Implications of Applying Minimal Risk Standards in Clinical Research to Information Provision in Prenatal and Pre-conception Care

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Abstract

Background: There have long been minimal risk thresholds beneath which risks may not need to be discussed in clinical research. This threshold concept may be applied to clinical practice. Our research explored application of minimal risk standards in research regulations to providing information in prenatal and pre-conception care.

Methods: A case study approach applied minimal risk standards in research regulations to prenatal and pre-conception care with respect to the risks of excess alcohol consumption, folic acid insufficiency, exposure to phthalate plasticizers, and exposure to brominated flame retardants (BFRs).

Results: Excess alcohol consumption and folic acid insufficiency were found to be above the minimal risk standards as outlined in research regulations, while exposure to phthalates and BFRs requires more evidence to determine whether they are above minimal risk. However, applying the minimal risk standard based on the daily life of a healthy adult or a fetus in a healthy pregnant woman, phthalates and BFRs are at the minimal risk threshold regardless of their potential harm since all pregnant women may be exposed to these chemicals in their daily life. Nevertheless, if there is demonstration of sufficient evidence of harm, they may be above minimal risk if such harm can be reduced by individual choice to avoid exposure.

Conclusion: The minimal risk concept in research regulations as applied to clinical practice may be useful to help clinicians and professional organizations determine what risks need be discussed in prenatal and pre-conception care.

Résumé

Contexte : Il existe depuis longtemps en recherche clinique des seuils de risque minimal, sous lesquels il n'est pas nécessaire de discuter des risques. Ce concept de seuil peut aussi s'appliquer à la pratique clinique. Dans le cadre de cette étude, nous nous sommes penchés sur l'application des normes définies dans la réglementation sur la recherche pour le risque minimal à la prestation d'information lors des soins préconceptionnels et prénataux.

Méthodes : Lors d'une étude de cas, nous avons appliqué les normes de la réglementation sur la recherche concernant le risque minimal aux soins préconceptionnels et prénataux en ce qui a trait aux risques que représentent la consommation excessive d'alcool, la carence en acide folique et l'exposition à des plastifiants à base de phtalates ou à des agents ignifuges bromés.

Résultats : L'impact de la consommation excessive d'alcool et de la carence en acide folique dépasse les normes définies dans la réglementation sur la recherche concernant le risque minimal. Pour ce qui est de l'exposition aux phtalates ou aux agents ignifuges bromés, des données additionnelles sont nécessaires pour déterminer si leur incidence excède le seuil de risque minimal. Cela dit, dans la vie quotidienne d'une adulte en santé ou d'un fœtus porté par une mère en santé, les phtalates et les agents ignifuges bromés se situent au seuil de risque minimal, peu importe leurs dangers potentiels, étant donné que toutes les femmes enceintes sont susceptibles d'y être exposées. Au cas où des preuves suffisantes de danger seraient avancées, on pourrait considérer que ces substances dépassent le seuil de risque minimal s'il était possible de réduire ce danger en prenant des mesures personnelles pour réduire l'exposition.

Conclusion : Le concept de risque minimal défini dans la réglementation sur la recherche peut être appliqué à la pratique clinique pour aider les médecins cliniciens et les organisations professionnelles à déterminer quels risques il est nécessaire de mentionner dans le contexte des soins préconceptionnels et prénataux.

Key Words: Pregnancy, household chemicals, information, minimal risk

Competing Interests: None declared.

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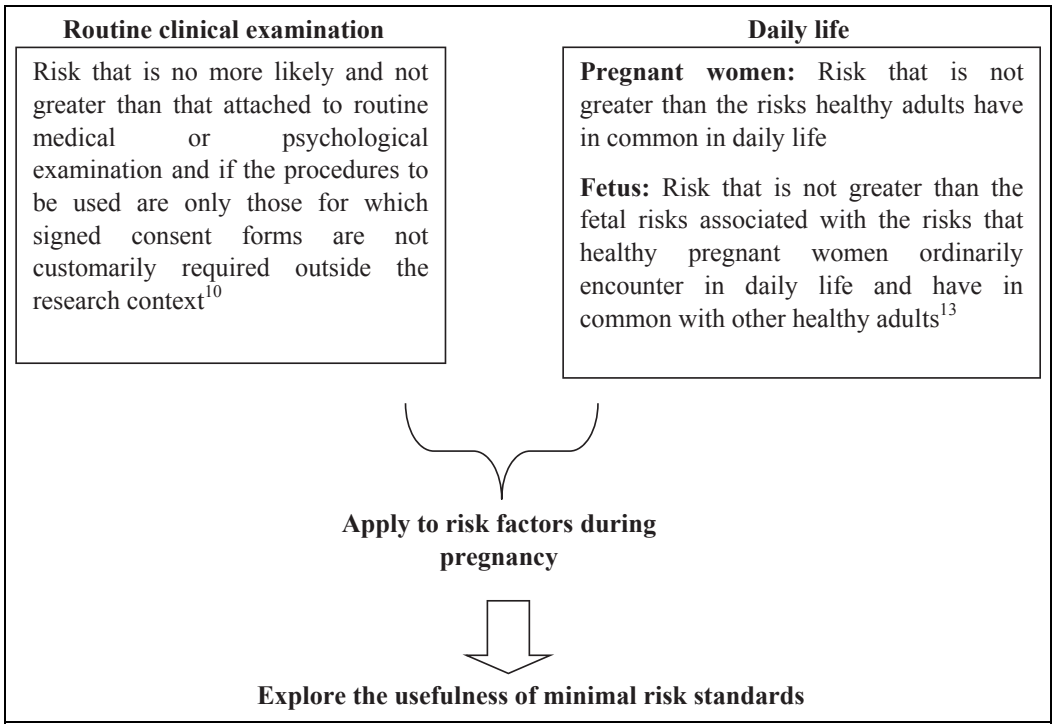
INTRODUCTION

Clinicians must provide patients with the information to make informed choices regarding medications, procedures, and tests[1] as well as health promotion and

Figure. Application of minimal risk standards to risk factors during pregnancy



avoidance of harm.[2] Failure to provide a patient with relevant information in these settings has ethical implications and possibly legal ramifications.[1] However, limitations on the time spent with each patient make it challenging for clinicians to discuss preventative strategies for less certain threats to health.[3] Although promotion of embryonic/fetal health through pre-conception and pregnancy counselling is important,[4] the complexity of risk for pregnant women and fetuses[5,6] and insufficient research[7] make it difficult for clinicians to determine which risks should be discussed.

In clinical research, there is an important threshold concept termed minimal risk, which constitutes a condition for allowing a waiver of, or modifications to, the informed consent process and may have implications for providing information.[8] We have recently proposed that minimal risk in research could be extended to clinical practice; risks below this minimal risk would not need to be discussed by clinicians with their patients, while risks above this threshold would need to be discussed.[9] This clinical minimal risk concept may assist clinicians in determining which low-level risks should be discussed in prenatal and preconception care.

We will first consider the minimal risk standards in three research ethics regulations. The Council for International Organizations of Medical Sciences (Guideline 4) discusses minimal risk as risks involved in a routine physical or psychological examination for which formal consent is usually not required (Figure).[10] The United States Code of Federal Regulations (45 CFR 46.102[i]) employs risks in both daily life and a routine clinical examination to describe minimal risk.[11] Canada's Tri-Council Policy Statement (TCPS2, Chapter 2.B) discusses minimal risk as risks involved in the research participant's daily life.[12]

In terms of minimal risk for pregnant women and fetuses, the minimal risk standard in the Council for International Organizations of Medical Sciences Guidelines may refer to risks in routine clinical examinations for a healthy pregnant woman and healthy fetus, such as ultrasound.[10] Regarding the CFR,[11] which is open to multiple interpretations,[8,9] Strong suggested that minimal risk for the pregnant woman should be interpreted as risks common in a healthy

ABBREVIATIONS

BFR	brominated flame retardants
CFR	Code of Federal Regulations
CIOMS	Council for International Organizations of Medical Sciences
DBP	dibutyl phthalate
DEHP	di(2-ethylhexyl) phthalate
HBCDD	hexabromocyclododecane
NTD	neural tube defect
PBB	polybrominated biphenyl
PBDE	polybrominated diphenyl ether