Abortion and multifetal pregnancy reduction: An Ethical comparison

Authors
First author - 1. Silje Langseth Dahl, Medical Student, the University of Bergen.
silje.langseth.dahl@gmail.com

First author - 2. Rebekah Vaksdal, Medical Student, the University of Bergen.
rvaksdal@gmail.com

Second author - 1. Mathias Barra, PhD, Senior Researcher, HØKH-Department of health services research, Akershus University Hospital. Orcide: 0000-0002-0022-4042
Mathias.barra@ahus.no

Second author - 2. Espen Gamlund, Professor of Philosophy, Department of Philosophy and First Semester Studies (FOF), University of Bergen.
espen.gamlund@uib.no

Last author. Carl Tollef Solberg, MA, MD, PhD, Postdoctoral Researcher, Department of Global Health and Community Medicine (IGS), University of Bergen.
carl.solberg@uib.no

Translator's note
This translation has been made by author Barra having proof-read an automatic translation of the Norwegian language version published in *The Nordic Journal of Applied Ethics/Etikk I Praksis* to make the article accessible also to an international audience. This translation may therefore contain some poor language and inconsistent punctuation and referencing. I have also tried to add [Norwegian] context in squared brackets at key points.

The article treats the ethical debate on MPFR from a Norwegian perspective, and some sections might not be fully intelligible to foreigners. However, the article also contains a thorough discussion of a clearly delineated ethical question: is MFPR on healthy fetuses morally distinguishable from abortion of healthy fetuses?

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Abstract

In recent years, *multifetal pregnancy reduction (MFPR)* has increasingly been the subject of debate in Norway, and the intensity reached a tentative maximum when Legislation Department delivered the interpretative statement *§ 2 - Interpretation of the Abortion Act in 2016* in response to the Ministry of Health (2014) requesting the Legislation Department to consider whether the Law on abortion allows for MFPR of healthy fetuses in multiple pregnancies. The Legislation Department concluded that current abortion laws allow MFPR within the framework the law otherwise stipulates. The debate has not subsided, and during autumn 2018, it was further intensified in connection with the Christian Democrat "crossroads" and signals from the Conservatives to consider removing §2.3c and to forbid MFPR.

Many of the arguments in the MFPR debate appear seemingly similar to arguments pending in the general abortion debate, and an analysis of what sets MFPR apart from other abortions is wanting. The aim of this article is, therefore, to examine whether there is a moral distinction between abortion and MFPR of healthy fetuses. We will cover the typical arguments of the Norwegian debate, and highlight them with scholarly articles from the literature. The most important arguments against MFPR that we have identified we have dubbed *the harm argument*, *slippery-slope argument, intent argument, grief argument, psychological long-term effects for the woman* and *sorting argument*. We conclude that counter-arguments do not measure up in terms of detecting a morally relevant difference between MFPR of healthy fetuses and abortions. Our conclusion is therefore that—despite what several debaters seem to think—there is no morally relevant difference between the two. Therefore, when we allow abortion, we should also allow MFPR.

Keywords: abortion, ethics, medical ethics, MFPR, selective MFPR

Introduction

The right to abortion has been legal in Norway since 1976 (Abortloven 1976) but is still subject to discussion (Austveg 2017). Nevertheless, the right to abortion before the end of the 12th week of pregnancy is more or less accepted (Pew Research Center 2018), although more voices are calling for the tightening of legislation (Menneskeverd, the Christian Democratic Party in 2018, Solberg 2018). In recent years, MFPR has increasingly been the subject of debate in Norway, and the intensity reached a tentative maximum when Law Department delivered the statement *§2 - Interpretation of the abortion law* in 2016 as a response to the Ministry of Health's [2014] request to the Law Department for an interpretation of whether "*the Act of 13 June 1975 Termination of pregnancy (hereinafter abortion law) allows for MFPR of healthy fetuses at multiple pregnancies.*"

> "The Abortion Act allows multifetal pregnancy, within the limits the law otherwise stipulates. This means that it is legal to grant multifetal pregnancy reductions on healthy fetuses on the basis of the woman's health, cf. the Abortion Act §2, third section, letter a (medical indication) or on the basis of her situation, ref. Abortion Act §2, third section, letter b (social indication) or letter a, or a combination of these grounds. There is also no basis for keeping outside cases where multifetal pregnancy reduction occurs before the end of the 12th week of gestation on the basis of self-determination, cf. Abortion Act §2, second section. Our interpretation is based on the assumption that multifetal pregnancy reduction is carried out so that the selection is random, and that there is no selection between fetuses on a basis other than those which the Abortion Act allows for, ref. 2, section 3, letter c."

The debate has not subsided, and MFPR together with the Abortion Act' s §2.3c – which allows abortion when the fetus is unhealthy – are at the centre (Sørvig 2017, Menneskeverd, Barra & Augestad 2016, Clemet 2018, Saugstad 2018). We have seen a wide involvement and discussions marked by legal, medical, and ethical argumentation. Many of the ethical arguments bearing on MFPR are similar, however, to the arguments that bear on the right to abortion itself. What is the debate really about? It is unclear whether MFPR reduction is a theme that is inextricably linked to the abortion debate, or whether MFPR is a special and separate debate.

The question we ask in this article is, therefore: Is there any morally significant distinction between abortion and MFPR on healthy fetuses? We explain what MFPR is, present the background for the Norwegian debate, and consider the legislation in some of the other Nordic countries. We then discuss the main ethical arguments for and against MFPR. Finally, we conclude that there is not any relevant moral difference between abortion and MFPR on healthy fetuses.

Multifetal pregnancy reduction

MFPR reduce the number of fetuses of multiple pregnancies, e.g. from three to two, or from two to one fetus; experts often speaking about "3–to–1" or "4–to–2" reductions when such a level of precision required. The procedure, which is currently regarded as permitted[1] in Norway (Law Department 2016), is performed by injecting potassium chloride into the heart via ultrasound guided punctuation through the mother's abdomen, uterus and fetal membranes. Unselective MFPR chooses the fetus that is most accessible. The procedure is not possible to implement on so-called *monochorionic* pregnancies (*identical twins sharing placenta*; Evans, MI, Andriole, Evans, SM & Britt 2015: 97). MFPR is best carried out between gestation week nine and fourteen (Mark Evans, personal correspondence, Zemet et al. 2018: 94). In Norwegian communities, the terms unselective MFPR is used for the reduction of the number of fetuses in a pregnancy with apparently healthy fetuses, while the term selective MFPR (or selective feticide) is used for MFPR on a fetus based on findings from prenatal diagnostics, and for such cases §2.3c is relevant. We will mostly discuss the ethical aspects of unselective MFPR but will also bring in selective MFPR when relevant.

MFPR in Norway

MFPR is first mentioned in official documents in [the governmental white paper] NOU1991:6 Biotechnology, authored by the Skjæraasen Committee. It states that:

> "[B]y selective [MFPR] we understand the practice of reducing the number of fetuses in the uterus by ensuring that one or more of the fetuses die, while the others developed. This can theoretically be applicable both natural multiple pregnancy and those resulting from IVF treatment. The Commission believes it should not be allowed to perform selective [MFPR] in these cases. This question is now are not regulated in the law on abortion "(NOU1991:6, p.5).

Legislation Department at the then Health and Social Affairs spoke then about MFPR in a letter dated 19 December 2000 (Law Department 2000). They concluded that an abortion panel may grant MFPR if one or more fetuses have a condition that would otherwise give grounds for abortion at singleton pregnancy, cf. abortion Act §2.3c, related to abortions after 12 weeks of gestation. This statement thus concerns selective MFPR. Reduction of healthy fetuses, i.e. unselective MFPR, was

[1]At the time of proofreading of this article, there is an amendment to the Abortion Act out for public consultation which seeks to ban self-determined MFPR (Ministry of Health and Care Services 2019). The very recent debate and events are also sought illuminated through footnotes 7 and 11.

not discussed in the report. However, reference is made to NOU1991:6, and the Law Department takes a clear distance from Skjæraasen Committee's reading of the abortion law.

The Abortion Act of 1976 deals with the right to abortion. The Abortion Act's §2 says that if a:

> 'Gestation [leads] to serious difficulties for a woman she should be offered information and guidance on the assistance which the community can offer her. The woman is entitled to counsel for being able to make her final choice. Finding that the woman, after she has been offered guidance [...] still cannot carry the pregnancy to term, she makes the final decision about abortion unless the procedure cannot take place before the end of the twelfth week of pregnancy and solid medical reasons for not doing so. After the end of the twelfth week of pregnancy, abortion can be granted, subject to an abortion panel, and only on the basis of especially weighty reasons "(TheAbortion Act 1976).

In April 2014 the Ministry of Health asked the Law Department to assess whether the Abortion Act allows for MFPR of healthy fetuses, also based on the Abortion Act's §2.3 section a and/or b (medical and/or social indication). In February 2016 the Legislation Department concluded that MFPR would be allowed within the limits set out by the Abortion Act. This interpretation was explicitly conditioned on the assumption that MFPR are made by a random selection of which fetus should be terminated, and that there is no other selection between fetuses on any basis other than those which the Abortion Act allows for. The decision consequently meant that the woman herself can decide whether to have a MFPR procedure until the end of the twelfth week of pregnancy, and that granting the procedure at a later stage of gestation must follow the general criteria as for other second trimester abortions. This prevents selection based on factors such as gender (Law Department 2016) and means that both selective and unselective MFPR are to be considered as lawfully regulated by the present Abortion Act.

Foreign women residing in Norway may obtain MFPR of the duration of their stay in Norway, as long as they are in the country at the time of application. All persons residing in Norway are entitled to health care if this cannot wait, and abortions are of this nature. The general rule is that foreign women must pay out-of-pocket for the procedure (Directorate of Health 2014).

There were 48 MFPRs at the St. Olav's Hospital and the Rikshospitalet between 2002 and the time of the Law Department's interpretation in the spring 2016. The service became centralised at the National treatment service for advanced invasive fetal medicine (NSFM) in Trondheim. Since 2016 there have been performed 41 MFPRs, out of which 13 were selective MFPRs by the national centre. Both selective and unselective reductions have been carried out on twin, triplet- and quadruplet

pregnancies[2]. There were no foreign patients who underwent MFPR in Norway. There have been requests, but these have been rejected because the women were not present in the country at the time of the application (i.e. women tried to obtain an appointment from their country of residence). The number of cases with complications or miscarriages of the remaining fetuses is unknown due to restrictions set by the Data Protection Officer (NSFM 2016, 2017, Chief Birgitte Heiberg Kahrs, personal correspondence).

MFPR in the Nordic countries

The practice and the legal aspects of MFPR in the Nordic countries differ somewhat. Norway is the only Nordic country where the government has concluded that MFPR is allowed on par with abortion. Denmark is the only Nordic country that has adopted separate legislation for MFPR. The Danish act from 2005 allows MFPR if the procedure can be completed by the end of the twelfth week of pregnancy, if in addition one of the following three conditions are met: a) the pregnancy poses a serious danger for mother's life or health, b) MFPR reduces the risk that the pregnancy will result in a spontaneous abortion of all fetuses, or c) one or more fetuses will be unviable or will suffer from a serious illness as a result of premature birth. After the twelfth week of pregnancy, surgery can take place only if the requirements of MFPR are met and a competent tribunal approves the petition (Sundhedsloven 2005, §92-96). According to the Danish legislation, MFPR is only permitted if the woman is pregnant with three or more fetuses.

Sweden, like Norway, has not introduced separate legislation for MFPR. The Swedish Abortion Act permits abortions before the end of the 18th week of pregnancy (Abortlagen 1974 §1). The State's Medical Ethics' Council (Statens medicinsk-etiska råd) has twice, in 2005 and in 2017, recommended that the government should introduce specific regulations for MFPR in the Swedish Abortion Actg (Statens medicinsk-etiska råd 2005, Statens medicinsk-etiska råd 2017). Despite this recommendation, MFPR is presently not specifically addressed in the legislation, but the procedure is performed in Sweden both for medical and social indication, and the State's Medical Ethics' Council concluded that MFPR should be permitted under the same conditions as other abortions (Statens medicinsk-etiska råd 2017).

[2] The figures for completed MFPR are valid until November 23rd, 2018.

In Finland, all who want abortion to apply for permission to a panel. Depending on the reasons provided by the applicant, the signature of one, two, or three doctors is required to obtain the procedure. MFPR is not mentioned by the legislation, but can be applied for under the same indications as for abortion (Förordning om avbrytande av havandeskap 1970).

Discussion

It is likely that people who oppose abortion also will be opponents of MFPR. Furthermore, it is reasonable to imagine that those who argue that MFPR is morally permissible also will argue that abortion is morally acceptable. Still, not everyone who endorses abortion will also endorse MFPR. We examine the extent to which it seems reasonable that the endorsement of abortion on healthy fetuses should also entail endorsement of the right to MFPR on healthy fetuses.

The fetus' moral status

Despite the fact that we have not seen arguments that directly relies on the fetus' moral status in the MFPR-debate, we want to devote some space to this subject, because the view on moral status can influence the discussion of the various arguments. Questions regarding the fetus's moral status and fetal rights have been raised through the lengthy debate on abortion, and there is naturally no agreement on this issue. A plurality of different values, views, as well as religious and moral perceptions are present (Chervenak, McCullough & Wapner 1992: 84). Some philosophers have argued that abortion is morally unacceptable because it robs the fetus of its future, in the same way, that one robs a child's future by killing it (e.g. Marquis 1989: 183). Other philosophers have concluded that even if a fetus certainly has the potential to become a human being, it still has no right to life. In any case, at least not a right that trumps the woman's right to protect her health, freedom and life (e.g. Warren 1973: 43). In addition, we have those who believe that the fetus does not have an independent moral status, but rather a dependent moral status, which is directly connected to the woman's autonomy (e.g. Chervenak et al. 1992: 84).

With the Norwegian Abortion Act, we have already set the woman's right to self-determination above the fetus' right to life. This applies equally to single and multiple pregnancies, as the woman herself may choose to terminate the pregnancy before the end of the twelfth week, regardless of how many fetuses she is pregnant with. It is hard to justify that fetuses in a multiple gestation

should enjoy a higher (or lower) moral status than the fetus of a singleton gestation. Instead, it is natural to think that fetuses in both single- and multiple pregnancies have equal status and rights. Therefore, it is in our view unnecessary to focus on the fetus' moral status for our discussion. Whatever moral status you choose to confer to a fetus, it should be the same for singletons and fetuses of multiple gestations, and we do not know of anyone who have argued for a different view.

Arguments against MFPR

In the following we will look at the arguments that speak against MFPR, and which suggest that there is a morally relevant difference between abortion and MFPR. We will discuss the harm argument, the slippery-slope argument, the intent argument,[3] the grief argument, psychological long-term effects for the woman, and the sorting argument.

The harm argument

In the debate about MFPR there is in particular one argument that constantly recur and which we have chosen to call the harm argument (Clemet 2016 Henden 2016b, Nilsen 2016, Rognsvåg and Weiby 2016, Saugstad 2016b). The harm argument says that MFPR is morally unacceptable because it involves a risk of harm to the remaining fetuses, and in the Norwegian debate it is particularly the risk of miscarriage which has been in focus. It is widely accepted that those who have the intention of bringing a new person into the world has a great responsibility for the health of the future person, even among those who do not ascribe the fetus a moral status. In practice, this is expressed as a mother-to-be's duty not to smoke, drink alcohol, or enjoy other drugs during pregnancy (Woollard 2016: 126).

Various views on the fetus' moral status can lead to different weighting of the various risks inherent in MFPR, and this might influence how the risk of miscarriage of a remaining fetus should be weighted. If one grants the fetus a sufficient degree of legal protection, this will probably weigh heavily. However, in a reality where only the risk for the remaining fetus is a possible miscarriage, this argument would not be of particular importance since the woman can decide on such a calculated risk for herself, provided that proper information is provided for her (Østborg 2016).

[3] Intention argument includes the imperative "Can you manage one, the you should manage two" (NTB 2019).

A risk of harm to the remaining fetus that will survive until birth, however, will probably weigh very heavily no matter what position one takes on a fetus' moral status. When, among others, Mark Evans developed MFPR in the early 80's, most were performed in week 9 and 10, but also earlier. In the early 90's there was concern as to whether the very early MFPRs (6–7 weeks) led to an increased risk of malformations of the remaining fetus(es) extremities, and to err on the safe side, MFPRs were for a period of time not performed prior to weeks 12–14. Today, it is regarded as safe to perform MFPRs from 10.5 weeks (Evans, personal correspondence), and the research is fairly clear on that MFPRs are beneficial for the remaining fetuses in terms of risk of harm (Evans et al. 2004, Evans & Britt in 2010, Evans et al. 2015). It is under-communicated in the [Norwegian] debate that for multiple pregnancies of more than two fetuses it is routine to consider MFPR.

An estimate which has figured prominently in the [Norwegian] debate is that MFPR carries a procedure related risks of about 15% of a spontaneous miscarriage of the remaining fetus(es) (Health Agency 2014, Nilsen 2016). This estimate is, however, an estimate that Torbjørn Moe Eggebø at the National Center for Fetal Medicine (NSFM) presented ahead of a meeting with the Directorate of Health in 2014, and the estimate is based on a scenario in which Norwegian doctors with insufficient experience performs the procedure (Eggebø, personal correspondence). It does not seem to exist any solid scientific evidence for this figure, however; on the contrary (Salvesen 2016, Evans 2016). It has also been disputed that there is no documented medical beneficial effect of 2-to-1 reductions. Mark Evans has strongly challenged this view in Today's Medicine (Evans 2016)[4].

When discussing the risks associated with MFPR, it is necessary to compare with the underlying risk, i.e. the risk associated with multiple pregnancies in itself. For the mother, multiple pregnancies involve risks including an increased risk of gestational diabetes, hypertension and preeclampsia (Santana et al. 2016: 631). For the fetuses of multiple pregnancies, studies have found an increased risk of miscarriage, preterm birth, and low birth weight (Cheong-See et al. 2016: 354). Prematurity and low birth weight, in turn, means an increased risk of cerebral palsy (McClimmans 2010: 295). Morbidity and mortality increases significantly with the number of fetuses, and it is established that when quadruplets or triplets are reduced to twins the total risk and the outcomes for both mother and fetus are almost identical to those found in ordinary twin pregnancies (Evans & Britt 2010: 295,

[4] And, more recently, again in Dagsavisen April 2019 Evans calls the Norwegian assessment of MFPR 'bullshit'. https://www.dagsavisen.no/innenriks/sabler-ned-det-norske-fagmiljoet-1.1468910

Gupta, Fox, Feinberg, Klauser, Rebarber 2015 580e1-5, Stone et al. 2008: 406e1-e4, Evans et al. 2015).

A number of studies to assess the risks associated with MFPR have been carried out. The American professor Mark Evans developed the MFPR procedure that is in use in Norway (KCl-injection), and he has performed several thousand such interventions. Evans has studied the implications of MFPR ever since the first interventions were performed in the United States in the early 1980s. He has found that a reduction of triplets to twins reduces the risk of miscarriage from 15% to 4%, from triplets to singleton from 15% to 6% and from twins to singleton from 8% to 3%. In addition, Evans found that the mean gestational age for a 3–to–1 reduction improves on 3–to–2 reductions, and that the incidence of birth weight below 1500 grams is 10 times higher for 3–to–2 reductions than for 3–to–1 reductions (Evans & Britt 2010). Thus, a reduction of triplets to twins is most beneficial in terms of risk of miscarriage, but a reduction of triplets to singleton would be most beneficial in terms of harm to the remaining fetus (Evans & Britt 2010). In Norway, we admittedly have very good outcomes also for twin pregnancies, which means that the risk reduction estimates from foreign studies are not necessarily directly applicable to Norwegian conditions. Nevertheless, in a major scientific article from 2014, which summarizes 25 years of experience with MFPR and compares the results of 70 research papers, Evans concludes: " If one's definition of success is a healthy mother and healthy family, for both morbidity and mortality, the data show conclusively with multiples, fewer is always better." (Evans, Andriole & Britt 2014: 79). One might think that Mark Evans with this conclusion normatively recommends that a woman who is pregnant with multiple fetuses *should always* have an MFPR, but this is would be a misreading (Evans, Andriole & Britt 2014: 69, Evans, Kaufman, Urban, Britt & Fletcher 2004: 102, Evans et al. 2015). It is natural that some will perceive MFPR as an opportunity to improve the health of both the woman and the surviving newborns, while others will argue that MFPR is net harmful because it causes the loss of one or more fetus.

In this context, it is appropriate to remark that if MFPR should *not* be allowed, a woman pregnant with multiple fetuses can only choose "all or none". For a twin pregnancy, it can be assumed that many who want children, but strongly feel they want only one (more), will choose to continue the pregnancy rather than to want a full termination of the pregnancy, e.g. on the basis that they think the risk of miscarriage for remaining fetus is unnecessarily high. If, however, a woman who wants children still considers it as an impossibility or too risky to carry all the fetuses, she is pregnant with, one cannot rule out that the choice will land on an abortion. In this situation, the risk of miscarriage

of remaining fetus(es) with MFPR is small compared with the 100% certain outcome associated with the abortion of all the fetuses.

Overall, we consider the harm argument inadequate for defending the position that MFPR is morally unacceptable, as there is no evidence neither for harm to the remaining fetuses nor for an increase in the overall risk of miscarriage. As we have noted, it is especially the first type of risk that would be relevant to distinguish between abortion and MFPR.

The slippery-slope argument

Ola Didrik Saugstad, professor emeritus of paediatrics at the University of Oslo, has advocated that MFPR leads to 'extreme sorting'. The reason for this is that one can obtain information about diseases, characteristics, and congenital conditions of the fetus before the end of the twelfth week of pregnancy. He points to the possibility that someone in the future can choose to abort a fetus on the basis of characteristics such as gender, sexual orientation, or skills (Saugstad 2016a, Saugstad 2016b). However, it is the case in Norway that prenatal diagnosis – regardless of whether it is a singleton or a multiple pregnancy – is offered to women with risk-pregnancies, such as women above the age of 38 years, or at increased risk for chromosomal abnormalities (Røe, Salvesen & Eggebø 2012). One can imagine that Saugstad statement is rooted in fear of a slippery-slope effect associated with the use of prenatal diagnosis.

Self-determined MFPR, by random selection, is not very different from other cases here. Given that it is the most accessible fetus which is terminated – without a prior diagnosis – it is difficult to see that this would be of significance for the development towards further sorting of fetuses. When it comes to selective MFPR, motivated by serious fetal anomalies, it is difficult to point to any relevant differences between MFPR and what is already practiced for abortions. However, one should keep in mind the fear of doctors of aborting "the wrong fetus". Professor Kjell A. Salvesen writes in a newspaper article that "[I]t would be tragic to perform a random MFPR at weeks 10 to 11, and then to discover that the surviving twin is seriously ill two weeks later" (Salvesen 2016). In 2016 there was performed a MFPR where the remaining fetus after birth proved to have trisomy 21 (National Center for invasive fetal medicine 2016). Salvesen's reasoning has an important point and can point to a practice in which random MFPR's in fact do not take place and will in any case be postponed until after week 12. However, new NIPT tests provide more accurate test results than ever before,

well in advance of week 12, and if fetal anomalies are confirmed, we are over in the debate on[5] §2.3c (Barra 2016 Abortion Act 1976, §2.3c). In such cases, the risk of miscarriage increases slightly for the remaining fetus, because the procedure – as Salvesen points out – carries more risk if it is the least accessible fetus which is selected for termination. Here we argue that for pregnant women with two otherwise confirmed healthy fetuses, it is equally conceivable that could make active sorting *less* likely: evidence for increased risk associated with not choosing the most accessible fetus for termination provides an independent medical argument to not to sort fetuses based on other characteristics. Nevertheless, it is obvious that most people will carry out some kind of fetal diagnostics in advance of a MFPR, and that any detected anomalies will be involved in managing further choice. Our discussion in this article is, however, not about such cases.

The fears of a slippery-slope effect towards increased sorting is understandable, especially if we look at other countries' practices. In the US it is allowed to make requests in conjunction with MFPR as to which sex to retain. For homosexual couples who use surrogate mothers, the woman can transfer eggs fertilised with both fathers' sperm. By reducing the number of fetuses, the fathers can have twins that are biological children of each father (Evans et al. 2015: 97). Sweden allows abortions until the end of the eighteenth week of pregnancy (Abortlag 1974 § 1), and the woman may thus know the fetal sex through routine ultrasound before having an abortion. It also applies in the United States where in some states, abortions are allowed as late as the twenty-fourth week of pregnancy (The New York Times 2013). In parts of Asia a gender imbalance is already a fact due to selective abortions of female fetuses. (Ganatra 2008).

The slippery-slope argument also has some problematic aspects. Among other things, it does not take into the argument that we have the opportunity to manage further development. The medical technology makes it possible to make many choices that can lead to sorting. Yet, it does not follow that such practices will be legalised. In addition, the slippery-slope argument assumes that the current drift towards more liberal legislation is undesirable. For many, however, this effect is welcomed, because it means that we allow several instances of what basically is morally mandated. It is not necessary to "favor abortions" for this argument; it is possible to be neutral towards abortions in and of itself but believe that "access to reproductive self-determination" is a strong

[5] The Norwegian Abortion Act's 2.3c regulates 2nd trimester abortions on indication of fetal anomaly.

moral good. Our conclusion is therefore that MFPR does not cause – at least not at the present time – a new form of sorting,[6]

The intention argument

Is it morally permissible that a woman who actually wants children, has the right to determine the number of children she should have? Some would argue that if the woman wants a baby she must accept to get more than she initially planned to have. (Clemet 2016 The Ethical Council 2016 Skogedal & Jemli 2017, NTB 2019). Let us call this the *intention argument*. It is natural that some will regard this as contradictory. Imagine a woman *A*, who is pregnant with multiple fetuses, and who want to reduce the number of fetuses for no other reason than that she wants fewer children – that is, completely independent of factors such as the risk of mortality and morbidity by completing a multiple pregnancy. She may, for example, wish for this for financial reasons. We can compare this woman with woman *B*, a pregnant woman who already have children, and who choose to perform an abortion for the same reasons. We thus face two pregnant women, who both want children, but only a certain number of children, and for the same reasons. Let us further assume that all other factors are equal between woman *A* and woman *B*. The Abortion Act provides woman *B* with an option to freely choose this until the end of the twelfth week of pregnancy without having neither health care professionals nor the government second guessing whether the woman's reasons are valid. Based on this, it is difficult to imagine that woman *B*, who wants an abortion has a stronger right to decide the number of children she wants to carry to term, than our woman *A* who wants an MFPR.

What about a woman who is dependent on *in vitro fertilisation (IVF)* to conceive? Here the woman has expressed a strong desire to have children, so, it is wrong to offer her MFPR if the IVF-procedure results in a pregnancy with more fetuses than she wants? A study from 1992 examined the outcome of 126 twin pregnancies, where 59 of them were the result of IVF. They found that a total of 29% of pregnancies resulted in what we might call *spontaneous MFPR (vanishing twin)* to singleton and that the rate was the same for the IVF group as for normal pregnancies (Sampson & Ch. De Crespigny 1992: 107-109). In IVF treatment in Norway, there is usually only one embryo that is transferred to the uterus, and this reduces the likelihood of multiple pregnancies considerably.

[6]Some have nevertheless suggested that fetal reduction itself is a form of sorting, since one fetus "is selected" (Saugstad 2016a). It is a curiosity that "sort" etymologically derives from the Latin "sortiri", meaning "to choose by lot." The connotations of the Norwegian word "sort" is, however, in a certain sense the opposite: "to organize into categories, grouping according to specific criteria."

If the procedure still results in a woman getting pregnant with more fetuses than she wants, one can argue that from an economic perspective may be problematic first to use the resources to make her pregnant, and then use additional resources to reduce the number of fetuses. Here it is natural to compare these costs with the costs associated with multiple pregnancies and morbidity following multiple births. This is a complex calculation which we will not undertake for ourselves here, but Mark Evans stated that in the United States in 2000, 57% of the costs of neonatal care for premature children.(Evans & Britt 2010: 295) Evans asks: "However, if it is right for a pluralistic society to curb a state's interference with the choice of abortion or other reproductive options, how could it be wrong for society to respect and protect the freedom of couples to choose to have one rather than two infants?" (Evans et al. 2015: 112).

We have already rejected that any fetus of a multifetal pregnancy has a higher, or lower, moral status than a singleton. Similarly, it is unlikely that the way a fetus is conceived – be it for example coitus or IVF – should be of importance for its moral status. We consider it discriminatory to argue that a woman's right to self-determination depends on how many fetuses she is pregnant with or how these fetuses have been conceived. On these grounds, it is difficult to see how the intention argument can be significant in terms of assessing whether MFPR is less morally acceptable than other abortions. Even if one attributes the intention argument weight, it seems that the case of MFPR is poorly suited to enforce such a principle.[7]

The grief argument

Some of the arguments against MFPR have focused on the remaining child's grief from losing a potential sibling (Hegertun 2016 Kirkeberg and Næsheim 2018, Lund 2018). We choose to call this the *grief argument*. One can imagine that significant distress result from a child growing up with the knowledge that it could have had a twin. An adult twin has commented that "[t]o imagine growing up without twin my sister is completely unimaginable for me," and further, that "[i]f one chooses away the one, the other loses a part of herself "(Henden 2016a). It is understandable that a child who already has grown up with a twin cannot imagine anything else. But, would that be very different for a child who already has grown up with a sibling, but who is not a twin? Here, too, there will naturally be difficult to imagine a childhood without the sibling.

[7]"If you can manage one, you can manage two" (NTB 2019). In the proposed amendment addressing MFPR to the Abortion Act the intention argument is clearly recognisable in formulations about how triplet pregnancies may be reduced to twins, but not to singletons. (MOH 2019).

Henden, following her original opinion piece, was accused of "sentimentalism" and subsequently wrote a second piece in which she presented four points she felt were problematic with MFPR, in which none revolved around the twin-bond, or around losing a part of herself.(Henden 2016b) Many of the published opinions [in the Norwegian debate] that promote the grief argument can, moreover, instead be interpreted as an appeal to prospective twin parents, where they emphasise the joy of being a twin parent.

To our knowledge, there are no empirical studies on psychological long-term effects for the remaining child following MFPR. To compare the trauma of losing a potential sibling by MFPR versus other abortions, we will in the absence of empirical data, therefore, consider possible scenarios, where the surviving children learn that their parents have completed MFPR or conventional abortion respectively [8].

In one scenario we have child *A* who during childhood have learned that the parents had an abortion in advance of the child's conception. It is natural that child *A* can feel grief over the loss of a potential sibling, but more difficult to imagine that it feels that it has lost "a part of himself" or his identity since that "part" never existed. Child *B* has instead learned that the parents had an MFPR. The same will apply here: how can *B* feel that she has lost something she never had? Some will argue that twins have a stronger connection than other siblings (Skoli 2016 Lund 2018). Nevertheless, it is pure speculation to assume that one will miss this association when one has never experienced it.

However, there are certain differences between the child *A* and child *B*. In the case of child *A*, a phenomenon which in philosophy is often called the *non-identity problem* turns up (Parfit 1984). Because the fertilisation processes is of an extremely random nature, both in terms of physiological and social aspects, we can certainly conclude that child *A* had not existed if the parents had not chosen to carry out a given abortion of a potentially older sibling. They would simply not have conceived *A* if they had not done had the abortion. That is, we could, in fact, not have had other biological older siblings than those we actually have.

[8]There are probably many children who will never know that their parents have completed MFPR or an abortion. It is hard to imagine that this could have an impact on the lives of these children, and therefore such cases are not appreciably relevant to the grief argument.

In another scenario, we can imagine a child *C* who learn about an abortion the parents had performed after child *C*'s birth, for the reason that they did not want more children. Child *C* will then have "lost" a potential younger sibling. It makes sense that we could have had other younger siblings than we actually have, and so this scenario is more analogous to the case of MFPR. But even here it is not very relevant to talk about your child losing a part of himself or his identity, although one can imagine that children *C* may be left with a feeling of guilt because it exists at the expense of a completely different individual. Child *C* can, therefore, imagine that if its parents had child *C*, they could have had another child altogether – child *D* – instead. But since child *D* is purely hypothetical and does not exist, nor ever did, it gives little sense that such a guilt should have a rational basis. For MFPR, one can imagine that this could lead to even greater grief since it is purely coincidental that it is precisely child *C* that exists and that another was aborted. But if MPFR had resulted in the other twin being alive and child *C* was aborted, then child *C* had not existed. The majority of the remaining children after an MFPR will probably prefer to live with the idea that one lives at the expense of a potential twin to not existing at all. Furthermore, this argument can be extended to abortions. In a society with a right to abortions, such as in Norway, anyone born after 1976 can imagine that their parents might have had an abortion. We find therefore that the grief argument has its flaws [as an argument specifically against MFPR], but it cannot be rejected categorically.

Psychological long-term effects for the woman

It is natural to discuss whether MFPR might carry psychological consequences for the mother or more generally the pair of parents. There have been numerous studies investigating this issue. In one study it was reported that a third of the mothers' symptoms of depression and guilt one year after MFPR. These symptoms were, however, largely absent after two years of follow-up. Compared with mothers of triplets who did not undergo MFPR, the MFPR group were reported to have lower levels of anxiety and depression shortly after the procedure, as well as fewer acute problems linked to the children born (Garel et al. 1997: 617). Other studies have given similar results, with some of the women and parents reporting experiences of grief, remorse, and guilt shortly after they have undergone MPFR, but the psychological long-term effects proved to be modest (McKinney, Downey & Timor-Tritsch 1995: 51, Sentilhes et al. 2008: 295, Schreiner-Engel, Walther, Midnex, Lynch & Berkowitz 1995: 541). It was also found that women who had MPFR performed did not have a higher risk of developing depression or other mental disorders than pregnant women or new mothers who did not have MFPR (McKinney et al. 1995: 51). A total of 93% of the women who participated

in one of the studies reported that they would have made the same decision on MFPR if they could reconsider. (Schreiner-Engel et al. 1995: 541)

Several studies have examined the psychological long-term effects for women who carry out abortions. A study from 2000 reported that two years after having completed the procedure a majority of the participants reported that they were satisfied with their decisions and that they would choose the same again. A majority of the women reported that abortion gave more positive than negative psychological effects and that they were not depressed. Furthermore, it was found that the out of the women who *did* report negative psychological effects following the abortion, a majority had been depressed earlier in life (Major, Cozzarelli & Cooper 2000: 777). A large quantitative meta-analysis from 2011 examined the relationship between abortion and mental health by collecting data from several studies conducted over a period of fourteen years. It was found that, compared with pregnant women who had not chosen to have an abortion, nor wanted it, women who did have an abortion had a significantly increased risk of developing mental illness. In this study, it was claimed that 5.5% of the mental illness in this group was directly attributable to the decision to carry out an abortion (Coleman 2011: 180). When one looks at the more relevant control group – women who wanted an abortion but were not allowed one – the picture is different (Biggs, Upadhyay, McCulloch & Foster, 2017; Stotland & Shrestha 2018).

One can raise the question of whether having an MFPR exerts greater mental stress than abortion does (Evans et al. 2015), or whether an MFPR represents less, in as much as it increases the likelihood of bringing one or more healthy children to the world. The aforementioned studies tell us that both abortions and MFPRs can be experienced as traumatic and stressful for the woman and the couple shortly after the procedure. Nevertheless, it is reasonable to assume that a woman who may choose between MFPR or abort all fetuses are best served by the former in terms of psychological long-term effects. It is natural to assume that the positive aspects of getting one or more healthy children may partly overshadow the negative effects of the loss of one or more fetuses. It, therefore, seems unreasonable to confer on the woman a greater mental load than necessary by only offering complete abortions in a situation where she for various reasons does not want as many children as the number of fetuses, she is pregnant with. Consequently, it is natural to think that the risk of negative psychological long-term effects for the woman cannot justify a claim that MFPR is any less morally acceptable than abortions. On the contrary, women who are denied abortions when they want it do suffer, much like women who feel compelled to have an abortion she does not want

suffers. We see here that the argument of psychological long-term effects can alternatively be seen as *strengthening* the moral rationale for MFPR over abortions.

The sorting argument

Some argue that MFPR may not only lead to sorting based on characteristics such as gender and developmental anomalies, but also to a society where twins will feel discriminated against and generally unwanted (Rognsvåg & Weiby 2016). We call this the *sorting argument*. For example, asks Saugstad: "[...] what will MFPR on twins do with our view of human relations in general and of twins in particular?" Moreover, he argues that we need to consider what impact MFPR results in for twins, both those who already exist, but also those who are surviving after such an intervention (Saugstad 2016b). The concern that Saugstad raises can be seen as a variant of a slippery-slope argument where the acceptance of MFPR will cause a drift to a general negative sentiment against multiple births. But is it reasonable to attach much weight to the possibility that twins as a group may feel stigmatised because we have allowed MFPR? Moreover, is it really plausible that we will have a society in which twins [in general] are not wanted?

That MFPR is permitted imply neither a moral nor legal obligation to perform them[9]. The right to abortions has not led children not being born in Norway, and the number of abortions in recent years has been fairly stable. Similarly, there is little reason to believe that a majority of women with twin pregnancies will choose to take advantage of MFPR, ultimately leading to a society without twins. Self-determination means that it is up to the woman to decide whether or not to conduct an MFPR until the end of the twelfth week of pregnancy, and that MFPR is demanded as an *informed* choice and based on the woman's own values and preconditions. To put it bluntly, one might argue that if the twins who already exist have reason to feel discriminated against as a result of legalised MFPR, then so does any person born after 1976.[10]

A twin who has participated in the [Norwegian] debate argues that if the consequence of MFPR is a society without twins, it is a sign of more fundamental problems, such as an insufficient level of benefits for families with twins. He writes that "[...] ultimately it is better if twins do not exist in 30

[9] Although, at a high number of fetuses, e.g. as 4 or more, it can be argued that the reducing the number down to at least two is a moral imperative in line with not smoking or using drugs, [given the clear and unequivocal benefits of such reductions.]

[10] We recognize that Norwegians born after 1976 are not a minority in society, but that twins are. It is natural to assume that twins may experience that part of their identity is grounded in being twins.

years, than if the right to have an abortion disappears" (Aastebøl 2016). This can be interpreted as a form of reverse slippery-slope argument, where it appears as if Aastebøl fear that disallowing MFPR in a worst-case scenario can cause abortion laws to be curtailed or revoked. It is hard to imagine that the right to abortion will be discontinued up after so many years just because a new procedure, which did not exist when the abortion law was written, is banned.[11]

There is little to suggest that twins will become extinct in Norway as a result of MFPR, and it is up to the politicians to focus on containing the use of MFPR in the same manner as for abortions. Moreover, "twin-hood" is not a biological attribute of an individual. Fear of depletion of genetic variation, underlying parts of the sorting argument, therefore, applies very tangentially to twins. Twin pregnancies occur regularly. In contrast to the case of the extensive use of § 2.3c abortions on fetuses with Huntington's – which can result in the gene being lost –a possible decrease in twin pregnancies will be reversible[12].

For these reasons, we argue that the sorting argument cannot be used to defend a position that abortion is morally more permissible than MFPR on healthy twins.

We argue that these counter-arguments largely are either weak (the grief- and the harm arguments), is concealed anti-abortion (pro-life) arguments (the intention argument), or belong in the general debate on abortions (psychological long-term effects for the woman), and that the stronger arguments all belong in the §2.3c debate (the sorting- and slippery-slope arguments). Overall, we consider that these counter-arguments against MFPR does not indicate that there is a morally relevant difference between self-determined MFPR on healthy fetuses and analogous abortions and that these arguments do not provide a compelling defence for a ban on the procedure.

Arguments in favor of MFPR

We will now consider arguments in favor of MFPR. We will consider *parental autonomy* and discuss why selective [§2.3c indicated] MFPR is not enough [to secure basic reproductive rights].

[11]We have not argued that there is a necessary relationship between (1) opposing MFPR in healthy fetuses and (2) opposing the right to [selective] abortion on anomalous fetuses (cf. §2.3c). It is, however, an empirical fact that the two major organizations that have spoken out most strongly against MFPR – The Christian Democratic Party and the organisation Human Dignity [Menneskeverd] – also advocates strongly against § 2.3c.

[12] Something that also applies to chromosomal abnormalities.

Parental Autonomy

Respect for the autonomy, or the self-determination, [of women] is one of the key principles of medical ethics (Gillon 2003: 307). By this, we recognise the patient's right to have their own opinions, their own bodies and health, and to make choices based on personal values and beliefs. In the choice of having an abortion and an MFPR it is particularly important that women receive adequate information about treatment options. As a preventive measure, the information must deal with how society can assist her if she chooses to complete the pregnancy. It provides the basis for informed consent, which is central to the principle of respect for autonomy (ACOG Committee 2013: 405). When we, through abortion legislation, give a woman respect for her autonomy in the choice of abortion, why should we not do the same for a woman who wants MFPR? It is still the woman's body, health, life situation and family that is affected. If she feels that it would be too great a burden to bring as many children into the world as the number of fetuses she is pregnant with, she should not be forced to terminate the pregnancy when we now can offer her to retain one or more of the fetuses.

The choice of having an MFPR is not an easy decision to make, in the same way as the choice of having an abortion is not. Evans says, after 25 years of experience with MFPR, that "MFPR by any number is emotionally and morally problematic for couples, even when the couple has made an informed decision after an extensive approval process" (Evans & Britt 2010: 295). To respect the woman's and couple's autonomy does not mean that we impose on them a decision, but rather gives each woman and couple the freedom to make the choice that is best according to their set of values and religious faiths. This right and freedom we believe must be preserved and protected.

Why selective MFPR is not enough

Some will argue that there is a significant moral difference between selective MFPR and MFPR on healthy fetuses. It is understandable that the termination of a fetus with severe somatic illness or disorder may be perceived as more morally acceptable than the termination of a healthy fetus. Philosopher Leah McClimmans defends selective MFPR, partly on the basis of the *lifeboat principle*. She compares a multiple pregnancy with a lifeboat with more passengers than its carrying capacity which is about to sink, arguing that it may be acceptable to sacrifice some individuals so that not all should perish. She then asks if this argument loses its force when applied to MFPR on healthy

fetuses. She argues that it is reasonable to assume that parents who want unselective MFPR believe that not to reduce the number of fetuses also would cause suffering or injury. McClimmans emphasises that it is problematic to use only medical facts and diagnoses to guide ethical decisions. Medical facts, she argues, are not morally neutral, since they are based exclusively on biological aspects of health (McClimmans 2010: 295).

It is obvious that health is a complex concept which, in addition to the biological aspects, also include mental health, social aspects, and an individual's own perception of the quality of life (WHO 1946). It is a common perception that it is partially up to subjective judgement whether someone can be considered to be in good health, as well as what can be considered to be harmful, also when counter to the objective medical facts. On this ground, it is, therefore, wrong to conclude that the presence of a somatic disorder is synonymous with poor health, or that the absence of suffering is synonymous with good health (McClimmans 2010: 295). If a woman, based on her own assessment of her life-situation, considers that to complete a multiple pregnancy with all the fetuses, will lead to overall poorer health for her and/or her already born children, regardless of whether a somatic disorder is present, it appears clear to us that MFPR could be a good option for her, and hence a choice we as a society should respect. On this ground, it is difficult to argue that the woman's health and life-situation will be more weighty factors when making a decision about MFPR on anomalous fetuses than when the fetuses are healthy. In our view, the claim that selective MFPRs are morally acceptable, while, nonetheless, MFPRs on healthy fetuses are not, would carry the implication that also abortions of healthy fetuses must be morally unacceptable.

Should MFPR be legal?

We have demonstrated that none of the counter-arguments appears significantly more valid for MFPR than for ordinary abortions. In addition, we have highlighted the right to self-determination as an equally important argument for MFPR as for abortion. In Norway, the right to abortions has been legislated for more than 40 years. It was, of course, difficult to predict that our society eventually would have to decide on a stance on MFPR when the Abortion Act was drafted, and it is easy to understand that allowing new medical procedures that deal with life and death creates favourable

conditions for a new heated debate. Based on our discussion, however, we find no evidence that a country with legalised abortions should not also allow MFPR on healthy fetuses[13].

MFPR has been performed in the United States since the 80s, and we have pointed to evidence that the procedure employed in Norway does not cause any significant increased risk of harm to remaining fetuses compared with the risks associated with completing a multiple pregnancy. It is obvious that the procedure requires good training of the doctors that will perform the procedure, just like for any other medical procedure. We consider it as reasonable that a small selection of physicians should receive training on the MFPRs, and that the procedure is centralised in a national treatment service (Evans 2016).

Given that Norwegian physicians master the method used for MFPR, we see no reason why this procedure should not be permitted on the same terms as other abortions. We have only touched on legislation issues in this article, but it is conceivable that it may be clarifying if a separate section in the Abortion Act specifically treated MFPRs.

Conclusion

The aim of this article was to discuss whether there is any significant moral distinction between abortion and MFPR. First, we considered the arguments against MFPR. We discussed the harm argument, the slippery-slope argument, the intention argument, the grief argument, psychological long-term effects for the woman, and the sorting argument. Then we considered the arguments in favour of MFPR, with an emphasis on parental autonomy and why selective MFPR is not enough. Our conclusion is that if abortion to be morally permissible, it appears reasonable that MFPR should also be morally permissible. This applies unless there are compelling research results concerning the risk of damaging the remaining fetuses or the pregnant woman that we have overlooked. Consequently, it seems reasonable that whether MFPRs should be morally acceptable, turns on whether abortions, in general, are morally acceptable.

[13]That something is *permitted* does not necessarily mean that it comes with a *right* attached, and under a priority setting perspective it can, of course, be debatable whether MFPR on healthy twins should be offered (free of charge) on request. There is no doubt that an MFPR is something quite different from a regular abortion and require a lot more resources and expertise – even if we conclude that the involved ethics are comparable. Besides, we have not discussed how reservation issues come into play, and one can imagine that health care professionals might want to reserve specifically against participating in MFPRs [, like it is possible to reserve against participating in abortions today in Norway].

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Referanseliste

Aastebøl, I. (2016). Ja, så utrydd meg, da! Det er viktigere at abortloven finnes om 30 år, enn at det finnes tvillinger. *Aftenposten*. Hentet februar 27, 2018, fra: https://www.aftenposten.no/meninger/debatt/i/m5vp/Ja_-sa-utrydd-meg_-da-Det-erviktigere-at-abortloven-finnes-om-30-ar_-enn-at-det-finnes-tvillinger--Iver-Aastebol)

Abortlag. (1974). (1974:595). Hentet februar 12, 2018, fra: http://www.riksdagen.se/sv/dokument-lagar/dokument/svenskforfattningssamling/abortlag-1974595_sfs-1974-595)

Abortloven. (1976). Lov om svangerskapsavbrudd (LOV-1975-06-13-50). Hentet februar 12, 2018, fra: https://lovdata.no/dokument/NL/lov/1975-06-13-50

ACOG Committee. (2013). ACOG Committee opinion no. 553: multifetal pregnancy reduction. *Obstetrics & Gynecology 121(2 Pt 1)*: 405-410.

Austveg, B. (2017). *ABORT en etisk argumentasjon* (1. utg.). Oslo: Humanist forlag

Barra, M. & Augestad, L. A. (2016). Faglige råd i fosterreduksjonssaken. *Dagens medisin*. Hentet februar 28, 2018, fra: https://www.dagensmedisin.no/artikler/2016/04/12/faglige-rad-i-fosterreduksjonssaken/

Biggs, M. A., Upadhyay U. D., McCulloch, C. E. & Foster D. G. (2017). Women's Mental Health and Well-Being 5 Years after Receiving or Being Denied an Abortion: A Prospective, Longitudinal Cohort Study. *JAMA Psychiatry 74(2)*: 169-178.

Cheong-See, F., Schuit, E., Arroyo-Manzano, D., Khalil, A., Barrett, J., Joseph, K. S.,… Thangaratinam, S. (2016). Prospective Risk of Stillbirth and Neonatal Complications in Twin Pregnancies: Systematic Review and Meta-Analysis. *British Medical Journal 354*:i4353. Hentet desember 10, 2018, fra: https://doi.org/10.1136/bmj.i4353.

Chervenak, F. A., McCullough, L. B. & Wapner, R. J. (1992). Selective termination to a singleton pregnancy is ethically justified. *Ultrasound in Obstetrics & Gynecology 2(2)*: 84-87.

Clemet, K. (2016). Et foster for mye? *Civita.* Hentet november 12, 2018, fra: https://www.civita.no/2016/02/22/et-foster-for-mye

Clemet, K. (2018). Paragraf 2c: Prinsipielt og moralsk viktig. *Civita.* Hentet november 12, 2018, fra: http://clemet.blogg.no/1541008119_paragraf_2c_prinsipielt_og_moralsk_viktig.html

Coleman, P. K. (2011). Abortion and mental health: quantitative synthesis and analysis of research published 1995-2009. *The British Journal of Psychiatry 199(3)*: 180-186.

Det Etiske Råd. (2016). Det Etiske Råds udtalelse om fosterantalsreduktion. Hentet november 15, 2018, fra: http://www.etiskraad.dk/etiske-temaer/abort-og-fosterdiagnostik/publikationer/udtalelse-om-fosterantalsreduktion-2016

Evans, M. I., Kaufman, M. I., Urban, A. J., Britt, D. W. & Fletcher, J. C. (2004). Fetal reduction from twins to a singleton: a reasonable consideration? *Obstetrics & Gynecology 104(1)*: 102-9.

Evans, M. I. & Britt, D. W. (2010). Multifetal Pregnancy Reduction: Evolution of the Ethical Arguments. *Seminars in Reproductive Medicine 28(4)*:295-302.

Evans, M. I., Andriole, S. & Britt, D. W. (2014). Fetal reduction: 25 years' experience. *Fetal diagnosis and therapy 35(2)*: 69-82.

Evans, M. I., Andriole, S., Evans, S. M. & Britt, D. W. (2015). Medical Reasons for Pregnancy Interruption: Fetal Reduction. I: J. P. Galst, M. S. Verp (Red), *Prenatal and Preimplantation Diagnosis* (s. 97-117). New York: Springer.

Evans, M. I. (2016). Uvitenhet – eller feilaktig skråsikkerhet. *Dagens medisin*. Hentet november 12, 2018, fra: https://www.dagensmedisin.no/artikler/2016/05/13/uvitenhet--eller-feilaktig-skrasikkerhet/

Förordning om avbrytande av havandeskap. (1970). Hentet februar 12, 2018, fra: http://finlex.fi/sv/laki/ajantasa/1970/19700359?search%5Btype%5D=pika&search%5Bpika%5D=abort

Ganatra, B. (2008). Maintaining Access to Safe Abortion and Reducing Sex Ratio Imbalances in Asia. *Reproductive Health Matters 16(sup31)*:90-98.

Garel, M., Stark, C., Blondel, B., Lefebvre, G., Vauthier-Brouzes, D. & Zorn, J. R. (1997). Psychological reactions after multifetal pregnancy reduction: a 2-year follow-up study. *Human reproduction 12(3)*: 617-622.

Gillon, R. (2003). Ethics needs principles - four can encompass the rest - and respect for autonomy should be "first among equals". *Journal of Medical Ethics 29(5)*: 307-312.

Gupta, S., Fox, N., Feinberg, J., Klauser, C.K., Rebarber, A. (2015). Outcomes in twin pregnancies reduced to singleton pregnancies compared with ongoing twin pregnancies. *American Journal of Obstetrics & Gynecology 213(4):*580.e1-580.e5

Haigh, M., Wood, J. S. & Stewart, A. J. (2016). Slippery slope arguments imply opposition to change. *Memory & Cognition 44(5)*: 819-836.

Hasson, J., Shapira, A., Many, A., Jaffa, A. & Har-Toov, J. (2011). Reduction of twin pregnancy to singleton: does it improve pregnancy outcome? *The journal of Maternal-Fetal & Neonatal Medicine 24(11):*1362-1366.

Helsedirektoratet. (2014). Helsedirektoratets vurderinger i forbindelse med fosterreduksjon for abortsøkende kvinner med flerlingesvangerskap. Hentet februar 08, 2018, fra: https://helsedirektoratet.no/Documents/Lovfortolkninger/Abortloven/Brev%20om%20vurderi nger%20flerlingesvangerskap%2027032014.pdf

Henden, A. (2016a). Jeg er for abort, men jeg er også tvilling. Og norsk lov gir meg bakoversveis. *Aftenposten*. Hentet februar 26, 2018, fra: https://www.aftenposten.no/meninger/sid/i/JEkJ/Jeg-er-for-abort_-men-jeg-er-ogsa-tvillingOg-norsk-lov-gir-meg-bakoversveis--Amalie-Henden-22

Henden, A. (2016b). Fire problemer med tvillingabort – uten føleri. *Aftenposten.* Hentet november 25, 2018, fra: https://www.aftenposten.no/meninger/sid/i/7l5Xw/Fire-problemer-med-tvillingabort---uten-foleri--Tvilling-Amalie-Henden

Hegertun, A. (2016). Elvis savnet tvillingbroren sin hele livet. *Aftenposten*. Hentet november 22, 2018, fra: https://www.aftenposten.no/meninger/debatt/i/4zM6/Elvis-savnet-tvillingbroren-sin-hele-livet--Andreas-Hegertun

Kirkeberg, K. J. & Næsheim, A. A. (2018). *Aftenposten*. Hentet november 22, 2018, fra: https://www.aftenposten.no/meninger/sid/i/5VzXmz/Du-hadde-en-tvilling_-og-du-var-tilfeldigvis-den-som-fikk-leve---Kirkeberg-og-Nasheim

Kristelig folkeparti. (2018). Sortering og tvillingabort – Hva mener egentlig Krf? Hentet desember 05, 2018, fra: https://www.krf.no/nyheter/nyheter-fra-krf/sortering-og-tvillingabort/

Lund, S. S. (2018). Jeg kan ikke forestille meg et liv uten tvillingbroren min. *Aftenposten*. Hentet november 22, 2018, fra: https://www.aftenposten.no/meninger/sid/i/l107nA/Jeg-kan-ikke-forestille-meg-et-liv-uten-tvillingbroren-min--Solaia-Skogen-Lund

Lovavdelingen. (2000). § 2 – Tolkning av lov av 13. juni 1975 nr. 50 om svangerskapsavbrudd. Hentet november 09, 2018 fra: https://www.regjeringen.no/no/dokumenter/-2---tolkning-av-lov-av-13.-juni-1975-nr.-50-om-svangerskapsavbrudd/id2480549/

Lovavdelingen. (2016). § 2 - Tolkning av abortloven. Hentet februar 08, 2018, fra: https://www.regjeringen.no/no/dokumenter/-2---tolkning-avabortloven/id2476193/

Major, B., Cozzarelli, C. & Cooper, M. (2000) Psychological Responses of Women After First-Trimester Abortion. *Archives of General Psychiatry 57(8)*: 777-784.

Marquis, D. (1989). Why abortion is immoral. *The Journal of Philosophy 86(4)*: 183-202.

McClimmans, L. (2010). Elective twin reductions: evidence and ethics. *Bioethics 24(6)*: 295-303.

McKinney, M., Downey, J. & Timor-Tritsch, I. (1995). The psychological effects of multifetal pregnancy reduction. *Fertility and Sterility 64(1)*: 51-61.

Menneskeverd. Tema: Abort. Hentet november 21, 2018, fra: https://www.menneskeverd.no/tema/abort/

Nasjonal behandlingstjeneste for avansert invasiv fostermedisin. (2016). Årsrapport. Hentet november 26, 2018, fra: https://forskningsprosjekter.ihelse.net/senter/rapport/NB-HMN-01/2016

Nasjonal behandlingstjeneste for avansert invasiv fostermedisin. (2017). Årsrapport. Hentet november 26, 2018, fra: https://forskningsprosjekter.ihelse.net/senter/rapport/NB-HMN-01/2017

Nilsen, L. (2016). Frykter konsekvensene av fosterreduksjon. *Dagens Medisin*. Hentet februar 28, 2018, fra: https://www.dagensmedisin.no/artikler/2016/02/18/frykter-konsekvensene-avfosterreduksjon

NOU 1991: 6. (1990). *Mennesker og bioteknologi*. Hentet november 09, 2018, fra: https://www.regjeringen.no/globalassets/upload/kilde/odn/tmp/2002/0034/ddd/pdfv/154784-nou1991-6.pdf

Parfit, D. (1984). *Reasons and Persons*. 1. utg. New York: Oxford University Press.

Pew Research Center. (2018). 6. Religion and society. Hentet fra: http://www.pewforum.org/2018/05/29/religion-and-society/.

Retsinformation. (2006). Vejledning om svangerskabsafbrydelse og fosterreduktion, *3. Tilladelig fosterreduktion*. Hentet februar 12, 2018, fra: https://www.retsinformation.dk/Forms/R0710.aspx?id=10239

Rognsvåg, S. & Weibye, T. (2016). KrF og Sp ber Høie forby tvillingaborter. *Dagen*. Hentet februar 28, 2018, fra: http://www.dagen.no/Nyheter/FOSTERREDUKSJON/KrF-og-Sp-ber-Høie-forbytvillingaborter-308444

Røe, K., Salvesen, K. Å. & Eggebø, T. M. (2012). Blir retningslinjene for fosterdiagnostisk ultralyd fulgt? *Tidsskrift for Den norske legeforening 132(14)*: 1603-6.

Salvesen, K.Å. (2016). Selvbestemt fosterreduksjon av tvillinger. *Dagens Medisin.* Hentet november 15,2018, fra: https://www.dagensmedisin.no/artikler/2016/04/04/selvbestemt-foster--reduksjon-av-tvillinger/

Sampson, A. & Ch. De Crespigny, L. (1992). Vanishing twins: the frequency of spontaneous fetal reduction of a twin pregnancy. *Ultrasound in Obstetrics & Gynecology 2(2):* 107-109.

Santana, D. S., Cecatti, J. G., Surita, F. G., Silveira C., Costa, M. L., Souza, J. P.,… Vogel, J. P. (2016) Twin Pregnancy and Severe Maternal Outcomes: The World Health Organization Multicountry Survey on Maternal and Newborn Health. *Obstetrics & Gynecology 127(4)*: 631-641.

Saugstad, O. D. (2016a). Fosterreduksjon åpner for ekstrem sortering. *Morgenbladet*. Hentet februar 28, 2018, fra: https://morgenbladet.no/ideer/2016/02/fosterreduksjonapner-ekstrem-sortering

Saugstad, O. D. (2016b). Fosterreduksjon er inhumant. Tvillingreduksjon åpner for ekstrem sortering. *Aftenposten*. Hentet februar 27, 2018, fra: https://www.aftenposten.no/meninger/debatt/i/oaM77/Fosterreduksjon-er-inhumantTvillingreduksjon-apner-for-ekstrem-sortering--Ola-Didrik-Saugstad

Saugstad, O. D. (2018). Abort og Verdier. *Vårt Land.* Hentet november 12, 2018, fra: http://www.verdidebatt.no/innlegg/11729647-abort-og-verdier

Schreiner-Engel, P., Walther, V. N., Midnex, J., Lynch, L. & Berkowitz, R. L. (1995). First-trimester multifetal pregnancy reduction: Acute and persistent psychologic reactions. *American Journal of Obstetrics & Gynecology 172(2)*: 541-547.

Sentilhes, L., Audibert, F., Dommergues, M., Descamps, P., Frydman, R., Mahieu-Caputo, D. (2008). Multifetal pregnancy reduction: indications, technical aspects and psychological impact. *La Presse Médicale 37(2)*: 295-306.

Skogedal, M. & Jemli, N. (2017). Tvillinger langer ut mot fosterreduksjon: Hvem av oss skal bort? *Stavanger Aftenblad*. Hentet november 22, 2018, fra: https://www.byas.no/aktuelt/i/eQK6g/Tvillinger-langer-ut-mot-fosterreduksjon--Hvem-av-oss-skal-bort

Skoli, S. (2016). Vi tvillingmødre vet at våre tvillinger er knyttet sammen på et nivå selv ikke vi kan forstå. *Dagen*. Hentet november 22, 2018, fra: https://www.dagen.no/dagensdebatt/samfunn/TVILLINGABORT/Vi-tvillingmødre-vet-at-våre-tvillinger-er-knyttet-sammen-på-et-nivå-selv-ikke-vi-kan-forstå-308687

Solberg, E. (2018). Grensen mot sorteringssamfunnet. *Ernas blogg*. Hentet desember 05, 2018, fra: https://erna.no/2018/10/19/grensen-mot-sorteringssamfunnet/

Sosial- og helsedepartementet. (2001). I-42/2001. Hentet februar 08, 2018, fra: https://www.regjeringen.no/no/dokumenter/i-422001/id108956/?q=fosterreduksjon

Statens medicinsk-etiska råd. (2005). Yttrande angående s.k. fosterreduktion. Hentet februar 12, 2018, fra: http://www.smer.se/skrivelser/yttrande-angaende-s-kfosterreduktion-ert-dnr-s20045253hs/

Statens medicinsk-etiska råd. (2017). Reduktion av antal foster. Hentet februar 12, 2018, fra: http://www.smer.se/smer-kommenterar/smer-kommenterar20171-reduktion-av-antalet-foster/

Stone, J., Ferrara, L., Kamrath, J., Getrajdman, J., Berkowitz, R., Moshier, E., Eddleman, K. (2008). Contemporary outcomes with the latest 1000 cases of multifetal pregnancy reduction (MPR). *American Journal of Obstetrics & Gynecology 199(4):* 406e1-406e4.

Stotland, N. L. & Shrestha, A. D. (2018). More Evidence That Abortion Is Not Associated With Increased Risk of Mental Illness. *JAMA Psychiatry 75(8)*: 775-776.

Sundhedsloven. (2005). Afsnit VII Svangerskabsafbrydelse og fosterreduktion kap. 25 og 26. Hentet februar 12, 2018, fra: https://www.retsinformation.dk/Forms/R0710.aspx?id=183932#id6d84f65b-675e-402bb7b7-96d6877c0513)

Sørvig, Ø.S. (2017). Jeg var abortmotstander i ett år. *Minerva.* Hentet november 12, 2018, fra: https://www.minervanett.no/jeg-var-abortmotstander-ett-ar/

The New York Times. (2013). Abortion restrictions in states. Hentet februar 28, 2018, fra: http://www.nytimes.com/interactive/2013/06/18/us/politics/abortion-restrictions.html

Warren, M. A. (1973). On the moral and legal status of abortion. *The Monist 57(1)*: 43-61.

Woollard, F. (2016). Motherhood and Mistakes about Defeasible Duties to Benefit. *Philosophy and Phenomenological Research 97(1*): 126-149.

World Health Organization. (1946). Constitution of WHO: Principles. Hentet mars 18, 2018, fra: http://www.who.int/about/mission/en/

Zemet, R., Haas, J., Bart, Y., Barzilay, E, Zloto, K., Hershenson, R. (…) Lipitz, S. 2018. *American Journal of Obstetrics & Gynecology, 218(1):*94.

Østborg, T.B. (2016). Prinsipper og følelser om fosterreduksjon. *Dagens Medisin.* Hentet november 15, 2018, fra: https://www.dagensmedisin.no/artikler/2016/03/04/prinsipper-og-folelser-om-fosterreduksjon/