



Review Article

Barriers and facilitators of maternal healthcare utilisation in the perinatal period among women with social disadvantage: A theory-guided systematic review

Jean Anthony Grand-Guillaume-Perrenoud*, Paola Origlia, Eva Cignacco

Bern University of Applied Sciences, Department of Health Professions, Division of Midwifery, Murtenstrasse 10, 3008 Bern, Switzerland



ARTICLE INFO

Article history:

Received 14 July 2020

Revised 25 November 2021

Accepted 19 December 2021

Keywords:

Barriers

Facilitators

Healthcare access

Healthcare utilisation

Social disadvantage

Perinatal period

ABSTRACT

Background: Women with social disadvantage have poorer perinatal outcomes compared to women in advantaged social positions, which may be linked to poorer healthcare utilisation. Disadvantaged groups may experience a greater diversity of barriers (e.g., feeling embarrassed about pregnancy, lack of transportation) or barriers judged to be particularly difficult (e.g., embarrassment about pregnancy). They may also experience barriers more frequently (e.g., depression). Using Levesque et al.'s (2013) framework of healthcare access, our review identifies the barriers and facilitators that affect maternal healthcare utilisation in the perinatal period among women with social disadvantage in high-income nations.

Objectives: Our review searches for the barriers and facilitators affecting maternal healthcare utilisation in the perinatal period, from pregnancy to the first year postpartum, among women with social disadvantage (Prospero registration CRD42020151506).

Design: We conducted a theory-guided systematic review. PubMed, Embase, MEDLINE, PsycINFO, and Social Science Citation Index databases were searched for publications between 1999 and 2018.

Findings: 37 articles out of 12'972 were included in the qualitative synthesis. 19 domains of barriers and facilitators were extracted. Domains on the provider side includes 'information regarding available treatments' and 'trustful relationships.' On the user-side, domains include 'awareness of pregnancy' and 'unplanned/unwanted pregnancy'

Key conclusions: Provider- and user-side characteristics interact to affect access. User-side characteristics that pose a barrier can be offset by provider-side characteristics that lower barriers to access.

Implications for practice: User-side characteristics (e.g., lack of awareness of pregnancy) play an important role in the initial steps toward access. Among women with social disadvantage, reducing barriers may require active outreach on the part of providers.

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Background

The inverse care law (Hart, 1971) states that groups who are especially in need are less likely to receive adequate healthcare. This phenomenon is salient in socioeconomically disadvantaged women, who disproportionately experience inadequate access to care (Furler et al., 2002; McLean et al., 2015; Origlia Ikhilor et al., 2019; Origlia et al., 2017). Inadequate access is especially concerning in the perinatal period, as it is a sensitive period requiring

close attention to a woman's and child's health and wellbeing. The problem is widely recognized and recommendations for improving maternal care access, utilisation and quality are proposed by the World Health Organisation (2016) and the National Institute for Health and Clinical Excellence (NICE, 2010). Inadequate antenatal care (ANC), for instance, especially for women from socially disadvantaged and ethnic minority groups, is associated with severe adverse outcomes (Petrou et al., 2003; Raatikainen et al., 2007), pointing to the need to raise awareness to factors that inhibit ANC. Research has linked socioeconomic disadvantage to poorer pregnancy outcomes such as low birthweight and premature birth (Blumenshine et al., 2010; Pedersen et al., 2014; Ramraj et al., 2020; Small et al., 2014; van den Akker and van Roosmalen, 2016). Relatedly, racial and ethnic disparities were ob-

* Corresponding author.

E-mail addresses: jeananthony.grand-guillaume-perrenoud@bfh.ch (J.A. Grand-Guillaume-Perrenoud), paola.origlia@bfh.ch (P. Origlia), eva.cignacco@bfh.ch (E. Cignacco).

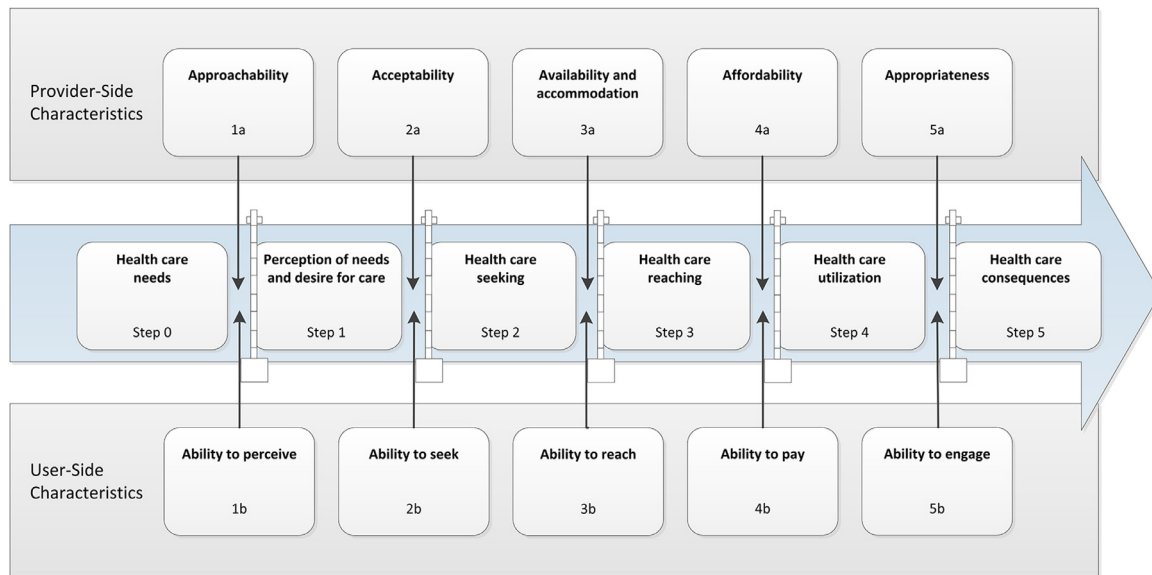


Fig. 1. Levesque et al.'s, 2013 Conceptual Model of Health Care Access.

served in infant and maternal outcomes even in low-risk pregnancies, with the highest risk of infant morbidity and mortality found among black women and adverse maternal outcomes among Asian women (Parchem et al., 2020). In the UK, black women have four times and Asian women twice the mortality rate of white women during or up to 6 weeks after pregnancy with the gap widening for black women (MBRRACE-UK, 2020b). Black and Asian babies, both British and non-British, have a two-fold likelihood of being still-born or dying as neonates (MBRRACE-UK, 2020a). Socioeconomic disadvantage is associated with race and ethnicity, thus confounding their effects. However, both socioeconomic disadvantage and membership in a minority racial or ethnic group have independent negative effects on health (LaVeist, 2005; Williams et al., 2016). Among black women, poorer pregnancy outcomes may be caused by the process of weathering (Geronimus, 1992, 1996), wherein health deterioration accumulates over the life course due to socioeconomic disadvantage. Weathering has been implicated in pregnancy outcomes such as spontaneous abortion (Frazier et al., 2018) and preterm birth (Kim et al., 2020). More recent explanatory models are based on epigenetics, wherein transgenerational health disparities of socioeconomically deprived groups result from environmental exposures and metabolic aspects of foetal programming (Owen et al., 2013).

Another mechanism linking socioeconomic disadvantage to poor health lies in its effect on healthcare access (Gadson et al., 2017; Tumin et al., 2018). The persistent differences in utilisation of healthcare and health outcomes for mother and child even in countries with free healthcare (Origlia et al., 2017; Raatikainen et al., 2007) raise urgent questions. To explore the causes of the incongruence between putatively accessible, high-quality healthcare and poorer mother and child outcomes among socially disadvantaged, this review focuses on maternity care utilisation in high-income nations.

We take a theory-guided approach to inform our systematic review, using a conceptual model of healthcare access by Levesque et al. (2013). Within this model, access is conceptualized as a process in which provider-side characteristics (i.e., those of organisations, institutions, and systems) and user-side characteristics (i.e., those of pregnant women, mother and child, households, communities, and populations) interact (s. Fig. 1). This interaction

leads to progressing through process steps in utilising healthcare, given the right circumstances. Conversely, given barriers, the process can be impeded.

Our review seeks answers as to which barriers and facilitators affect maternal healthcare utilisation in the perinatal period, from pregnancy to the first year postpartum, among women with social disadvantage.

We apply the term social disadvantage to encompass deficits in economic, cultural, and social capital that may cause hardship and difficulty obtaining vital goods and services. We use the term access as the potential to make use of a healthcare service, while we refer to utilisation as realised healthcare access (Aday and Andersen, 1974; Levesque et al., 2013).

Methods

Design

This theory-guided systematic review applies framework synthesis (Carroll et al., 2011) using the conceptual framework of healthcare access by Levesque et al. (2013) as an a-priori analytic framework to facilitate interpretation and integration of the patterns of findings derived from empirical studies.

Search strategy and data screening

We conducted searches on PubMed, Embase, MEDLINE, PsycINFO, and Social Science Citation Index. We combined three groups of search terms: 1) search terms indicating social disadvantage, 2) search terms indicating modifiers of healthcare utilisation, and 3) search terms indicating type of healthcare provision (s. Table 1). The search was restricted to English language publications between 1999 and 2018.

Titles were evaluated for eligibility by one Reviewer 1 (JAG). A sample of titles was screened by two other Reviewers 2 (PO) and 3 (EC) to verify the initial assessment. Titles judged eligible were screened by abstract by one reviewer. A sample of abstracts was given to two other reviewers for validation. Articles were screened full text to ensure they corresponded to agreed-upon definitions.

Table 1
Search strategy.

Date	Database	Query	Search Refinements	Items found	Abstracts	Full text	Selected
04.03.2019	PubMed	((((((((low socioeconomic status[Title/Abstract] OR socioeconomic deprivation[Title/Abstract]) OR social vulnerability[Title/Abstract]) OR social inequality[Title/Abstract]) OR social disparity[Title/Abstract]) OR poverty[Title/Abstract]) AND barriers[Title/Abstract]) OR facilitators[Title/Abstract]) AND antenatal care[Title/Abstract]) OR perinatal care[Title/Abstract]) OR postpartum care[Title/Abstract]) OR maternity care[Title/Abstract]) OR maternal care[Title/Abstract] AND (("1999/01/01"[PDAT]: "2018/12/31"[PDAT]) AND "humans"[MeSH Terms] AND "female"[MeSH Terms])	1999–2018 English language Female participants Human studies	4321	227	15	2
04.03.2019	Embase	((('low socioeconomic status':ti,ab,kw OR 'socioeconomic deprivation':ti,ab,kw OR 'social vulnerability':ti,ab,kw OR 'social inequality':ti,ab,kw OR 'social disparity':ti,ab,kw OR 'poverty':ti,ab,kw) AND 'barriers':ti,ab,kw OR 'facilitators':ti,ab,kw) AND 'antenatal care':ti,ab,kw OR 'perinatal care':ti,ab,kw OR 'postpartum care':ti,ab,kw OR 'maternity care':ti,ab,kw) AND [1999–2018]/py AND [embase]/lim NOT ([embase]/lim AND [medline]/lim) AND 'human'/de AND ('article'/it OR 'article in press'/it)	1999–2018 English language Articles or articles in press	398	173	23	6
12.03.2019	MEDLINE	((((((((TITLE: (low socioeconomic status) OR TITLE: (socioeconomic deprivation)) OR TITLE: (social vulnerability)) OR TOPIC: (social inequality)) OR TOPIC: (social disparity)) OR (TOPIC: (poverty) AND TOPIC: (barriers))) OR (TOPIC: (facilitators) AND TOPIC: (antenatal care))) OR TOPIC: (perinatal care)) OR TOPIC: (postpartum care)) OR TOPIC: (maternity care)) OR TOPIC: (maternal care))	1999–2018 Female participants	4937	446	72	22
12.03.2019	PsycINFO	(((low socioeconomic status or socioeconomic deprivation or social vulnerability or social inequality or social disparity or poverty) and barriers) or facilitators) and antenatal care) or perinatal care or postpartum care or maternity care or maternal care).ti.	1999–2018 English language Human studies	307	8	0	0
12.03.2019	Social Science Citation Index	TITLE: (low socioeconomic status) OR TITLE: (socioeconomic deprivation) OR TITLE: (social vulnerability) OR TITLE: (social inequality) OR TITLE: (social disparity) OR TITLE: (poverty) AND TITLE: (barriers) OR TITLE: (facilitators) AND TITLE: (antenatal care) OR TITLE: (perinatal care) OR TITLE: (postpartum care) OR TITLE: (maternity care) OR TITLE: (maternal care) Refined by: DOCUMENT TYPES: (ARTICLE OR REVIEW) AND LANGUAGES: (ENGLISH) AND [excluding] RESEARCH AREAS: (INFECTIOUS DISEASES OR TRANSPLANTATION OR FORESTRY OR GENETICS HEREDITY OR VIROLOGY OR DEVELOPMENTAL BIOLOGY OR DENTISTRY ORAL SURGERY MEDICINE OR EVOLUTIONARY BIOLOGY OR IMMUNOLOGY OR PHILOSOPHY OR UROLOGY NEPHROLOGY OR AGRICULTURE OR ARCHAEOLOGY OR SURGERY OR BIOTECHNOLOGY APPLIED MICROBIOLOGY OR COMPUTER SCIENCE OR PARASITOLOGY OR MATHEMATICS OR ANAESTHESIOLOGY OR MEDICAL INFORMATICS OR BIODIVERSITY CONSERVATION OR CRIMINOLOGY PENOLOGY OR CELL BIOLOGY OR ENERGY FUELS OR METEOROLOGY ATMOSPHERIC SCIENCES OR INTEGRATIVE COMPLEMENTARY MEDICINE OR LEGAL MEDICINE OR ZOOLOGY OR MICROBIOLOGY OR WATER RESOURCES OR MATHEMATICAL METHODS IN SOCIAL SCIENCES OR OCEANOGRAPHY OR PHYSICAL GEOGRAPHY OR ORTHOPEDICS OR ENGINEERING OR ALLERGY OR BIOCHEMISTRY MOLECULAR BIOLOGY OR GEOLOGY OR INTERNATIONAL RELATIONS OR LINGUISTICS OR LITERATURE OR MATHEMATICAL COMPUTATIONAL BIOLOGY OR AUDIOLOGY SPEECH LANGUAGE PATHOLOGY OR OPHTHALMOLOGY OR PHARMACOLOGY PHARMACY OR PHYSICS OR NUTRITION DIETETICS OR PLANT SCIENCES) AND [excluding] RESEARCH AREAS: (ENDOCRINOLOGY METABOLISM OR HISTORY PHILOSOPHY OF SCIENCE OR GOVERNMENT LAW OR RESEARCH EXPERIMENTAL MEDICINE OR GERIATRICS GERONTOLOGY OR ONCOLOGY OR TOXICOLOGY OR PHYSIOLOGY OR RHEUMATOLOGY OR GASTROENTEROLOGY HEPATOLOGY OR CARDIOVASCULAR SYSTEM CARDIOLOGY OR HAEMATOLOGY OR OPERATIONS RESEARCH MANAGEMENT SCIENCE OR RESPIRATORY SYSTEM OR RADIOLOGY NUCLEAR MEDICINE MEDICAL IMAGING OR HISTORY OR RELIGION OR INFORMATION SCIENCE LIBRARY SCIENCE OR VETERINARY SCIENCES OR NEUROSCIENCES NEUROLOGY) AND [excluding] DOCUMENT TYPES: (PROCEEDINGS PAPER OR BOOK CHAPTER OR RETRACTED PUBLICATION) AND [excluding] RESEARCH AREAS: (BUSINESS ECONOMICS OR SPORT SCIENCES OR ENVIRONMENTAL SCIENCES ECOLOGY OR SCIENCE TECHNOLOGY OTHER TOPICS) AND [excluding] COUNTRIES/REGIONS: (ETHIOPIA OR INDIA OR GUATEMALA OR RWANDA OR ZAMBIA OR ZIMBABWE OR TANZANIA OR NIGERIA OR UGANDA OR MALAWI OR BANGLADESH OR NEPAL OR BOLIVIA OR BOTSWANA)	1999–2018 English language Article or review Research area exclusions Country exclusions	3009	158	29	5
n.a.	Handsearch	n.a.	n.a.	20	14	9	2

The inclusion criteria were: 1) identified women with social disadvantage, defined by at least one social determinant, e.g., income, ethnicity, education, insurance type, 2) identified healthcare provision specific for mothers, neonates, or infants up to one year, 3) a non-experimental study design featuring quantitative, qualitative, mixed methods, or review, as data collection. The exclusion criteria were: 1) was conducted in low- or middle-income nation, 2) dealt mainly with pathological conditions or their treatments, 3) analysed specific procedures/practices as outcomes (e.g. prenatal testing, caesarean sections, breast feeding), 4) examined outcomes of specific interventions, programs, or policies, 5) evaluations of programs or interventions, 6) experimental studies, 7) methodological research (e.g. instrument development), 8) used general survey samples, and 9) used specific marginal populations as respondents, wherein our operational definition of social disadvantage was not met and was instead conceptualized in terms of other unique life circumstances (e.g. among prostitutes, inmates, drug users, victims of physical violence).

Quality assessment

We developed a checklist to enable the assessment of all study designs. This checklist included: 1) JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies (Joanna Briggs Institute, 2017a) to evaluate quantitative studies, 2) CASP Qualitative Checklist (Critical Appraisal Skills Programme, 2018) to evaluate qualitative studies, 3) a checklist for mixed methods studies which we developed for this review, based on a synthesis of quality criteria proposed by Creswell and Plano Clark (2017), Bryman et al. (2008), and O’Cathain et al. (2008), and 4) JBI Critical Appraisal Checklist for Systematic Reviews and Research Synthesis (Joanna Briggs Institute, 2017b) to evaluate literature reviews. We provide our checklist as an additional file.

Quality assessment was distributed among three reviewers for individual assessment. The assessments were then discussed in meetings.

Data extraction and analysis

Data extraction was conducted by Reviewer 1. Included studies’ results were searched for information regarding barriers and facilitators to access, which were then noted in a wording close to the original. To validate data extraction, two sets of 10 studies each were assessed by Reviewers 2 and 3. We compiled a list of definitional terms from the conceptual model describing provider- and user-side characteristics and linked them to the literature’s findings. For instance, the model describes the provider-side characteristic ‘approachability’ as “the fact that people facing health needs can actually identify that some form of services exists, can be reached, and have an impact on health” (p. 5). We then grouped the barriers and facilitators into higher-level abstractions, which we call domains. For instance, we subsumed the barrier “inability to find information in a relevant and understandable format” into the domain “Information regarding available treatments and services,” which we then associated with the provider-side characteristic ‘approachability.’ This procedure was applied to all barriers and facilitators in included studies. By pairing every domain with the most appropriate provider- or user-side characteristic we formed a link between the empirical studies and the conceptual model of healthcare access.

The analysis was performed by Reviewer 1 and discussed with Reviewer 2 and 3.

Results

We included 37 studies in the qualitative synthesis (s. Fig. 2). From a total of 12’972 articles identified, 148 were assessed for eligibility. 111 full text articles were excluded with reasons.

The included studies consist of 26 quantitative observational, 6 qualitative, 1 mixed method and 4 qualitative review studies. A summary of the data extracted is featured in Table 2.

Findings from the empirical literature are presented and structured in the order of Levesque et al.’s (2013) conceptual model of healthcare access. Characteristics that influence the realisation of access from provider-side are denoted by the letter “a”, and user-side characteristics denoted by the letter “b”. Domains of barriers and facilitators are presented within the provider- or user-side characteristic with which they are associated. Fig. 3 provides an overview of the conceptual model and maps all domains to their respective user-side and provider-side characteristics. An overview of all domains and the number of studies in each domain is presented in Table 3.

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Provider-Side characteristics that influence access

Approachability (1a)

Approachability relates to characteristics of providers that allow individuals to know that they exist and can be reached. The factors that determine approachability (1a) that emerged in the literature pertain to the domain “information regarding available treatments and services”.

Information regarding available treatments and services

The inability to find information that is relevant and understandable is a difficulty that many women with social disadvantage face (Downe et al., 2009). Numerous studies have linked a lack of knowledge of available maternity services to care not being utilised (Balaam et al., 2013; Downe et al., 2009; Heaman et al., 2005; Higginbottom et al., 2014; York et al., 1999). Healthcare services may be unknown due to a lack of general public awareness (Heaman et al., 2015), but may also be specific to disadvantaged groups such as asylum seekers (Downe et al., 2009). Partly, services may not be known because of healthcare staff’s expectations that women can access and navigate the healthcare system on their own (Higginbottom et al., 2014).

Acceptability (2a)

Acceptability describes a condition in which a provider’s service is judged to be adequate and appropriate. We associate three domains with a service’s acceptability (2a): trustful relationships, ambivalence toward ANC, and sociocultural factors.

Trustful relationships

Being unable to trust the healthcare provider can be perceived as a difficult to overcome barrier (Cook et al., 1999) associated with inadequate ANC¹ (Heaman et al., 2014; York et al., 1999) and non-attendance of antenatal classes (Higginbottom et al., 2015). Lack of trust was also related to unwillingness to seek help for postpartum depression (Teng et al., 2007) and to forgoing infant healthcare,

¹ In the included studies, inadequate ANC is most commonly defined in terms of Kotelchuck’s (1994) Adequacy of Prenatal Care Utilization index, wherein the first care visit takes place after the first trimester and the number of visits is below 80% of expected visits. A notable exception is Heaman et al. (2014) who adapted criteria from the GINDEX and defined inadequate ANC as either 1) no ANC, 2) initiation of ANC in the third trimester at 28 weeks or later (regardless of number of ANC visits), 3) ANC that began in the first or second trimester but with a low number of visits (range between 1-4, dependent on the gestational age at delivery).

Table 2
Extracted data from included studies.

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Adams et al., 2005	QN	<ul style="list-style-type: none"> USA: FL, GA, NJ, TX Data set obtained from State Medicaid Research Files (SMRF) 	Medicaid eligible women	Antenatal care	<ul style="list-style-type: none"> Black ethnicity Hispanic ethnicity White ethnicity 	<p>Facilitators:</p> <ul style="list-style-type: none"> Number of local physicians, foreign medical graduates Presence of safety net providers Previous use of safety net providers
Alderliesten et al., 2007	QN	<ul style="list-style-type: none"> NL: Amsterdam All independent midwifery practices in Amsterdam 6 hospitals 	<ul style="list-style-type: none"> Non-Dutch ethnic groups Dutch ethnic group 	Antenatal care	<ul style="list-style-type: none"> Non-Dutch ethnic groups Dutch ethnic group Maternal age under 20 years 	<p>Barriers:</p> <ul style="list-style-type: none"> Poor Dutch language proficiency Unplanned pregnancy
Balaam et al., 2013	RV	Greece, Ireland, Norway, Scotland, Sweden, Switzerland, UK	<ul style="list-style-type: none"> N = 16 papers Migrant women, including asylum-seekers and refugees From: Africa, Asia, Eastern Europe, Middle East 	<ul style="list-style-type: none"> Antenatal care Antenatal classes Delivery care Maternity care Perinatal care Postnatal care Reproductive healthcare 	<ul style="list-style-type: none"> Being a migrant Being member of an ethnic minority 	<p>Barriers:</p> <ul style="list-style-type: none"> Cultural barriers Disrespectful, hostile, patriarchal attitudes Experiencing dissatisfaction and lack of care Lack of familiarity with healthcare system Lack of knowledge of female genital mutilation Lacking confidence to discuss their concerns and ask questions Language barriers Late registration for antenatal care Maternity services not adapted to migrant women Need for better interpretation service Not receiving information needed Poor economic social conditions Professionals lacked care routines, awareness and skills relevant to women's worries and fears Refugees/asylum seekers less willing to state their needs and wishes; disappointed and unprepared for lack of practical help/support provided to migrant women Unhelpful and frightening advice; failing to take account of the reality of the women <p>Facilitators:</p> <ul style="list-style-type: none"> Being able to see healthcare professionals without having to make an appointment Being able to bring relatives, children, or friends as interpreters Familiarity with organizational barriers to maternity care Caring relationship with the healthcare professional Having empathetic, respectful, interested, kind professionals Physicians who speak the woman's language Receiving individualized information
Bennett et al., 2006	MM	USA: University of Pennsylvania, urban Medicaid obstetric practice, 48 h after giving birth	African American women receiving Medicaid	Antenatal care	African American ethnicity	<p>Facilitators:</p> <ul style="list-style-type: none"> Assurance of continuity of care Close, trusting patient-physician relationship Good communication with clinicians High literacy Information presented in understandable manner

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Boerleider et al., 2015	QN	The Netherlands	<ul style="list-style-type: none"> • Native Dutch women • 1st and 2nd generation migrants 	Antenatal care	<ul style="list-style-type: none"> • 1st generation migrant • 2nd generation migrant • Native Dutch woman • Maternal age <= 19 years • Maternal age >= 36 years 	<p>Barriers:</p> <ul style="list-style-type: none"> • Extra-uterine pregnancy, molar pregnancy, or abortion • Low maternal education • No supplementary insurance • No partner • Partner belonging to an ethnic minority (non-Dutch) • Problem booking appointments with the midwifery practice • Problem calling midwifery practice • Problem visiting midwifery practice • Smoking • No folic acid intake • Unplanned but wanted pregnancy • Unplanned and unwanted pregnancy
Braveman et al., 2000	QN	USA, California, representative postpartum sample	Low-income women with insurance coverage	Antenatal care	Maternal age < 20 years	<p>Barriers:</p> <ul style="list-style-type: none"> • Fear of disclosure of pregnancy • Grand multiparity • Not knowing care should begin in the first trimester • Transportation problems • Unplanned pregnancy • Unwanted pregnancy
Bryant et al., 2006	QN	<ul style="list-style-type: none"> • USA, areas covered by Healthy Start Project • Baltimore, MD; Birmingham, AL; Boston, MA; Chicago, IL; Cleveland, OH; Detroit, MI; New Orleans, LA; New York, NY; Gary, IN; Oakland, CA; Pee Dee, SC; Philadelphia, PA; Pittsburgh, PA; Washington, DC 	<ul style="list-style-type: none"> • Healthy Start participants • Non-participants 	Postpartum visit	<ul style="list-style-type: none"> • Age • Race 	<p>Barriers:</p> <ul style="list-style-type: none"> • 2 moves or more during pregnancy • Chronic health condition • Difficulty understanding healthcare provider's language • Problems with travelling to healthcare provider <p>Facilitator:</p> <ul style="list-style-type: none"> • Receiving a reminder from healthcare provider
Cook et al., 1999	QN	USA, large university-affiliated medical centre, postpartum unit	N = 115 low-income women, convenience sample	Prenatal care	<ul style="list-style-type: none"> • African American ethnicity • Age • Being unmarried • Having one other child or more 	<p>Barriers:</p> <ul style="list-style-type: none"> • Being affected by the personal problems of family or friends • Being too tired • Clinic too crowded • Clinic too far • Depression • Disliking the care received at the clinic • Feeling embarrassed about pregnancy • Having personal problems • Hearing negative things about the clinic • Lack of evening or weekend clinic hours • Lack of transportation • Lacking trust in the healthcare system • Long waiting times in the clinic • Medical risk factors • Not wanting family or friends to know about pregnancy • Psychosocial risk factors • Unhappiness about pregnancy

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Cresswell et al., 2013	MM	UK: Newham, East London; borough with high deprivation and majority ethnic minority population	<ul style="list-style-type: none"> • Newham University Hospital Trust patient data • Representative of all women seeking maternity care in the public sector, N = 20'135 	Antenatal care	<ul style="list-style-type: none"> • African ethnicity, non-Somali • African/Caribbean woman who speaks English and was born in the UK • Somali ethnicity • Older than 24 years 	<p>Barriers:</p> <ul style="list-style-type: none"> • Being self-employed, employed in semi-routine/routine occupations, being a housewife • Having had four or more previous births • Living in a temporary accommodation
Daniels et al., 2006	QL	USA: community clinics in Atlanta, GA	Black women of low socioeconomic status	Antenatal care	Black woman	<p>Barriers:</p> <ul style="list-style-type: none"> • Being indifferent or devastated over being pregnant • Being unaware of signs and symptoms of pregnancy • Belief that antenatal care is important, but maybe not to their current pregnancy • Feeling depressed, feeling stressed • Mean age of 20 years • Multiparity, leading to belief that due to previous ANC experience no more ANC is required • Unwanted pregnancy <p>Facilitators:</p> <ul style="list-style-type: none"> • Being more knowledgeable of signs and symptoms of pregnancy • Excited and jubilant about being pregnant • Mean age of 24 years • Partner's agreement to attend ANC with woman
Daoud et al., 2012	QL	Israel	Deprived Arab Bedouin women	Infant care	Bedouin woman	<p>Barriers:</p> <ul style="list-style-type: none"> • Financial difficulties • High doctor turnover • Lack of paved roads • Lack of public transportation • Long distance to clinic • Long waiting times • Mistrust of official services or social support systems • Mothers having to physically carry their baby to healthcare provider • Mothers relying mainly on themselves and their faith • Not having clinics in the villages where the women live • Poor quality care • Staff attitude perceived as arrogant, condescending, prejudiced, or discriminatory • Staff do not speak woman's native language (Arabic)

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Downe et al., 2009	RV	Various	Various	Antenatal care	<ul style="list-style-type: none"> • Teenage mother • Asian Muslim woman • Asylum seeker • Speaker of local language, but member of marginalised group 	<p>Barriers:</p> <ul style="list-style-type: none"> • Ambivalence or indifference toward antenatal care • Having attending midwives who had never experienced pregnancy • Being unaware of full range of services available • Costs of providing interpreters, translators, advocates • Crude methods employed to elicit information, which may be regarded with suspicion or alarm • Denial of pregnancy, struggling to accept situation • Discrimination • False belief of having to pay for care • Fear of disapproval/being stigmatized by family and friends • Genuine concerns minimized or dismissed by health professionals • Healthcare professionals appearing to be having too many appointments, overburdened • Healthcare professionals appearing to not want to be bothered • Healthcare professionals more focused on task rather than interacting with women • Ignoring traditional values (e.g. Asian Muslims who may view being seen by a male doctor as a transgression of cultural conventions) • Inability to find information in a relevant and understandable format • Incurring personal costs for travel and limited financial resources • Lack of knowledge of typical pregnancy symptoms • Lapses in confidentiality (e.g. woman being talked about in front of other people) • Leading a chaotic lifestyle, being overwhelmed by basic requirements/simple survival needs • Long waiting times for consultations, causing frustration • Methodical and insensitive screening methods for domestic violence, which does nothing to encourage a caring relationship • Mistrust of healthcare providers (e.g. fear that social services would be informed, and the baby taken away) • Healthcare professionals not answering questions • Not knowing how to access care • Healthcare professionals not talking to the woman • Onerous family and domestic responsibilities • Perception that ANC offers no clear benefits • Perception that a woman's lifestyle is being judged unfavourably • Receiving advice from a professional whom women believe would not behave that way, even if advice is appropriate • Receiving advice which is perceived to be inappropriate or unnecessary

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
						<ul style="list-style-type: none"> • Rudeness, harshness, or insensitivity of healthcare professional • Feeling rushed by healthcare professional • Standardised, routine nature of antenatal appointments leaves woman feeling disrespected and objectified • Unplanned, expected pregnancies • Viewing state organized health provision with suspicion • Feeling unable to ask questions, making a woman feel worse than when she came in <p>Facilitators:</p> <ul style="list-style-type: none"> • Health professionals being perceived as kind, attentive, courteous • Staff's empathy, concern, and willingness to focus on the woman
Edge 2010	QL	Northern UK: antenatal community clinics, one teaching hospital, a general practice, and a specialist voluntary sector agency	<ul style="list-style-type: none"> • Health professionals interviewed regarding black Caribbean women • Black Caribbean women 	Perinatal mental health	Black Caribbean woman	<p>Barriers:</p> <ul style="list-style-type: none"> • Antenatal care focuses primarily on physical issues • Black Caribbean women's psychological responses and cultural identity • Busy clinics • Health visitors responsible for first-line care of postnatal depression: perinatal mental health care being moved out of general practice into centralized services • Lack of confidence and competence in identifying and managing perinatal depression • Lacking in relevant knowledge, skills and training to manage perinatal depression • No routine screening for postnatal depression • Professionals feel constrained by time, staff shortages, other resource issues to focus almost exclusively on mental health issues • Professionals resistant to using validated psychiatric measures (e.g. Edinburgh Postnatal Depression Scale) • Services lack cultural competence • Women are in and out of hospital too quickly <p>Facilitators:</p> <ul style="list-style-type: none"> • GPs working closely with a health visitor over a significant time • Postnatal wards having better insight into mental health problems • Professionals concerned with acquiring cultural competence to deal with women from different cultural/ethnic backgrounds

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Epstein et al., 2009	QN	USA: Oregon, Pregnancy Risk Assessment Monitoring System (PRAMS) Study	N = 1508 rural and urban women from Oregon	Antenatal care	<ul style="list-style-type: none"> • Maternal age < 18 • Maternal age 18-34 • Hispanic mother 	<p>Barriers:</p> <ul style="list-style-type: none"> • Being unmarried • Failure to recognize pregnancy • Inability to get an earlier appointment • Lack of childcare • Lack of money/insurance • Lack of time • Lack of transportation • Lacking an insurance card • Maternal education < 12th grade • Maternal education 12th grade – 3 years of college • Refusal of doctor or health plan to allow an earlier start <p>Unintended pregnancy Facilitators:</p> <ul style="list-style-type: none"> • 4 or more years of college education • Being married • Having an intended pregnancy • Provider in large rural area compared to urban area • Provider in small/isolated rural area compared to urban area • Recognized pregnancy in 1st trimester
Gonthier et al., 2017	QN	France, Paris: 4 university hospital maternity units	French, North African, sub-Saharan African women	Antenatal care	<ul style="list-style-type: none"> • French, North African, sub-Saharan African women • French, sub-Saharan African women • Migrant women with recent immigration • French, North African, sub-Saharan African women • North African, sub-Saharan African women • French, North African women 	<p>Barriers:</p> <ul style="list-style-type: none"> • Being undocumented • Belief that prenatal care serves no purpose • Having no permanent health insurance • Language barrier • Not having work-related household income • Not knowing of pregnancy • Poor or insecure housing condition • Recent immigration • Social isolation • Unexpected pregnancy • Unplanned/unwanted pregnancies • Unwanted pregnancy
Heaman et al., 2005	QN	Canada: Manitoba	Non-Aboriginal women	Antenatal care	Aboriginal women	<p>Barriers:</p> <ul style="list-style-type: none"> • High life event stress • Low partner support • Low self-esteem • Physical abuse in the past year • Single status <p>Facilitator:</p> <ul style="list-style-type: none"> • Having a paid job

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Heaman et al., 2014	QN	Canada: Winnipeg	Inner-city women	Antenatal care	<ul style="list-style-type: none"> • Younger age • Aboriginal 	<p>Barriers:</p> <ul style="list-style-type: none"> • Appointment being cancelled by clinic • Being afraid of medical tests and exams • Being depressed during pregnancy • Being single/divorced/ separated • Being unaware of where to go for antenatal care • Being under stress • Being unemployed • Being worried about the baby being apprehended by child welfare agency • Belief that they can take care of themselves during pregnancy • Child care problems • Dissatisfied with care received • Family problems • Forgetting appointment • Having an unplanned pregnancy • Having to wait too long in waiting room to see provider • Homelessness • Inability to get an appointment • Inability to take time off work • Inconvenient clinic hours • Long wait to get an appointment • Moving a lot • Multiparity • Not feeling good about oneself • Not feeling well • Not liking healthcare workers • Not liking needles or medications • Not liking staff attitudes • Not thinking straight • Personal problems • Physically abused by husband/ boyfriend • Problems with husband/ boyfriend • Problems with transportation • Receiving advice about pregnancy from family and friends • Thinking about having an abortion • Thinking it is not possible to communicate with staff • Thinking they do not need antenatal care • Unaware of being pregnant • Unhappiness about pregnancy • Using the emergency room or obstetrical triage unit if problems occur • Wanting to hide pregnancy <p>Facilitators:</p> <ul style="list-style-type: none"> • Being encouraged by friends, family members, or a partner to attend care • Being motivated to seek prenatal care to learn about better health habits • Being offered rides to the clinic • Convenient clinic hours • Having emotional support • Having financial support • Receiving a call to follow-up on missed appointments • Receiving childcare assistance • Receiving incentives • Staff being easy to understand • Staff from same country as woman

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Heaman et al., 2015	QL	Canada: Winnipeg, eight neighborhoods in the inner city	Healthcare professionals who provide antenatal care to inner-city women	Antenatal care	None	<p>Barriers:</p> <ul style="list-style-type: none"> • ANC not viewed as a priority, no interest, not seen as important • Caregiver is too busy or lacks time • Financial difficulties • Geographic distance • Inflexible, inconvenient hours • Lack of public awareness of ANC services • Lack of social support • Lengthy office waits • Logistical difficulties related to childcare • Logistical difficulties related to transportation • Personal pressures (e.g. addictions, intimate partner violence) • Previous negative experience with/ distrust of healthcare system • Short visits, rushed appointments • Shortage of healthcare providers providing ANC • Staff's negative personality characteristics (e.g. rude, judgmental) <p>Facilitators:</p> <ul style="list-style-type: none"> • Appointment reminders and follow-up contact • Assistance with transportation and childcare • Effective communication skills • Expanding community-based clinics • Flexible hours/scheduling • Geographic proximity • Helping women understand importance of PNC • Investing in relationship with client • Making women feel respected and valued • Multidisciplinary approach to ANC: referring women to additional services or programs • Multidisciplinary approach to ANC: using a team approach to meet women's needs • Providing individualized, culturally sensitive care • Self-referral options for clients • Sharing health information with women, answering questions • Taking time with clients • Tangible rewards

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Higginbottom et al., 2014	RV	Canada: e.g. Montreal, Toronto, Alberta, Quebec, Edmonton	<ul style="list-style-type: none"> • N = 22 papers • Immigrant women: e.g., Indo-Canadian, South Asian, Chinese women 	<ul style="list-style-type: none"> • Antenatal care • Postnatal care 	Various ethnicities	<p>Barriers:</p> <ul style="list-style-type: none"> • Associating midwives with substandard care • Being denied opportunities to practice certain rituals by staff, despite being allowed by Canadian healthcare institutional practices • Being separated from family and friends • Belief that midwives do not have formal training (based on knowledge from some women's native countries) • Complex technological, spatial and procedural restriction • Confused and dissatisfied with care received (particularly relating to role of technology in labour and childbirth; attitudes of nurses in the postpartum period) • Differing beliefs about health and illness • Difficulties receiving support from husband due to working multiple jobs or long hours • Expectation by healthcare staff that women are able to navigate healthcare system, despite reports to the contrary • Facing considerable challenges obtaining maternity services • Having few links within the community • Having no access to childcare • Inability to make appointments • Inability to understand appointments • Inadequate (English) language skills • Inadequate referrals, causing women to prefer making the referrals themselves • Interpreters as barrier: different expectations between service user and staff as to who is an appropriate interpreter • Interpreters as barrier: questions pertaining to knowledge, professionalism, confidentiality of interpreter • Lack of informal support, formal support • Lack of knowledge about maternity services • Lack of knowledge on how to access/navigate healthcare system • Limited language proficiency • Long travel distance between home and appointment locations • Not recognizing pregnancy • Staff are unaware of or do not understand cultural customs or practices of women • Transportation difficulties due to financial problems • Unemployment • Unwillingness to seek help outside of family for fear of being alienated / breaking family harmony • Viewing routine maternity care check-ups as a burden without benefit <p>Facilitator:</p> <ul style="list-style-type: none"> • Support from healthcare system and professionals regarding mental well-being and practical necessities

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Higginbottom et al., 2015	RV	Canada	Immigrant women	<ul style="list-style-type: none"> • Antenatal care • Breastfeeding support • Maternal services • Maternity care • Perinatal care • Perinatal mental health care • Postnatal mental health care • Postpartum care • Postpartum mental health care • Prenatal classes 	<ul style="list-style-type: none"> • Muslim women • Somali women • Immigrant mothers 	<p>Barriers:</p> <ul style="list-style-type: none"> • Being less knowledgeable about prenatal classes • Being taught fewer baby care and self-care procedures than non-immigrant women (reported by Indo-Canadian women) • Cultural differences • Experiencing remarks that were insulting, insensitive, stereotypical and embarrassing • Feeling rushed; not being asked about emotional disturbances • Hurtful comments made regarding women's circumcision • Inadequate pain management (immigrant mothers) • Lack of cultural sensitivity • Lack of knowledge regarding availability of support services in the community for breastfeeding and postpartum depression (reported by Chinese and south Asian women) • Lack of transportation • Language barriers • Little discussion or say regarding procedures related to birth and pain management • Negative perceptions of the type of information provided in prenatal classes • No care arrangements offered for women's other children • Not being informed of availability of prenatal classes or their purpose/type of support offered to them • Not being offered delivery options • Not being served warm meals • Not receiving appropriate information regarding maternal and child health before/during pregnancy, after delivery • Not routinely contacted by healthcare providers after discharge to address maternal depression and social isolation • Nurses compelled to encourage women to walk and wash as soon as possible; may conflict with cultural prescriptions of bed rest and avoidance of showers • Nurses regarded women as being lazy • Nurses regarded women as being reluctant to cooperate • Poor communication • Receiving a caesarean section, despite not wanting one (reported by Somali women) • Receiving information on support for depression primarily through friends and advertisements (reported by women who received mental health care) • Staff do not appear genuinely interested in overcoming language barrier to help women or provide information <p>Facilitators:</p> <ul style="list-style-type: none"> • Receiving social support • Staff helped them to feel confident in breastfeeding (reported by immigrant women)

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Hulsey et al., 2000	QN	Detroit, tertiary clinic	Low-income pregnant and postpartum women	Antenatal care	Teenage pregnancy	<p>Barriers:</p> <ul style="list-style-type: none"> • Considered having an abortion • Having 3 children or more • Unemployment <p>Facilitator:</p> <ul style="list-style-type: none"> • Having psychological/moral reasons for not going through with abortion
Humbert et al., 2011	QN	USA: 2 hospitals in Indianapolis, IN	Medicaid eligible women	Antenatal care	<ul style="list-style-type: none"> • Age • Race/ethnicity • Marital status 	<p>Barriers:</p> <ul style="list-style-type: none"> • Never having wanted to be pregnant • Wanting to be pregnant later
Johnson et al., 2003	QN	USA: Washington DC, 14 antenatal care facilities, including hospitals, community-based clinics, private practices	African American women	Antenatal care	<ul style="list-style-type: none"> • Age 20–29 • Age >= 30 years 	<p>Barriers:</p> <ul style="list-style-type: none"> • Considering abortion • Having had a previous abortion • No money to pay for ANC • No motivation to learn how to protect one's health • Unemployment <p>Facilitators:</p> <ul style="list-style-type: none"> • Not considering abortion • No previous abortions • Receiving help to pay for transportation • Motivation to learn how to protect health • Employed outside of home
Kapaya et al., 2015	QN	UK: Sheffield, Jessop Wing Hospital	Maternity database records: women giving birth 2002–2010; and prospective survey 2012–2013	Antenatal care	<ul style="list-style-type: none"> • Teenage pregnancy • Being unmarried 	<p>Barriers:</p> <ul style="list-style-type: none"> • High Index of Multiple Deprivation (encompassing income, health and disability, employment, barriers to housing and other services, crime, living environment and education, skills and training) • Unemployment, woman • Unemployment, partner • High parity <p>Facilitator:</p> <ul style="list-style-type: none"> • Having strong emotions when speaking or thinking about their baby
Magriples et al., 2008	QN	USA: Yale-associated clinic, New Haven, CT	Women enrolled in an RCT	Antenatal care	<ul style="list-style-type: none"> • African American • White/Latina/other 	<p>Barriers:</p> <ul style="list-style-type: none"> • Having smoked Marijuana in the past year • Low prenatal care knowledge • Nulliparity <p>Facilitators:</p> <ul style="list-style-type: none"> • Feeling unprepared to care for a child (associated with excessive utilisation) • High self-esteem (associated with excessive utilisation) • High symptom distress

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Makowharemahihi et al., 2014	QL	New Zealand: Wellington, Hawkes Bay	Young Maori women aged 20 or younger	<ul style="list-style-type: none"> • Antenatal care • Pregnancy testing 	<ul style="list-style-type: none"> • Maori ethnicity • Aged 14–20 years 	<p>Barriers:</p> <ul style="list-style-type: none"> • Care providers not proactive about providing information or helping to find a midwife • Dependence on midwife to return call • Foreseeing healthcare provider being negative towards them • Lack of adequate information about process of finding lead maternity carer • Not recognizing pregnancy • Relying on pre-existing lists of midwives to find lead maternity carer • Transitioning to a lead maternity carer • Unhelpful lists of midwives because they are all unavailable <p>Facilitators:</p> <ul style="list-style-type: none"> • Availability of youth-specific health services (e.g. school based, community-based youth health services) • Being long-term users of youth health services • Good support networks from friends or family • GP or primary care nurse providing additional antenatal support, e.g. ascertaining circumstances and needs of women • Having established relationships with doctors and nurses
Martin et al., 2007	QN	USA: 46 states, District of Columbia	Early Childhood Longitudinal Study-Birth Cohort, families of children born in 2001 to mothers aged 15 and above	Antenatal care	<ul style="list-style-type: none"> • Asian ethnicity • Hispanic ethnicity 	<p>Barriers:</p> <ul style="list-style-type: none"> • Only father reports wanting pregnancy • Neither parent reports wanting pregnancy • Cohabiting with biological father or not married <p>Facilitator:</p> <ul style="list-style-type: none"> • Father involvement in pregnancy
Masho et al., 2018	QN	USA: Virginia	Medicaid recipients	Postpartum care visit	<ul style="list-style-type: none"> • Black ethnicity • Other ethnicity 	<p>Barriers:</p> <ul style="list-style-type: none"> • Pregnancy complications • Tobacco use • No antenatal care <p>Facilitator:</p> <ul style="list-style-type: none"> • Location for majority of services: hospital (compared to private clinic) • Location for majority of services: Federally Qualified Health centre (compared to private clinic)
Morgan et al., 2018	QN	USA: MD	Maryland Pregnancy Risk Assessment Monitoring System (PRAMS) 2012–2013	Postpartum visit attendance	<ul style="list-style-type: none"> • Black, non-Hispanic • Hispanic • Aged < 20 years • Aged 20–24 years 	<p>Barriers:</p> <ul style="list-style-type: none"> • Infant not alive • Not receiving dental care 12 months before pregnancy <p>Facilitator:</p> <ul style="list-style-type: none"> • Working during pregnancy

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Reid et al., 2007	QL	Republic of Ireland	Traveller women who had experience of maternity care in the preceding 5 years	<ul style="list-style-type: none"> • Antenatal care • Postnatal care • Contraception 	<ul style="list-style-type: none"> • Traveller woman • Age: 19–42 	<p>Barriers:</p> <ul style="list-style-type: none"> • Cultural unacceptability of majority norm expectations: e.g. breastfeeding, husband participation, rooming in • Familism/collective identity which hinders women's autonomy and self-determination • Indirect discrimination from dysfunctional communication, information not being passed on to woman • Political/structural/direct discriminatory barriers, e.g. registration of Traveller women being refused by GPs • Religious beliefs • Socialisation of Travellers • Socioeconomic factors: poor housing, lack of public transport
Slaughter-Acey et al., 2013	QN	USA: Johns Hopkins Medical Institution main site or satellite clinics	African American women residing in Baltimore City	Antenatal care	<ul style="list-style-type: none"> • African American ethnicity • Age • Education • Marital status 	<p>Barriers:</p> <ul style="list-style-type: none"> • Denial of personal racism (slightly increased adjusted odds of no PC or PNC initiation at ≥ 7 months compared to reference category of ≤ 3 months) • Denial of group racism • Overall denial of racism <p>Facilitator:</p> <ul style="list-style-type: none"> • Denial of personal racism (slightly decreased adjusted odds of PNC initiation at 4–6 months compared to reference category of ≤ 3 months)
Sunil et al., 2010	QN	USA: San Antonio, TX, public health clinics	Low-income women	Antenatal care	Age 18–24 years	<p>Barriers:</p> <ul style="list-style-type: none"> • Experiencing financial barriers (problems with health insurance, problems having enough money to pay for PNC, problems getting help to pay for PNC) • Experiencing service barriers (not having transportation/childcare, having to wait too long for an appointment or in the waiting room) • Living alone • Experiencing personal barriers (e.g. being tired, under stress, depressed, sick, not feeling good about self) <p>Facilitators:</p> <ul style="list-style-type: none"> • Planned pregnancy • Being married

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Sword 2003, (continued)	QL	Canada: Ontario	Low-income women	Antenatal care, postnatal care	Age 20–40 years	<p>Barriers:</p> <p>Professionals' poor attitude:</p> <ul style="list-style-type: none"> • Being verbally insulting • Objectifying women rather than respecting them as people with genuine needs • Stereotyping women as being single mothers on welfare <p>Professionals' poor conduct of power:</p> <ul style="list-style-type: none"> • Failing to inform, withholding information • Assuming a role of authority (e.g. forbidding the mother to do things) • Discrediting women's knowledge • Use of unfamiliar terminology and causing anxiety <p>Professional's poor credibility:</p> <ul style="list-style-type: none"> • Healthcare professionals not conveying personal knowledge about pregnancy and childbirth • Interventions are perceived to be inappropriate or inadequate • Lack of experiential knowledge (e.g. never having experienced pregnancy) <p>Professionals' poor interaction style:</p> <ul style="list-style-type: none"> • Focused more on the task at hand than on the women • Being rude and abrupt <p>Professionals' poor relationship capacity:</p> <ul style="list-style-type: none"> • Lack of compassion • Disregarding problems, minimizing a woman's concerns • Insensitivity to woman's needs • Incapacity to form interpersonal relationships based on understanding women's experience <p>Lack of client-centeredness:</p> <ul style="list-style-type: none"> • Experiencing lack of control due to insensitivity of staff toward women • Feeling negatively judged by middle-class couples and feeling social dissonance • Inattentiveness to the circumstances of low-income women • Passive role assigned to women as mere recipients of care • Programmes that require regular attendance because of day-to-day challenges of many women • Programmes with predetermined content providing little opportunity to have immediate concerns addressed <p>Relevancy of content:</p> <ul style="list-style-type: none"> • Information provided irrelevant to women's needs • Information provided not adequate for women's needs • Information provided not reflecting women's reality • Lack of continuity of care in transition to postnatal period • Lack of opportunity to exchange experiential knowledge in prenatal classes

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
						<p>Other barriers:</p> <ul style="list-style-type: none"> • Lack of childcare • Transportation difficulties <p>Facilitators:</p> <p>Client-centeredness:</p> <ul style="list-style-type: none"> • Classes specifically for single women • Flexibility in attendance; being able to make decision to attend • Having a sense of belonging • Having an interactive, informal, non-controlling environment • Having the opportunity to have a say in program content <p>Professionals' attitude:</p> <ul style="list-style-type: none"> • Acknowledging women's personal context • Non-discriminatory attitude • Showing respect for women <p>Professionals' conduct of power:</p> <ul style="list-style-type: none"> • Readily offering information, presenting options, explaining things thoroughly • Non-authoritarian approach of provider, being treated as equals, women's point of view being listened to <p>Professionals' credibility:</p> <ul style="list-style-type: none"> • Conveying personal knowledge about pregnancy and childbirth <p>Professionals' interaction style:</p> <ul style="list-style-type: none"> • Conveying an interest in the women, being attentive to their needs by listening to concerns and addressing questions • Engaging style of interaction: e.g., having a sense of humour, being outgoing, being able to make people feel comfortable <p>Professionals' relationship capacity:</p> <ul style="list-style-type: none"> • Ability to connect interpersonally • Sensitivity to needs, expressing genuine concern <p>Relevancy of content:</p> <ul style="list-style-type: none"> • Comprehensiveness of programme content (e.g., classes, information given in care) • Content that has personal meaning to the women • Having information needs met (e.g. classes, information given in care) <p>Other facilitators:</p> <ul style="list-style-type: none"> • Belief in importance of ANC

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Teng et al., 2007	QL	Canada: Toronto	Recently immigrated women with depression; as reported by healthcare professionals	Postpartum depression services	Recent immigrant women	<p>Barriers:</p> <ul style="list-style-type: none"> • Being unable to find/afford a babysitter • Fear that disclosure of depressive symptoms will lead to loss of the baby to child welfare agencies • Feeling compelled to hide distress for fear of being alienated/breaking family harmony • Feeling pressure to make marriage work in arranged marriages • Having to get transportation to the appointment • Health and welfare providers making threats to women about taking baby away • Husband's mother as authority figure interfering with home visits • Lack of functional fluency in English • Lack of knowledge/understanding of postpartum depression • Lack of spousal support and validation: immigrant husband ignorant about PPD, may think it is not a legitimate problem • Needing to be a highly functional woman • Only small networks of family and friends available, dependence on husband's family • Process of getting care is complex and time consuming • Requiring knowledge of healthcare system and motivation • Seeking help outside of family is not encouraged for emotional distress • Stigma associated with depression, e.g., view of depression as form of madness <p>Facilitators:</p> <ul style="list-style-type: none"> • Availability of a translator • Having a healthcare professional from a different culture; may make a woman feel less judged • Woman having confidence, being assertive

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Table 2 (continued)

Study	Design	Setting	Participants/Sample	Healthcare Service	Demographic Variables	Barriers/Facilitators
Thiel de Bocanegra et al., 2017	QN	USA: California	Administrative records data from women aged 15–44 receiving Medi-Cal benefits	<ul style="list-style-type: none"> • Postpartum contraception • Postpartum care 	<ul style="list-style-type: none"> • Asian/pacific islander ethnicity • Black ethnicity Latina ethnicity • Other ethnicity • Maternal age 15–19 years • Maternal age 30–39 years • Maternal age 40–44 years • Other primary language (not English) • Spanish primary language 	<p>Barriers:</p> <ul style="list-style-type: none"> • Caesarean delivery method • Ever having resided in a primary care shortage area
Weir et al., 2011	QN	USA: Massachusetts	Healthcare Effectiveness Data and Information Set (HEDIS) 2007 data on Medicaid insured women	<ul style="list-style-type: none"> • Postpartum care • Antenatal care 	<ul style="list-style-type: none"> • Maternal age 14–19 years • Black ethnicity • Unknown ethnicity 	<p>Facilitators:</p> <ul style="list-style-type: none"> • Ambulatory office visits • Days of insurance coverage • OB/GYN as provider type • Higher overall illness burden <p>Barriers:</p> <ul style="list-style-type: none"> • Having other children in household aged <= 14 years • Disability • Substance abuse
York et al., 1999 (continued)	QN	USA: large metropolitan hospital in the East Coast	Low-income urban African American women	Antenatal care	<ul style="list-style-type: none"> • Maternal age • Marital status 	<p>Facilitators:</p> <ul style="list-style-type: none"> • Having an additional year of education (high school level) • Having fewer children • Planned pregnancy <p>Barriers:</p> <ul style="list-style-type: none"> • Difficulty scheduling appointments • Dislike of doctors or clinics • Lack of childcare • Lack of transportation • Not knowing where to go • Personal problems

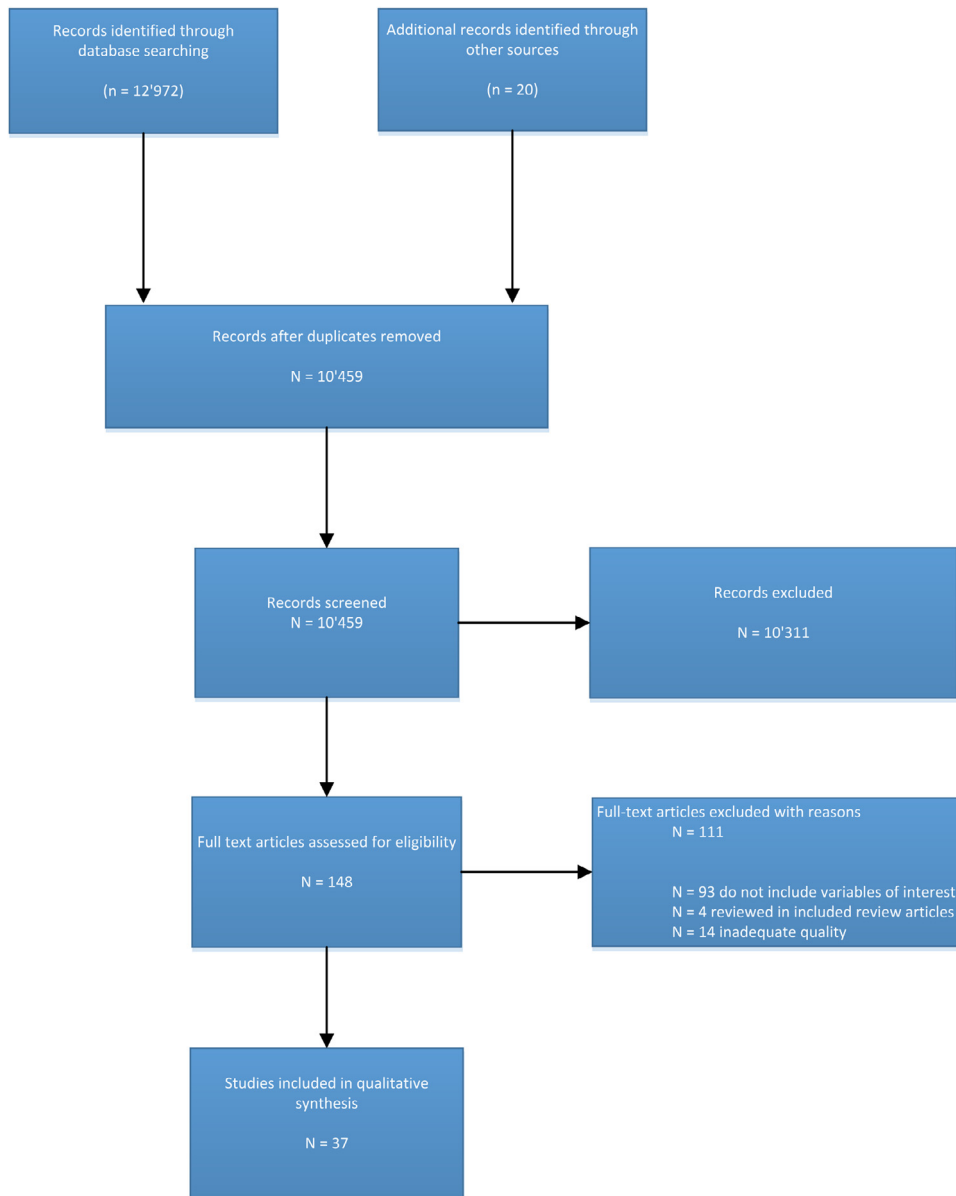


Fig. 2. Study search and selection.

such as not attending regular visits at maternal and child health clinics and not getting immunizations, which puts the child at risk of illness (Daoud et al., 2012). Distrust of the healthcare system may be associated with previous negative experiences and interfere with ANC attendance (Heaman et al., 2015). Distrust of the provider may also arise when a woman fears that her baby might be taken away by social services, which may make a woman feel emotionally and physically unsafe (Downe et al., 2009).

Ambivalence toward ANC

Ambivalence and indifference toward ANC have been linked with a reluctance to engage with ANC (Downe et al., 2009). Similarly, when women see no benefit in ANC or maternity care (Downe et al., 2009; Higginbottom et al., 2014), believe that it serves no purpose (Gonthier et al., 2017), see it as unimportant or not a priority (Heaman et al., 2015), or believe that they do not need it (Heaman et al., 2014) it may interfere with ANC appointments (Heaman et al., 2015) and be associated with higher odds of inadequate ANC (Gonthier et al., 2017; Heaman et al., 2014). Postnatal check and cervical screening was found to be very poor

among Traveller women, which may be attributable to their belief that preventive interventions are unimportant and embarrassing (Reid and Taylor, 2007).

Sociocultural factors

Sociocultural factors account for a large part of the variance of inadequate ANC utilization of migrants compared to native women (Boerleider et al., 2015).

Culture may impose barriers that impede access to care (Balaam et al., 2013), such as difficulties in comprehending information (Higginbottom et al., 2015). Culture may also present difficulties in interacting with health professionals, such as when professionals do not understand customs of women that are incongruent with biomedical care (Higginbottom et al., 2014). Among professionals, lack of cultural sensitivity toward immigrant mothers may reduce healthcare utilisation (Higginbottom et al., 2015).

Availability and accommodation (3a)

Availability and accommodation relate to conditions that allow a provider to be physically reached in a timely manner and with

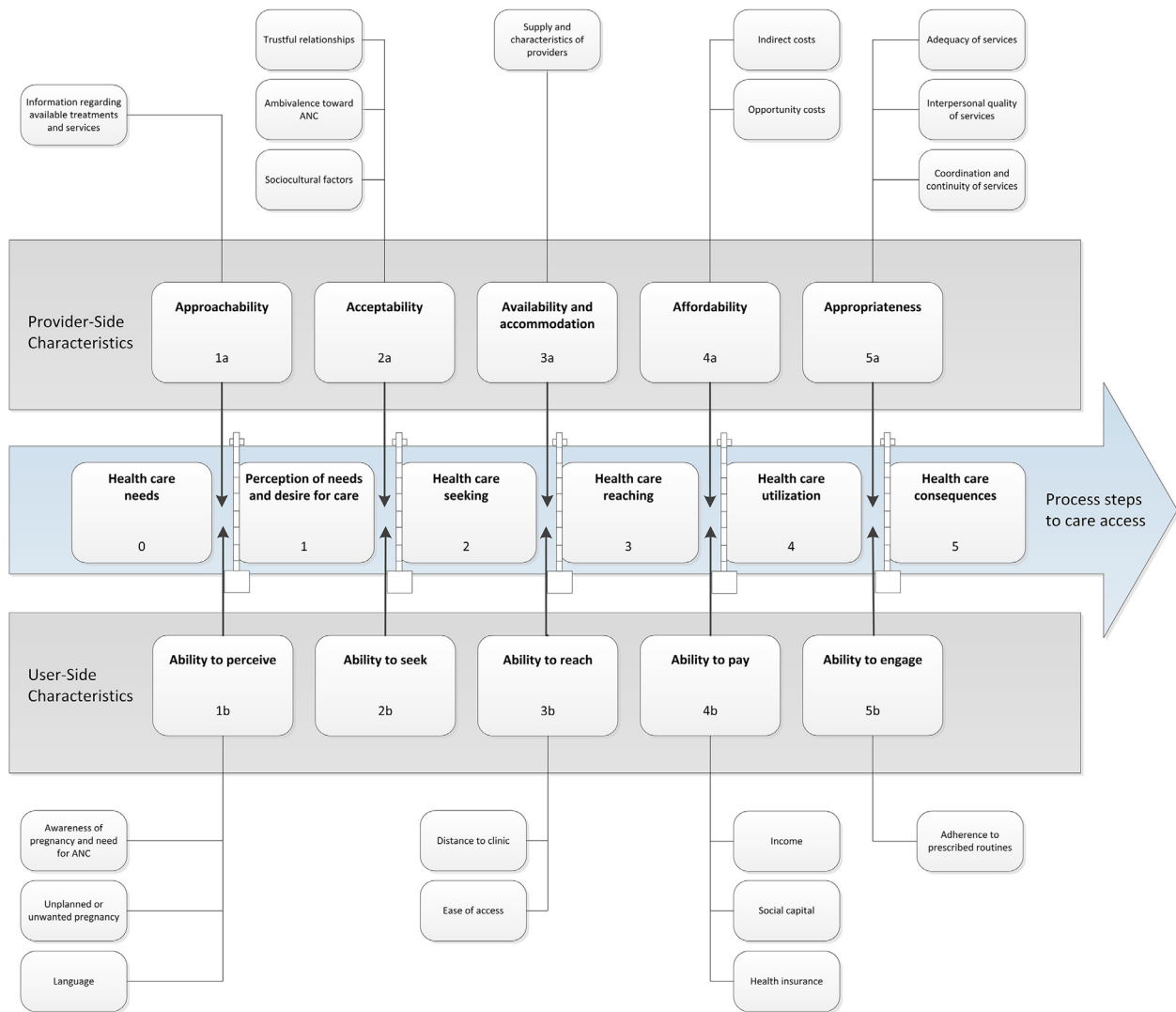


Fig. 3. Conceptual model of health care access with domains of barriers and facilitators of maternal healthcare emerging from the literature (adapted from Levesque et al., 2013).

sufficient resources to provide care. We associate with it with one domain in the literature: supply and characteristics of providers.

Supply and characteristics of providers

A greater supply of OB/GYNs in an area was almost consistently associated with increased odds of early and adequate ANC (Adams et al., 2005). Having a private clinic as a usual source of care was almost consistently associated with early and adequate ANC (ibid.). Masho et al. (2018) have contradictory findings showing that when the majority of services are offered in hospitals or government funded health centres, odds of postpartum visit attendance are increased compared to private clinics. Having a teaching hospital in the county almost consistently decreased the odds of early and adequate ANC (Adams et al., 2005). Being in a central city area had no significant effect on utilisation after accounting for the greater supply of physicians (ibid.). Being in a rural compared to an urban location was associated with lower odds of late ANC initiation² (Epstein et al., 2009). Having a larger supply of foreign med-

² Late initiation of ANC is most commonly defined based on Kotelchuck’s (1994) index, that is, having attended the first care visit after the first trimester (>12 weeks). Other definitions of late initiation in the included studies are as follows: >= 12 weeks (Reid et al. 2007), > 13 weeks (Daniels et al. 2006; Hulseley et al. 2000),

ical graduates increased odds of early and adequate ANC for Hispanics in Florida (Adams et al., 2005). The availability of pregnancy testing in the form of school or community-based health services is an important facilitator of early confirmation of pregnancy for women under 20 (Makowharemahihhi et al., 2014).

Provider characteristics may also impact utilisation. Client-centeredness, such as having antenatal classes specifically for single women may increase attendance (Sword, 2003). When maternity services are not adapted to migrant women, it may hinder attendance of maternity care (Balaam et al., 2013). When professionals feel constrained by time, staff, and other resource shortages, perinatal health care may suffer and only more moderate to severe cases may be treated (Edge, 2010).

Affordability (4a)

Affordability relates to prices of services and the capacity of people to pay for them. We associate affordability with two domains: indirect costs and opportunity costs.

>=18 weeks (Alderliesten et al. 2007), >20 weeks (Johnson et al. 2003; Kapaya et al. 2015).

Table 3
Associations between barrier/facilitator domain and provider- and user-side characteristics.

Process Step	Barrier/Facilitator Domain	Provider-Side Characteristics					User-Side Characteristics				
		Approachability	Acceptability	Availability and Accommodation	Affordability	Appropriateness	Ability to Perceive	Ability to Seek	Ability to Reach	Ability to Pay	Ability to engage
Step 1: Perception of needs and desire for care	Information regarding available treatments and services	5									
	Awareness of pregnancy and need for ANC						7				
	Unplanned or unwanted pregnancy						6				
	Language						8				
Step 2: Healthcare seeking	Trustful relationships		8								
	Ambivalence toward ANC		6								
	Sociocultural factors		4								
Step 3: Healthcare reaching	Supply and characteristics of providers			7							
	Distance to clinic							5			
	Ease of access							14			
Step 4: Healthcare utilisation	Indirect costs				7						
	Opportunity costs				2						
	Income								15		
	Social capital								10		
Step 5: Healthcare consequences	Health insurance								4		
	Adequacy of services						5				
	Interpersonal quality of services						12				
	Coordination and continuity of services						4				
	Adherence to prescribed routines									11	

Note: Figures in cells correspond to the number of studies in the respective domain.

Indirect costs

Indirect costs are associated with not having childcare or having difficulty affording or obtaining childcare, which may interfere with attending ANC appointments (Heaman et al., 2015; Reid and Taylor, 2007; Sword, 2003), prenatal classes (Higginbottom et al., 2015), and postpartum depression care (Teng et al., 2007). They are also associated with late initiation of ANC (Sunil et al., 2010) and higher odds of inadequate ANC (Heaman et al., 2014; York et al., 1999). Receiving assistance with childcare may encourage ANC attendance (Heaman et al., 2015) and is associated with higher odds of adequate ANC (Heaman et al., 2014).

Opportunity costs

We found links to opportunity costs in the finding that being self-employed was associated with late booking of ANC (Cresswell et al., 2013). Relatedly, the inability to take time off work increased the odds of inadequate ANC (Heaman et al., 2014).

Appropriateness (5a)

Appropriateness relates to the fit between a woman's needs and the service offered. We associate appropriateness (5a) with three domains: a) adequacy, b) interpersonal quality, and c) coordination and continuity of services.

Adequacy of services

We found obstetric history to be linked to the adequacy of services. Women who had experienced pregnancy-associated problems felt a greater urgency to seek consultations earlier (Reid and Taylor, 2007). Likewise, high symptom distress decreased odds of inadequate ANC utilisation (Magriples et al., 2008). Overall illness-burden increased odds of having timely and ongoing ANC (Weir et al., 2011). Pregnancy complications (Masho et al., 2018) and chronic conditions (Bryant et al., 2006) are associated with higher odds of postpartum visit attendance.

Interpersonal quality of services

The quality of communication between woman and provider can act as a barrier or facilitator to ANC (Bennett et al., 2006). Poor communication such as not talking to the woman or not answering questions (Downe et al., 2009), failing to provide or withholding information (Sword, 2003), providing unhelpful or frightening advice (Balaam et al., 2013), not receiving appropriate or understandable information (Higginbottom et al., 2015; Reid and Taylor, 2007) may make women less inclined to attend future appointments (Downe et al., 2009). Good communication that involves providers offering individualized (Balaam et al., 2013) and understandable information (Bennett et al., 2006) as well as thorough explanations (Sword, 2003) may serve as facilitators. Feeling unable to ask questions (Balaam et al., 2013; Downe et al., 2009; Heaman et al., 2014), feeling that staff do not want to be bothered (Downe et al., 2009; Reid and Taylor, 2007), and feeling rushed (Downe et al., 2009; Higginbottom et al., 2015) are barriers that may intimidate women (Reid and Taylor, 2007), make them less willing to state their needs (Balaam et al., 2013) and possibly avoid future encounters with maternity services (Downe et al., 2009).

Disrespectful providers who are harsh, insensitive, judgmental (Downe et al., 2009; Heaman et al., 2015), rude (Downe et al., 2009; Heaman et al., 2015; Sword, 2003), verbally abusive (Sword, 2003), insulting (Higginbottom et al., 2015), threatening (Teng et al., 2007), or show hostile or patriarchal attitudes (Balaam et al., 2013) may create barriers to service utilisation (Sword, 2003) and discourage ANC attendance in future pregnancies (Downe et al., 2009). Being treated with respect and as an equal and feeling valued may increase the likelihood of service utilisation (Sword, 2003). Discrimination may discourage ANC

attendance (Daniels et al., 2006; Downe et al., 2009). Experiencing prejudice may make women reluctant to access services (Reid and Taylor, 2007). A counter-intuitive finding was reported by Slaughter-Acey et al. (2013) that African American women who denied experiencing racism were more likely to have late or no ANC. They suggest that the denial of racism is indicative of psychological dissonance processes which help to maintain the belief in a fair world.

Having professionals who are empathetic, respectful, interested, and kind was found to facilitate healthcare utilisation (Balaam et al., 2013; Sword, 2003). When professionals are too task-orientated (Downe et al., 2009) and minimize the concerns of women (Downe et al., 2009; Sword, 2003), it can discourage future utilisation of care. Professionals' relationship capacity was found to be critical (Sword, 2003). Investing in a good relationship can encourage ANC attendance (Heaman et al., 2015), while a lack of compassion, insensitivity (Sword, 2003) and lack of genuine interest in the woman (Higginbottom et al., 2015) is a barrier to care. Practical support such as receiving reminders was found to positively impact PPV attendance (Bryant et al., 2006).

Coordination and continuity of services

Lack of continuity of care in the transition to the postnatal period may decrease the likelihood that a woman utilises postnatal care (Sword, 2003). Negative comments or attitudes by professionals may dissuade women from continuing to seek ANC (Daniels et al., 2006). Continuity of care may be supported by good communication between woman and clinician (Bennett et al., 2006). Furthermore, a GP or primary care nurse who tries to understand a woman's needs helps to ensure continuous maternity care (Makowharemahihi et al., 2014).

User-Side characteristics that influence access

Ability to perceive (1b)

The ability to perceive is related to health literacy and beliefs surrounding health. We associate three domains with the ability to perceive (1b): 1) awareness of pregnancy and need for ANC, 2) unplanned or unwanted pregnancy, and 3) language.

Awareness of pregnancy and need for ANC

Health literacy was not associated with timely initiation of ANC or adequacy of ANC (Bennett et al., 2006). However, being knowledgeable of the signs of pregnancy appears to be associated with early initiation, while a lack of knowledge appears to be associated with late initiation (Daniels et al., 2006). Relatedly, unawareness of being pregnant proved a barrier (Higginbottom et al., 2014) associated with late uptake of ANC (Braveman et al., 2000; Makowharemahihi et al., 2014). Low knowledge of ANC was associated with higher odds of late ANC initiation (Braveman et al., 2000) and inadequate ANC utilisation (Magriples et al., 2008). Health beliefs such as associating GP services with curative rather than preventive care may mislead women to postpone their first care visit until a problem arises (Reid and Taylor, 2007). In addition, the false belief that ANC may not be important to the current pregnancy can lead to late ANC (Daniels et al., 2006).

Unplanned or unwanted pregnancy

Unplanned pregnancies were associated with greater odds of late initiation and inadequate ANC (Alderliesten et al., 2007; Boerleider et al., 2015; Braveman et al., 2000; Gonthier et al., 2017; Heaman et al., 2014; Humbert et al., 2011). Odds of inadequate ANC were especially high for women with social deprivation who had unplanned and unwanted pregnancies (Boerleider et al., 2015).

Language

Inadequate language skills have been associated with the inability to use services (Higginbottom et al., 2014). Lack of language proficiency is a barrier to access, as it is needed to identify how to get information (Teng et al., 2007). Not having the majority language as primary language is linked to lower odds of receiving contraception and postpartum care (Thiel de Bocanegra et al., 2017). Language barriers have been linked to non-attendance of prenatal classes (Higginbottom et al., 2015), impeded access to care (Balaam et al., 2013), inadequate ANC utilisation (Gonthier et al., 2017), lower odds of postpartum visit (PPV) attendance (Bryant et al., 2006), forgoing infant healthcare (Daoud et al., 2012), and the inability to make appointments (Higginbottom et al., 2014).

Ability to seek (2b)

The ability to seek care (2b) is related to personal autonomy, knowledge about available options, and the freedom to obtain care. We could not associate a domain with the ability to seek.

Ability to reach (3b)

The ability to reach is related to mobility and the possibility of finding time to access care. We associate two domains with women's ability to reach (3b): distance to clinic and ease of access.

Distance to clinic

A long distance from home to the clinic was linked to reduced utilisation of maternity care (Higginbottom et al., 2014), issues with attending ANC appointments (Heaman et al., 2015), and inadequate ANC (Cook et al., 1999). Having ever resided in a primary care shortage area was associated with lower odds of receiving postpartum care (Thiel de Bocanegra et al., 2017), whereas close proximity may encourage ANC attendance (Heaman et al., 2015).

Ease of access

Long waiting periods, the inability to get an appointment and having an appointment cancelled are associated with increased odds of inadequate ANC (Cook et al., 1999; Heaman et al., 2014, 2015) and may interfere with ANC attendance (Daniels et al., 2006; Heaman et al., 2015; Reid and Taylor, 2007) and keeping infant care appointments (Daoud et al., 2012). Ease of access to a GP may impact the timing of the initial consultation (Reid and Taylor, 2007). When women are able to see professionals without having to make an appointment, it may facilitate healthcare utilisation (Balaam et al., 2013). When caregivers are perceived to be too busy or when appointments are short and rushed, it may discourage women from attending ANC (Heaman et al., 2015). Transportation problems are a frequent barrier (Johnson et al., 2003) linked to untimely initiation of ANC (Braveman et al., 2000; Epstein et al., 2009; Sunil et al., 2010), inadequate ANC (Heaman et al., 2014, 2015; Reid and Taylor, 2007; Sword, 2003; York et al., 1999), forgoing infant healthcare (Daoud et al., 2012) and PPV (Teng et al., 2007).

Ability to pay (4b)

The ability to pay relates to "the capacity to generate economic resources - through income, savings, borrowing or loans - to pay for health care services without catastrophic expenditure of resources required for basic necessities (e.g. sale of home)" (Levesque et al., 2013, p. 6). Potential associated barriers and facilitators were: 1) health insurance, 2) income (which includes unemployment, financial difficulties, and homelessness), and 3) social capital (which includes support, being unmarried or single, and personal or family problems).

Health insurance

Lacking insurance is associated with inadequate utilisation of ANC (Gonthier et al., 2017; Higginbottom et al., 2015), whereas having had insurance coverage for the past 180–279 days was associated with higher odds of having ongoing ANC (Weir et al., 2011). Women also complained about having to sign up for Medicaid first in order to receive ANC (Daniels et al., 2006), indicating a potential barrier.

Income

A woman's unemployment is regarded as a barrier to healthcare utilisation (Higginbottom et al., 2014) associated with late ANC initiation (Hulsey et al., 2000; Kapaya et al., 2015) and inadequate ANC (Heaman et al., 2014). Unemployment of a woman's partner is also associated with late ANC initiation (Kapaya et al., 2015). Being employed is associated with higher odds of early ANC initiation (Johnson et al., 2003), lower odds of inadequate ANC (Heaman et al., 2005), and lower odds of PPV non-attendance (Morgan et al., 2018).

Financial difficulties have been associated with the inability to pay for medications, immunizations, and to afford healthcare for women's infants (Daoud et al., 2012). They may interfere with attending ANC (Heaman et al., 2015) and be associated with lower odds of early ANC initiation (Johnson et al., 2003), late initiation of ANC (Epstein et al., 2009), and may lead women to struggle with continuity of care (Balaam et al., 2013). In contrast, Sunil et al. (Sunil et al., 2010) report that financial barriers do not have an impact on initiation of ANC. Another study showed that having financial support increased the odds of adequate ANC (Heaman et al., 2014).

Homelessness (Heaman et al., 2014), living in a temporary accommodation (Cresswell et al., 2013; Higginbottom et al., 2014), and poor or insecure housing conditions (Gonthier et al., 2017) are associated with poor utilisation of ANC or maternity care. Having several moves during pregnancy is also associated with a higher odds of inadequate ANC (Heaman et al., 2014) and lower odds of attending PPVs (Bryant et al., 2006).

Social capital

Low partner support has been linked with inadequate ANC (Heaman et al., 2005), attending fewer antenatal appointments (Reid and Taylor, 2007) and not seeking help for depression (Teng et al., 2007). On the other hand, interviewed women stated that if their partner attended the ANC visit with them, they would go as well (Daniels et al., 2006). Martin et al. (2007) also found partner involvement in pregnancy to increase the odds ANC initiation within the first trimester.

Social isolation (Gonthier et al., 2017), having few links within the community (Higginbottom et al., 2014) and inadequate support networks (Higginbottom et al., 2014; Teng et al., 2007) were identified as barriers to maternity care, whereas good support networks of friends or family members may encourage early uptake of ANC (Teng et al., 2007). Social support may be a key factor in accessing maternity care (Higginbottom et al., 2015) and its absence may interfere with ANC attendance (Heaman et al., 2015). Similarly, having emotional support increases the odds of adequate ANC (Heaman et al., 2014), while lack of encouragement within the family is associated with not seeking care for postpartum depression (Teng et al., 2007).

Ability to engage (5b)

The ability to engage relates to a woman's involvement in decision-making surrounding her treatment and her adherence to treatment plans. We associate the ability to engage (5b) with factors related to one domain: adherence to prescribed routines.

Adherence to prescribed routines

A woman's ability to adhere to prescribed routines may be impacted her life circumstances. These include parity and substance use.

Nulliparity may not adversely impact ANC initiation (Cresswell et al., 2013) or be associated with lower odds of inadequate ANC utilisation (Magriples et al., 2008). Multiparity, however, negatively impacts utilisation and decreases the odds of having prenatal care and postpartum care (Weir et al., 2011) and is associated with late ANC (Braveman et al., 2000; Cresswell et al., 2013; Daniels et al., 2006; Heaman et al., 2014; Hulsey et al., 2000; Kapaya et al., 2015) and inadequate ANC (Heaman et al., 2014). Multiparity may also decrease odds of having postnatal care (Reid and Taylor, 2007; Weir et al., 2011). These findings are confirmed by York et al. (1999) who also found that having fewer children is associated with having adequate ANC.

Substance abuse was found to be associated with lower odds of having timely ANC, ongoing ANC and PP care visits (Weir et al., 2011). Tobacco use was linked with lower odds of PP visit attendance (Masho et al., 2018). Marijuana use was linked with higher odds of inadequate ANC utilisation (Magriples et al., 2008).

Discussion

Our theory-guided systematic review is the first to explicitly employ a conceptual framework of healthcare access (Levesque et al., 2013) (s. Fig. 3) to the synthesis of empirical findings on healthcare utilisation of women in the perinatal period with social disadvantage. We mapped 19 domains found in a systematic literature review to an associated provider-side or user-side characteristic that together define the process of accessing healthcare. In applying the model, we elaborated which characteristics of provider and user may pose barriers or serve as facilitators to maternity care utilisation.

A suitable framework for analysis of maternity care access

The mapping of empirical evidence on barrier and facilitator domains to the conceptual model was feasible and indicates a good fit between model and data. The domains illustrate areas that may pose difficulties to maternity care access. They can be used to evaluate how well-suited healthcare services are to the needs of women. Our findings demonstrate the importance of considering the interplay between provider and user characteristics. Development organizations have observed this reciprocal relationship between healthcare provision and experience of maternity care, noting that it is essential to understand women's needs and perspective as they influence women's decision to seek care (Tunçalp et al., 2015).

User-side characteristics

Our review indicates three clusters of domains relating to user-side characteristics: awareness of pregnancy, whether the pregnancy was planned, and financial/material constraints. Late pregnancy awareness has been associated with various indicators of socioeconomic disadvantage and late ANC initiation (Branum and Ahrens, 2017), indicating that raising awareness of the signs of pregnancy contributes to earlier ANC. The finding that unplanned pregnancies can delay ANC points to family planning and contraception as a means of reducing unplanned pregnancies (Tsui et al., 2010). The availability of affordable insurance has been shown to improve access to care for low-income women (Daw and Sommers, 2019). Likewise, provision of free transport to check-ups can lower barriers to access (Cignacco et al., 2018).

Provider-side characteristics

Provider-side characteristics encompass structural barriers, which may provide feasible targets for healthcare organisations to affect changes in healthcare utilisation (Schmidt et al., 2018). In our data, women with social disadvantage were often ambivalent towards maternal care provision, resulting in reduced utilisation. Ambivalence may result from a poor relationship between caregiver and woman and may be related to providers' characteristics, such as provider behaviour (Dang et al., 2017). Trustful relationships and a woman's experience of care are recognised as key to successful care (Chandra et al., 2018; Higginbottom et al., 2020; Howell and Ahmed, 2019; Origlia et al., 2017; Petrocchi et al., 2019; Tunçalp et al., 2015; WHO, 2016). Despite the WHO's recommendation to develop measures to support a positive pregnancy experience, they appear insufficient (Lattof et al., 2019).

Disparities in utilization may also be improved by lowering the hurdles to access care. One patient-outreach programme established in Switzerland in 2015 offers relief to families with social disadvantage (Kurth et al., 2016; Staehelin et al., 2013). Another programme in Germany operates walk-in clinics for asylum seekers, designed to reduce unnecessary hospitalisations (Lichtl and Bozorgmehr, 2019). Despite such programmes, there appears to be a lack of new investment, which may be attributable to the difficulty in demonstrating a programme's effect. For instance, the walk-in clinic programme for asylum-seekers in Germany (Lichtl and Bozorgmehr, 2019) could not show any effect in reducing unnecessary hospitalisations after confounds were controlled. In Switzerland, the fragmented nature of follow-up care (Kurth et al., 2016), which is financed and overseen by different regional governments, makes it difficult to assess its impact.

Strengths and limitations

This review's strength lies in its application of a conceptual framework to synthesise findings spanning 20 years of healthcare access literature and mapping domains of barriers and facilitators to characteristics of providers and users. Its limitations lie in conceptual ambiguities inherent in the model, which requires further clarification to demarcate provider and user characteristics. Moreover, further conceptual work is needed to refine how provider- and user-side characteristics relate to barriers and facilitators.

Conclusions

Our theory-guided systematic review using the Levesque et al. (2013) framework suggests an interaction between the characteristics of users and providers which can hinder or enable access to healthcare. This implies that user-side characteristics that may pose barriers to access, such as lack of awareness of pregnancy, might be offset by provider-side characteristics that lower barriers to access, such as patient-outreach programmes.

Ethical approval

Not applicable

Declaration of Competing Interest

None declared

Funding sources

No external funding was provided for this study. Work on this manuscript was supported by Bern University of Applied Sciences.

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