

Navigating complexity through intuition and evidence-based guidelines: a mix-methods study among child and youth healthcare practitioners

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Abstract

Background: Dutch child and youth health care (CYHC) practitioners monitor and assess the well-being of all children. One of their main concerns is identifying cases of child abuse, which is an arduous and sensitive task. They use both evidence-based guidelines aimed at increasing the quality of care through rationalised decision-making and intuition. These two practices are seen as being at odds with each other, yet empirical research has shown that both are needed in healthcare. This study aims to understand how Dutch CYHC-practitioners perceive the role of intuition in their work and in relation to evidence-based medicine, in the case of child abuse.

Methods: A sequential exploratory mixed-methods design. In-depth semi-structured interviews with CYHC-practitioners focused on perceptions on intuition, which was followed by a survey amongst CYHC-professionals on the recognition and use of the concept.

Results: The majority of CYHC-practitioners and professionals recognise and use intuition in their daily work, stating that it is necessary in their profession. CYHC-practitioners use intuition: 1) to sense that something is off, 2) to differentiate between 'normal' and 'abnormal', 3) to assess risks, 4) to weigh secondary information and 5) to communicate with parents. At the same time, they warn for its dangers as it may lead to tunnel vision and false accusations. Their ways of working with intuition show parallels to the practices that evidence-based guidelines try to support.

Conclusion: Intuition is experienced as an integral part of the work of CYHC-practitioners. It is stated to be particularly useful in the case of child abuse, which is inherently complex as signs and evidence of abuse are hidden, subtle and unique in each case. CYHC-practitioners use intuition to manage and navigate this complexity. As there is a lack of guidance on how to practice intuition, there is a need for support through guidelines.

Background

The World Health Organisation reports that 1 in 4 adults were physically abused as children [1]. It is estimated that in each classroom in the Netherlands there is at least one child who experiences abuse at home [2], whilst other research states that over 25% of children in secondary education report being neglected, abused or having witnessed violence between parents [3]. Consequences of abuse are not limited to physical suffering: children who have experienced abuse are more likely to develop other physical and mental health issues in a later stage in life [1, 4–6]. Therefore, it is vital to detect abuse as early as possible. However, the issue is complex and sensitive. Signs of abuse can be hard to detect, hidden, multi-interpretable and diagnosing procedures are reliant on personal judgement of professionals [4, 7–9]. Even the definition of 'abuse' is contested, as some aspects of this phenomenon have blurred boundaries subjected to moral, cultural and contextual interpretations [10, 11]. In the Netherlands, child abuse is generally defined as "harmful or threatening interaction with a child, done by a parent or another person on whom the child is dependent". This notion includes physical, social, emotional and sexual

harm [6, 12]. Child and youth health care practitioners (*Dutch: jeugdartsen*) are one of the key actors in identifying child abuse in the Netherlands. They are the gatekeepers to the Dutch child and youth health care (CYHC) system who are tasked with monitoring and assessing the mental, social and physical well-being of all children from birth to age nineteen through regular, voluntary visits in both CYHC-centres and schools. When CYHC-practitioners find signs and evidence of abuse, they can suggest help for the family or, in severe cases, send the family to another institution (*Veilig Thuis*). Veilig Thuis can force help upon families and will investigate whether legal action needs to be taken. Yet, due to the inherent complexity of child abuse, it is stated that many cases of child abuse are missed each year, which is why research into the processes involved in the detection and diagnosis of child abuse is of crucial importance [10, 11, 13].

In the investigation of suspected cases of child abuse, CYHC-practitioners are guided by evidence-based guidelines (EBM), which aim to improve the quality of care and prevention [14, 15]. These guidelines emphasise the importance of collecting factual evidence, on which CYHC-professionals ought to base their decisions [4]. Yet, in order to work with problems as unstructured, complex and broad as child abuse, professionals cannot solely rely on analytical rationality; they are in need of other strategies and subjective ways of knowing [16–19]. One of the most important tools in working with complex health care problems is: *intuition* [8, 17, 20–22]. Intuition has been acknowledged and studied in phenomenology and empirically in nursing studies, but is criticised by the natural sciences for being too mysterious and subjective to have a place within the rationality of EBM [17, 20, 23]. While there is consensus on the existence and importance of the phenomenon in many fields, this is not the case for the definition or use of the concept [23]. Currently, it is acknowledged that intuition is not the binary opposition to rational thinking, but the sentiment that it does not have a place in positivistic thinking, remains [24]. In this ongoing discussion on its precise definition, intuition is still shrouded in mystery. Some studies argue that intuition is a way of knowing, whilst others state that it should be regarded as expert knowledge or fast pattern recognition [20, 24–26]. In the meantime, healthcare professionals are reporting its indispensability [20, 27].

As the debate on intuition continues, recent reviews of clinical guidelines have started to include the concept. [19, 21, 28]. According to the Dutch guidelines for child abuse, CYHC-practitioners should “develop their intuition”, but “avoid basing decisions on it” and “check their intuition with factual evidence” [4]. However, an explanation on what intuition is, how to develop it and how to use it in practice is lacking. This is based on an article by Munro (1999) who describes intuition as fast decision-making that is not binary to rationality, but on a spectrum. She warns for unguided intuitive decision-making in child care, which is prone to error and bias as CYHC-professionals often deal with unreliable evidence [29]. In order to support CYHC-practitioners in the detection of child abuse and their decision-making, there is a need for research on the use of intuition and how this can be supported in guidelines.

This study aims to unravel how intuition is perceived and used by CYHC-practitioners in the case of child abuse and how this relates to their guidelines, through a mixed methods study on the perceptions of intuition of CYHC-practitioners. The gained insights can lead to a better understanding of the decision-making process and the improvement of guidelines, which could reduce the number of missed cases of

child abuse. The study was guided by the research question: *How do CYHC-practitioners perceive the role of intuition in their work and its relation to evidence-based medicine, in the case of child abuse?* The conducted research consists of in-depth, explorative and semi-structured interviews with CYHC-practitioners on their perspective on the use of intuition in the case of child abuse and a survey on the recognition and use of intuition, which was spread amongst CYHC-professionals. This article adds to the debate around the concept, as it argues intuition is a practice which allows CYHC-practitioners to manage and navigate the complexity involved in their cases, evidence and communications.

Methods

This study aims to understand how Dutch CYHC-practitioners perceive the role of intuition in their work and in relation to EBM, in the case of child abuse. As previous studies on the topic are limited, this research can be considered exploratory, therefore, an exploratory sequential mixed methods design was deemed appropriate [30]. Firstly, qualitative in-depth data was gathered through interviews with CYHC-practitioners, after which a survey was sent out to collect quantitative data amongst other CYHC-professionals. The quantitative data was used to place the qualitative data in a wider context.

Qualitative data

The qualitative data consisted of fourteen semi-structured interviews with CYHC-practitioners in the Netherlands, conducted between May and July 2017. They were recruited through emails sent to all CYHC-locations in the Netherlands. The interviewees worked at practices throughout the country and their work experience ranged between six and thirty-five years. Twelve of the interviewees were working as a CYHC-practitioner, one as a nurse and policy advisor for child abuse issues and one as an assistant of a CYHC-practitioner. Four interviewees were men and the remaining ten were women.

The interviews focused on the perceptions on the use of intuition when checking for child abuse. An iterative approach to interviewing was used, which allowed new themes to occur and enabled member-checking. In order to increase the amount of available data and further strengthen the methodological design, interviews were collected by two interviewers. The interviews were transcribed verbatim and analysed [31]. All qualitative data was stored and coded inductively by using ATLAS.ti 7.5.18. In order to ensure member-checking, all transcriptions were summarized and both the full verbatim transcription and the summary were sent to the informants. They were welcomed to make changes and to check the information they had given. None of the informants asked to make changes to their data.

In interviews, different synonyms for intuition were used, enabling participants to pick the term that they felt most comfortable with and that covered the subject. 'Intuition', 'gut feeling' and a 'sense of alarm or reassurance' (pluis/niet-pluis gevoel) were chosen most often. After deliberation with the interviewees and the research team, it was decided that 'gut feeling' would be used in the survey. Other words that were mentioned were 'fingerspitzengefühl', 'sensitivity', 'subjective feeling', 'compass', 'sense of alarm', 'feeling that something is not okay or off' and 'checkpoint' [*ijkpunt*].

Quantitative data

The quantitative data was collected through a web-based survey using Qualtrix, focusing on the recognition and use of intuition. The survey was spread among all CYHC practices in the Netherlands and all CYHC professionals (assistants, nurses and doctors) were included in the dataset. The dataset included 337 respondents who are currently working in the Dutch CYHC system (Dutch: jeugdgezondheidszorg). After removing participants with missing data list wise, the final data set consisted of 297 respondents. The majority of the respondents was female (92.6%) and working as a nurse (60.3%). The years of experience ranged from 0 to 40 years (M experience = 14.8). An overview of the characteristics of the survey participants can be found in Table 1. The data was analysed using SPSS version 24.

Results

From the analysis of both the quantitative and qualitative data, three themes emerged: the recognition and definition of intuition, the attitudes towards its use and how CYHC-practitioners use intuition.. The outcomes of both data collection processes will be presented in an integrated way in the results section. Firstly, the recognition and possible definitions of intuition in decision-making in the CYHC system are discussed, after which the attitudes of CYHC professionals towards intuition are explored. The last section of the results focuses on use of intuition in the case of child abuse.

Recognition and definitions of intuition

The results of both types of data collection suggest a high recognition rate of intuitive feelings by CYHC-physicians: all interviewees and 96.3% of the participants in the survey stated that they recognised and experienced this concept in their work. Even though they recognised intuition in their work, the majority of interviewees struggled to give a definition to these feelings, suggesting that it is personal and influenced by experience:

I would describe intuition as a feeling on which you make decisions that are based on experience. So it may be something unconscious, but it is secretly something conscious and based on previous experiences (CYHC-practitioner, 35 years of experience).

Interviewees linked intuition to implicit knowing, assessment of situations and decision-making processes:

Intuition seems as if you are guessing or something, while I think that intuition does play an important role. I would prefer to describe it as a sort of sensitivity, rather than intuition. You pick up a lot of signs that give you a certain feeling (CYHC-practitioner, 15 years of experience).

Yes, [I recognise intuition] in the sense that you try to make an assessment of a situation. And because of the questions you ask and the answers you get, you naturally get a bit of an idea on whether what you're told is correct, or not. And you can't always put your finger on it, so you call it intuition (CYHC-practitioner, 17 years of experience).

Definitions and opinions on intuition differed, but most interviewees experience it as an uncontrollable feeling or sensation that occurs regularly and that originates from the senses: *"I think that intuition is always on, even when you don't want it to be. You see, hear and smell things and you form an image right away"* (CYHC-practitioner, 32 years of experience). All interviewees agreed that intuition stems from signs that they picked up: for example smells, verbal and non-verbal communication or the stories that they have been told by others who know the family that is being discussed.

Attitudes towards the use of intuition

As participants generally acknowledged the concept of intuition, the next step was to look at the attitudes towards intuition and intuitive decision-making. The survey measured these attitudes using Likert scales, of which the responses are summarized in figure 1. Most of the respondents considered it to be 'somewhat useful (*nutty*)' (51.2%, 152 respondents), 'somewhat difficult (*moeilijk*)' (42.1%, 125 respondents), 'somewhat good (*goed*)' (40.7%, 121 respondents) and 'somewhat nice (*prettig*)' (37.7%, 112 respondents). These responses show the ambivalence of the attitude towards intuition: it is experienced as useful, good, yet it is difficult and not everyone enjoys it. This also became apparent in the interviews. Often, after an initial positive response when asked about it, CYHC-practitioners expressed their concerns. All participants affirmed that steps are needed to be taken when intuition is sensed: *"Certainly, you are obliged to do something with it [intuition], otherwise you are negligent. [...] To me, that is the most important thing. Otherwise you ignore your duty of care. After all, I'm a doctor for a reason"* (CYHC-practitioner, 25 years of experience). When asked what action needs to be taken, they responded that will look for facts, as mentioned in the guidelines:

If you're talking about gut feeling, then what you try to do is to get rid of that gut feeling as quickly as possible, and replace that intuition with facts. Because my feeling says it's not quite right, but which questions should I ask to check that? [...] Is my intuition incorrect? So it is a bit like your compass in the conversation (CYHC-practitioner, 17 years of experience).

CYHC-practitioners thus aim to 'get rid' of intuition by checking it with facts and state that ignoring intuition would be negligent. When asked about what these 'facts' consist of, CYHC-practitioners mentioned that they are difficult to determine and to define. They stated that facts could be tangible elements such as a *"black eye or clothes that are too small"* (CYHC-practitioner, 14 years of experience), but that 'facts' are often constructed when comparing narratives of the people involved in the (suspected) case, such as the family themselves, the children's teachers, trainers, GPs or other healthcare professionals who interact with the family on a regular basis. These people form the *"eyes and ears of*

the CYHC-practitioners” (CYHC-practitioner, 14 years of experience) and can deliver input to test the factual roundness of intuition.

In working with intuition, ignoring it is thus seen as dangerous, but interviewees stated that it is also unsafe to blindly trust intuition as it may lead to narrow-mindedness and missing signs. One interviewee explained that this “tunnel vision” will change the way in which the practitioner presents themselves towards parents, which might lead to misinterpretations and false accusations of child abuse, which has major implications for both the families and practitioners involved.

That’s what makes it [intuition] dangerous, if you are convinced it is neglect or abuse, well, see what happens to your body language. You’ll only focus on proving that these parents are no good. For example, because of your approach, the parent will start stumbling, they will lean backwards and that only confirms your thoughts: something is wrong here. Once this happens, you’ll never be able to have a good relationship with this parent anymore. (CYHC-practitioner, 32 years of experience).

CYHC-practitioners aim to avoid tunnel vision by discussing all their cases with peers, nurses and their assistants. In order to get a sense of the general perception on intuition in practices, interviewees were asked whether they thought their colleagues use intuition, to which they replied that they hope they do: “otherwise you won’t be able to function” (CYHC-practitioner, 9 years of experience). They explained that the focus on communication and social medicine in the CYHC-system made the use of intuition necessary:

I do think that jeugdartsen are more sensitive and social types than the average doctor or surgeon. It might be due to how your education raises you and what is allowed in your profession. We talk a lot about feelings and the personal lives of people, so it has a place in our profession. [...] So generally speaking, we are more sensitive people (CYHC-practitioner, 15 years of experience).

Intuition is experienced as an integral element of the daily work of CYHC-practitioners, and not as a cause of friction with colleagues or guidelines. The Dutch guidelines for CYHC-practitioners on child abuse discourage the use of intuition. Yet, when interviewees were asked whether they knew what the guidelines said about intuition, the majority stated that it was not mentioned, but they also stated that they did not regard the guidelines as a useful tool as it is seen as too lengthy and generalised for their specific cases. They explained that child abuse is complex and individual, which requires a subjective approach that they felt could not be captured in the current national guideline. Even though the current guideline is aimed at supporting professionals in their decision-making, the interviewees state that this is not the case. They call for inclusion of different types of knowledges, such as subjectivity and intuition.

Current use of intuition in the CYHC-system

In order to explore the use of intuition, survey respondents who acknowledged gut feeling (N = 292) were asked how often they experience it in cases where they suspect child abuse or neglect. Most respondents

replied that they experienced gut feeling 'Sometimes' (46.5%, N = 138) or 'Often' (31.3%, N = 93) (Table 3). Knowing that feelings of intuition or gut feeling are experienced and used by CYHC-practitioners in their decision-making process in the case of (suspected) child abuse, the interviewees were asked how they use these feelings. Intuition can arise in different stages of the decision-making process and interviewees mentioned five distinct levels on working with intuition in their daily work: 1) to sense that something is off, 2) to normalise deviant or uncommon behaviour, 3) to assess risk, 4) to weigh secondary information and 5) to communicate with parents or caretakers.

The first level of the use of intuition is to sense that 'something is off'. As one of the interviewees stated: *"If you are doing an examination, or look into their [the children] development, even if they meet the criteria, there is something that makes me think: something is off. Even though they do just as well as the child that comes before them and after them, still there is something that worries you. That's intuition"* (CYHC-practitioner, 35 years of experience). As mentioned by this informant, the source of concern can be unclear, but the sense of 'something being off' was often linked to intuition by informants.

Secondly, intuition is used to differentiate between 'normal' and 'abnormal' and between 'abnormal cases that can be normalised' and 'dangerously abnormal' [10, 32]. Normalities and abnormalities become more challenging when CYHC-practitioners work with people with different backgrounds. When actors external to the family circle, such as school teachers, tell share their concerns about the well-being of a child, they communicate using their own norms and values, which can differ from those of the family concerned. CYHC-practitioners juggle their own norms and values, those of society and the opinion that they are expected to have as a CYHC practitioner:

Dealing with different cultures makes you act differently. Whether they are refugees or not, or just people with different ways of behaving. I think norms and values are very important in our profession and sometimes you have to set them aside and not judge people. Communicating with refugees is more difficult, so then you'll have to trust your intuition even more (CYHC-practitioner, 9 years of experience).

When CYHC-practitioners deal with families with different ideas of normality, regardless of their background, CYHC-practitioners have to make a decision on whether a situation is considered as dangerous or risky for a child or not. Even when there are risk factors or dangerous elements in a family, they need to make further decisions on steps that need to be taken, which leads to the third use of intuition: the assessing of risks and the ability of the family to cope or solve problems. *"The role of intuition is: the moment I see a mother with a baby that cries a lot, I have to assess whether the mother is able to cope with this or not"* (CYHC-practitioner, 37 years of experience). CYHC-practitioners assess the urgency of a case, in order to decide what kind of care they have to arrange for a family. Interviewees stated that intuition is fast and useful in this process.

Fourthly, secondary information is weighed with the use of intuition. CYHC-practitioners not only rely on information and signals provided by the child and their families, but also on information and narratives coming from other in the environment of the child, such as teachers, sport coaches or general

practitioners. Based on their opinions and stories, CYHC-practitioners aim to construct a truthful image of the situation that the child is in and decide whether it is considered to be harmful or not.

To solely make objective observations is very difficult, because we always interpret, we aren't objective. And if so, then you'll get some facts, some signs, and how will you measure those? I don't think you could do that without intuition. Or, if people tell the truth or not: if you have to judge someone on their words, you won't be able to do that without intuition (CYHC-practitioner, 32 years of experience).

CYHC-practitioners use intuition to sense who is telling the truth and to construct a complete picture of the situation. As child abuse is often hidden and happening behind closed doors, they rely on the information of others and their consensus on what is going on in the family. They gather information from the family members themselves, their files and the stories of the people who are working closely with the subjects. As one of the interviewees described, after sensing that there might be something wrong or that she feels like the risk high, she will start gathering additional information, mainly by asking everyone involved more questions. She wants to ensure that there are no gaps in the information, or friction between different sides of the story, as they can be clues to something being wrong (CYHC-practitioner, 25 years of experience). When CYHC-practitioners realise that someone is not telling the (full) truth, or they find friction or different interpretations in the narratives of the people involved, this is a sign to raise alarm. Within EBM, it is often assumed that uncertainty can be eliminated by gathering more information [21, 33]. However, interviewees state that while gathering more information is their first response to uncertainty as well, the irregularities or uncertainty they find when triangulating narratives are embraced as evidence as well. CYHC-practitioners use their intuition to weigh the incoming information and to eliminate or embrace the uncertainty that follows.

Lastly, intuition is used to communicate with parents and to negotiate their ideas or solutions. Each family and each case of suspected child abuse is different and CYHC-practitioners need to sense how they can work with the different actors involved. As communication is *l*, they need to know how to use it. Trainings are focused on conversational techniques, but interviewees said that it is not only techniques, but that it is also necessary to 'feel' the situation in order to know what to do. Interviewees mentioned intuition as a means to sense this: *"That's also intuition, that you hear something that makes you think: wait, stop, I have to ask about that"* (CYHC-practitioner, 35 years of experience).

The interviews show that intuition plays an influential role within decision-making in cases of (suspected) child abuse. CYHC-practitioners use intuition to assess and judge a situation and to communicate their opinion with the family and colleagues. Intuition becomes a practice with which CYHC-practitioners can find issues and discuss them with parents or carers of children. It helps them to identify, assess and communicate, allowing them to act upon signs earlier and discuss it appropriately with parents/carers. This is important, as early detection and discussion of problems saves both parents and children from harm or severe consequences. Often, CYHC-practitioners stated that parents are lost and want to be helped, rather sooner than later.

Discussion

The results of this study show that CYHC-practitioners use intuition on five distinct levels through which they navigate the complex problems of suspected child abuse: to sense that something is off, to differentiate between 'normal' and 'abnormal', to assess risks, to weigh secondary information and to communicate with parents. As most studies focus solely on intuition on the first level, this research allows for a deeper exploration of the different uses of intuition within the entire process of investigating suspected child abuse.

CYHC-practitioners explained that they encounter complexity and uncertainty in all stages: the topic is sensitive, they lack sufficient time to thoroughly get to know a family and are forced to make moral decisions [6, 10, 34]. Moreover, even though the guidelines ask for facts and evidence, CYHC-practitioners mainly work with narratives of the people involved. Within these conversations, they look for friction between the recollections or gaps in their knowledge on the family. Narratives, friction and gaps are then used as facts to support their case, which shows that also the 'evidence' and 'facts' used in the decision-making process are highly complex as well. CYHC-practitioners manage this multi-levelled complexity with intuition, allowing them to take fast, yet well-informed decisions [22, 34].

CYHC-practitioners and professionals state that they find intuition particularly useful in working with suspected cases of child abuse. Overall, they were adamant of its usefulness in the field of CYHC, explaining that they deal with complexity in emotions, narratives and conflicting accounts of people who are involved in the life of the child that is being investigated for potential child abuse. At the same time, they did note that they find intuition difficult to define and warned for its danger when not investigated or handled reflectively. These findings are in line with other studies on health professionals' use of intuition in the case of child abuse [8, 9, 35, 36].

The ambiguous stance towards intuition indicates that it can be a helpful practice in decision-making, but also highlights the need for guidance on how to use it and to avoid the pitfalls mentioned by interviewees. Currently, Dutch guidelines on child abuse reflect this ambiguity and lack of guidance: it states that "good intuition" is useful, but that decision-making based on intuition is "dangerous", it fails to provide any further explanation [4]. As guidelines in health care are aimed at improving quality of care and supporting decision-making, it is important to not only mention intuition, but also to guide practitioners in using intuition not just as a feeling, but also as good care. Notions of 'good care' are starting to change and are moving from a linear, rational evidence-based approach to an understanding of care as 'trial and error' in which doctor and patient are muddling through or tinkering together to find fitting solutions for individual problems [19, 37, 38]. Within this new school of thought on good care, uncertainty is seen as inherent to clinical problems and encounters. Even though the latest revisions of guidelines are aiming to include other types of knowledges, such as intuition, they can support its use by acknowledging uncertainty and providing guidance on how to work with it. An example on how this can be done can be found in the study on solving problem behaviour in elderly care [37], in which the researchers shifted the focus of the guideline towards asking reflective questions and enabling

conversation and consensus amongst the different healthcare professionals involved in the care of a person. The guideline included a nine-question list that forced professionals to reflect, discuss and think outside the box. Their response to this new type of guideline was good, it assisted them in improving care for their patients. A similar style guideline could help CYHC-practitioners in avoiding tunnel vision when using intuition and guide them further in conversation and triangulation. When intuition would be supported as a practice in the CYHC-system and practitioners are taught how they can use it, it would contribute to earlier detection of cases of child abuse, allowing more children to be saved.

Conclusion

This study aims to understand how CYHC-practitioners perceive the role of intuition in their work and in relation to evidence-based medicine, in the case of child abuse. The findings show that CYHC-practitioners view intuition as a practice that is inherently part of the job, in which formal knowledge, experience and personality are combined. Intuition is stated to be particularly useful in the case of child abuse, as it is highly complex and signs and evidence are subtle and unique in each case. CYHC-practitioners use intuition to navigate and manage this complexity. This shows that intuition is not opposite or on a spectrum with EBM, but that professionals practice both in order to provide and improve care for their clients. For guidelines, this means that they ought to not only aim to include different types of knowledges, but also to support reflection and how to practice intuition as good care. In order to do so, lessons can be taken from practice and the knowledge of practitioners on the ground. When intuition is acknowledged as a practice and CYHC-practitioners are supported its use through guidelines, chances of detecting child abuse early, can increase.

List Of Abbreviations

CYHC: Child and Youth Health Care

EBM: Evidence-Based Medicine

Declarations

Ethics approval and consent to participate

All participants read and signed the informed consent form, which explained their rights. Due to the peculiarities of the participants (physicians) and the absence of contact with any patient data, the study does not require ethical approval under Dutch legislation (Wet Medisch Onderzoek - WMO).

Consent for publication

Not applicable

Availability of data and materials

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study. The interviews collected are in Dutch, but can be provided upon written request. Additionally, upon written request, the data collected via survey can be made available as an SPSS file.

Competing interests

The authors declare that they have no competing interests.

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Author's contributions

The study was initiated by ES, but the approach used for research was shaped by JE and ES. JE conducted the interviews and performed primary data analysis. ES provided general scientific supervision and assisted with both qualitative and quantitative analysis and contributed to the manuscript writing. KS and TZJ were assisting with both the analysis and the writing of the article. All authors read and approved the final manuscript.

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Table 1

Table 1: Sample characteristics survey 'Decision-making process child and youth health care system'

Gender	%	N
Male	92.6	275
Female	6.7	20
Other	0.3	1
No answer	0.3	1
N = 297		
Profession		
Profession	%	N
Jeugdarts	30.3	90
Nurse	60.3	179
Assistant	6.7	20
Assistant specialised in infants	3	9
Years of experience		
Years of experience	Number of years	
Minimum	0	
Maximum	40	
Mean	14.82	
Standard deviation	10.14	
N = 297		

Figures

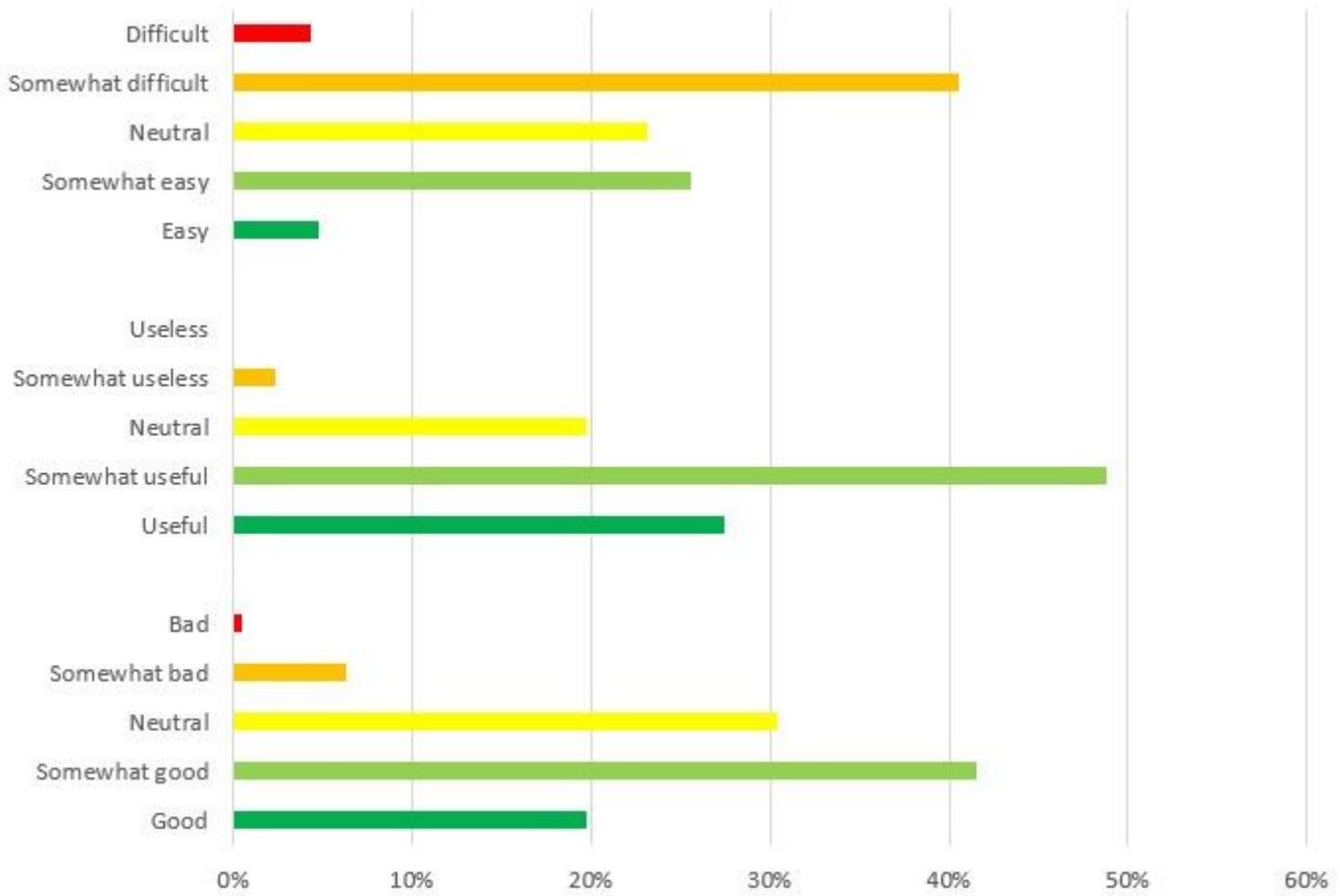


Figure 1

Survey responses regarding the use of gut feeling. N = 292