A SYSTEMATIC LITERATURE REVIEW IDENTIFYING THE MAIN FACTORS DETERMINING THE QUALITY OF THE CHILDBIRTH PRACTICES IN THE CZECH REPUBLIC

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"This dissertation assignment is my own work. It has not been and will not be presented for assessment of any other module or piece of work which accrues credit for the award for which I am currently studying. I have also submitted a copy of this work to Turnitin via GCU Learn."

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ABSTRACT

Title

A systematic literature review identifying the main factors determining the quality of the childbirth practices in the Czech Republic

OBJECTIVE

The current situation of primary care provision for pregnant women in CR gives women a high standard of specialised secondary medical care but does not address primary needs (psychological, mental health issues, psychosocial, ethical or spiritual aspects of women´s needs). There have been attempts to develop such a primary health care system which is not implemented in the society. Much more infrastructural changes have to be incorporated in order to recruit such a new primary care system which would be effective for low-risk pregnant women generally as well as low-risk pregnant women requesting other types of care. Due to governmental and political establishment, it is difficult to accomplish changes. The aim of this dissertation is to generalise the findings about situation in Czech system of perinatal care and identify the factors that determine childbirth practices within the Czech health care system and develop strategy to promote change towards a woman centred model of care.

METHODOLOGY

The electronic databases were searched for primary papers systematically: Medline, Cochrane, PubMed, PsycInfo, SCOPUS, and Medvik. Eligible studies were identified using inclusion and exclusion criteria, critically appraised using standardised tools. Mixed-methods approach was used evaluating studies (Leech et al, 2010) and findings were synthesised meeting complexity and using thematic synthesis (Tong et al, 2012).

RESULTS

5 primary articles were chosen as suitable for including for the review. Results were individually assessed for quality using CASP tool for qualitative studies (2006). Following thematic synthesis major themes emerged across studies: changing childbirth, satisfaction with care, interventions in childbirth,

caesarean section and evidence based medicine. Systematic comparison of findings was made.

CONCLUSION

The review of primary studies provided evidence that absence of EBM according to satisfaction of Czech women towards care, interventions made, and increase of caesarean section rates brings a need to make improvements of care in the Czech Republic. Development of Primary Midwifery Care might be the easiest solution addressing all fields of problems/phenomenon. However lack of complex research in the investigated phenomenon calls for further investigation and might be a challenge for next research.

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1. LITERATURE REVIEW

1.1 INTRODUCTION

Czech Republic belongs to a group of post totalitarian countries with specific issues (Veillard et al, 2010; Ferber, Raabe, 2003; Hořejší, 2012; Rozotčil et al, 2012). Countries of central and Eastern Europe underwent transition from totalitarian system of government and democracy (Chalmers, 1997) and are still undergoing (Mackenbach et al, 2013). Major reorientation of childbirth care in CR went through a consistent change and is currently on very high technological and medical level however it lacks primary midwifery care completely (UNIPA, Hořejší, 2012). We can notice improved health care with changing of policies across Europe being a natural laboratory for studies of the effects of health policies (Mackenbach, 2013). According to its current system of perinatal care provided in CR, quality of care is regarded as a medical experience (Štembera, Velebil, 2007, 2011a, 2011b, CZL, UNIPA, LLP, HaM). The health care system is based on secondary system, where the vast majority of births take place in hospitals and are led by medical doctors (Roztočil Štembera, 2007). Women are treated as patients without any selection into low-risk and high-risk groups as in developed countries (WHO, 1999). The normality of process of birth is managed as a surgical event and is generally accepted by the majority of women without question (Hašková, 2001) taken by the main care providers and women as acceptable (Šťastný, 2012). Absence of childbirth options leads to dissatisfaction of some (HAM, LLP) and a huge system gap (Health council of Netherlands, 2004, IMBCI, 2008, WHO, 1999, etc.). There has been slower overall socio-economic development in eastern countries than in Western Europe (Health Council of the Netherlands, 2004). Efficient and effective disease prevention and health promotion have not received real priority, either as policies or as actions in the community (Chalmers, 1997). This has changed, its health services cannot be called technologically inadequate according to Western standards anymore (Kassebaum et al., 2014; Štembera, Velebil, 2011b), however many indicators are still to be totalitarian (Chalmers, 1997, 2012, Hořejší, 2012, Takács, 2012, 2013a, 2013b, etc.) and are objects of this research study.

1.2 BACKROUND

1.2.1 HEALTH POLICIES AND PRACTICES - PRIMARY CARE

Medicalisation of childbirth has been questioned within Western cultures for several decades (WHO, 1999, NICE, 2014, Sandall, 2013, Chalmers, 2012) and whilst considerable variations in relation to degrees of medicalisation exist, women in Europe generally have choice as to where (WHO, 1999) and, to a large extent how, the birth experience may be facilitated, such care is based on Evidence Based Medicine (Cochrane reviews; WHO, 1999; 2014; UNICEF, NICE, 2014; Sandal et al, 2013; European perinatal health report, 2010; Campbel et al, 2007; Hiner et al, 2006 etc.). European health care system went through a major organisational reform, where Primary Care (Saltman et al, 2006) became a prime also in the field of maternity care. We can spot variations among countries (see 1.2.3 and Appendix 6, 7) and overall though we challenge unequal health of Europeans (Mackenbach, 2013). By examining present services available in relation to the recommendations of the World health Organisation (WHO, 1999), National Institute of Clinical Excellence (NICE, 2007) and International Confederation of Midwives (ICM, 2012) primary midwifery care is recommended as highly effective (Begley et al, 2011). The main benefits found in search for giving women choice (for more see 1.2.3 and Appendix 6,7) was the Cochrane review comparing midwife-led versus other models of care were the reduction in the use of regional analgesia, with fewer episiotomies or instrumental births (Hatem, et al., 2008). Conclusions from the King Fund´s report (2009) also showed that optimising maternity care can be made by using midwives as the primary maternity care giver taking care of low-risk women in community settings. The findings of the Cochrane meta-analysis of reviews (Janssen et al., 2009) concluded that most women should be offered midwife-led models of care and low-risk women should be encouraged to ask for this option.

When comparing midwife-led continuity models of care with other models of care for childbearing women and their infants Cochrane reviews concluded that most women should be offered midwife-led models of care based on comparison of 11 trials, involving 12,276 women (Hatem, et. al., 2008) and other studies reviewed in Sandal et al (2013). In many countries (1.2.3) midwives are the

primary care providers during pregnancy, labour and postnatal period (ICM, 2011, WHO, 1999) and are recommended to be the main care provider, however in CR there is no such organised care and women cannot choose such option (Marek, 2002; Prague Post, 2011).

1.2.2 INTEGRATIVE SUMMARY OF INTERNATIONAL GUIDELINES

As a reaction on findings of the discrepancies nationally and internationally, researcher investigated on the data, found and compared them with the international guidelines and Evidence Based Medicine (EBM) putting in a table summary.

Table 1.2.2 – Integrative summary of INTERNATIONAL GUIDELINES

INTERNATL. ORGANISATION	Year of issue	Country of recommendation	Methodology, EBM, background of the guideline	Findings of review (EBM care recommended)
World Health Organisation (WHO)	1999	World-wide	Care in normal birth: A practical guide (Report of technical working group, WHO)	Selection of women into low-risk and high-risk, Respect for physiology, safety means – least possible level of interventions into labour, best primary care provider – midwife
International Confederation of Midwives (ICM)	2011	World-wide	International guidelines (Essential Competencies for Basic Midwifery Practice, Regulation etc.)	Support of physiology, midwives autonomy, non-intervening approach
NICE Intrapartum guideline 190	2014	UK	NICE clinical guideline 190 (To be updating and replacing ´Intrapartum Care´ NICE guideline CG55)	Woman centred care 4 birth setting: home, freestanding midwifery units, alongside midwifery units or obstetric unit, woman should be encouraged to birth in any setting she chooses
International Motherbaby Childbirth Initiative		World-wide	10 steps to optimal care	Respect for woman and dignity, guard and facilitate normal physiology, continuous support, EBP,

(IMBCI)				avoid harmful practices, prevent, access to EB skilled treatment, continuum of collaborative care, BFHI 10 steps to successful breastfeeding
Midwife-led continuity models Review	2013	Cochrane Collaboration group	Intervention review of 13 trials included, involving 16 242 women Sandal et al (2013)	Most women should be offered midwife-led continuity models of care. Main benefits: reduction of use of epidural, fewer episiotomies, instrumental births, less preterm newborns
European Perinatal Health Report (EPHR, 2010)	2010	Euro-peristat	National reports, , systematic reviewing concept, promotion of evidence-based health care	Positive outcomes of pregnancy: Birth without obstetric intervention – new indicators to be published, very few data, incompatibilities in data for CR

The Cochrane Collaboration group and other organisations all lead to same conclusion of the best practice bringing *the continual midwife-led model of care* and *woman centred care* in the major preference (NICE, 2014, Sandall et al, 2013, WHO, 1999, revised, ICM, 2011 etc.), showing the importance of selection of women into low risk groups, which is a practice not common in CR, and offering woman 4 birth settings (NICE, 2014), giving her the free choice of type of care as well as a midwife as a most effective primary care provider**.** Review of continuity models of care of Sandal et al (2013) comparing 13 trials including 16 242 women also led investigator to look further for the different models of care (1.2.3).

And as study of Chalmers (2012) also concludes, despite challenges we face, *"it is time for the international sharing of perinatal research in order to develop practices among countries and benefit from global wisdom in perinatal care".*

1.2.3 INTERNATIONAL MODELS OF CARE

Review of models of Evidence Based Medicine (EBM) care in chosen countries with "high standard" of care and practice, had been developed to compare results of care and PMR, with regard to other options during perinatal period. WHO, UNICEF, IMBCI, ICM, NICE and many more international organisations and other sources were explored: ENCA, European health reports. Documents on European standards of care and international documents and reviews developed on Childbirth issues were gathered and analysed (see 1.2.2).

Table 1.2.3 - Review of MODELS OF CARE

Country of the subject of interest	**Basic concepts of care provided** **(models of care)**	**Perinatal Mortality Rate – MMR (NMR) from (Lancet, 2014)**	**What is taken as good care**
United Kingdom	Midwife-led models, Midwife-led units (in, within, out of hospital), home births	6.1 (2.8)	NICE guidelines 190 (214)
Denmark	Midwives – first line, very low intervention rate	4.8(2.4)	Midwives conduct about 70-75% of deliveries Midwifery model of care
New Zealand	Midwifery model of care	9.3 (1.8)	Model of Primary Maternity care, NICE clinical guidelines 2014
Netherlands	Home birth based primary midwifery care	6.7 (1.8)	Verloskundig vademecum, home based midwifery
Austria	Midwifery profession autonomous, private midwives	3.2 (2.3)	Hebammengremmium
Czech Republic	Hospital births only officially supported option	5.3 (2.1)	Medical model, Midwives Associations, competencies restricted, no autonomy of profession

Models of care were chosen on behalf of predictors of quality within the scope of low perinatal mortality rate (PRM) but also other predictors were taken in account (Kassebaum, 2014). Czech Republic is among one of the countries with lowest PMR (5.3 per 100 000 livebirths) in 2013 (Kassebaum, 2014). For comparison of low PMR and care in these countries see Apendix 6. Looking at quality of perinatal care through the perinatal mortality is obviously necessary (see Appendix 6) but research shows that problematic assessment might be according to other predictors (3.3, Appendix 5).

Austria is one of the countries where PMR is among lowest, stating 3.2 (table 3.9, Kassebaum, 2013) and possibilities for women and their children are wide. Austrian law recommendations for midwives competencies is based on autonomy of midwifery profession in clinical as well as community setting where midwife is a professional specialised in physiology of childbirth (Stables, 2000). Midwives are aggregated in a professional organisation called *Hebammengremium* (Burkhardt, 2010). Independent midwives are private paid by women or do have agreement with insurance companies. Women are free to decide place and mode of delivery. Low-risk women are to decide whether they choose a clinical, community or home-based environment.

Great Britain and Ireland belong to countries where great variety of models of care are established (LLP, 2010), comprising of along-side midwifery units, free-standing midwifery units, obstetric units, and home births (Hollowell et al., 2011). Main role plays a midwife, having their professional standards made by National Institute for Health and Clinical Excellence (NICE, 95, NICE, 2014) regulated by ministry of health. Birth centres are along England and local models are spread into “Developed nations” (ex.: The Albany Midwifery Practice in Britain).

New Zealand belongs to countries where care was comparable to Czech Republic twenty years ago. Therefore an example on provision of changes might be taken from policies within. Model of transition was at that time successful also due to cooperative state regulation (Tuttle, 1997).

Canadian *birth centres* have wide spread 20 years ago, Ontario birth centre opened 2013 comprising 80-90 midwives, based on home-base care, (Darling, Gagnon, 2013).

In Denmark and Netherlands, *"midwives provide ´the first line´ of care for normal pregnant women and are viewed as essential to the excellent perinatal outcomes these three countries* (along with Sweden) *enjoy"* (McKay, 1993).

Midwifery care in ***Denmark*** is highly respected and is a central feature of obstetric care in each of these countries. Autonomous midwives are employed by national health services (McKay, 1993).

*The **Dutch** model – Homebirth based Primary Midwifery Care.* Dutch system has a model where nearly one-third of births occur at home (Abraham-Van der Mark, 1993), and where midwives have a degree of professional independence, and are in close cooperation with doctors (McKay, 1993). Heine's observation (2001) about the Netherlands suggests that: *"...the Unique Dutch way of birth... ... the stubborn persistence of midwifery and home birth in the Netherlands, in spite of the declaration of medical professionals elsewhere that midwife-attended birth at home is a dangerous anachronism, forces us to conclude that Dutch obstetrics can be the vanguard of the future...."*

1.2.4 INFORMATION ON CURRENT CHILDBIRTH IN CZECH REPUBLIC

Czech system of perinatal care (Štembera et al, 2011) is facing need for paradigm shift (Parahoo, 2006), while no midwifery as such exists (Roztočil 2012) since its tradition was diminished and vanished with normalisation and under socialistic regime (Pavlíková, 2014). Although Czech literature speaks about primary care (Roztočil, 2002), primary maternity care in CR basically consists of specialised parts of secondary care (Roztočil, Dvořák, 2012). Concerning the past of Czech Republic, being a post totalitarian block (Ferber et al, 2003), there is a severe history of restrictions (Speckhard et al, 2005) which continues (Dvořák et al, 2012) and as Chalmers (1997) from her findings claims:

"...only doctors were considered necessary to heal the unavoidable physiological illnesses, which the ´ideal´ Soviet system could not prevent..."...but...*"...Even more dramatic than its effect on illness care is the impact of the previously emotionally repressed society on everyday healthy interactions."*

When examining the assessment of the United Nations document concerning Czech Republic (CEDAW, 2010) and the insufficiency of the present system**,** the Committee on the Elimination of Discrimination against Women recommended Czech State, among others, implement the following steps:

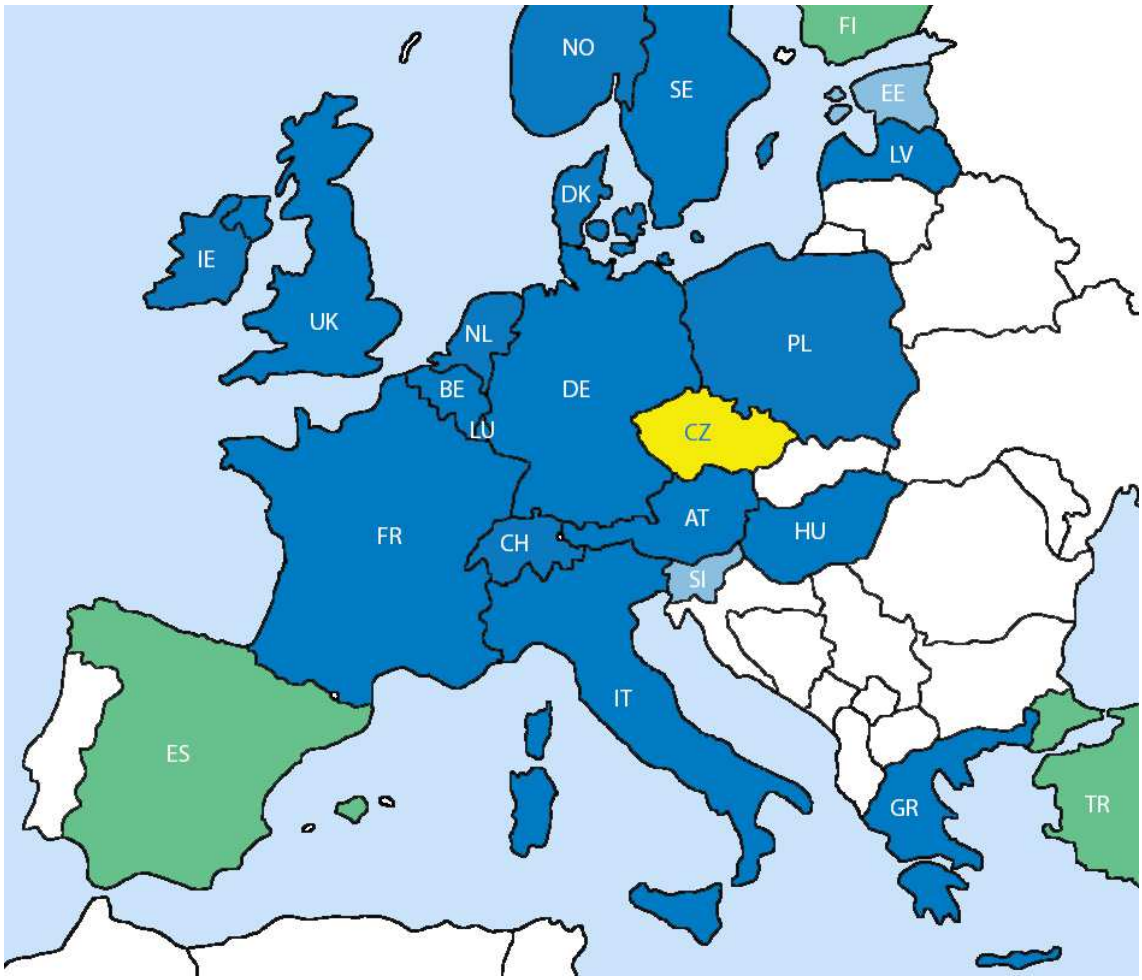
"...consider accelerating the adoption of a law on patients' rights, including women's reproductive rights; adopt a protocol of normal birth care ensuring respect for patients' right and avoiding unnecessary medical interventions; ensure that all interventions are performed only with the woman's free, prior and informed consent; monitor the quality of care in maternity hospitals; provide mandatory training for all health professionals on patients' rights and related ethical standards; continue raising patients' awareness of their rights, including by disseminating information; and consider taking steps to make midwife-assisted childbirth outside hospitals a safe and affordable option for women."

Despite these recommendations (CEDAW, 2010, OSN), there appears to have been little progress made in the provision of maternity care (Dvořák et al, 2012) in the four years that have passed since the UN made these recommendations (Hořejší, 2012). Indeed, in some areas change appears to have been the opposite to what was intended and not reflecting any of the facts (Šťastný, 2012). This can be illustrated by the recent case of two Czech women who took the Czech state to the European Court of Human Rights in Strasbourg in response to the lack of personalised maternity care that was available to them (CEDAW, 2012a, 2012b). Map (1.2.4) had been created by the League of Human Rights (LLP - The Czech human rights organisation) after the verdict of the European Court of Human in the case of Dubská and Krejzová vs. Czech Republic (part IV. Point 60. And 61.). The Court delivered the judgement on December 11 2014 (CEDAW, 2014), where verdict was unsatisfactory for women but explaining that court has no rights to change politics in separate countries (for details see Appendix 6), whilst recommending CR an overview of practices, however governmental and medial conclusion raised throughout the society was contradictory to the verdict made, though that *"no need for change in system is necessary"* (Ministry of Health, 2014; Svoboda, 2014; Dvořák et al, 2012).

View on the map of laws and practices of European states. According to the Strasbourg court (CEDAW, 2014) we see division of care splitting in half,

creating Eastern and Western parts, that is facing the differences where CR is taken as “east”:

Map 1.2.4 - Map of laws and practices in European states



Legend of the colour of states: Blue – homebirths expressly allowed under certain conditions, Light blue – Legislation allows homebirths, legislation is being considered to regulate professional assistance at planned homebirths, Green – homebirths tolerated but not regulated by law (see appendix 5 for details).

The restrictions of the midwives' competencies (common laws, Hořejší, 2012; 2014), as well as the adjustment of the law against primary care (Hořejší, 2012), thus limiting the humans rights of women and midwives (OSN, 2010) as well shows the tendency of Czech government to make some practices, like homebirths impossible by restricting midwives to assist at it and by criminalising women who decide for it. That might be a further example of Czech Republic failing to engage with the evidence in favour of less medicalised

approach to birth not considering the evidence in favour of homebirth versus hospital birth.

1.3 REVIEW AIMS AND OBJECTIVES

The aim of this dissertation is to generalise the findings about situation in Czech system of perinatal care and identify the factors that determine childbirth practices within the Czech health care system and develop strategy to promote change towards a woman centred model of care (NICE, 2014).

The specific question to be addressed is: *How to improve Czech midwifery care system respectively (based on findings of women´s satisfaction) how to create the primary midwifery care system and what can CR learn from the functional models of care?*

Framing specific research questions:

What are the specific issues of Czech midwifery care? What are the gaps and important fields to be addressed?

What are the similarities and differences according to other east and west European modalities in childbirth?

How to improve Czech midwifery care system respectively based on findings how to improve it according to women´s satisfaction with childbirth care?

How to create the primary midwifery care system and what can CR learn from the functional models of childbirth care?

1.4 IMPORTANCE OF REVIEW

Czech maternity care shows discrepancies and faces lack of options as well as lack of research within midwifery provision of care. This systematic review can also *examine issues of appropriateness and meaningfulness* (Hemingway, 2009) and look for evidence to show the importance of such a division as well as need for primary midwifery care system development. Lack of expert knowledge (CRD, 2009) as well as lack of knowledge throughout the society calls for need for further investigation (Robson, 2011) as well as it shows how important the

evidence translation stage is (Hemingway, 2009). In our situation, the ´act of transferring knowledge´ is crucial and a good use of it to develop wise strategy to policy makers (Rychetnik et al, 2002), clinicians and consumers is of high importance. In Czech society, this is a main topic and researcher is aware of the high importance of good and valid translation and transfer of knowledge of evidence based medicine (NICE, 2014) and good practice based on primary midwifery care (Sandall et al, 2013). It is believed that with such a review, quality translation process (Robson, 2011) can be achieved which can help improve the situation.

Another issue is that in Czech system of care we are lacking translations of valid international findings (Abad Corpa et al, 2010), when taken into account it is not clear whether these findings can be generalised (CRD, 2009) to own country. The hope is that taken together within a systematic review, a clearer and more consistent picture will emerge (Hemingway, 2009).

And at last, since Czech Republic is under pressure to undergo developmental changes (WHO goals, UNICEF, CEDAW, 2010), Governmental Office is taken the responsibility to build a new structure of care and since Working group on the Ministry of Health is to be assigned, direction it takes will be of importance, as well as to which extend is CR able to accomplish the implementation of changes (Štembera, 2011, II.). This review might show direction of the requested transition (Ferber et al, 2003), as it can be a pilot study for a future primary midwifery provision of care to be built (Hiner et al, 2009). It can add a credible framework for future hypothetical process change of status in CR whereas recruitment of communication skills might be one of the basics to begin with, in the process of changes.

2. METHODOLOGY

This review seeks to identify the main factors determining the quality of the childbirth practices in the Czech Republic especially with aim on building Primary Midwifery Care System into Czech health care. This chapter provides detailed information on the review methodology, selection of studies, data extraction and the subsequent analysis of the studies identified for the review, therefore databases were searched for previous existing primary research studies on childbirth in Czech Republic or in Eastern Europe generally and policy on primary care provision nationally and worldwide. Researcher identified studies that were original, relevant, prospective, integral, focusing on childbirth within Czech, east European, west European and worldwide context. Relevant collaborative documents on health policies and global standards were gathered and analysed in relation to Czech context. A Peer-reviewed protocol was created prior to searching and is included in Appendix 1. This *peer review protocol* was used to guide investigator throughout the process (Kahn, 2003).

2.1 METHODS AND APPROACHES

A structured review was opted rather than a traditional research based approach "*since the origin of existing knowledge needs to be identified, evaluated and summarised in more structured way than it was until present conditions and since syntheses are conducted to do so"* (Jesson et al., 2011). Mixed approach was performed according to the selection of studies (Leech et al, 2010). As Leech et al (2010) introduce, a pragmatic researcher being viewed from unified perspective, using both qualitative and quantitative studies. Qualitative approach to synthesise findings was used, involving a thematic synthesis (Tong et al, 2012), interpretative, naturalistic approach to its subject matter, which gave *"priority to what the data contributed to important research questions or existing information"* (Higgins, Green, 2011). Since qualitative reviews become *"an essential part of evidence based healthcare and can inform policy and clinical guidelines development"* (Facey et al, 2010) and *"are offering insight into social processes"* (Robson, 2011), it was suitable to use such format for reviewing. Nevertheless discussion around the appropriateness of qualitative

and mixed approaches (CRD, 2009) brought the view on focusing on specific fields addressing its benefits to research by bringing qualities as understanding people's experiences and perceptions and gaining insight into social processes that may lead to change. Mixed method approach was used since the lack of studies addressing the phenomenon in one design, and as Rychetnik et al (2002) concludes *study design alone is an inadequate marker of evidence quality in public health evaluation*, assessing designs lead to consider therefore stating Pope et al (2007) that *"synthesizing knowledge from diverse sources in order to provide 'decision support' for policy makers, primarily in health but also in other areas of public policy might be effectively done through synthesizing quantitative and qualitative approach"*. Therefore investigator was willing to utilise the mixed methods approach as to bring holistic information but as Leech (2010) and Robson (2011) speaking about multi strategy research both stated: as to quote Leech et al. (2010): *"...a novice-researcher might miss some aspects that such broad area investigates,"* therefore qualitative method for thematic synthesis was decided for.

2.2 CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

As literature was very limited, it was necessary to extend the search field to include both Eastern and Western Europe. Similarly, in relation to literature relevant to identifying an optimal model to facilitate the integration of primary midwifery care into the CR health care system, a global search of the literature was required to identify the models of midwifery care provision (Sandall et al, 2013) that were ultimately considered (Rychetnik et al, 2002). After searching the wider context, researcher came back to narrowing into the Czech context looking for specified field of phenomenon (Robson, 2011). A mixture of qualitative and quantitative studies was included (Leech et al, 2010) since there were so limited amount of studies available concerning the field of interest (Leech et al, 2010). Both perspectives were considered to provide breadth and depth of views. English and Czech language was considered. PICO framework was used to identify studies (Higgins, Green, 2011). Table 2.2.1 provides details of the inclusion/exclusion criteria for SLR using SPIO.

2.2.1 INCLUSION/EXCLUSION CRITERIA USING S P I O

SPIO was used to help defining the narrow inclusion and exclusion criteria. Findings are listed in the table bellow

Table 2.2.1 – INCLUSION/EXCLUSION CRITERIA

COMPONENTS	Inclusion criteria	Exclusion criteria
Study design	Primary original study/Epidemiological study/Comparative study/ surveys Qualitative/quantitative	Other then primary studies/ Letters Discussion papers Grey literature
Population characteristics/types of participants	Pregnant women/Czech Republic/ East Europe/west Europe Mother's views/ Midwives' views/ Political views	Other countries apart from European/ European not discussing childbirth/ western studies with no connection to east Europe Media views
Phenomena of interest	Views on optimal childbearing experiences	Other views in relation to childbirth
context	Primary care/secondary care	
Field of interest	Perinatal care/childbirth/ /perinatal research/women´s surveys/maternity service/midwifery/birth	Medical care/studies from where data on childbirth and perinatal care cannot be extracted/ Midwifery studies on primary care from "western world"
Intervention	Midwife led care/ Medicalised childbirth/ Changing childbirth/prognosis for midwifery care/international comparisons /models of childbirth, perinatal care	Any other interventions that are not meeting one of the included issues
Outcomes	Maternal satisfaction/ psychosocial needs/ Morbidity and mortality rates/ interventions in childbirth (caesarean section, other…)	

Data extraction form (Apppendix 3) was developed to show the important findings, make a summary of individual studies included and to highlight the relevant information from these selected studies (Parahoo, 2006). Part of the extraction was showing the phenomenon addressed, included were information of study design, sample characteristics, population, the phenomenon and outcomes of individual studies (Higgins, Green, 2011, tool). Although many studies were found designed in Czech gynaecological and obstetrical community (Čepický, 2012; ČGPS, 2013) – major problem with those were in basic inadequacy concerning childbirth according to worldwide criteria (EPHR, 2010) as primary preventive field of interest (European Health Council, 2004), instead all of these were highly specified and defined in medical research point of view of provision of care. Those studies were excluded and not eligible to use. Many studies on division of primary midwifery care (McLachlan, 2012; Tracy et al, 2013) were also driven from countries with developed primary midwifery system of care, those were not directly applicable for reviewing but some of them were used in discussion (chapter 4).

2.2.2 TYPE OF STUDIES INCLUDED

As the aim of this study was to provide the best available review of the situation in Czech childbirth according to primary care context with focus on functionality of system, original prospective epidemiological studies were included and cross-cultural to widen the perspective above Czech Republic and prepare and overview of the best evidence for developing innovative practice in CR (see Appendix 1, 2). Information and ideas are drawn from variety of sources (Higgins, Green, 2011) and integrated into global perspective (Campbell et al, 2009) on childbirth issues. More details provided in table 2.2.1.

2.2.3 TYPE OF PARTICIPANTS / POPULATION

Pregnant women, labouring women, low-risk pregnant women were of the highest interest. Population addressed was specifically Czech population but as to international and broader context, east Europe, west Europe was searched, as well as other parts of the world, concerning specifically countries with high level of standard of midwifery care. Health professionals were addressed, concerning

doctors, midwives, and criteria for identification of their role in different studies had been applied. More details provided in table 2.2.1.

2.2.4 SPECIFICITY OF PHENOMENA OF INTEREST

Comparison had been made of the Czech population, east Europe, west Europe and searching for information on other "developed countries" (Kassebaum, 2014), looking for differences in care (Appendix 7, 1.2.2, 1.2.3). Countries with integrated systems of primary midwifery care (1.2.3) and childbirth across Europe was searched. Comparisons of standards of care was looked for, specifically what is considered normal, abnormal (1.2) etc. Childbirth options, possibilities, choices had been addressed. As well Standards of care, functional models of care, international childbirth guidelines and other relevant information were gathered and analysed. More details provided in table 2.2.1.

2.2.5 TYPES OF OUTCOME MEASURES /ANTICIPATED OUTCOMES

Primary outcomes of interest might be satisfaction with care, interventions into the birth process, quality of life, morbidity, bio-psycho-social, cultural aspects (Morilla-Herrera et al, 2012) psychosocial needs, other important measures, and adverse events such as failures in policies (Mackenbach, 2013) etc. Morbidity and mortality rates/ interventions in childbirth (caesarean section, and other...) Results of services delivered concerning quality of care (effectiveness, benefits, costs and others). Secondary outcomes of interest might also appear (Appendix 1). More details provided in table 2.2.1.

2.3 IDENTIFICATION OF ELIGIBLE STUDIES

2.3.1 ELECTRONIC RESOURSES

Databases were searched concerning COCHRANE database, MedLine, PubMed, CINAHL, PsychINFO, SCOPUS but also Czech sources MEDVIK, and looking for library accesses broadly and were searched for studies, reviews and journals (BMJ, Birth, Ceska gynekologie, etc.). Specifically Cochrane Pregnancy and Childbirth Group have been purchased (CCG, 2014). Researcher sought for

unbiased assessment (Higgins, Green, 2011), all literature tried to be covered (CRD, 2009), not only one database nor journal. Non-English sources were included, especially Czech literature and databases. Databases internationally were searched. Grey literature such as institutional reports, technical reports, conference proceedings and internal working papers were taken into account (Bettany-Saltikov, 2012) and searched for in order to prevent bias (Higgins, Green, 2011, PRISMA, 2009). Health service centres were addressed. Google scholar was searched along with the documents from international organisations, guidelines (1.2.2), councils and reports. Many important relevant international documents were found using databases of WHO, UNICEF, IMBCI, ICM, NICE, other professional organisations. Special attention was put on Czech databases, in order to find out more about the situation on childbirth within the Czech context.

2.3.2 SEARCH

Glasgow Caledonian University's (GCU) library, (computerised search) have been done, using keywords and subject headings. Keywords search was done in databases using MeSH terms and each database was searched individually, Timescale in which searching was performed was October-November 2014.

SEARCH TERMS were delimited by: language: Czech, English and date. Delimiters applied to date 2000 (1997 respectively) - 2014, Boolean Operators used. Bibliographic management was done through 3 stage process: starting with literature searching using key words & MeSH terms, continuing with broad screening using broad inclusion criteria and finishing with narrow screening considering detailed inclusion/exclusion criteria (table 2.2.1).

Boolean phrases were used properly – AND, OR and NOT. Advanced search had been done. Expert opinion on where appropriate data may be located (Hemingway, 2009) was performed. Researcher contacted professional organisations in CR as well as abroad.

Search terms used were:

Childbirth/ Perinatal care/ Childbirth in CR

Combinations of words were used: childbirth, birth, labour

Pregnant women/Czech Republic/ East Europe/west Europe

Mother's views/ Midwives' views/ Political views

Women´s experiences in childbirth, women´s satisfaction, perception, choices or rights/ Views on optimal childbearing experiences/ Maternal satisfaction/ psychosocial needs/ Morbidity and mortality rates/ interventions in childbirth (caesarean section, other…)

Perinatal care/childbirth/perinatal research/women´s surveys/maternity service/midwifery/birth

Midwife led care/ Medicalised childbirth/Changing childbirth/prognosis for midwifery care/international comparisons /models of childbirth, perinatal care

Primary care/secondary care

All search terms were used according to Czech Republic in order to multiply the chance of finding the most information within the national available literature and primary researches.

2.4 DATA COLLECTION AND ANALYSIS

2.4.1 STUDY SELECTION

An electronic search was initially performed and the eligibility of each article (Higgins, Green, 2011) was initially decided by reading the title and abstract (CRD, 2009). All references identified as potentially eligible were evaluated if they meet the inclusion criteria for reviewing. When the inclusion criteria were met, it was selected. Reviewing included a detailed assessment of titles and abstracts to determine whether they meet predefined requirements for inclusion (Bettany-Saltikov, 2012). If duplication of results appeared, it was identified using online management tool. Reference lists from all the identified articles

had been read through thus making identification of other potential studies. Potentially relevant articles were obtained in their full version for reading and selected finally for inclusion. Relevant and up to date journals were hand searched or obtained electronically to read them through for other potential information (Higgins, Green, 2011). A *Journal list* providing the review with a list of articles (CRD, 2009) and relevant documents is included in Appendix 2. For the few relevant articles that were accessible within Czech context, the authors were contacted to identify any other relevant sources they might be aware of (Pope et al, 2007). After the final selection, the full text of all the article papers included (3.2) had been retrieved.

2.4.2 DATA COLLECTION PROCESS AND EXTRACTION

For data extraction, researcher developed a tool to help make a sense of the findings by following assessment of various options available including *data extraction form* (Appendix 3) after data was gathered (see chapter 3 and Appendices 2, 3). Preferred Reporting Items for Systematic Review Checklist - PRISMA 2009 Checklist (Moher et al, The PRISMA group, 2009) was used to help organise sense of findings. The Cochrane Collaboration´s tool for assessing risk of bias (Higgins, Green, 2011, tool) was used as a template to help address the phenomenon and detect potential bias of the individual studies and research (CRD, 2009; Higgins, Green, 2011). There was no attempt to develop meta-analysis or meta-synthesis due to heterogeneity of results however a thematic synthesis (Leech et al, 2010) was created to conclude the findings addressing the field of phenomenon (Tong et al., 2012) and give a potential pilot tool for further development (chapters 4,5). As suggested by Tong (2012), there were not two reviewers but only one and there had been no blinding of source or author done. Lack of amount of quality data and comparable studies, and small number of relevant trials showed a need for conducting more research in this field.

2.4.3 DATA SYNTHESIS

Dependable on the type of studies found (Higgins, Green, 2011) a synthesis was chosen as appropriate (Pearson, 2004) haven looked for protocols on synthesising evidence (Abad-Corpa, 2010; Wiles et al, 2008).

"Definition of synthesis is summation of all relevant information in relation to specific focus of the reviewing" (Pope et al., 2007). Since "*The qualitative research synthesis is still developing method and several methods might be used when doing a qualitative synthesis* (Ring et al., 2011) and as Tong et al (2012) state: "the syntheses of multiple qualitative studies can pull together data across different contexts, generate new theoretical or conceptual models, identify research gaps, and provide evidence for the development, implementation and evaluation of health interventions." A thematic synthesis was done (Thomas et al, 2008; Tong et al, 2012) in the review, although mixed studies were extracted (Leech et al, 2010).

ENTREQ (Enhancing Transparency in Reporting the synthesis in Qualitative research) was followed: "*The ENTREQ statement can help researchers to report the stages most commonly associated with the synthesis of qualitative health research: searching and selecting qualitative research, quality appraisal, and methods for synthesising qualitative findings. The synthesis of qualitative research is an expanding and evolving methodological area*" (Tong et al, 2012).

3. RESULTS

3.1 SEARCHING OF THE DATABASE AND SELECTION PROCESS

This chapter provides a detailed account of the findings following the review process. It starts with overview of search results, followed by a description of included and excluded studies, as well as the quality assessment of studies that were included in the review. A discussion of the findings then follows and the synthesis is provided.

359 broad scope studies was screened through all the databases, additional 89 records were identified through other sources. 3 additional records were identified following hand searching and 21 from reference list of study articles.

Records identified after reaching expert opinions (42) was checked. After duplicates were removed, number of papers reduced. Only 24 studies met the narrower criteria and only 13 full-text articles were assessed for eligibility. From these 8 remained after reading the full text in detail and 5 papers remained for the review after further assessment.

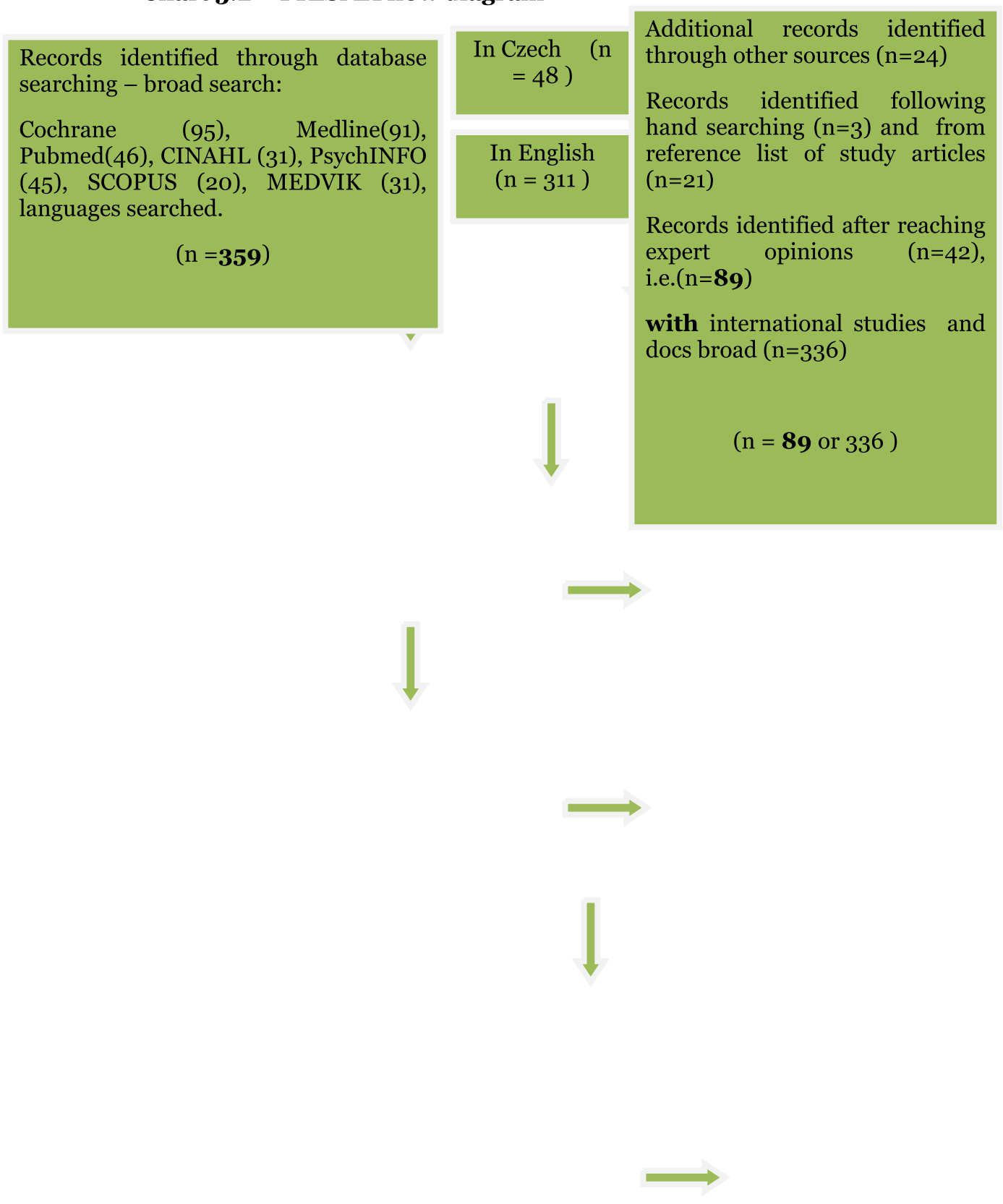
Relevant articles on the phenomenon was spotted but excluded were ones not meeting the narrow inclusion criteria either for Czech or East/West Europe context. For instance, 336 relevant documents were found including: articles, studies, guideline papers, court case papers, grey literature papers, and more. These were excluded from narrow search but some information used for additional discussion.

Journal list of included studies have been created and is to be seen in Appendix 2. A flow diagram is provided to show the selection process (chart 3.2). It was adapted from Moher et al (2009).

From 11 primary full-text studies 5 most eligible were finally included after further refinement and included for reviewing. Included articles are in 3.3

3.2 OVERVIEW OF STUDY SELECTION PROCESS

Chart 3.2 – PRISMA flow diagram



3.3 INCLUDED ARTICL

Total (n=425)
/Broad (n=784)/

Articles were excluded if they showed they reflect any exclusion criteria. They were included after meeting some of the inclusion criteria. Final articles used were those:

Records screened for narrow criteria
(n =24)

Records excluded
(n =2)

Total
(n = 22)

Full-text articles assessed for eligibility
(n = 13)

Full-text articles excluded
(n = 2)

Further refinement, by title and abstract.
(n =11)

Excluded after reading full text =
(n = 8)

5 STRUCTURED EVIEW STUDIES

1. Chalmers, E Eastern E -8.
2. Štembera Z, Velebil P (2011 Prognosi al care in the Czech Republic rinatal indicators in the Czech R he level of perinatal care r future II. From the World Health *á gynekolog* across Cultu *Birth*, Dec; 39:4: 276-280. doi: 10.1111/birt.12
4 i, J. (2012). The psychosocial aspects hip to selected medical interventions rturition. Česká gynekologie. Jun; 77
5. Takács, L. sychosocial hospitals from the perspective of parturients I. Res survey on perinatal care satisfaction using a representative sample of 1195 Czech parturients. Ceska Gynekologie, Apr; 78(2):157-68. Original study in czech: Takács, L., Seidlerová, J. (2013, I.) Psychosociální klima porodnice očima rodiček: I. výsledky celorepublikového průzkumu spokojenosti s perinatální péčí v ČR u reprezentativního souboru 1195 rodiček. Česká gynekologie, 78 (2). Takács, L. Seidlerová, J. (2013, II.). Psychosocial climate in maternity hospitals from the perspective of parturients II. Predictors of womens satisfaction with perinatal care in the Czech Republic. Ceska Gynekologie, Jun; 78(3):269-75. (Original article in Czech: Original study in czech: Takács, L., Seidlerová, J.

(2013b) Psychosociální klima porodnice očima rodiček: II. prediktory spokojenosti s perinatální péčí v ČR. Česká gynekologie, 78 (3).

3.4 ASSESMENT OF THE QUALITY OF METHODOLOGY

Assessing the quality of the studies had been done through critical appraisal framework (see table, Appendix 4). Since investigator had chosen mixed-methods approach, which is gaining increasing popularity, combining multi-strategy aspects (Robson, 2011), it was difficult to decide on the assessment procedure (Leech et al, 2010). Quality assessment had been made by choosing adequate quality appraisal tool according to type of studies chosen. CASP tool (2006) was used for qualitative studies, EPHPP for quantitative, and a Checklist for evaluating bias had been used in order to prevent biases. *Textual description and tabulation were used to compare central themes* (Wiles et al, 2008) and thematic synthesis was used to explore findings. The Cochrane Collaboration´s tool for assessing risk of bias was considered to be a helpful tool for assessing it. PRISMA Checklist (2009) was utilised to help interpret findings. *Data extraction form* was developed from these tools (see Appendix 3) in order to prepare extracted data to be pulled to develop evidence tables from them. Poor quality studies were excluded, but discussed in report (see chapter 4). Investigator developed a *specific tools for appraisal choosing to use the most relevant studies within the area it covered* (Kahn, 2003), although it meant that mixed approach was used which might brought difficulties since there are *no set clear guidelines* (Robson, 2011) and novices might miss important aspects due to broadness of the theme (Leech et al, 2010) but on the other hand it offers *"holistic endeavour that requires prolonged engagement and persistent observation"* (Onwuegbuzie and Leech, 2005a in Leech et al, 2010) which investigator is keen of and can bring new views on theme and be viewed from a very unified perspective. As thematic synthesis, which can generate new concepts, identify gaps and provide evidence for the development, implementation and evaluation of health-care contexts was generated (Tong et al, 2012), findings were gathered qualitatively.

Studies were identified as of a good **quality** (table in Appendix 4), three of them (Chalmers, 1997; Štembera et Velebil, 2011, I.; Štembera et Velebil, 2011, II.) received 6 points, other three (Chalmers, 2012; Takacs, Kodyšová, Seidlerová,

2012; Takacs, Seidlerová, 2013, I. & II.) were rated with 7 points. Assessment of **study characteristics** and of **study outcomes** is included in Appendix 5.

3.4.1 ASSESMENT OF BIAS

The Cochrane Collaboration´s tool was used for assessing risk of bias. Allocation sequence was adequately generated (Higgins, Green, tool, 2011) in three studies (Takacs, 2012, 2013, Chalmers, 2012), where questionnaires was randomly administered, finding EG and CG using random elements (Takacs, 2012), participants enrolled in Takacs (2013) study. In the study of Chalmers (2012), sampling methods included stratified random sample drawn from national census data in Canada and random selection from birth registers in the United Kingdom. In study of Štembera and Velebil (2011), randomisation was not done, due to the nature of the research but investigators could not foresee the outcome. Investigating described random components in the sequence generation process (Higgins, Green, 2011, Cochrane tool), using computer random generation. According to risk of bias in individual studies, within studies and across studies, Cochrane tool was used. This was done on the outcome level (Appendix 5 and 3.2.3).

There is a risk of bias due to nature of research, translations, and interpretations (Robson, 2011). Investigator is not a native English speaker, advantage might be that researcher is Czech but again, translating into English paperwork might bring inequalities. Threat to validity might be a selection of two studies from one author (Higgins, Green, 2011) however it was due to lack of available studies within the context facing also representativeness and field of phenomenon at the same time. Since researcher has quite deep inside in the topic, it is difficult to insure the objective outlook of the situation, it is hard to start systematic literature review open minded (Hemingway, 2009), when being involved in the issue in long term relation and having the international context. In order to prevent biased results, investigator consults regularly with other researchers (midwifery professors abroad, epidemiologist in Canada, midwives from international organisations, Czech statisticians, and consult with other professionals from outside the country with hope to select the most objectively appropriate information), and although selective reporting within studies can be a thread due to complexity and therefore large extent, this reviewing might help

assess it. Due to assess publication bias researcher also contacted original authors of the studies of the Czech epidemiological national survey (Takacs, 2013, I., II.) and discussed the sociological issues and limitations and consulted pros and cons.

3.4.2 ASSESMENT OF OUTCOMES

All outcomes were considered and simple summary of data was purchased for each group (Appendix 4, 5, chapter 3.5) Assessment of **credibility of outcomes** is included in Appendix 5. Outcomes were assessed and four fields of investigation were taken into account in the results: satisfaction with care (3.5.1), interventions in childbirth (namely looking for three items: epidural, induction of labour and episiotomy) (3.5.2), findings of caesarean section (3.5.3), and data concerning Evidence based Medicine (data addressing and missing, 3.5.4).

As to the completion of outcome data (Higgins, Green, 2011, Tool) we have faced incompletion of outcome data in two studies (Chalmers, 1997, Štembera, 2011, I., II.) As a part of assessment of study characteristics of Štembera (2011, I.), assessment of current status (level): i.e. selection of the 6 main indicators assessed incompletion due to not taking in account other predictors of care than PMR (Štembera, 2011),which is not adequate for assessment. As to the objective criteria for assessment of the level of perinatal care was according to the study of Štembera (2011, I.) taken type and frequency of used diagnostic and treatment procedures, which Chalmers (1997) states as over medicalisation of childbirth against which we can spot childbirth movements towards humanisation of childbirth (see chapter 4). After the data was extracted, the study of Štembera I. was taken to be excluded due to incompatibility of study data since the “prognosed objects” were the main indicators, though incomparable with other data (Higgins, Green, 2011, Tool) but it was decided to be left at last, whilst the indicator of caesarean section was an intervention taken as one to present results of a review (3.5.3). Another reason to keep the study was that it showed to be an effective instrument to reveal the absence of EBM within the Czech perinatal care system (3.5.4).

3.5 PRESENTATION OF RESULTS

Four fields of interest are taken into account: satisfaction with care, findings of interventions in childbirth (namely looking for three items: epidural, induction of labour and episiotomy), caesarean section, and information on data concerning Evidence Based Medicine (i.e. data addressing EBM and data missing) - (for details see also Appendix 3, 8 and 9). These results are analysed further (chapter 4).

3.5.1 RESULTS OF SATISFACTION WITH CARE

Table 3.5.1 - Findings of studies on satisfaction

	Satisfaction		
East	Satisfaction according to surveys: Moldova 11.5%, Lithuania 47.4% (Ch, 12)	=	Overall satisfaction around 50% not dependent on care nor intervention in all countries (Ch, 12) findings disturbing, all needs should be cared for (Ch, 12) less than optimal ratings of maternal satisfaction clearly point to the need for improvement of care (Ch, 12) Satisfaction rate in CR according to findings of Takacs (2012) = closer to eastern countries Satisfaction rate in CR according to Takacs et al (2013) = closer to western countries
West	Satisfaction according to surveys: Canada 53.6%, UK 56.4% (Ch, 12)		
CR	Overall satisfaction from 32% - 45%, lowest experienced with instrumental delivery (33%), foetal distress (32%) and bleeding (36%), highest experienced control group having no complications (45%) (T, 12) (see 3.3.3)	´=	
	Most important determinants of satisfaction were well-timed provision of information concerning treatment plan, privacy during first stage and kind and helpful attitude of caregivers (T13, II.)		
Chalmers (1997) (Ch97) **Štembera et Velebil (2011) I. & II.** (Š I, II) **Chalmers**	Overall satisfaction showed 70% (respectively 61%) for Czech women, whilst: control and involvement in decision making process was	= Control	Post totalitarian attitude points out authoritative approach, which takes control over women not giving them decision power (Ch 97) Lowest satisfaction (T 13) showed similarities as in world studies

(2012)(Ch 12) **Takacs et al (2012)** (T, 12) **Takacs et al (2013) I. & II.** (T I, II)	experienced as worst (34%) (T, I. 13)		showing importance of liberate decision making
	Low rates of satisfaction showed similarities in countries (Ch, 12) and need for improvement (T, 13, Ch,97, CH 12, T 12)	Around 50% overall	Chalmers, 2012 Takacs, 2012 Takacs et al., 2013 Lack of awareness and understanding of the woman´s point of view (Ch, 97)
	Medical model – no care for satisfaction (Š I.) Lack of concern for psycho-social aspects of care (Ch, 97)	x	Need for practice to focus on enhancing psychosocial competences of caregivers (T,13, II.)
	Satisfaction not determined by interventions (Ch, 12)	x	Satisfaction determined according to interventions (T, 12) – highest women without intervening in labour
	Beneficial psychosocial climate of a hospital contributes to higher patient satisfaction as well as to lower maternal and neonatal morbidity (T, 12)	x	(Š I. II.) – NO other concern except PMR seen adequate as to matter of quality of care (see 3.3.4 and 3.4) Questions relating to psychosocial issues not asked (Ch, 12)
	Different approaches used in cross culture research (Ch, 12)		

Chalmers (2012) is stating that the overall results of satisfaction around 50% is disturbing, whilst we can spot these results throughout the studies overall (Takacs, 2013, Takacs, 2012, Chalmers, 1997). Although there are variations in study of Takacs (II., 2013) stating 70% satisfaction (respectively 61%) whilst going to low rates, the lowest is seen the experience of *"control and involvement in decision making process",* being as low as 34%. Lower overall rates shows Takacs (2012), i.e. from 32% - 45% (for details, see table above). Although Chalmers (2012) does not find determination of intervention on satisfaction rate, satisfaction with care is much and significantly lower, when experiencing complications (Takacs, 2012), but causality might appear in both directions.

When pointing out the findings of Takacs et al. (2013, I.) where most important determinants for the course of labour belong to *control of the woman over the birth process*, it support the experience of Chalmers (1997) in cross country findings and Takacs (2012) that beneficial psychosocial climate of a hospital and its functioning contributing to a higher women satisfaction as well as to lower maternal and neonatal morbidity.

3.5.2 RESULTS OF INTERVENTIONS IN CHILDBIRTH

As can be found in the Table 3.5.2 - Findings of studies on interventions in Childbirth in Appendix 7, Chalmers (1997) states that "*in eastern countries, interventions are traditionally almost routinely used, and its rate should be lowered"* (Chalmers, 2012) while showing that rates in eastern countries were 15% Moldova (2001), 30% Lithuania (2004), for western countries it was 21% Canada, 24% for UK, compared to Czech women having episiotomies in 51% (EPHR, 2010) being put in the higher category of interventions used, higher than both east and west. As to induction of labour, in eastern countries it was 14% for Moldova (2001), 17% for Lithuania (2004), western ones (2006) - 44.8% in Canada, 32.4% in UK, (Chalmers, 2012) and 10% in CR (EPHR, 2010), thus CR having low results according to comparison.

According to Takacs (2012) we can spot significantly more negative perception at EG´s when instrumental delivery, acceleration of labour and episiotomy, also lowest satisfaction (3.5.1) experienced women in CR with instrumental delivery (33%), foetal distress (32%) and bleeding (36%) highest rate experienced control group having no complications (45%). Women satisfaction when having epidural was 39%, and having episiotomy - 40%, although causality in the findings is bidirectional. But as to the goal 3 (Štembera, 2011, II.) concerning healthy start to life, WHO recommends that long term perinatal morbidity should be a priority to be dealt with (i.e. also interventions in birth process). In order to lower it, it is necessary to map the quality of life (Štembera, 2011, II.), and Takacs (2013, II.) addresses needs by claiming "that need for practice to focus on enhancing psychosocial competences of caregivers" should be of a priority in order to lower interventions. Chalmers (1997) shows "*the main pitfalls of integrating differing cultural approaches to childbirth and speaks about interventions in childbirth and need for effective use of childbirth*

technology". Women had higher satisfaction when having had the possibility to influence decision making process (Takacs, 2012) brings investigator to findings of Chalmers (1997), that important difference improving outcomes is "*the concept of care where mother is the one that birth"*.

Chalmers(1997) also speaks about need for growth of midwifery, where the study findings show lower number of epidural anaesthesia and of number of episiotomies being seen when women were accompanied by known midwife or doula (Takacs, 2012). Movement against many forms of routine interventions now also from within scientific foundations not only women´s groups (Chalmers, 1997) show the tendency to lower interventions, and according to WHO, Czech state is to deal with main common problems as are complications in labour (Štembera, 2011). Chalmers (2012) speaks of the frequency of technology and interventionist approach to be preferred in eastern countries but also of need to change this situation.

3.5.3 RESULTS ON CAESAREAN SECTION AS PREDICTOR OF CARE

As can be shown in Appendix 8 – in the table of findings on caesarean section, rates of Caesarean section according to surveys were for eastern countries 4% for Moldova (2001), Lithuania 12.7% (2004), for western countries 26% for Canada (in 2005) and 22% for UK (in 2006) (Chalmers, 2012), 23% for Czech Republic. As to assessment of year 2009, where frequency of newborns and ascending tendency of C.S. rate in CR was found to have a high growth (last ten years ascending about 1% annually), for newborns with low birth weight up to 7.7%, for caesarean section from 13.5% (being 18% in 2005) to 22% (Štembera, 2011, I.), and being 23% in 2010 (EPHR, 2010), ascending tendency is also seen as to the WHO goal 3 (Štembera, 2011, II.) where one of the worsening outcomes was particularly the observation of increasing rate of C.S. and increase of low-birth-weight. Interesting finding showed Takacs (2012), spotting significantly higher rate of need to end spontaneously started birth by caesarean section, when connecting rates of Caesarean section and women´s satisfaction (3.5.1 and 3.5.2) women´s rate of satisfaction having experienced CS was 42% and more satisfied were women who gave birth vaginally than women ending with caesarean section (Takacs, 2012). Higher risk of ending by caesarean section was also seen when having prechosen doctor (Takacs, 2012).

3.5.4 RESULTS ON DATA ON EBM (EBP) - ADRESSING OR MISSING

Table 3.5.4 – Results from studies on data concerning EBM

	EBM (EBP) wide variations among countries point to the need for a globally acceptable monitoring system (Ch, 12)		
	EBM addressed		**EBM missing**
East	Comparisons reveal the greater use of traditional but non- evidence-based practices in eastern parts compared with their western counterparts (Ch, 12) EBM - 0	?	Hospitals in east and central Europe offering models of care based on traditional soviet practices (Ch, 12) Interventions overused (Ch, 97) Objective criteria for evaluation of Czech perinatal care are kind and type of diagnostic methods used, treatment and organisational gathering (Š, I) Predictors of quality of Czech perinatal care are PMR (Š, I) – technocratic model
West	Evidence Based Medicine concept HFA 21 (Š II.)	EBM - YES	But... Great use of technology experienced in western parts (Ch,97, 12)
CR	HFA 21 (Š II.) – 4 goals		Prognosis excluding EBM (Š, 11, II.)
	Bio-psycho-social needs discussed (T, 12, T 13)	EBM - NO	Only predictors of quality of care taken in concern are PMR and C.S. (Š, 11, I.)
Chalmers (1997) (Ch97) **Štembera et Velebil (2011) I. & II.** (Š I, II) **Chalmers (2012)**(Ch 12)	- significantly higher satisfaction in smaller hospitals – in "empathy and helpfulness of caregivers" (84% versus 78% in smaller), mainly midwives and involvement in decision-making process (64% versus 56%)	x	Closing of smaller hospitals according to goal 20 (Š, 11, II.)
Takacs et al (2012) (T12) **Takacs et al (2013) I. & II.**	A Capacity building intervention programme presented reforming practices described (Ch,97) Novel practices – inter country comparisons (Ch, 12)		
	WHO **Project** Health for		

(T I, II)	All 21 (4 goals related to perinatal care) (Š, 2011, II.) Goal 3: "Healthy start in life" accomplished to decrease PMR, among countries of best results (Š, II) Goal 15: "accomplished introduction of functional organisational system of care" (Š, II.) "WHO EURO" quoted: "....lack of caregivers on information on quality of health services on daily basis provided) Goal 17 "adequate control over financial expenses and distribution of sources" Goal 20 – "mobilisation of partners for health" – National Council of Health created	YES, NO	WHO goals – **Prognosis** (Š, II) Goal 3: quality of life not spotted, EBM – 0, C.S. have increased and increase of low-birth-weight rate is observed Goal 15: despite introduction - not primary care, not midwifery care – EBM - 0 Goal 17 "The financing of high level of care was underestimated" Low level care - ? – 0 (not existing) EBM – 0 (no normality, no physiology supportive approach, no Primary midwifery care) Goal 20 midwives excluded from council – EBM - 0
	According to the study (T, 12) psychosocial aspects of care taken as primary concern, and significant association found with complications and interventions. Psychosocial aspects show need for improvement (T 13)	Psychosocial - YES EBM - NO	Lack of concern for woman´s experience in childbirth (Ch, 97) Prognosis of goals – EBM – 0 (Š, 11, II.) Care is technically oriented (Ch, 97)
			EBM information absenting in studies

There is no sign of midwifery care in any of Czech studies conducted and investigated (Takacs, 2013, Takacs, 2012, Štembera, Velebil, 2011). Research aims to analyse further the EBM and international guidelines, PMR and standards of care as well as functional organisational systems (see 1.2). Contradictory results also spoke about satisfaction and type of hospitals in two

studies having significantly higher satisfaction marked in smaller hospitals (Takacs, 2013, I.), having better outcomes of "empathy and helpfulness of caregivers" (84% versus 78% in smaller), mainly midwives and *"involvement in decision-making process"* (64% versus 56%), whilst in study of Štembera (2011, II.) prognosis spoke in the goal 3 of its proposal of improvement of care of integration by having closed smaller hospitals, thus decreasing satisfaction with care as Takacs (2013, I.) discovered.

As to the 4th predictor of the study of Štembera (2011, I.) – i.e. comparison of care with countries having best outcomes, findings show "*difficulties when comparing countries, as to missing definitions among countries",* which is explained more in Chalmers (1997), where investigator is "*highlighting difficulties in integrating different approaches to childbirth"* – i.e. gives importance not only to problems with definitions but also shift paradigms (Leah et al, 2007). By synthesizing diverse sources of evidence and the utilization of reviews in the policy making process (Pope et al., 2007), reviewer attempts to open discussion in such potential shift. Štembera (2011, I.) additionally adds conclusion claiming: *...."since CR is one of the countries with lowest PMR and looking across other countries with lowest PMR there does not exist one which could be an example for prognosis of perinatal care according to professional care,"* which is a finding in contrary with other studies (Takacs, 2012, Takacs, 2013, Chalmers, 1997, Chalmers, 2012).

4. DISCUSSION

4.1 OVERVIEW AND SYNTHESIS OF FINDINGS

When reading throughout the research within Czech context, first important basic fact immediately raises, showing major mental predetermination of point of view on childbirth starting with the terminology (Shaw, 2007). When concerning care for women, "the main object of interest" (Štembera, 2011) is what is being investigated mainly, women taken as "patients" (Dvořák et al, 2012), and we can spot this dominant setting among all 5 original studies made reviewed, which is alarming as to the way of thinking of women being "presumably ill" (Davis-Floyd, 2001), since it does not promote the concept of physiology of pregnancy and birth (WHO, 1999, NICE, 2014, UNFPA. UNICEF, ICM, 2014, IMBCI, 2008, etc.), therefore is not addressing EBM knowledge (Pearson, 2004; Khan et al, 2003; Campbell et al, 2008). Main indicators of "quality of care" in Czech Republic is perinatal mortality rate (Kassebaum, 2013; Štembera et al, 2011), child early neonatal mortality rate, infant mortality rate, Maternal mortality rate, caesarean section rate (Štembera, 2011, I.) (see 3.5.4 and Appendix 8,9).

When pointing out the findings of Takacs et al. (2013, I.) being probably the first and only research of such kind in CR, most important determinants for the course of labour belong to *control of the woman over the birth process,* and looking at cross country report (Chalmers, 2012) on importance of comparisons between practices and satisfaction (Hiner et al, 2009), which also reveals the greater use of traditional but not evidence based practices (Campbell et al, 2008). As to findings of Takacs et al. (2013), and as to prognosis of Štembera and Velebil (2011); Chalmers (1997) proposed and is introducing the "*programme reversing traditional hierarchy towards women´s needs giving them the priority role"*, as also Takacs (2012) states to be of high importance, from various reasons also as such care taken as more satisfactory (Takacs, 2013). As Chalmers (2012) states, *less than optimal ratings of maternal safisfaction found*, clearly point to the need for improvement of care. As Europe and actually systems throughout the world being in a transition (Saltman, 2006,

EPHR, 2010), we see as Chalmers (1997) reveals that "*some improvements have occurred already and few myths diminished"*. In CR we can spot changes (Haskova, 2001; Sedlická, 2007) as stirrups and routine shaving and enemas are not practice anymore as being discussed in Chalmers (2012), yet there are still major fields to be improved (Sedlická, 2012), as is routine CTG monitoring during labour or supine position for delivery.

As also Chalmers (1997) stated that "*central and Eastern Europe lag behind the western countries in many indicators and are grouped at the lowest end of their scales"*, this fact is no longer a burden for Czech Republic, having reached one of the lowest PMR in the world (Štembera, 2011; Kassebaum, 2013), however according to Evidence Based Medicine (Tracy, Hartz, et al, 2013; Campbell et al, 2008) and Midwifery care (Sandal et al, 2013) it is still facing major gaps. Further synthesis is provided in 4.5.

Satisfaction

Chalmers (2012) states, that "*the overall results of satisfaction around 50% is disturbing"* whilst we can spot these results throughout the investigated studies overall (Takacs, 2013; Takacs, 2012; Chalmers, 1997). In the Czech studies low rates are seen in Takacs (2012), they vary from 32% - 45%, where lowest are experiences with instrumental delivery (33%), foetal distress (32%) and bleeding (36%), which find association between satisfaction and complications. As seen in the 3.5.1, highest experienced control group having no complications (45%), which might lead to see connection however, causality might appear in both directions. Although Chalmers (2012) does not find determination of intervention on satisfaction rate, in Czech context, satisfaction with care is much significantly lower, when experiencing complications (Takacs, 2012).

Although there are variations in study of Takacs (II., 2013) stating 70% satisfaction (respectively 61%) whilst going to, the lowest is seen the experience of *"control and involvement in decision making process",* being as low as 34% and when pointing out the findings of Takacs et al. (2013, I.), where most important determinants for the course of labour belonged to *control of the woman over the birth process*, and *adequate information provided enough time in advance* and significant was the *privacy during labour* (Takacs, 2013, II.), therefore (Takacs, 2012) found that beneficial psychosocial climate of a

hospital and its functioning is contributing to a higher women satisfaction as well as to lower maternal and neonatal morbidity, whilst is not obvious if the dependence could other direction around. Yet although satisfaction with perinatal care in CR is quite low (Takacs, 2013, I.), it can be also women expectations which might lower the rate (Wites et al, 2008).

Interventions

According to Takacs (2012) was the perception of control lower when having experienced complications or interventions which made satisfaction also significantly lower (3.5.1), on the other hand *having control over the process brought lesser need for interventions and better birth outcomes* (ad Sandall et al, 2013; Begley, 2011), whilst according to Chalmers (1997) *in eastern countries, interventions is traditionally almost routinely used, and its rate should be lowered* (Chalmers, 2012) while showing that for instance rate of women having episiotomies in CR is 51% (EPHR, 2010) might lead to concluding that in this area we belong to east rather than modern west (Speckhard et al, 2005). This finding is supported by a study concluding higher risk of caesarean section when undergoing induction of labour (Cheng et al, 2009). To see further findings on interventions, see Appendix 8.

Caesarean section

Interesting is also to spot connection between caesarean sections and satisfaction (Takacs, 2013, I.), where women giving birth vaginally experienced significantly higher satisfaction being 6% higher. Interesting is the conclusion of comparison of rates of caesarean section being as high as in western countries (Chalmers, 2012), but satisfaction as low as in eastern countries (see 3.5.1 and 3.5.3). Whilst overall satisfaction being low (3.5.1), it "*should be reflected, no matter how the care looks like and attempts for improvement should be made*" (Chalmers, 2012). For instance a result supporting the thesis that women need division into primary midwifery care (Sandall et al, 2013; Shaw, 2007; Page, 1997; WHO, 1999), might be findings of Takacs (2012), where higher risk of ending by caesarean section is shown to be when women have had prechosen doctor, on contrary, having a midwife this risk lowered, this is supported by EBM and international studies, as is an Australian RCT study analysis of COSMOS (2012) showing significant decrease of caesarean section rate when

being accompanied by primary midwifery model of care. Johnson and Slade (2002) do not confirm emotional influence, while in their study there was not found association between fear and higher occurrence of caesarean section. To see further findings on caesarean section, see Appendix 9.

EBM

When discussing on EBM (Hiner et al, 2009; Campbell et al, 2009; Wiles, 2008; Cheyne, 2006), we come back to see discrepancies between findings, an example is intrapartal foetal CTG monitoring. Štembera and Velebil (2011, I.) state as main help in improving care the use of diagnostic methods as is intrapartal foetal CTG monitoring for most of labouring women, whilst evidence based medicine shows contrary (see chapter 3.5.4) – i.e. is not recommended to be used routinely and that there should be valid reason for using CTG during labour at all (NICE, 2014). Similar inequalities appeared as to the interpretation of main goals of the WHO project Health for All 21 (Štembera, Velebil, 2011, II.) Investigation of the study showed that misleading interpretation of conclusions on what changes should be done was held, thus not taking into account EBM neither Primary care as a basic for implementation of good practice (see 1.2.2, 1.2.3, Appendix 7). Implementation of over usage of procedures and interventions within the system of care as Chalmers (1997) reports as being *spread in eastern countries*, can be seen for instance on the rate of episiotomies performed to Czech women being 51% and more (as seen in table, appendix 8, versus Carroli et al, 2012 on episiotomies). Same is the discrepancy of significance of higher satisfaction in smaller hospitals (Takacs, 2013, I.) against the coverage of goal 3 with closing small hospitals (Štembera, 2011, II.) (3.5.4). Also findings of the physical comfort being the "best" rated in Takacs (2013, I.) would correspond to the study of Štembera (2011, I.) having highlighting the *"good quality of technical care"* (Davis-Floyd, 2001), while Chalmers (2012) speaks of as being typical in countries having high medicalisation (Davis-Floyd, 2001), also having high intervention rate and higher need of women calling for introduction of changes into the system (UNIPA, 2014).

4.2 CHALLENGES

Many challenges arisen, addressing few: in such a situation question rises, whether the international context is applicable and how (Veillard et al, 2010). Main issue in CR remains keeping the system and pathologisation of pregnancy (Dovřák et al, 2009) and having childbirth rights and practice under suppression (Appendix 6) from where many mal attitudes and procedures raiseCampbel et al, 2008). One of the biggest challenges we face at the moment is the governmental configuration (Dvořák et al, 2009; Ministry of Health) and legislative adjustment of division of care (Hořejší, 2014; Appendix 6), not allowing many models of care as in democratic countries (see 1.2.3). For instance mentioning closing of small hospitals is being taken as "*successful accomplishment of goal"* (Štembera, 2011, II.) comparing to findings on satisfaction of Czech women, claiming "*significantly higher satisfaction with care in smaller hospitals experiencing better attitude and more sensitive approach"* (Takacs, 2013 I.). Chalmers (2012) states when speaking about one of the "*big challenges, the being the authoritatian approach not only forcing women to listen to the needs of system"* (ad Rychetnik et al, 2002) thus as Takacs confirms this by findings of the research that it was "*authoritative approach of personnel was put in connection with slowing down the birth process"* (Takacs, 2012) but also "*taken in broader ideological context revealing unreliable data due political and ideological protocols based on order practices"* (Chalmers, 2012; Hiner et al, 2009; Rychetnik et al, 2002; Cheyne et al, 2006; Roberts et al, 2002; Albers, 2007). Such a challenge faces society throughout the world (Cheyne et al, 2006; Albers, 2007) that is also reason for many organisations to develop (WHO, UNICEF, NICE, ICM etc.). However Štembera and Velebil (2011) neglects such statements by claiming opposite, which might be again a question of translating the knowledge (Hemingway, 2009). Therefore investigator questions the conclusion of the study made on improvements of perinatal care, as to the prognosis of the study (Štembera, 2011, I.), where only "object indicators" were taken into account, and as shown in other studies (Takacs, 2012, 2013, Chalmers, 1997, 2012 etc.) a lot of important determinants are missing in complexity of Czech care, however no one questions it. Yet authors (Štembera, 2011, I.) are fair when claiming that "*reserves for the continuing improvement (medical and organisational) are already exhausted and while the conditions for provision of care are worsening, we could expect worse perinatal results in terms of further*

increase of low birth weight rate, increase of caesarean section rate, and elevation of perinatal mortality above 4/1000." however major remarks on behalf of critics towards such claim is yet complete absence of division of primary care to be taken into account. As it shows as the difficulty of transferring knowledge on active medical management of childbirth as Hašková (2001) reminds also that women are not critically aware of active medical management of childbirth, whilst medical staff is on such women´s knowledge dependent when offering them alternative options, which makes it difficult in such conditions to spread and widen choices.

"Implementing of collaboration with international exposure" (Chalmers, 2012) seems to be very challenging, which was proved on the recent international ICM Congress which was held in Prague, having great visit from abroad 3800 midwives from 126 countries (ICM, 2014) and covered by majority of international media daily broadcasting whilst in CR hardly anyone knew it was going on (cca 40 czech participants and no media coverage) even though CR being a hosting country.

As a specimen of mentality paradigm need shift might be the topic of abortion. As to the present research, investigator questions influence on results of NMR in CR, showing decrease of perinatal mortality in 2009 on 3.4 where in evidence was shown *decrease of percentage on congenital malformed newborns* Štembera (2011, I.). As to high *proactive abortion politics* practiced in CR involving abortions forcing women to withdraw their pregnancies based on single screening (positive or suspicious), we are facing the challenge of having high rates of combination of healthy newborns with test outcomes being falsely positive outcomes and women being under pressure of medical lobby when refusing to go for abortion. When speaking about abortion being one of the highest threat for mothers deaths (Chalmers, 97) and looking for MMR having increased in CR (Štembera, 2011, I.).

Challenges we face are seen throughout the whole maternity care in CR, we can spot common practices as Takacs reveals (2013, II.) "*sharing multiple rooms while birthing thus experiencing any privacy",* and as Chalmers (2012) mentions "*forcing women into supine positions being taken as non evidence based practice"*, and going on to "*routine separation of newborn from mothers"* (Chalmers, 1997), whilst in Chalmers (2012) we can see "*novel practices being*

introduced such as "skin to skin" directly after caesarean section", while in CR bonding does not occur (Mrovetz, 2011) and is seen as quite challenging even after normal physiological birth. As Haskova (2001) also states in her research findings: "*women have little information knowledge on childbirth options as well as critical appraisal on active medical practices."* It is not questioned, whether similar challenges as mentioned and investigated in the review are not also spotted throughout countries with high standards of care due to medicalisation of world generally.

4.3 METHODOLOGICAL ISSUES AND LIMITS OF THIS REVIEW

As there is a limited research studies, the quality of review might be questioned (Tong et al, 2012) as well as appropriateness of approaches and tools. Limitations of tools used (CASP, 2006; EPHHP) might have been gaps in terms of domains it addresses, since *"...proper interpretation of the evidence depends upon the availability of descriptive information on the intervention and its context, so that the transferability of the evidence can be determined*" (Rychetnik et al, 2002). Appropriateness of approaches might appear to be limited (Higgins, Green, 2011) since it is not visibly obvious as how to proceed in such a based research (Tong et al, 2012; Robson, 2011). As to insufficient number of research found, it might appear not to be comparable (Higgins, Green, 2011), as to non heterogeneous group of findings (CRD, 2009), however in qualitative measure (Sandelowski et al, 2002), this might add to diversity of results (Tong et al, 2012). Although findings might not be transferable to wide population as the sample mapped is limited (Rychetnik, 2002), it is the only research of such kind conducted, so brings at least some measures, and anyhow it is found that many difficulties appear when comparing findings across cultures (Chalmers, 2012).

Challenges have arisen during the study when facing the unequalities of sample sizes, where in Štembera (2011) and Chalmers, 1997; 2012) data from registers were evaluated and at Takacs, 2012, 2013) (Leech et al, 2010) however in synthesis it can be concluded, that it was beneficial since *pragmatic approach gives the benefit that it seeks between philosophical dogmatisms and scepticism* (Robson, 2011). Review might face limitations according to steps taken throughout the study (Leech et al, 2010), having not sufficient number of

research, being not comparable, not transferable to wide population, having difficulties to compare (Chalmers, 2012) but that all is a challenge of trying to build a new framework (Campbell et al, 2008). Challenges regarding evaluation of mixed research studies (Leech et al, 2010; Pearson, 2004; Tong et al, 2012) are that there are only few available frameworks to assist pragmatic researcher (Leech et al, 2010) however pragmatic approach serves pragmatic researchers to *"come up with answers to the problems they are trying to address"* (Robson, 2011) since concern is for practical matters. Strength of evidence of each main outcome (Pearson, 2004) might be questioned due to heterogeneity of results and methodology however serve pragmatic researcher to address phenomenon from broad range of aspects (Leech et al, 2010) therefore can help bring conclusions on the research questions. Its relevance to key groups can also be considered (Hemingway, 2009) as the outcomes were alternative and diverse but matched the criteria for review therefore synthesis showed important phenomenon and is appropriate since "*reviewers may adopt an iterative approach where all the available concepts rather than studies are sought until saturation is reached"* ((Tong et al, 2012), it can add to generalisability of findings.

4.4 LIMITATIONS DUE TO LACK OF KNOWLEDGE

Strength of this review is the uniqueness of research (Leech et al, 2010; Tong et al, 2012; Pearson, 2004; Thomas, 2008) being conducted in Czech environment on primary midwifery provision of care (Sandall et al, 2013), at least some evidence was gathered, since none exist on phenomenon as to EBM in Czech Midwifery, although limitations in reviewing have appeared (Higgins, Green, 2011; CRD, 2009). Limitations at study level (Higgins, Green, 2011) were the incompletion of data (Chalmers, 1997, Štembera, 2011) however the synthesis of findings was concentrated on phenomenon across and behind the data source (Robson, 2009). Limitations on review level being incomplete retrieval of identified research or reporting bias (Higgins, Green, 2011; Katrak et al, 2004; Crowe et al, 2011) might be present, since investigator is a midwife involved in long term period in midwifery issues nationally and internationally (about author at the end of Appendix 1), investigator tried to solve this by frequent consulting (see chapter 2 and appendices for details). Limits might also reveal

on how studies were selected (Tong et al, 2012) also as to the limited amount of experience of the investigator, there might be *a chance of missing aspects of evaluating contextual findings, and synthesising it* (Leech et al., 2010) and although it might be possible that investigator might have skipped or overlooked important information already at the stage of searching due to lack of research knowledge and experience (Higgins, Green, 2011), it is the *in-depth understanding of perspectives across health care contexts* (Tong et al, 2012), that might arise of challenging these issues. Although many limitations have appeared, like limitations on outcome level i.e. risk of bias, selection bias, reporting bias (Higgins, Green, 2011; Robson, 2009; Attree et al, 2011), it has been attempting to do such a synthesis since it can bring together important findings and uncover new phenomenon (Tong et al, 2012). There might be more alternative explanations (Hemingway, 2009) as to synthesising the findings then were performed however important conclusion that might be beneficial in Czech context were driven. Advantages of a structured review over a traditional literature review are though obvious as synthesis of findings on qualitative studies provide "*a range and depth of meanings, experiences and perspectives across health care context… and* (Tong et al, 2012) and that was a challenging reason to use it for reviewing.

4.5 INTERPRETATION AND COMPARISON OF FINDINGS WITH EXISTING WORK

Although Chalmers (2012) in her report states that *inter-country surveys however are unable to expose novel perinatal practices that are being developed worldwide*, researcher is trying to overcome such a conclusion and tries to develop a synthesis adapted to synthesise diverse evidence sources (Attree et al., 2011) also based on such an international comparison (Appendix 7). On one hand we face medicalisation and its perfection (Štembera, Velebil, 2011), on other hand "*psychosocial aspects of recipients and their call addressing and demanding further needs"* (Takacs et al, 2013), however questions remain, where primary care specifically with midwives in and evidence based medicine (Emons, Luiten, 2001) in that concern lies within such findings. Primary studies on childbirth care in the Czech Republic or in Eastern Europe generally are rare. As there is almost none in the Czech Republic

concerning EBM, as findings of goal 3 revealed not counting with primary midwifery care in the system (Štembera, 2011, II), it shows how non-evidence-based our care is, as also was found in the studies investigated (Štembera, 2011, I., II., Takacs, 2011, 2013, I., II.). Prevailing interventionist and medical model is not satisfactory (Takacs, 2013) and is still based on authoritative approach (Takacs, 2012, 2013) as in other eastern countries (Chalmers, 2012). Need for improvement of care raised among all studies (Chalmers, 2012, Takacs, 2013, Takacs, 2012, Štembera, Velebil, 2011, Chalmers, 1997), although differences in reasons for importance of it differed varying from dissatisfaction with care to health policy incompatibilities (Saltman et al, 2006). Insufficiency of Evidence based medicine and practice (WHO, 1999, UNICEF, NICE, 2014, Marchant, 2007) revealed on all levels of care (Štembera, 2011, II.). As to the options of care provider (NICE, 2014; Emons, Luiten, 2001, Sandall et al, 2013) as Chalmers (1997) states, *education and training of midwives was halted or downgraded, some decades ago – only doctors were considered necessary to "heal the unavoidable physiological illnesses, which the ´ideal´ Soviet system could not prevent"*. This attitude unfortunately still persists in CR as well (Štembera, Velebil, 2011, I., II.) which shows, how midwives lack any competencies and autonomy (European Court of Human Rights, 2012, 2014; Hořejší; 2014, 2013; 2010; Porodní dům U Capa, 2012). When searching other specific websites and those dedicated to birthing women and their needs and rights, this provided many necessary policy documentation on provision of care also showing the deep inequality of health of Europeans, successes and failures of their policies (Mackenbach et al., 2013) and deep need for enhancing a systematic system change (Health Council of Netherlands, 2004; Sandall et al., 2006; Emon, Luiten, 2001) and development of new models of care (see chapter 1). Prognosis of Štembera (2011,I.) analysed the findings being very unsatisfactory as to Evidence Based Medicine not addressing it in any of their predictors for quality of care neither in any of the proposals for accomplishing the WHOs´ project Health for All 21 goals (Štembera, 2011. II.), as is what calls for International Health system comparisons (WHO, 2000, see chapter 1), and other models based on EBM to compare (chapter 1, and Appendix 6, 7) and reconsidering profound need to re-evaluate present system of care.

5. CONCLUSION AND RECOMMENDATIONS

5.1.1 CONCLUSION

Specifically when we review such findings of absence of EBM (3.5.4) according to satisfaction of Czech women (3.5.1), interventions made, i.e. number of episiotomies, (3.5.2) with relation to satisfaction and other outcomes and increase of caesarean section rates (3.5.3); conclusion is driven, that improvement of care is crucial, as not only amount of intervention can be lowered by midwifery care (NICE, 2014; Sandall et al, 2013; Tracy, Hartz et al, 2013) but even reducing caesarean births can be significant by caseload midwifery, even in relatively high baseline settings (McLachman et al, 2012). Development of primary midwifery care might be the easiest solution addressing all fields of problems. Comparing with models of care and options available in developed countries (see 1.2 and Appendix 7), simple strategies to bring improvements might appear, starting with restructuralisating of health care provision (Saltman, et al, 2006), introducing selection into risk groups (WHO, 1999) and introducing the Primary Midwifery care (Sandall et al, 2013; Tracy, Hartz, et al, 2013) based on continuity midwifery model. Options available in these countries can be used as a guide to improve the maternity care system for CR, which in turn would improve outcomes for women and their children (Tracy, Hartz, et al, 2013; NICE, 2014; Birthplace study, 2011) and a bring massive financial savings for the state (Saltman et al, 2006; Health Council of the Netherlands, 2004), when start looking at complex quality of care as right allocation of resources revising the present situation (Štembera, 2011, II.). According to the goal 15 and 17, speaking about *"accomplished introduction of functional organisational system of care", and distribution of costs of care",* author would also suggest reconsidering introduction of primary midwifery care into the system, maybe on behalf of Chalmers (1997) introduction of new models and programmes like was *"A Capacity building intervention programme"* or as Chalmers (2012) writes, using some of the international organisations or initiative projects and introduce for instance "Promotion of

Effective Perinatal Care", anyhow cross disciplinary interchange is beneficial for all systems in internship (Chalmers, 1997), maybe example from Canada, Austria or United Kingdom might be inspiration for a good change (see chapter 1). Having a midwife as an option of a primal choice appeared of an importance in evaluating our studies, the importance of a known supportive person (Chalmers, 1997; Takacs, 2012) as well as Hasková (2001) in her research on social aspects of birth care in CR confirms, being of highest importance for women to *"have somebody known present and be free to choose birthing position"* as also international findings apply this evidence as conceptual (Sandal et al, 2013, NICE, 2014) showing to be a best option.

5.1.2 IMPLICATIONS FOR FUTURE PRACTICE

As Chalmers in her study states (1997), childbirth is in transition in many parts of the world, and *"benefits of comparison between countries bring mutual enrichment, and new global standards"* (Chalmers, 2012). To improve women satisfaction and lower unnecessary interventions (as seen in 3.5.1 and 3.5.2), changing childbirth brings in issues involving a *re-think of birth from women´s point of view*, where for improvement of women´s satisfaction change (Takacs, 2012, 2013) might start from *cooperation and encouragement of communication* (Chalmers, 1997) first, and for lowering interventions (Takacs, 2012), *psychosocial aspects have to be taken into account* (Takacs, 2012, 2013, Chalmers, 1997). Helping accomplishing the goal 3 of the WHO Project Health for All 21, "Healthy start in life" (Štembera, Velebil, 2011, II.), introduction of primary care (Saltman et al, 2006; Health Council of Netherlands, 2004; Emons, Luiten, 2001) might help starting with the division of women into low risk and high risk groups, whilst supporting physiology in the low risk group of women initially (WHO, 1999), that is also where Chalmers (1997) sees the *universality of birth experience - in the physiology of birth*. As to the increase of Caesarean section rate (Štembera, 2011, I.), where also Takacs (2012) finds *connection of authoritative approach of personnel connected with slowing down the birth process* (McLachlan et al, 2012), might be lowered by *changing the approach towards labouring women* and what Chalmers (1997) proposed in her project, the adoption of the Northern European Countries´ *woman centred approaches and Growth of Midwifery* (Sandall et al, 2013) might bring

significant changing, growing and offering an alternative and a *"compromise to highly specialised, western medical obstetrics",* which rules the health care systems. As to the centralisation of care and closing of smaller hospitals (Štembera, 2013, II.), which was concerned by some women´s satisfaction as *worse option for women experiencing more interventions* (Takacs, 2012, 2013), division of low risk women in these smaller hospitals might appear as good option as well as such reasonable division of care.

Introducing midwifery system (NICE, 2014; Sandall et al, 2013; WHO, 2014 etc.) is seen beneficial also according to Czech research findings (Takacs, 2012), whilst lower number of epidural anaesthesia and of number of episiotomies was seen *when women were accompanied by known midwife or doula*. As "WHO EURO" (in Štembera, 2011) quoted: *"....lack of caregivers on information on quality of health services is seen on daily basis"...*

The lack of health care policy according to study on goal 20 (Štembera, 2011) which was taken as the *main deficiency of system*, investigator see main lack in deficiency and absence of primary care system itself and in not satisfactory *promotion of normality* as Chalmers (2012) reveals in the *comparisons showing the greater use of traditional but not evidence based practices*.

As discussed when appraising on what is the *best practice* researcher is wondering who to actually take recommendations from, and how to implement from good examples the *best of knowledge base and suppress the worst* (Chalmers, 1997) questioning on what is the best and what worse and who is to judge this.

5.1.3 IMPLICATIONS FOR FUTURE RESEARCH

"Exposing novel practices and filling in the gap concerning the lack of international studies and comparisons" (Chalmers, 2012) by "*addressing and conducting further research as well as supporting international sharing of perinatal research and practices"* (Chalmers, 2012), might be the right direction towards actual improvement of care. Among good examples might be recommendations of *Cochrane review of Sandall et al* (2013) introducing *Primary midwifery models of care as the most effective*. Need for further research being a necessity is emphasised in Emons and Luiten (2001) stating in

the inventory that: recommendations should be made on *"supporting the midwives to develop their position within the health care systems.... ...together with the establishment of strong national professional organisations for midwives, research would help to convince and influence politicians, gynaecologists and society of the advantages of a more physiological approach of pregnancy and birth. The results will also help to convince midwives themselves at first"*.

Doing systematic review led to concluding that there is a lack of relevant studies, whilst it would be worth and beneficial to conduct further research (CRD, 2009) do reveal the situation deeper (Campbell et al, 2008; Rychetnik et al, 2002). Some of the examples to help improve care might be developing and use of EBM tools such as is *a tool assessing optimality measuring outcomes and process of midwifery care* (Murphy et al, 2001). Using mixed method (Leech et al, 2010) was driven from the nature of the literature found (Attree et al, 2011), and although was difficult to apply, might be a useful tool for further search seeing procedures that worked and not, since it can "*reach the complex social phenomenon including broad range of types of evidence, particularly qualitative and mixed-methods research, which do not fit neatly into standard review frameworks"* (Attree et al, 2011), which can help reveal information that might be used as a tool for future assessment to possibly develop an optimal integration protocol to build a primary midwifery care into the Czech perinatal health care managing *noninterventionist childbirth converting existing models of care into models of greater continuity for woman and her child* (Chalmers, 1997).

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APPENDICES

APPENDIX 1 – PEER REVIEWED PROTOCOL

PEER REVIEWED PROTOCOL

This peer review protocol was used to guide investigator throughout the process (Kahn, 2003) and was created as a primary tool before the search started. Some parts of it were later adjusted within the process and did not follow the protocol guidelines anymore (Higgins, Green, 2011; Robson, 2011).

TITLE/TOPIC

Identification of main childbirth determinants in the Czech Republic with attempt to build an optimal integration tool for Primary Midwifery Care System into Czech health care: protocol for a systematic literature review

According to its current system of care provided, in CR quality of perinatal care in CR is assessed through perinatal mortality (Štembera, Velebil, 2011a) and is regarded as a medical experience (Štembera, Velebil, 2007, 2011a, 2011b, ČZL, UNIPA, LLP, HAM). As a consequence of the dominant medical model that prevails, women are given few choices regarding their care during childbirth. Since systematic review is crucial opportunity to start developing an optimal tool for shifting the posttotalitarian paradigm, it is also that systematic literature review (CRD, 2009) is an *essential component for evidence based health care* (Hemingway, 2009), it can be therefore effectively used to create a feasibility study showing meaningfulness of primary midwifery care to be incorporated into Czech system of perinatal care. The objective of this structured review of existing primary studies is to identify to which extend is childbirth in CR similar to eastern or western Europe modalities (Robson, 2011; Campbel et al, 2008), it will focus on answering specific questions about practice of childbirth issues and public perinatal health issues and is attempting to determine an optimal system for integration of primary midwifery care into the Czech health care system (Saltman et al, 2006,) by comparing successful models of midwifery care provision (Hiner et al, 2009). Such systematic review

shall reveal gaps in knowledge and weaknesses in evidence base for practice (Hemingway, 2009).

BACKGROUND

The phenomena of interest, is to address the situation concerning childbirth in Czech Republic. Researcher tends to examine issues of appropriateness, feasibility and meaningfulness (Hemingway, 2009) of Childbirth in CR and refer on situation in the system of care in CR. The health care system is based on secondary system of care where most of the care giving occurs in hospital settings. The vast majority of births in CR therefore take place in hospitals and are led by medical doctors. Women are treated as patients without any selection into low-risk and high-risk groups (Roztočil, 2012). The normality of process of birth is managed as a surgical event and is generally accepted by the majority of women without question taken by the main care providers and women as acceptable (Šťastný, 2012). Absence of childbirth options leads to dissatisfaction of some and a huge system gap (Health council of Netherlands, 2004, IMBCI, 2008, WHO, 1999, etc.). There has been recommendations for changes of the assessment of the United Nations document concerning Czech Republic (CEDAW, 2010) to improve care, inquiries going on at The European Human Rights Court in Strasbourg concerning discrimination on one hand and on the other hand adjustments of the law against primary care, restrictions of the midwives' competencies as well, thus limiting the humans rights of women and midwives showing the need for systematic changes.

By producing more data on the current situation, where discrepancies shown in the care when looking for possibilities nationally and internationally, it could be used to inform subsequent research in this area, it could help show the way and propose a future research, and it can add a credible framework for future hypothetical process change of status in CR. Lack of expert knowledge as well as lack of knowledge throughout the society calls for need for further investigation as well as it shows how important the evidence translation stage is (Hemingway, 2009). Systematic Literature Review reveals gaps in knowledge and weaknesses in evidence base for practice (Campbell et al, 2008) and that shall be exactly what would be needed in such a stage in which Czech society is. This review may lead to be a pilot study for a possible guide for future primary midwifery provision of care to be built.

AIMS/OBJECTIVES

The aim of this study is to generalise the findings about situation in Czech system of perinatal care and childbirth with suggestions for government to provide opportunities for development of primary midwifery model of care and developing guide for hopeful practical impact on developing change in the Czech Republic.

The specific question to be addressed is: *How to improve Czech midwifery care system respectively (based on findings of women´s satisfaction) how to create the primary midwifery care system and what can CR learn from the functional models of care?*

Framing the specific research question:

> *What are the specific issues of Czech midwifery care? What are the gaps and important fields to be addressed?*
> *What are the similarities and differences according to other east and west European modalities in childbirth?*
> *How to improve Czech midwifery care system respectively based on findings how to improve it according to women´s satisfaction with childbirth care?*
> *How to create the primary midwifery care system and what can CR learn from the functional models of childbirth care?*

CRITERIA FOR CONSIDERING STUDIES FOR THIS REVIEW

Types of studies

Searching will be made on eligible accessible studies relevant to topic of interest. Based on the primary studies found further approach will be chosen. Inclusion and exclusion criteria will be met and tested for eligibility. Studies including the topics of childbirth issues will be purchased. As to the identification of relevant studies for reviewing researcher shall use 4-6 primary studies concerning Childbirth in CR, different countries, accessible eligible studies found in this relation, made in Czech environment, concerning Childbirth in CR, and worldwide, as to a question of relevant models of midwifery care is to be chosen for comparison. It is presumed that not many primary researches will be found

on the topic within the Czech context of the primary studies, therefore broader range will have to be covered at first, narrowing progressively.

Types of participants/population

Pregnant women, labouring women, low-risk pregnant women will be of the highest interest. Population addressed is specifically Czech population but as to international and broader context, east Europe, west Europe will be searched, as well as other parts of the world, concerning specifically countries with high level of standard of midwifery care. Health professionals will be addressed too concerning doctors, midwives, and criteria for identification of their role in different studies will be applied.

Types of Phenomena of Interest, specific comparisons to be made

Comparison is to be made of the Czech population, east Europe, west Europe and searching for information on other "developed countries", looking for differences in care. Countries with integrated systems of primary midwifery care, childbirth across Europe will be searched. Comparisons of standards of care will be looked for specifically, what is considered normal, abnormal etc. Childbirth option, possibilities, choices are to be addressed. As well Standards of care, functional models of care, international childbirth guidelines and other relevant information will be gathered and analysed.

Type of outcome measures/anticipated outcomes:

Primary outcomes of interest might be satisfaction with care, interventions into the birth process, quality of life, morbidity, bio-psycho-social, cultural aspects, other important measures might appear, and adverse events such as (failures in policies, etc.). Results of services delivered might concern quality of care (effectiveness, benefits, costs and others) (Carter, 2007). Secondary outcomes of interest might also appear (Grimshaw, 2001).

SEARCH STRATEGY FOR IDENTIFICATION OF STUDIES

Databases to be searched are concerning searching COCHRANE database, Medline, Pubmed, CINAHL, PsychINFO, SCOPUS but also Czech sources like MEDVIK, and looking for library accesses broadly. Researcher will seek for unbiased assessment, all literature will be covered, not only one database nor

journal. Non-English sources will be included, especially Czech literature and databases. Databases internationally will be searched. Grey literature such as institutional reports, technical reports, conference proceedings and internal working papers will be searched for in order to prevent bias. Health service centres are to be addressed. Google scholar will be searched along with the documents from international organisations, guidelines, councils, reports. Expert opinion is to be sought on where the appropriate data may be located (Morilla-Herrera, 2012).

Initial keywords: Childbirth, births (birthing), Choices of childbirth, possibilities of childbirth, East, West Europe, Czech Republic, international, midwifery model of care, perinatal care etc.

Bibliographic management shall be done through 3 stage process: starting with literature searching using key words & MeSH terms, continuing with broad screening using broad inclusion criteria and finishing with narrow screening considering detailed inclusion/exclusion criteria.

SEARCH TERMS will be delimited by: language: Czech, English and date. Delimiters applied to date 2000 (1997 respectively) - 2014, Boolean Operators used. Bibliographic management will be done through 3 stage process: starting with literature searching using key words & MeSH terms, continuing with broad screening using broad inclusion criteria and finishing with narrow screening considering detailed inclusion/exclusion criteria

Boolean phrases were used properly – AND, OR and NOT. Advanced search had been done. Expert opinion on where appropriate data may be located (Hemingway, 2009) was performed. Researcher contacted professional organisations in CR as well as abroad.

METHODS OF THE REVIEW

Review will include a detailed assessment of titles and abstracts to determine whether they meet predefined requirements for inclusion (). All references identified as potentially eligible will be evaluated if they meet the inclusion criteria for reviewing. Systematic literature review and meta-analysis or meta-synthesis according to data found will be performed using qualitative,

quantitative or mixed method. After, the full text of all the article papers included will be retrieved.

CRITICAL APPRAISAL

Assessing the quality of the studies will be done through critical appraisal framework. Quality assessment will be made by choosing adequate quality appraisal tool according to type of studies chosen. In case of finding qualitative studies CASP will be used (2006). Effective Public Health Practice Project (EPHPP) tool might be used to address quantitative studies. Poor quality studies are to be excluded but discussed in report (Higgins, Green, 2011). Another independent reviewer will be asked for help to conduct the assessment (Morilla-Herrera, 2012). Checklist evaluating bias will be used in order to prevent biases. The Cochrane Collaboration´s tool for assessing risk of bias might help. STROBE Checklist (Vandenbroucke, 2007) might address the quality of observational studies in epidemiology.

DATA EXTRACTION

For data extraction, researcher will try to develop a tool to help make a sense of the findings. Relevant information in selected studies that will answer the research question (CRD, 2009) will be highlighted which might be done through the *data extraction form* after data will be gathered (Higgins, Gree, 2011). Afterword a *list of included studies* will be created and important findings showing the phenomenon addressed (Robson, 2011) will be extracted (including population, sample characteristics, study design, the phenomenon, outcomes – what was measured, how, when, and what were the results or findings). There may be a need to pilot this on several different types of papers. An independent reviewer will be sought for to be assessed.

DATA SYNTHESIS

Depending on the type of studies that will be found (Higgins, Green, 2011) a meta-analysis or meta-synthesis will be undertaken if it will be appropriate (Pearson, 2004), most preferably doing an integrative review. The findings of individual studies will be aggregated (Sandelovsky, 2002). According to heterogeneity and comparability of studies development will be chosen (Campbell et al, 2008)). Analysis plan is to create a synthesis (Abad-Corpa,

2010; Wiles et al, 2008), analysis (Khan, 2003) or otherwise, integrative review () is to be carried out. Results will be summarised.

DISSEMINATION PLAN AND INTERPRETING THE FINDINGS

Extracted data and selected evidence will be put together by developed tables of evidence (Thomas et al, 2004) and critically analysed using critical appraisal (Haller et al, 2008; Katrak et al, 2004) and evidence tables and making plans for dissemination. Interpretation of the findings will be presented and meaning of the findings will be determined. PRISMA template (Moher et al, 2009) might be used for clear reporting of each step. Transparency and reproducibility of process will be highlighted and trustworthiness of the results will be commented (Kahn, 2003). Successfulness of the answering of review questions will be reported. Implications for further research are to be presented along with the potential questions that might be raised as well as the limitations that might have not been addressed. As well as implications for further practice that might appear, shall be given.

About researcher: Researcher is involved in Childbirth issues in long term relations, composed bachelor degree in midwifery on *Comparison of Czech and Dutch childbirth care*, have accomplished a qualitative study named ´How do we birth?´, Masters degree in psychotherapy conducting *A qualitative study exploring Birth trauma and how do women who underwent it, cope with it*. Since researcher is actively involved in childbirth issues, is in contact with professionals within Czech field of interest but also with international entities (had been in Organising committee and leading workshop on 30th ICM Congress 2014 in Prague, and delegate on the council board of ICM to Africa for 29th ICM Congress 2011, attended ENCA meetings), therefore is in close contact with international midwives, researchers and practitioners, therefore is in close communication with national and also international organisations, committees and might be hopefully able to add this to a better quality of research conducted. Expert opinion was sought on where the appropriate data may be located (Higgins, Green, 2011) as well as for assessing publication bias or selection bias. Study authors were contacted to help with identification of additional studies.

REFERENCES - Not included in appendix.

APPENDIX 2 – JOURNAL LIST

A *journal list* is providing the review with a list of articles and relevant documents included.

ARTICLES/STUDIES

Chalmers, B. (1997). Childbirth in eastern Europe. *Midwifery* 13:2–8.

Davis- Floyd, R (2001) The technocratic, humanistic, and holistic paradigms of childbirth. *International journal of Gynecology and Obstetrics*. 75 S5-S23

Hašková, H (2001) Sociální aspekty porodu. Report from research. Open Society Fund.

Porter S, Crozier K, Sinclair M, Kernohan W G (2007) "New Midwifery? A qualitative analysis of midwives´ decision-making strategies". *Journal of Advance Nursing*. Vol.60 (5) pp.525-534

Sandall J, Soltani H, Gates S, Shennan A, Devane D (2013) Midwife-led continuity models versus other models of care for childbearing women (Review). The Cochrane Collaboration. Cochrane Database of Systematic Reviews, Issue 8

Štembera Z, Velebil P (2007). International Comparation Level of Perinatal Care in the Czech Republic from the WHO View. Česká gynekologie. 72, no. 1, pp.5-10. (Original article in Czech).

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Chalmers, B. (2012). Childbirth across Cultures: Research and practice. *Birth,* Dec; 39:4: 276-280. doi: 10.1111/birt.12000.

Takács, L., Kodyšová, E., Seidlerová, J. (2012). The psychosocial aspects of perinatal care and their relationship to selected medical interventions and health complications during parturition. *Česká gynekologie*. Jun; 77 (3):195-204. (Original article in Czech).

Takács, L. Seidlerová, J. (2013a). Psychosocial climate in maternity hospitals from the perspective of parturients I. Results from a national survey on perinatal care satisfaction using a representative sample of 1195 Czech parturients. *Medline. Ceska Gynekologie*, Apr; 78(2):157-68. (Original study in czech: Takács, L., Seidlerová, J. (2013a) Psychosociální klima porodnice očima rodiček: I. výsledky celorepublikového průzkumu spokojenosti s perinatální péčí v ČR u reprezentativního souboru 1195 rodiček. *Česká gynekologie*, 78 (2).)

Takács, L. Seidlerová, J. (2013b). Psychosocial climate in maternity hospitals from the perspective of parturients II. Predictors of womens satisfaction with perinatal care in the Czech Republic. *Ceska Gynekologie*, Jun; 78(3):269-75. (Original article in Czech: (Original study in czech: Takács, L., Seidlerová, J. (2013b) Psychosociální klima porodnice očima rodiček: II. prediktory spokojenosti s perinatální péčí v ČR. *Česká gynekologie*, 78 (3).)

Mackenbach, J. P. Karanikolos, M. McKee, M. (2013). The unequal health of Europeans: Successes and failures of policies. The Lancet. 381:1125-34.

INTERNATIONAL GUIDELINES/RECOMMENDATIONS

WHO. Care in normal Birth : A practical guide. Report of a Technical Working Group. Geneva : World Health Organisation, 1999. www.who.int

www.who.int/rht/documents/MSM96-24/msm9624.htm

NICE intrapartum care guidelines : National Collaborating Centre for Women's and Children's Health (September 2007, revised **2008**) NICE Clinical guidelines CG55 accessed [online]. Available from: www.nice.org.uk/CG055,

National Institute for Health and Care Excellence - **NICE (2014)** ***Intrapartum Care: Care of healthy women and their babies during Childbirth.*** Implementing the NICE guideline on Intrapartum Care (CG190). This guideline updates and replaces 'Intrapartum care' (NICE guideline CG55). (Accessed 2th December 2014) Available online: http://www.nice.org.uk/guidance/CG190

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Emons, J K, Luiten, M I J (2001). **Midwifery in Europe**. An inventory in fifteen EU-member states. The European Midwives Liaison Committee (EMLC) and Deloitte and Touche.

Veillard, J Garcia-Armesto, S Kadandale, S Klazinga, N (2010) Chapter 5.6 – **International health system comparisons: from measurement challenge to management tool**, pp. 641-672 in Performance measurement for health system improvement, Experiences, Challenges, and Prospects.

CHILDBIRTH PRACTICE/KNOWLEDGE MIDWIFERY BOOKS

Stables, D (1999) Physiology in Childbearing with anatomy and related biosciences, Harcourt Publishers Limited. London

Prins, M Roosmalen, J Treffers, P (2004) Praktische Verloskunde. BoHN Stafleu Van Loghum, Houten.

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WHO (2000, reprint 2007). Integrated Management of Pregnancy and Childbirth, Managing Complications in Pregnancy and Labour: A guide for midwives and doctors, Geneva.

APPENDIX 3 –DATA EXTRACTION FORM

DEFINING NARROW INCLUSION/EXCLUSION CRITERIA USING S P I O

SPIO was used to help defining the narrow inclusion and exclusion criteria. Findings are listed in the table bellow

	Inclusion criteria	**Exclusion criteria**
Study design	Primary original study/Epidemiological study/Comparative study/ surveys	Other then primary studies/
Population characteristics/ phenomenon	Pregnant women/Czech Republic/ East Europe/west Europe	Other countries apart from European/ European not discussing childbirth/ western studies with no connection to east Europe
Field of interest	Perinatal care/childbirth/ /perinatal research/women´s surveys/maternity service/midwifery/birth	Medical care/studies from where data on childbirth and perinatal care cannot be extracted/ Midwifery studies on primary care from "western world"
Intervention	Satisfaction/psychosocial needs/models of childbirth, perinatal care/ interventions in childbirth (caesarian section, other…)	Any other interventions that are not meeting one of the five included issues
Outcomes	Changing childbirth/prognosis for midwifery care/international comparisons	

Data extraction form was developed to show the important findings, make a summary of individual studies included and to highlight the relevant information from these selected studies. Part of the extraction was showing the phenomenon addressed, included were information of study design, sample characteristics, population, the phenomenon and outcomes of individual studies.

TABLE ON FINDINGS OF STUDIES

STUDY	Study design	Sample characteristics	Population
Chalmers (1997) (Ch97)	Not ´one project´ findings Integration of global perspective on cross-culture issues	Observations of 25 visits to 10 countries WHO and the United Nations Children´s Fund (UNICEF) - Years 1991-1996 and Canadian International Development Agency – Years 1994-1996	Women´s experiences of pregnancy and childbirth in the countries of central and Eastern Europe
Štembera et Velebil (2011) I. & II. (Š I, II)	I. Nation-wide perinatal epidemiological study	Nationwide data Four basic conditions for prognosis: previous prognosis, current status (previous and actual nationwide perinatal data), current environment, and international data for comparison	"Prognosed object" = "main indicators of quality of care": Czech perinatal mortality rate, child early neonatal mortality rate, infant mortality rate, Maternal mortality rate, **caesarean section rate**
	II. Comparative study of the WHO recommendations and the situation in the Czech Republic	WHO Project Health for All 21: **4 goals** Comparison of WHO recommendations for CR and the situation in CR, evaluating performance in CR Prognosis of level of perinatal care in near future	
Chalmers (2012)(Ch 12)	Cross cultural comparison, examination of 10 surveys, cross cultural	Examination of 10 surveys of women´s perceptions of maternity care, 7 countries spanning North America and Western Europe and Eastern Europe	
Takacs, Kodyšová, Seidlerová, (2012) (T, 12)	Original study, Questionnaire Survey,	**Perinatal care** = connection of complications and interventions **Interventions and complications** = epidural, induction, episiotomy and caesarean section **Psychosocial aspects of care** = overall satisfaction, control over the birth process	Low-risk "parturients" Sample size (n = 657) Control group (n= 107)
Takacs, Seidlerová	I. A national survey on	Sample of 1195 women who gave birth from 2005-2012	

(2013) I. & II. (T I, II)	satisfaction	biggest study in CR of such kind
	II. Predictors of satisfaction with perinatal care	in Czech maternity hospital – all hospitals included Representative sample – education, age, parity, rate of vaginal births/caesarean section

TABLE HIGHLIGHTING THE PHENOMENON

STUDY		**The phenomenon**
Chalmers (1997) (Ch97)		A Capacity building intervention programme presented reforming practices described Highlighting difficulties in integrating different approaches to childbirth - Growth of Midwifery - changing, growing and offering an alternative and a compromise to highly specialised, western medical obstetrics
Štembera et Velebil (2011) I. & II. (Š I, II)	I.	Study according to the development of perinatal indicators in CR According to WHO prognosis consists of four basic conditions for prognosis, it is: 1. the assessment of results of previous prognosis, 2. An assessment of current status (level) of the object prognosed, 3.Assessment of current environment at which the prognosed object appears, 4.and comparison with international data of countries with the best level of the prognosed object As to the phenomenon – observation of improvement of perinatal care taken in to account **only PMR** and not quality of life and care As to point 2 – increase of **C.S.** from 1990 – 2009 from **7.8% to 22.2 %** (with increased growth without additional effect on decrease of PMR in past few years) As to point 3 – mentioning growing knowledge in medicine – however not mentioning **EBM**, neither primary care, neither midwifery care as a field of autonomy As to point 4 – problems with definitions
	II.	WHO **Project** Health for All 21 (4 goals related to perinatal care) **Goal 3:** "Healthy start in life"

		accomplished to decrease PMR, among countries of best results But quality of life not spotted, EBM missing, primary care absenting, physiology support not known - **C.S. have increased** and increase of low-birth-weight rate **Goal 15:** Integrated health care system and resorts "accomplished introduction of functional organisational system of care" However despite introduction - not primary care, not midwifery care "WHO EURO" quoted: "....lack of caregivers on information on quality of health services on daily basis) **Goal 17** Financing of health services and division of resources The financing of high level of care was underestimated (?), again no thought on EBM, no normality, no physiology approach, no Primary midwifery care **Goal 20** Health care policy not prepared to fulfil the requirements -the lack of health care policy according to study taken as the main deficiency of system (however investigator see main lack – deficiency in absence of primary care system and promotion of normality) Centralisation of care – closing smaller hospitals
Chalmers (2012)(Ch 12)		**Extracted data: on satisfaction, interventions (episiotomy, epidural, induction, caesarean section) and EBP** Similarities and differences in practice are highlighted Innovative and culturally unique perinatal practices discussed Examination of methodological difficulties conducting research in cross-cultural settings Challenges – different approaches, different measurements, Comparisons also reveal the greater use of traditional but **not evidence based practices** Findings that only **half** of women **satisfied** with care – alarming – "aspiring to high ratings of satisfaction should be the goal, regardless of birth outcomes" Satisfaction without connection to interventions – approximately 50% overall result

		Interventions – epidural, episiotomy, induction Interventions overused
Takacs, Kodyšová, Seidlerová, (2012) (T, 12)		Beneficial psychosocial climate of a hospital an its functioning contributes to a **higher women satisfaction** as well as to **lower maternal and neonatal morbidity** - satisfaction with care – lower when complications Overall **satisfaction** from 32% - 45%, lowest experienced with instrumental delivery (33%), foetal distress (32%) and bleeding (36%), highest experienced control group having no complications (45%) - Causality might appear in both directions **Lower** number of epidural anaesthesia and of number of episiotomies was seen when women were accompanied by known midwife or doula Authoritative approach of personnel was put in connection with **slowing down** the birth process
Takacs, Seidlerová (2013) I. & II. (T I, II)	I.	Psychosocial climate Overall satisfaction was 70% respectively 61% The worst evaluation score received the scale on **control and involvement in decision-making** – 34% Best – 69% - physical comfort and services - which coincide with the model of Czech care - more satisfied were women who gave birth vaginally than women ending with caesarean section -significantly higher satisfaction in smaller hospitals – in "empathy and helpfulness of caregivers" (84% versus 78% in smaller), mainly midwives and involvement in decision-making process (64% versus 56%)
	II.	-Need for practice to focus on enhancing psychosocial competences of caregivers -Particularly communication skills, mainly communication of consistent information -Interesting finding was lesser satisfaction with midwives as with physicians - which might be due to more factors – coincide with the base of model of care -medicalisation versus psychosocial context – EBM missing

TABLES OF OUTCOMES OF INDIVIDUAL STUDIES

STUDY	What was measured?	Methods How it was measured?	When?
Chalmers (1997) (Ch97)	Information on childbirth in eastern Europe - Approaches - models - interventions	Observation integration	Years 1991 to 1996 and 1994 to 1996
Štembera et Velebil (2011) I. & II. (Š I, II)	I. Prognosis of level and improvement of care	Prognosis	2004 to 2009 (1980-2000 – previous prognosis)
	II. 4 Goals of the project	Comparison of completion of 4 goals of the WHO Project Health for All 21	2003 – 2009 (- 2020)
Chalmers (2012)(Ch 12)	Examines reports of women´s labour and birth in seven countries: -Canada, UK, Azerbaijan, Lithuania, Russian Federation, and Moldova - St. Petersburg in 1995 and 1997 to examine changes after perinatal reforms	Reports from 10 surveys -interviewing women in cross cultural context included UK over time (1995, 2006) – reporting temporal changes - included sampling: methods of stratified randomisation drawn from national census data – Canada -random selection from birth registers in UK	Women giving birth between 1995-2006
Takacs, Kodyšová, Seidlerová, (2012) (T, 12)	Finding association in evaluation of psychosocial factors of perinatal care and selected complications and interventions during childbirth -satisfaction with care	Questionnaire Survey Statistical data analysis	June 2010 – January 2011
Takacs, Seidlerová (2013) I. & II. (T I, II)	I. women´s satisfaction with psychosocial aspects of perinatal care questionnaire KLI-P was measuring 6 scales:	Original Czech questionnaire KLI-P was used (Distributed both paper and electronically)	

	- helpfulness and empathy of caregivers - control and involvement in decision-making - communication of information and availability of caregivers, dismissive attitude and lack of interest Physical comfort and services		Data collected between june 2011 and april 2012
	To identify predictors of women´s satisfaction with perinatal care	Statistical analysis Ordinal logistic regression (cumulative logit model)	

TABLE OF RESULTS/FINDINGS

STUDY	**What were the results /findings**
Chalmers (1997) (Ch97)	**Changing Childbirth –** cooperation needed Cross disciplinary interchange psychosocial aspects taken into account **Introduction of new models and programmes,** WHO etc. - Childbirth in transition in many parts of the world - Adoption of the Northern European Countries´ woman centred approaches - universality of birth experience most expected to be found in the physiology of birth **- Pitfalls of integrating differing cultural approaches to childbirth** - Cross culture differences - Medicalisation and doctor-centred care - interventions in childbirth and effective use of childbirth technology - Growth of Midwifery - Mother is the one that birth
Štembera et Velebil (2011) I. & II. (Š I, II)	I. 1. As to **previous prognosis** PMR lowered from ´80s until 2000 from 15 %. for 10 %. (already in 1989)

	As to assessment of 2009 – frequency of newborns and C.S. was found to have a high growth, for newborns with low birth weight to 7.7%, for **caesarean section from 13.5% up to 22%** Stagnation of PMR around 4/1000 until 2000, and increase, Decreased in 2009 on 3.4 – in evidence was shown decrease of percentage on congenital malformed newborns but increased again remaining on 4 2. as to present situation (2009) – low-birth weight newborns, and Caesarean section rates increased, and increase of growth of C.S rates without additional effect on decrease of PMR 3. as to assessment of current environment, at which the prognosed object appears – changing condition, older women pregnant, acceleration of knowledge in medicine, quicker than resources, OECD – CR being on 6th lowest position of purchasing power parity 4. as to comparison with countries having best outcomes – missing definition, hard to compare, uncertainty of right evidence of some predictor to be compared, only 6 countries are the ones remaining having the best perinatal care since their perinatal mortality rate is 6 **promile** and are meeting the criteria of valid evidence of statistics. These countries are: Finland, Japan, Norway, Austria, Germany and Spain.
	II. WHO goals – **Prognosis** **Goal 3** Accomplish to lower PMR, got among countries with low results quality of life not spotted but **C.S. have increased** and increase of low-birth-weight rate is observed **Goal 15** - accomplished introduction of functional organisational system of care **Goal 17** The financing of high level of care was underestimated **Goal 20** Health care policy was not prepared to fulfil the requirements -the lack of health care policy according to study taken as the main deficiency of
Chalmers (2012)(Ch 12)	Benefits of comparison between countries – mutual enrichment, global standards Comparisons also reveal the greater use of traditional but not evidence based practices Exposing novel practices – promotion of effective perinatal care

	program, lack of international studies, comparisons, Need for international sharing of perinatal research and practices,
Takacs, Kodyšová, Seidlerová, (2012) (T, 12)	EG and CG **differed significantly** in control and healthcare provider attitude evaluation (all EG´s scored lower) Satisfaction determined according to interventions (T, 12) – highest women without intervening in labour Significantly **more negative** perception at **EG´**s when instrumental delivery, acceleration of labour and episiotomy Significant differences also noted for woman-friendliness of hospital rules – lower when failure to progress followed by caesarean section Psychosocial factors of perinatal care constitute important childbirth process determinants, while playing a key role for womens´ability to cope with stress and anxiety connected with childbirth interventions and complications Overall **satisfaction** from **32% - 45%,** lowest experienced with instrumental delivery (33%), foetal distress (32%) and bleeding (36%), highest experienced control group having no complications (45%) significantly higher rate of spontaneously started birth ending by **caesarean section** when accompanied by prechosen doctor **perception of control** lower when having experienced complications or interventions which made satisfaction lower on the other hand having control over the process brings lesser need for **interventions and better birth outcomes.**
Takacs, Seidlerová (2013) I. & II. (T I, II)	I. Overall satisfaction showed 70% (respectively 61%) for Czech women, whilst: **control and involvement in decision making process** was experienced as worst **(34%):** - unsatisfied – only 35% of women were feeling obliged to refuse routine procedures, only 42% women think, their birth rhytm was respected , only 24% could have decided to choose their birthing position (AND only "healthy birth women" responded), low was also getting emotional support from personel and respect to her privacy and feeling ashamed (48%), - according to the communication field – approach of doctors was viewed as not "personal and technical" – satisfaction 42% - on the scale of communication of information and availability of caregivers – lowest satisfaction with care (46%)
	II. among most important determinants were: -well timed provision of information concerning a treatment plan (OR = 2,79) -privacy during first stage (OR = 2.81) -kind and helpful attitude of physicians (OR = 2.67) -and confidence in physicians (OR = 2.68)

After the data was extracted, the study of Štembera I. was taken to be excluded due to incompatibility of study data since the “prognosed objects” were the main indicators, though incomparable with other data but was decided to be left at last, whilst the indicator of caesarean section was an intervention taken as one to present results of a review. Another reason to keep the study was that it showed to be an effective instrument to reveal the absence of EBM within the Czech perinatal care system.

APPENDIX 4 – TABLE OF QUALITY OF STUDIES – CASP/EPHPP

Table of QUALITY OF STUDIES (in appendix 4)

Table was created to measure quality according to study design. Using mixed method approach (Leech et al, 2010). Bellow is table of quick summary of quality of studies according to measurement due to approach, CASP tool (2006) was used for qualitative design and EPHPP for quantitative.

STUDY	A	B	C	D
Chalmers (1997)	2	1	1	2
Štembera et Velebil (2011) I.	2	2	1	1
Štembera et Velebil (2011) II.	2	1	1	2
Chalmers (2012)	2	2	1	2
Takacs, Kodyšová, Seidlerová, (2012)	2	2	2	1
Takacs, Seidlerová (2013) I.&II.	2	2	1	2

Explanation:

A - Clinical problem addressed, formulation of approach, appropriateness/ study design, selection bias

B – Sampling strategy, collection of data/ methods, quality control measures

C – Results/credibility

D – Analysis/ importance of outcomes/ transferability to other settings

Scale of quality assessment: Maximum 8 points, points for each column: 2 = YES/strong evidence, 1 = +-/moderate, 0 = NO/weak, (good quality study 5-8, moderate quality of study – 2-4, poor quality of study 0-2.)

Studies were identified as of a good quality, three of them (Chalmers, 1997; Štembera et Velebil, 2011, I.; Štembera et Velebil, 2011, II.) received 6 points, other three (Chalmers, 2012; Takacs, Kodyšová, Seidlerová, 2012; Takacs, Seidlerová, 2013, I. & II.) were rated with 7 points.

APPENDIX 5 – ADDITIONAL ASSESMENT OF STUDIES

ASSESSMENT OF STUDY CHARACTERISTICS

Study of Takacs from the year 2013 was actually two studies presented as a part of a national survey on satisfaction, part one (2013, I.) showing satisfaction and part two done on predictors of satisfaction with perinatal care (Takacs, 2013, II.). Štembera and Velebil (2011) being a nationwide perinatal epidemiological study was also double research paper, considered in the width of its scope (Robson, 2011), investigator made conclusions from both papers (Tong et al, 2012) although might not be able to go in all depth of the studies according to the wide selection but considered the importance of synthesis of findings (CRD, 2009) in thematic and integrative approach (Higgins, Green, 20).

Assessment of participants/population and sample size

All studies are addressing important phenomenon that address the question. The smallest study of Takacs et al. (2012) had sample size 657 women in the study of low-risk "parturients", its control group of 107 women having no complications reflected the experimental group showed significances in the control group important for the review. According to the absence of the studies available and existing, the size is appropriate. On contrary, study of the national survey of Takacs (2013) was the biggest study in CR of such kind, made of a sample of 1195 women, who gave birth from 2005-2012 in Czech maternity hospital, advantages of this study is the representativeness. All hospitals were included, sample was representative in terms of population level (education, age, parity, rate of vaginal births to caesarean section was proportionate. Whilst double study of Štembera and Velebil (2011) addressed and took nationwide data from the national register concerning Czech population and its perinatal data, which might be limiting due to the fact that observation is made on PMR only, and since the ´prognosed objects´ taken as the ´main indicators of quality of care´are only Czech perinatal mortality rate, child early neonatal mortality rate, infant mortality rate, Maternal mortality rate and caesarean section rate**, w**hilst in the second part, study concerns goals driven from political and socio-economic needs. Four goals are taken and evaluated from the comparison of

WHO Project Health for All 21, addressing population nation-widely (Štembera, 2011. II.), yet examining ´healthy start into life´(goal 3) thus excluding primary indicators of perinatal care concerning all ´quality aspects of life´, and all components of the definition of health as bio-psycho-social category, including thus perinatal morbidity and complete health. In the goal 15, 17 and 20 representatives of the prognosis haven´t taken into account the primary perinatal care based on presumption of pregnancy and childbirth as healthy procedure, which was seen on the Goal 17 also concerning financing of health services and division of resources, which was not developed for division into primary and secondary subgroups of recipients of care. As to the study characteristics of study of Chalmers (1997), observations of 25 visits to 10 countries on the behalf of WHO and the United Nations Children´s Fund (UNICEF) in years 1991-1996 and Canadian International Development Agency in years 1994-1996, where women´s experiences of pregnancy and childbirth in the countries of central and Eastern Europe were examined, we cannot see much of a validity of sample size although some randomisation was made, however data is missing on sample size and selection of participants. Study of Chalmers from 2012 uses more comprehensive selection, examining 10 surveys of women´s perceptions of maternity care, in 7 countries spanning North America and Western Europe and Eastern Europe. Sampling strategy is clearer defined than in study from 1997, participants are driven from within global context, from Canada, the United States, the United Kingdom, Azerbaijan, Lithuania, the Russian Federation and Moldova. No blinding was done (Higgins, Green, tool, 2011), but the review authors judge that the outcome and the outcome measurement are not likely to be influenced by lack of blinding.

Assessment of study design

As to the study of Chalmers (1997), not a ´one project´ findings, were addressed but integration of global perspective on cross-culture issues was purchased from variety of sources, methodologically profound information is missing on how the integration was performed, however observation was made of 25 visits across countries within a WHO and UNICEF project. Limiting might be the globe width of information (Leech et al, 2010), although for review of investigator it is desired outline. Cross cultural comparison made by Chalmers (2012) is examining systematically 10 surveys, cross culturally, given the years

from 1995-2006, we spot differences and difficulties in summarising the findings but more difficulties arise when similarities and differences in practice are highlighted. In the study author himself, discusses methodological difficulties facing cross culture research (Chalmers, 2012) due to different settings. Takacs et al. (2012) being an original study, and a questionnaire survey, it concerns perinatal care, its connection of complications and interventions, where interventions and complications addressed for investigation were epidural, induction, episiotomy and caesarean section. Overall satisfaction showed the psychosocial aspects of care, i.e. control over the birth process showed to be of highest importance which was the subject of further assessment. As to the nation-wide perinatal epidemiological study Štembera et Velebil (2011) I. & II., concerning four basic components for prognosis: previous prognosis, current status (previous and actual nationwide perinatal data), current environment, and international data for comparison Which was evaluated only as previous and actual nationwide perinatal data without assessing quality of life.

ASSESSMENT OF OUTCOMES

Table on Credibility of results (in appendix 5)

STUDY	Credibility of results	Conclusions/ Transferability to clinical setting
Chalmers (1997) (Ch97)	A Capacity building intervention programme presented reforming practices described Comparing east - west,	Highlighting difficulties in integrating different approaches to childbirth Growth of Midwifery - changing, growing and offering an alternative and a compromise to highly specialised, western medical obstetrics
Štembera et Velebil (2011) I. & II. (Š I, II)	WHO **Project** Health for All 21 (4 goals related to perinatal care) **Goal 3**: "Healthy start in life" - "accomplished to decrease PMR, among countries of best results but quality of life not spotted, EBM missing, primary care absenting, physiology support not known	Goal 3 – however **C.S. have increased** and increase of low-birth-weight rate Goal 15 Integrated health care system and resorts However despite introduction - not primary care, not midwifery care "WHO EURO" quoted: "....lack of

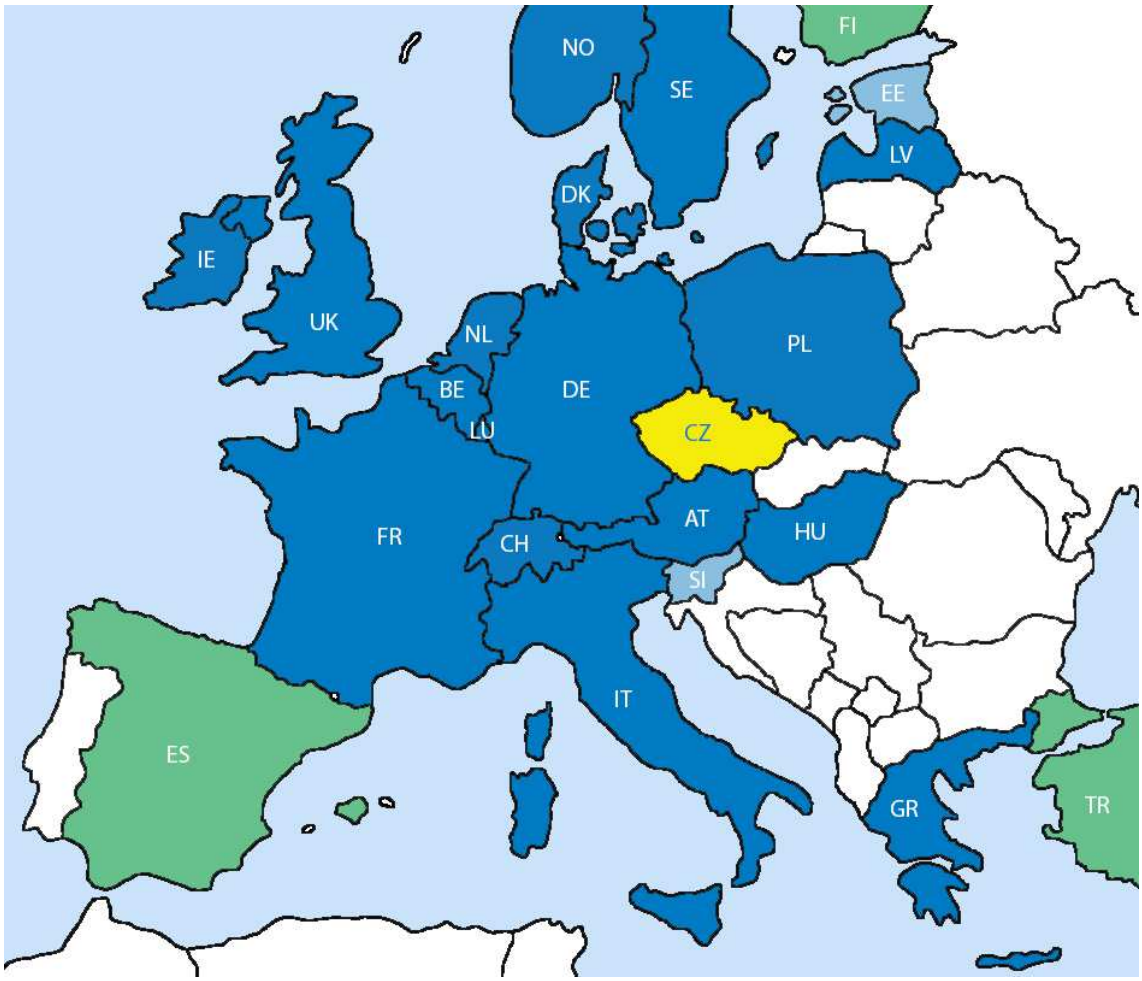
	Goal 15: "accomplished introduction of functional organisational system of care" Goal 17 Financing of health services and division of resources The financing of high level of care was underestimated (?) Goal 20 "Health care policy not prepared to fulfil the requirements" Improvement of care via centralisation of care	caregivers on information on quality of health services on daily basis Goal 17 again no thought on EBM, no normality, no physiology approach, no Primary midwifery care Goal 20 -the lack of health care policy according to study taken as the main deficiency of system (however investigator see main lack – deficiency in absence of primary care system and promotion of normality) – but closing smaller hospitals
Chalmers (2012)(Ch 12)	**Extracted data: on satisfaction, interventions (episiotomy, epidural, induction, caesarean section) and EBP** Similarities and differences in practice are highlighted Challenges – different approaches, different measurements, Satisfaction without connection to interventions – approximately 50% overall result **Interventions** – epidural, episiotomy, induction	Innovative and culturally unique perinatal practices discussed Examination of methodological difficulties conducting research in cross-cultural settings Comparisons also reveal the greater use of traditional but **not evidence based practices** Findings that only **half** of women **satisfied** with care – alarming – "aspiring to high ratings of satisfaction should be the goal, regardless of birth outcomes" Interventions overused
Takacs, Kodyšová, Seidlerová, (2012) (T, 12)	- satisfaction with care – lower when complications Overall **satisfaction** from 32% - 45%, lowest experienced with instrumental delivery (33%), foetal distress (32%) and bleeding (36%), highest experienced control group having no complications (45%) **Lower** number of epidural anaesthesia and of number of episiotomies was seen when women were accompanied by known midwife or doula	Beneficial psychosocial climate of a hospital an its functioning contributes to a **higher women satisfaction** as well as to **lower maternal and neonatal morbidity** Authoritative approach of personnel was put in connection with **slowing down** the birth process - Causality might appear in both directions

Takacs, Seidlerová (2013) I. & II. (T I, II)	Psychosocial climate Overall satisfaction was 70% respectively 61% -significantly higher satisfaction in smaller hospitals – in "empathy and helpfulness of caregivers" (84% versus 78% in smaller), mainly midwives and involvement in decision-making process (64% versus 56%)	The worst evaluation score received the scale on **control and involvement in decision-making** – 34% Best – 69% - physical comfort and services - which coincide with the model of Czech care - more satisfied were women who gave birth vaginally than women ending with caesarean section
II.	-Need for practice to focus on enhancing psychosocial competences of caregivers -Interesting finding was lesser satisfaction with midwives as with physicians - which might be due to more factors – coincide with the base of model of care	- Particularly communication skills, mainly communication of consistent information medicalisation versus psychosocial context – EBM missing

APPENDIX 6 - LEGISLATIVE ADJUSTMENT OF THE OFFER OF OTHER MODELS OF CARE INCLUDING HOMEBIRTH WITHIN EUROPE

One of the biggest challenges we face at the moment is the governmental configuration and legislative adjustment of division of care, not allowing many models of care. Homebirth put at the edge of being "not legal, nor illegal". Map bellow had been created by the League of Human Rights (LLP - The Czech human rights organisation) after the verdict of the European Court of Human Rights in Strasbourg in the case of Dubská and Krejzová vs. Czech Republic (part IV. Point 60. And 61.), which delivered the judgement on December 11 2014

Map of laws and practices in European states



Legend of the colour of states:

Blue – homebirths expressly allowed under certain conditions, Light blue – Legislation allows homebirths, legislation is being considered to regulate professional assistance at planned homebirths, Green – homebirths tolerated but not regulated by law

Court stated there were no violations on human right but made also statements that court has not any right to intervene into internal politics of each state, i.e. into the health care provision. It is seen that this map shows relation of the "blue" countries and establishment of primary midwifery care in those countries, which speak in context of the continuity of care and relevancy of the findings above showed (chapter 3, 4), which is also what the verdict stated, that there is no consensus on the best care among Europe (European Court of human rights, 2014) and that it is divided with border of former "iron curtain". LLP had added states of Denmark and (Norway – as part of Europe, although not in EU), which the European court did not take into account and created an overview of options of care. Information has been taken from the European Health Report 2010 (Europeristat, 2011). According to these findings we can conclude that various models of care are supported and it is recommended overall rather homebirths to be allowed and supported than to be repressed.

The complexity of the situation and difficulties in working towards change is demonstrated through the recent political manoeuvring that was seen in relation to a committee that was established to negotiate change. "Working ¨Committee for Perinatal Care System at the Ministry of Healthcare of the Czech Republic" (Roztočil, 2013), was formally cancelled after few meetings. Despite now having a democratic society, the representatives of women-accepters of care, midwives, government-authorised human rights representatives, the medical statisticians and the chair of the committee were excluded from the committee (Hořejší, 2012).

Western countries support various model of care supporting free choices. Conclusions of the court were that no violations were made (CEDAW, 2014), however clear conclusion was not made, although suppressive attitude overwhelmed Czech media stating that "court gave right away Czech state, that our care is the best and there are no needs for any changes" (Ministry of health statement). Many issues remain unanswered and although court suggested care to be reviewed (European Court of human rights, 2014), official representatives did not reflect on such finding. Although that new evidence based researches

cumulate their findings of the best care and its importance (NICE, 2014, Sandall et al, 2013, Birthplace study, 2011, Tracy et al, 2013, Mc Lachlan, 2012), Czech Republic still faces challenge of paradigm shift in order to be able to implement changes. When coming back towards crucial reasons for Czech women deciding to birth at home according to the study of Mrovetz (2011) were also traumatic experiences from previous births in a hospital and immediately postpartum and the fear of increasing these feelings and traumas. Although research on outcomes of planned home birth with registered midwife versus planned hospital birth with midwife or physician (Janssen, 2009) is clearly in favour of woman and supporting normality of birth (ICM, 2011), giving women right of place of birth (WHO, 1999), the international guidelines (NICE, 2007, 2014, ICM, 2012) based on this research are not directly applicable in the Czech system of care. One of few researches coming from the Czech Republic concerning home births is one by Mrovetz (2011) which shows the main reasons why Czech women choose to give birth not in a hospital setting. The research looks at the motivation of women for their decisions, this research was conducted in 2008, 1341 women participated in this study it concerned women giving birth in the previous 10 years. Mrovetz (2011) concluded that women´s main reasons for choosing to deliver not in a hospital setting was insufficient support with bonding, separation from their infants and fear of the hospital were the most traumatic reasons for these women. Other crucial reasons for women deciding on a homebirth were previous traumatic experiences from birth in a hospital and immediately postpartum and the fear they had of increasing these feelings and traumas (Mrovetz, 2011). However although this research might have limitations due to long recall of women (10 years), it is one of the few studies in CR therefore might give important part of disclosure of present situation. When comparing international evidence, we find many evidence based researches showing that home birth is a sensible choice (Begley et al, 2011; Cheyney, 2014; Janssen et al. ,2009; Wiegers et al;1996, cited in WHO 1999) additionally the National Institute for Health and Clinical Excelence intrapartum guidelines (NICE, 2014) state that women should be offered the choice of planning birth at home, in a midwifery-led unit or in an obstetric unit (Marchant, 2007, NICE, 2007) since woman has a right to choice of place of birth according to World Health Organisation´s Practical guide to normal birth (1999).

Summary:

As the largest study in favour of homebirth for low risk women is the Birthplace Study which was conducted in England in 2011 (Hollowell et al, 2011), a robust study that involved gathering evidence from 64,538 pregnancies for instance concluded that healthy women with low risk pregnancies should be supported in deciding upon the birthing environment they would prefer. In contrast the limited evidence around this topic within CR is a smaller study by Mrovetz (2011), in which the factors motivating women for choosing not to deliver in a hospital setting was fear of the hospital, insufficient support with bonding and separation from their infants and were the most traumatic reasons for these women. This was a much smaller study involving 1341 women over a 10 year period, and consequently has a limited generalisability. Never the less it remains one of the few examples of research demonstrating that some women within CR are unsatisfied with the routine care provided, however voices from the Government leaders that it is unacceptable to be legislatively supported (Šťastný, 2012) are strong and women have difficulties finding care providers as well as support in local health care system (Prague Post, 2011) as well as remains to be challenging to incorporate EBP into established setting (Hiner et al, 2009).

APPENDIX 7 - COMPARISON OF PERINATAL MORTALITY ACCORDING TO CHOSEN COUNTRIES OF INTEREST

This table analyses CR and comparable states with lower or comparable PMR having the possibilities of various models of perinatal care. The argument of Czech state and their representatives (Dvořák et al, 2012) cycles around PMR since we can be proud of having one of the lowest PMR (Štembera, 2011), therefore table was conducted to analyse the differences in care among countries with comparable or even lower PMR and analysed for the type of care provided.

Table on PMR in 2013 and systems of care (in appendix 7)

	Czech Republic	**Austria**	**Ireland**	**Denmark**	**Finland**	**Great Britain**	**Australia**
Maternal mortality	5.3	3.2	3.3	4.8	3.9	6.1	4.8
Neonatal mortality	2.1	2.3	2.3	2.4	1.3	2.8	2.4
System of care	Medical model only	Variety of midwife-led models, different options	Variety of midwife-led models, different options	Variety of midwife-led models, different options	Variety of midwife-led models, different options	Variety of midwife-led models, different options	Variety of midwife-led models, different options

Explanation: Neonatal mortality: http://data.worldbank.org, Maternal mortality: A systematic analysis for Burden of Disease Studies (Kassebaum et al., 2013)

In addition the majority of care providers within the system are satisfied for the current situation to continue and argue there is no need to make changes nor adapt midwifery models of care (Roztočil, 2013; Dvořák et al., 2012; Roztočil, Dvořák, 2012), which is in direct conflict with the evidence regarding midwifery led care (Sandall et al, 2013, NICE, 2014, Stables, 2000 etc.). According to the study of Štembera (2011, I.) and findings from year 2009, only 6 countries are the ones remaining having the best perinatal care since their perinatal mortality rate is 6 and are meeting the criteria of valid evidence of statistics. These countries are: Finland, Japan, Norway, Austria, Germany and Spain. Therefore even after this selection if we take into account argument of Štembera (2011, I.)

and would consider Austria to take as an example having PMR 3.2. Austrian model of care (as seen in 1.2.2) can be basis for good example.

APPENDIX 8 – TABLE OF FINDINGS - INTERVENTIONS

Table 3.5.2 - Findings of studies on interventions in Childbirth

	Interventions in Childbirth Beneficial psychosocial climate of a hospital contributes to higher patient satisfaction as well as to lower maternal and neonatal morbidity (T, 12) –i.e. intervention use Technology frequently overused (Ch,97)		
	Epidural	**Induction**	**Episiotomy**
East	0.2% in Moldova (2001), 2.6% in Lithuania (2004) (Ch, 12)	Induction of labour: 14% Moldova (2001), 17% Lithuania (2004) (Ch, 12)	15% Moldova (2001), 30% Lithuania (2004) (Ch, 12) Episiotomies traditionally almost routinely used (Ch, 97)
West	57% in Canada, 28% in UK (2006), (Ch, 12)	Induction of labour (2006): 44.8% in Canada, 32.4% in UK, (Ch, 12)	21% Canada, 24% UK (Ch, 12)
	Practices in United Kingdom were consistently less medicalised (Ch, 12)		
CR	% - not showed?	10% induced (EPHR, 2010)	51% of women having episiotomies (EPHR, 2010)
	Beneficial psychosocial climate of a hospital contributes to higher patient satisfaction as well as to lower maternal and neonatal morbidity (T, 12)		
Chalmers (1997) (Ch97) **Štembera et Velebil (2011) I. & II.** (Š I, II) **Chalmers (2012)**(Ch 12) **Takacs et al (2012)** (T12) **Takacs et al**	Interventions overused (Ch, 97) Relational aspects and negatively and not sensitively viewed approaches towards women from care providers may increase need of epidural or episiotomy (Ch, 12) Lower number of epidural anaesthesia and of number of episiotomies was seen when women were accompanied by known midwife or doula (T, 12). Movement against many forms of routine interventions now also from within scientific foundations not only women´s groups (Ch,97)		
		Approximately one-third to	

(2013) I. & II. (T I, II)		one-half of labours were induced (Ch, 12)	
	Women satisfaction when having epidural was 39% -i.e. low - (from range 32% - 45%) (T, 12)		Women satisfaction when having episiotomy was 40%, -i.e. low (from range 32% - 45%) (T, 12)
			Main discomfort for women was providing routine episiotomy without prior consultation (T, 12)

APPENDIX 9 - TABLE OF FINDINGS ON CAESAREAN SECTION

Table 3.5.3 - Findings of studies on caesarean section

<table>
<tr><td></td><td colspan="3">Caesarean section</td></tr>
<tr><td>East</td><td>EPHR, 2010 – varies from 19%-50%</td><td></td><td></td></tr>
<tr><td>West</td><td>EPHR, 2010 – varies from 16% to 38%</td><td></td><td></td></tr>
<tr><td>CR</td><td>23% of C.S. (EPHR, 2010)</td><td></td><td></td></tr>
<tr><td rowspan="3">Chalmers (1997) (Ch97)

Štembera et Velebil (2011) I. & II. (Š I, II)

Chalmers (2012)(Ch 12)

Takacs et al (2012) (T12)

Takacs et al (2013) I. & II. (T I, II)</td><td rowspan="2">Rates according to survey: east - Moldova 4%, Lithuania 12.7% (Ch, 12)

Rates according to survey: west - 26% Canada – 2005, 22% UK - 2006 (Ch, 12)

23% of C.S. in Czech Republic (EPHR, 2010)</td><td></td><td></td></tr>
<tr><td></td><td>Caesarean section rate of CR closer to western countries according to the studies (Ch, 12, T,12, Š, I.)</td></tr>
<tr><td></td><td></td><td>Ascending tendency of C.S. rate in CR (Š, 11, I.) – last ten years ascending about 1% annually. (from 18% in 2005 to 23% 2010)</td></tr>
<tr><td></td><td colspan="3">significantly higher rate of spontaneously started birth ending by caesarean section when accompanied by prechosen doctor (T, 12)</td></tr>
</table>