabitants	2 (6.1)		
City > 500,000 inhabitants	10 (30.3)		
First contact with the perinatal hospice, week of pregnancy			
Mean (SD)	23.9 (6.6)		
Minimum–maximum	13–38		
Time from the diagnosis of fetal life-limiting condition, days			
Mean (SD)	39.1 (34.4)		
Minimum–maximum	5–140		
Sex of the fetus			
Female, n (%)	18 (56.3)		
Male, n (%)	14 (43.7)		
Genetic background of fetus life-limiting condition, n (%)	17 (53.1)		
Mental health — mean (SD)			
Somatic symptoms	12.2 (4.7)	12.3 (4.2)	0.933
Anxiety and insomnia	14.9 (3.6)	15.0 (3.0)	0.880
Functional disorders	13.1 (4.4)	13.6 (3.8)	0.629
Symptoms of depression	2.9 (1.8)	3.4 (2.5)	0.339
Overall score	43.1 (13.3)	44.4 (10.8)	0.680
Maternal risk appraisal			
Mother's current health	3.3 (0.8)	3.3 (0.7)	0.059
Mother's health after delivery	2.9 (0.8)	2.8 (0.9)	0.062
Child's current health	1.8 (1.1)	2.4 (0.9)	0.001
Child's health after delivery	0.8 (1.2)	1.2 (1.2)	0.001

SD — standard deviation

of somatization, and general mental health correlated with the conviction of a bad health condition of the child after delivery (Table 2).

Discussion

The present results confirm observations of other authors, who reported a positive correlation between levels of psychosocial distress and severity of the fetal anomaly [4–6], but it is surprising to see in the study

high results for parents on all dimensions apart from the depression area. No high result in the area of depression symptoms can be explained by the fact that parents of children with LLC during the present study were in a task mode — they were actively looking for support, and they contacted the hospice.

The mental health of the mothers in whom the genetic background of FLLC was diagnosed is much worse as compared to the group without genetic cause probably due to blaming oneself for the child's

Table 2. Mutual dependencies between mental health and maternal risk appraisal in the study group

	Somatic symptoms	Anxiety and insomnia	Functional disorders	Symptoms of depression	Overall score of mental health
Mothers					
Mother's current health	-0.032	0.008	-0.007	0.120	0.005
Mother's health after delivery	-0.009	-0.014	-0.005	0.201	0.018
Child's current health	0.209	0.116	0.214	0.225	0.208
Child's health after delivery	0.089	-0.050	0.034	0.066	-0.038
Fathers					
Father's current health	-0.184	-0.184	0.087	0.206	-0.040
Father's health after delivery	-0.377	-0.528	-0.169	-0.307	-0.330
Child's current health	-0.512*	-0.347	-0.367	0.228	-0.371
Child's health after delivery	-0.510*	-0.702	-0.393	-0.367	-0.627*

* p < significant correlation at the level of 0.05

condition, fear, and doubts as to future pregnancy course [1]. Interestingly, in the group of mothers, subjective evaluation of their own somatic health and child's condition did not correlate with their mental health. It may result from the fact that mothers who were conscious of a lethal defect of their child did not concentrate on their own health or evaluation of the child's health condition, taking the diagnosis as a zero-one value. The results of the fathers in this area are understandable — the more they were convinced of the poor child's condition (current and after delivery), the more somatic problems they reported. The general result of fathers' mental health was correlated with conviction of the child's bad condition after delivery — the stronger it was, the worse their mental health.

Conclusions

The surveyed parents are characterized by poor mental health. During medical and psychological consultations in perinatal palliative care, special attention should be paid to parents with a genetic background of LLFC due to worse mental health especially in mothers and to fathers who reported somatic problems connected with conviction of a child's bad health condition.

Article information and declarations

Data availability statement

Original contributions presented in the study are included in the article and further inquiries can be directed to the corresponding author.

Acknowledgments

None.

Author contributions

All authors are responsible for the reported research. They participated in the conception, design drafting, or revising the manuscript; and they approved the manuscript as submitted.

Conflict of interest

The authors report no competing interests.

Ethics statement

The authors consulted with the Bioethics Committee of the Medical University of Lodz who determined that their study did not need ethical approval (RNN/140/22/KE). The study was performed by the Declaration of Helsinki.

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Supplementary material

None.

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