

Chapter 7

**Clients' psychosocial communication during prenatal counseling
for anomaly screening: how is it related to midwives'
communication and client-directed gaze?**

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Under review.

ABSTRACT

Objectives This study focuses on facilitation of clients' psychosocial communication during prenatal counseling for fetal anomaly screening. We assessed how psychosocial communication by clients is related to midwives' psychosocial and affective communication, client-directed gaze and counseling duration.

Methods During 184 videotaped prenatal counseling consultations with 20 Dutch midwives, verbal psychosocial and affective behavior was measured by the Roter Interaction Analysis System (RIAS). We rated the duration of client-directed gaze. We performed multilevel analyses to assess the relation between clients' psychosocial communication and midwives' psychosocial and affective communication, client-directed gaze and counseling duration.

Results Clients' psychosocial communication was higher if midwives asked more psychosocial questions and showed more affective behavior ($\beta=0.90$; CI: 0.45 – 1.35; $p < 0.00$ and $\beta=1.32$; CI: 0.18 – 2.47; $p=0.025$, respectively). Clients' psychosocial communication was not related to midwives' client-directed gaze. Additionally, psychosocial communication by clients was directly, positively related to the counseling duration ($\beta=0.59$; CI: 0.20 – 0.99; $p=0.004$).

Conclusions In addition to asking psychosocial questions, our study shows that midwives' affective behavior and counseling duration is likely to encourage client's psychosocial communication, known to be especially important for facilitating decision-making. In contrast with our expectations, midwives' client-directed gaze was not related with psychosocial communication of clients.

Highlights

- Client's psychosocial communication is likely to be encouraged by:
- midwives' affective behavior.
- Psychosocial communication of clients was **not** related with:
- midwives' client-directed gaze.

INTRODUCTION

As in many other countries, Dutch pregnant women are offered prenatal fetal anomaly screening for chromosomal syndromes, e.g. Down syndrome or structural anomalies, e.g. neural tube defects (Appendix A). An opt-in approach is used, to underline the fundamental right of parents to make an autonomous, informed decision whether to accept or decline prenatal anomaly screening [1,2]. However, expectant parents perceive this decision as difficult [3-5]. During the decision-making phase, parents simultaneously hope to be reassured by test results if they choose to opt for screening, and worry, because they might be confronted with an unfortunate test outcome or need to go on to more definitive diagnostic testing which carries iatrogenic consequences [3-5]. Therefore, pregnant women receive prenatal counseling to support them with the decision to have prenatal anomaly screening or not [2,6]. Such counseling comprises: *health education* about, for instance, the available anomaly tests and the anomalies that could be detected, and *decision-making support* by discussing for example clients' values and views on parenthood and disabled life (psychological issues), and social influences to opt or decline anomaly screening (social issues). In the Netherlands, for about 80% of the pregnancies, primary care midwives are the designated counselors for prenatal anomaly screening [7].

Given that preference-sensitive decisions need to be made, historically, genetic counseling has had much in common with Rogers' client-centered approach to psychotherapy, which is intended to facilitate an autonomous, informed decision using a non-directive counseling attitude and a non-persuasive client-centered communication style [1,8-14]. Within the client-centered approach a good client-counselor relationship is seen as an essential condition for having a dialogue in which the client feels safe enough to express psychosocial issues such as concerns, dilemmas and needs regarding the decision and its eventual consequences. So, a good *client-counselor relation* is seen as necessary to enable clients to participate in the conversation and therefore to attain autonomous, informed decision-making [14-18].

According to the theory of client-centered psychotherapy, building a good *client-counselor relation* is primarily established by nonverbal behavior, such as client-directed gaze and affective behavior [14]. Research into the role of gaze in healthcare encounters showed that care providers' client-directed gaze can stimulate the detection of clients' psychosocial concerns and also encourage clients to express these concerns [19-24]. Since discussing psychosocial concerns is seen as one of the most important prerequisites for *decision-making support*, nonverbal counseling skills, such as client-directed gaze, are thought to be essential for prenatal counseling for anomaly screening [15,18,25-27]. Affective communication, such as verbal attention, partnership statements and empathy, also enhances the client-counselor relationship and is positively associated with participation of clients for example in negotiations about treatment plans, participation in treatment and moral considerations. Thus affective

communication can also be seen as a prerequisite for *decision-making support* [16,17,28,29]. In addition, once a good client-counselor relationship is established, clients' participation may be facilitated by asking exploring, client-centered questions, which is another key of the client-centered psychotherapeutic process [14]. Within the context of counseling for prenatal anomaly screening, clients want their counselors to set psychosocial issues on the agenda [30-32]. Apparently, talking about psychosocial topics does not come easy; clients need to be invited by for instance psychosocial questions. These questions facilitate clients in giving personal meaning to the pros and cons of screening and are therefore essential during *decision-making support* [15,25].

In daily practice, however, providing *decision-making support* seems to be challenging for several reasons. A significant number of counselors do not fully subscribe to the *decision-making support* function of counseling [18,33,34]. Furthermore, because of a perceived lack of communication skills, many counselors feel incapable of providing *decision-making support* [18]. Midwife counselors in our earlier study, for instance, were more likely to address psychosocial issues by giving psychosocial information and asking rhetorical questions than by using open-ended questions. This might explain the relatively low contribution of clients to the counseling conversation and the largely unmet needs reported by clients regarding decision-support, such as being supported in making a personal decision, and in balancing the pros and cons [15,26,32]. Lastly, appropriate prenatal counseling takes time. This is acknowledged in Dutch healthcare policy by means of a separate fee for prenatal counseling [35]. In daily practice, however, counseling duration appears relatively short, on average 9 minutes, which is shorter than the allotted, billable time of around 30 minutes and may hinder a thorough discussion of clients' psychosocial issues and questions [26].

We hypothesize that talking about psychosocial topics does not come easy for clients but relies on prompting from the midwife. Furthermore, we assume that midwives' affective communication, the duration of counseling and midwives' client-directed gaze also help clients to discuss psychosocial topics. As such, gaze can be seen as a nonverbal counseling skill to facilitate *decision-making support*. The present study aims to examine to what extent psychosocial communication by clients, during prenatal counseling for anomaly screening is related to 1) midwives' psychosocial questions; 2) midwives' affective communication; 3) midwives' client-directed gaze; and 4) the duration of the counseling.

METHODS

This study is part of the DELIVER study, a multi-center, prospective dynamic cohort study investigating the quality and provision of primary midwifery care in the Netherlands [36]. The current study is part of a series of studies about counseling for prenatal anomaly tests, for which the design was approved by the Institutional Review Board and the Medical Ethical

Committee of the VU university Medical Centre, Amsterdam, Netherlands. In this series of studies we used different subsets of data from the same group of clients and midwives. Methods of the prenatal counseling for anomaly screening studies have been described in detail elsewhere [15,26] and- with regards to the current study- are briefly summarized here.

Participants

Midwives

For the DELIVER study, twenty midwifery care practices in the Netherlands were purposefully selected to include different-sized practices from all over the country [36]. Twenty midwives from six of these practices also participated in the video-observation study [37]. One practice offered prenatal counseling within a separate consultation, the others as part of the initial intake visit [26].

Clients

Clients of the current study were recruited between June 2010 and May 2011 and asked to participate in the study by the practice assistant or the midwife. Eligible clients were: a) clients new to counseling about prenatal anomaly tests for the current pregnancy; b) aged 18 years or older; and c) able to read Dutch or English. Background characteristics of non-responders were recorded by the practice assistant directly after their refusal. The clients who agreed to participate, were asked to complete a questionnaire booklet before and again just after their visit to the midwife [15]. Since client-directed gaze is interpreted differently among cultures we decided to only include native, Dutch clients in the current study [38,39].

Measures

The pre-counseling self-administered questionnaire contained items on background characteristics such as parity, age, ethnicity and familiarity with the midwife.

Psychosocial communication and affective communication

The prenatal counseling visit was video recorded with an unmanned camera, positioned to show the midwives' full face and clients from behind or from the side [37]. Verbal communication during counseling was measured using an adapted version [26] of the Roter Interaction Analysis System (RIAS) [40,41]. Clients' and midwives' utterances were coded separately. Because of the limited contribution to the conversation, partners were left out the analyses [26]. Utterances were seen as "the smallest unit of expression to which a meaningful code can be assigned, generally a complete thought" [18]. For clients, we computed one psychosocial variable 'clients' psychosocial communication' which comprises both asking psychosocial *questions* and sharing psychosocial *information*. For midwives three clusters of coding categories were used: a) affective communication, b) psychosocial (closed and

open-ended) *questions*, and c) psychosocial *information* and *counseling*. In conformity with previous studies [42,43] we used two clusters of affective communication comprising five codes: 1) Verbal attention: (a) empathy, (b) partnership statements, (c) legitimizes, and 2) Shows: (d) concern or (e) worry (Table 1).

Table 1 Content of the RIAS categories adapted for prenatal counseling for anomaly screening.

Variables current study	RIAS categories	Adapted RIAS categories	Examples
Clients			
Psychosocial communication	Psychosocial Questions (open- and closed ended)	Psychosocial Questions	'Why do other clients choose for prenatal screening?'
	Psychosocial Information giving	Psychosocial Information giving	'We choose to perform the risk assessment tests, because it is just a bit certainty we both want' 'We asked ourselves, what should we do with the results of the tests? Nothing! The baby is welcome anyway'
Midwives			
Affective communication	Empathy	Verbal attention	'That sounds like a dilemma, it must be difficult'
	Partnership statements, Legitimizes		'Let me know if I can do something for you to help you with this choice'
	Shows concern or worry	Shows concern or worry	'I hope, you'll feel better when...'
Psychosocial questions	Psychosocial (closed and open ended <i>questions</i>)	Psychosocial Questions	'What are you struggling with, while thinking about whether to screen or not?'
Psychosocial information	Psychosocial <i>Give Information</i>	Psychosocial <i>Give Information</i>	'Knowing too much, about the baby, can cause anxiety for some person'
	Counsel Psychosocial	Counsel Psychosocial	'It is important, that you realize in advance what you should do, with the results of the combination test (in case of an increased risk)'

Midwives' client-directed gaze

Client-directed gaze was measured as the time in minutes that the midwife looked directly into the clients' face for all videotapes in which the face of the midwife was in the picture for the full duration of the video recording. We calculated the percentage of client-directed gaze, by dividing the time a midwife looked at the client by the total duration of the counseling session * 100%. In line with other research, we used percentages of time rather than the absolute length of time spent to client-directed gaze during counseling [20,23,44].

Interrater reliability

Three coders used a computerized observation system that allows direct coding of the videos (OBSERVER:55). The inter-observer reliability for client-directed gaze was measured on a random sample of 10.3% of the included videotapes. The intraclass correlation coefficient (ICC, single measures) ranged from 0.64 to 0.92 [37]. The inter-observer reliability of the RIAS coding was measured on a random subsample of 9.7% of the videotapes [26]. Mean ICC was 0.67, which can be considered as substantial [46,47].

Data analysis

The subsample of videotapes that we used in this study had to meet three inclusion criteria: (1) to show the midwife clearly enough to code client-directed gaze; (2) to match with the data of the pre- and post-visit questionnaire, and (3) to show a recording with a client from Dutch origin. Descriptive statistics were used to describe the background characteristics of the participants.

The outcome variable 'clients' psychosocial communication' was normally distributed, thus we used multivariate multilevel linear regression analysis to examine how midwives' client-directed gaze, midwives' psychosocial and affective communication and the duration of the counseling were associated with the manifestation of clients' psychosocial communication. Using this approach we adjusted the results for clustering of clients within midwives and midwives within practices, due to the hierarchical structure of the data.

We used the following procedure: First, we ran a 'naïve' linear regression analysis of the relationship between the independent and dependent measures. We did the same for possible confounders, such as familiarity with the midwife, religion, age, level of education, parity and the duration of counseling, which we choose based on findings from our previous study [26]. In that study we found an independent and significant association between parity and the amount of *decision-making support* utterances (including psychosocial communication) and between age and religion on building a good *client-counselor relation* (including affective communication) [26]. Second, we used the likelihood ratio test to determine if data were clustered. If so, we examined on what level - 'midwife' alone, 'practice' alone or 'midwife and practice' - the use of a random intercept was the best approach. In this study, we found a random intercept for 'midwife' to be the best approach, because the likelihood ratio test significantly declined. Third, we used the likelihood ratio test to evaluate the necessity of a random slope for each variable in the model. In this data, we found the use of random slope not necessary, as the likelihood ratio-test did not significantly decline using this approach. We built the final association model for the outcome variable using a manual backward selection procedure. We present the results of the final model by means of the regression coefficients (β) and 95% confidence intervals (CI) in which $p \leq 0.05$ indicates significance [48]. We used SPSS 21.0 for the analysis.

RESULTS

We started the analysis process with all 269 videotaped counseling consultations. From these, we excluded videotapes that (1) could not be coded for client-directed gaze, because midwives' faces were not visible enough ($N=16$); (2) did not match with the data of the pre- and post-visit questionnaire, and/or (3) were of clients from non-Dutch origin ($N=69$), leaving 184 videotaped prenatal counseling consultations for our analyses. These 184 consultations represent 68% (184/269) of the videotapes coded with the RIAS [26,37]. Twenty midwives from six practices participated in this study; the total of midwives per practice ranged from one to five. Recordings per practice ranged from six to 52 and recordings per midwife ranged from three to sixteen. Prenatal counseling lasted on average 9.5 minutes ($SD=3.9$ minutes) ranging from 1.9 to 22.7 minutes.

Midwives' and clients' characteristics

As described in more detail elsewhere, midwives were on average 33 years of age, ranging from 23-54 years of age [26]. Participating clients were on average 29 years of age (range 20-40 years of age), 53% of the clients were non-religious. Seventy-four nulliparous women (46%) participated and 86 (54%) multiparae. Ninety clients (56%) completed at least vocational education. Fifty-three (33%) clients were familiar with the midwife who provided the counseling.

Verbal behavior: Midwives' psychosocial- and affective communication

Table 2 shows how frequently clients expressed utterances containing psychosocial information. Furthermore, this table shows how often affective communication, psychosocial *questions* and psychosocial *information* were provided by midwives. When looking more specifically into midwives' affective and psychosocial communication we found that utterances coded as affective communication were expressed on average one time per consultation and psychosocial *questions* were expressed on average 6 times per consultation. Utterances were mostly coded as giving psychosocial *information*, on average 25 utterances per consultation.

Nonverbal behavior: Midwives' client-directed gaze

Time spent on client-directed gaze varied between 29.7% and 96.6% (mean=70.3; median=70.5; $SD=13.1$). To get more insight into the relation between gaze and duration of counseling we classified the amount of gaze into two groups. The median percentage of client-directed gaze (70.5%) was used as the cut-off point to dichotomize participants into high and low client-directed gaze group. The high client-directed gaze group as well as the low client-directed gaze group comprised 92 participants. In the low client-directed gaze group the average duration of counseling was 9.8 minutes (range 1.9-22.7 minutes) and on average time spent in client-directed gaze was 59.6% (range 29.6-70.4%). In the high client-directed

gaze group counseling lasted on average 9.2 minutes (range 2.0-16.7 minutes) and the mean time spent in client-directed gaze was 80.9% (range 70.6-96.6%) (Table 2). There was no significant difference in mean visit length between visits with high and low gaze.

Table 2 Midwives' client-directed gaze and observed midwives' and clients' verbal behavior.

Behavior	All counseling (N=184)	Low gaze counseling (N=92)	High gaze counseling (N=92)
Nonverbal behavior	M(range) %	M(range) %	M(range) %
Client-directed gaze	70.3 (29.7- 96.6%)	59.6 (29.6- 70.4)	80.9 (70.6- 96.6)
Verbal behavior	M(range); SD	M(range); SD	M(range); SD
Clients' psychosocial talk	13.4 (1-46); 9.6	13.7 (1-46); 9.9	13.1 (1-45); 9.3
Midwives' Affective communication	0.6 (0-8); 1.1	0.5 (0-5); 1.1	0.7 (0-8); 1.2
Psychosocial questions	5.7 (0-22); 3.8	5.8 (0-22); 3.8	5.6 (0-19); 3.6
Psychosocial information	24.6 (0-76); 15.5	24.3 (1-76); 16.2	24.8 (0-62); 14.7

Clients' psychosocial communication

The univariate analyses showed no significant association between midwives' client-directed gaze and 'clients' psychosocial communication' ($\beta=0.02$; CI: -0.08 – 0.13; $p=0.65$). Furthermore, results showed that midwives' affective communication, psychosocial questions, the duration of counseling and client's parity were significantly associated with 'clients' psychosocial communication' when adjusted for the percentage of client-directed gaze, midwives' psychosocial information, clients' level of education, age, religion and familiarity with the midwife who provided the counseling (Table 3). So, clients communicated more about psychosocial issues the more midwives asked psychosocial questions ($\beta=0.90$; CI:0.45 – 1.35; $p=0.000$); expressed affective behaviour ($\beta=1.32$; CI:0.18 – 2.47; $p=0.025$) and the longer the counseling lasted ($\beta=0.59$; CI: 0.20 – 0.99; $p=0.004$). The clients expressed less 'psychosocial communication' when they were nulliparous compared to multiparous ($\beta=-3.83$; CI:-6.62 – -1.04; $p=0.007$).

Table 3 Associations between midwives' behavior and clients' psychosocial talk.

	Coefficient (β)*	95% CI	p-value
Intercept	4.03		
Psychosocial questions	0.90	0.45 – 1.35	0.000
Verbal affective behavior	1.32	0.18 – 2.47	0.025
Parity	-3.83	-6.62 – -1.04	0.007
Duration of counseling	0.59	0.20 – 0.99	0.004

CI = confidence interval.

* Adjusted for midwives' percentage of client-directed gaze and midwives' psychosocial information giving, clients' level of education, age, religion and familiarity with the midwife who provided the counseling.

DISCUSSION AND CONCLUSION

Discussion

This study aimed to examine the extent to which psychosocial communication by clients during prenatal counseling for anomaly screening was related to midwives' psychosocial questions, midwives' affective communication, midwives' client-directed gaze and the duration of the counseling. We found that the amount of 'clients' psychosocial communication' was positively related to the amount of midwives' verbal affective communication, midwives' psychosocial questions and the counseling duration. In addition, multiparous women used psychosocial communication less often than nulliparous women. In contrast to our expectations, client-directed gaze was not significantly associated with clients' psychosocial communication.

The midwives that we observed used a much higher percentage of client-directed gaze (mean 70%) compared to other studies (mean approximately 50%), which decreased the power to show any effect of client-directed gaze [49,20]. It is unclear why midwives in our study had high levels of client-directed gaze. It may be that midwives typically interact differently than other health care providers, or that during counseling they do not usually use computers for registration of medical data; an activity that has been shown to negatively relate to client-directed gaze [44]. Furthermore, in a review, Henry *et al.* (2012) [19] showed inconsistent associations between client-directed gaze and outcome measures in research of everyday clinical encounters. Within the context of counseling for prenatal anomaly screening, all clients are brought into a situation in which they have to consider psychosocial and moral issues [1,3,5,27]. The content of the counseling prompts psychosocial and moral issues inevitably and these issues are the core of the dialogue during *decision-making support*, which should be offered by midwives [4,15,50,51]. From other research, we know that clients want their midwives to put psychosocial issues on the agenda, because clients are reluctant to take the initiative and therefore might need more than non-verbal encouragement such as client-directed gaze [30-32].

The finding that midwives' psychosocial questions were related to clients' psychosocial communication, might suggest that clients need to be encouraged by questions from the midwife to talk about psychosocial issues. Clients' needs for encouragement to talk about psychosocial issues could be explained by the prenatal counseling setting. In five of the six practices, prenatal counseling for anomaly screening was provided at the end of the first midwifery visit of the pregnancy; the intake. This intake is primarily focused on taking a medical and obstetric history. Midwives act as medical experts, they set the agenda and consequently midwives' questions and information guide clients' contributions to the consultation [52]. However, when it comes to the *decision-making support* function of counseling, midwives should take into account that clients are the experts regarding their concerns, values and preferences about the decisions at hand. Therefore, the story of the client should guide

the midwife's additional exploring questions [52,53]. Clients may need to be encouraged to take on this new role of expert through psychosocial questions of their midwife. To prevent midwives from relying too heavily on psychosocial questions only, our results suggest that showing affective behavior, such as reflecting clients' feelings and deliberation might be a client-centered way of providing *decision-making support* [14].

A number of factors might explain our finding that clients' psychosocial communication was related to duration of counseling. The simple availability of additional time will provide more opportunity for clients' psychosocial communication. Alternatively, during longer consultations, midwives may have encouraged their clients more - by asking psychosocial questions and using affective communication- with the result that clients share more psychosocial issues and the consultation time lengthens. However, our results show that the duration of counseling and midwives' psychosocial questioning are both independently, positively associated with clients' psychosocial communication. This seems to suggest another mechanism that we were not able to identify, such as the possibility that longer counseling duration is a marker of a client characteristic – better ability to engage in psychosocial interactions- and not so much of midwife's interventions. Duration of counseling and asking psychosocial questions as well as showing affective behavior might have reinforced each other. Nevertheless, since clients' psychosocial communication is important to reach the goal of counseling for prenatal anomaly screening, we recommend midwives to take the time for counseling that is reserved for it by healthcare policy; in the Netherlands around 30 minutes per counseling consultation [35].

Although nonverbal behavior is considered to be an important clinician or counselor intervention, to our knowledge, this is the first study to investigate midwives' nonverbal communication in their relatively new role as prenatal screening counselor. Henry and colleagues (2012) [19] stated that until now research failed to consistently and significantly associate, for instance, client-directed gaze with the same set of outcome measures in real life clinician-patient encounters and further, that the use of statistical techniques, which correct for the mutual influences that account for psychosocial communication, would be helpful to build a consistent body of knowledge. In our study we did use multilevel linear regression analyses to correct for the mutual influences on our outcome variables. Furthermore, we conducted our study in a real-life context. Our results confirm the findings of a review conducted by Henry *et al.* (2012) [19] who concluded that client-directed gaze was not consistently associated with psychosocial communication of clients.

Our sample of midwives as counselors was representative for the Dutch midwifery population and we analyzed a relatively large number of videotapes representative for the Dutch, autochthonous, higher educated population of pregnant women [26]. However, the 20 midwives who participated in this study is a small proportion of the overall Dutch midwifery population; this limits the generalizability of our results. Even though our sample

was large for this type of study, we were limited by the sample in the way we analyzed the data. From our earlier study [26] we know that multi-parity was negatively associated with the number of utterances coded as *decision-making support*; parity seems to be an effect modifier. Our sample size was underpowered to permit us to analyze the data for nulliparous and multiparous women separately. As partners were in most of the cases present during counseling, they might have influence clients' psychosocial communication. Further research is needed to investigate the effect of the presence of partners on psychosocial communication of clients. We made no distinction between brief or sustained episodes of client-directed gaze, though the latter is found to be more strongly associated with clients' psychosocial communication than the first [20]. We also know that timed silences seem to encourage clients to express their concerns [54-56]. The way midwives use or do not use silences might have been a confounder for the relation between client-directed gaze and clients' psychosocial communication. Further research is needed to know how nonverbal communication together with verbal communication can improve participation of clients during *decision-making support*, including those from non-Dutch, non-Western origin, since they contributed on average 18% of all live births in the Netherlands up to circa 45% in the major cities [57,58].

Conclusions

In this quantitative study we analyzed 184 videotapes from 20 midwives of six practices across the Netherlands focused on prenatal counseling for anomaly screening. In addition to the number of psychosocial questions midwives used, clients' psychosocial communication was positively related to midwives' affective communication and duration of counseling. We found no relationship between clients' psychosocial communication and midwives' client-directed gaze. The positive relations we found might indicate that midwives can improve clients' psychosocial communication during *decision-making support* by taking additional time to provide prenatal counseling and showing affective communication in addition to asking psychosocial questions. However, our findings do not indicate causation, so it might be that women who are better at expressing themselves in the psychosocial arena will engage better, thus encouraging midwives to ask them more psychosocial questions resulting in longer sessions.

Practice implications

- To improve *decision-making support* and thus encourage clients to share their deliberations during prenatal counseling for anomaly screening, midwives might need to consider that for clients it seems to be helpful to take the advised time for counseling.
- Using affective communication in addition to asking psychosocial questions, can be useful to maintain a client-centered approach, which is known to be essential during *decision-making support*.

- Future research on counseling for prenatal anomaly screening should measure more aspects of nonverbal behavior, such as the use of silences and both brief and sustained client-directed gaze episodes. These nonverbal behaviors have to be linked to the content of the conversation at the time they are used. Such approach potentially provides insight into the pathways through which non-verbal communication and clients' psychosocial communication influence each other. Furthermore, since the use of client-directed gaze was high in our midwife population, future research might learn from studying those cases where gaze was limited.

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APPENDIX A Dutch prenatal screening program

The Dutch Screening Program consists of the Combined Test (CT) undertaken at around 12 weeks to detect trisomy 13, 18 or 21 and a Fetal Anomaly ultrasound Scan (FAS) to detect structural anomalies usually done at around 20 weeks. In the Netherlands, the FAS is free for all women, the CT has to be paid for by women younger than 36 years of age [9,10]. Mean uptake of the FAS in the Netherlands is around 92% and the uptake for the CT is on average 23%. Diagnostic, invasive tests are offered on indication (e.g. maternal age \geq 36 years of age, family history) [58,59]. These tests have important differences in policy and historical context between the Netherlands and other countries including the fee charged for the CT, but also the historically strong emphasis on the implementation of the opt-in approach and 'right not to know' about prenatal anomaly screening [1]. As a result, especially regarding the CT, clients intensively deliberate the decision whether to opt for screening or not [4].

