



# Italian Journal of Gynæcology & Obstetrics

March 2021 - Vol. 33 - N. 1 - Quarterly - ISSN 2385 - 0868

## Dystocia in labour: diagnosis, management and culture of Italian midwives

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### ABSTRACT

**Objective.** Dystocia in labour is the most common indication for primary caesarean sections. We have investigated how Italian midwives are informed and aware of the diagnosis of dystocia in labour, which strategies they implement and how their culture can affect clinical decisions.

**Methods.** Purpose-built questionnaire using convenience sampling on a voluntary basis. The research was carried out on a population of Italian midwives. The questionnaire was divided into three macro-areas: socio-demographic information; a clinical case with decision questions; operators' knowledge and clinical choices.

**Results.** 300 questionnaires were collected, and 289 were analysed. 60% of midwives would have not diagnosed active labour before 6 cm of dilation and would have adopted conservative management. 81% would adopt methods such as change of maternal posture, movement, and emotional support to solve dystocia rather than oxytocin and artificial rupture of membranes. 76% is aware that there is no single definition of dystocia, 80% do not know the definition of latent phase. The discussion on dystocia is rarely addressed in a context such as an audit.

**Conclusions.** Culture considered as experience, knowledge, and work context, could affect clinical practice. Most midwives showed interest in the subject by tackling it with a view that was mainly physiological. The need for training and structured discussion meetings is, in any case, important.

### SOMMARIO

**Obiettivo.** La distocia in travaglio è la più comune indicazione al taglio cesareo primario. Abbiamo indagato quanto le ostetriche italiane siano informate e consapevoli della diagnosi di distocia in travaglio, quali strategie gestionali mettano in atto e quanto la loro cultura possa influenzare le decisioni cliniche.

**Metodi.** Indagine conoscitiva mediante questionario costruito *ad hoc* utilizzando un campionamento di convenienza su base volontaria. La ricerca è stata condotta su una popolazione di ostetriche. Il questionario è stato suddiviso in tre macro aree: informazioni socio-demografiche; caso clinico con domande decisionali; conoscenze degli operatori e loro scelte cliniche.

**Risultati.** Sono stati raccolti 300 questionari e ne sono stati analizzati 289. Il 60% delle ostetriche non avrebbe fatto diagnosi di travaglio attivo prima dei 6 cm di dilatazione e avrebbe adottato un management di attesa. L'81% adotterebbe metodi come il cambio di postura, il movimento e il supporto emotivo per la risoluzione della distocia a sfavore dell'ossitocina e dell'amnioressi. Il 76% è consapevole che non vi sia una definizione univoca di distocia, l'80% non conosce la definizione di fase latente. La discussione sulla distocia è raramente affrontata in un contesto come l'audit.

**Conclusioni.** La cultura intesa come esperienza, conoscenza e contesto lavorativo potrebbe influenzare la pratica clinica. La gran parte delle ostetriche ha mostrato interesse verso la tematica affrontandola in un'ottica prevalentemente di normalità. È comunque rilevante il bisogno di formazione e la necessità di incontri di discussione strutturati.

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DOI: 10.36129/jog.33.01.07

**Key words:**

*Pregnancy; labour dystocia; intrapartum strategy; cultural diversity; midwifery care; caesarean sections.*

## INTRODUCTION

Prolonged labour or dystocia is the main indication for interventions such as artificial rupture of membranes (AROM), oxytocin perfusion, vaginal operative deliveries, and urgent caesarean sections. The choice of our investigation arises, in particular, from the awareness of an objective fact: dystocia in labour is the most common indication for primary caesarean sections.

American data show that 34% – the largest share – of caesarean sections in United States has dystocia as a clinical indication (1). In Italy, dystocia is one of the four main indications for caesarean sections which, together with foetal distress, breech presentation and previous caesarean section, represent overall 70% of caesarean sections (2).

It is not possible at present to establish exactly the prevalence of dystocia, since both definition and diagnostic criteria are not univocal, and this is one of the problems that modern obstetrics has to face. The ambiguity in the diagnosis of dystocia is given by a not univocal definition of onset of labour. Indeed, active phase of labour start from 4 cm of dilatation for NICE (3), from 6 cm of dilatation for ACOG (1) and 5 cm of dilatation for WHO (4). This ambiguity leads operators to a greater inclination to diagnose dystocia in a more subjective way than other indications for caesarean sections, to over-diagnose it and, consequently, to treat it in an inappropriate manner. Therefore, a significant concern is due to the fact that many women with a normal progression of labour would undergo unnecessary caesarean sections, just because there is no consensus on the classification and treatment of dystocia. In order to reduce primary caesarean sections in nulliparous at term many authors proposed different strategies.

We need to drastically decrease the subjectivity in diagnosing dystocia in labour (5). It is also necessary to modify the approach in the management of dystocia in labour with the objective of making a diagnosis before considering any therapeutical strategy, in order to reduce iatrogenic interventions

(6). A considerable amount of epidemiological data confirm that iatrogeny in labour is, generally high, and more than half of women giving birth is subjected to oxytocin infusion in labour (7).

From the evolutionary point of view the need to accelerate more than half of the births is unlikely to be real, and it can't be a biological need (8, 9).

The failure to recognize the many different conformations of maternal pelvis, the lack of knowledge of obstetric semeiotics, the widespread practice to neglect foetal position diagnosis (10) from the beginning of labour but, above all, the maintenance of alert and action lines in partograph, an instrument whose utility has not been confirmed by literature (11), led to an improper use of oxytocic perfusion. In a Cochrane review, Bugg demonstrated how the use of oxytocin leads to a modest reduction in the duration of labour, but does not change caesarean section incidence (12). In the ISTAT report "Pregnancy, childbirth and breastfeeding" in 2013, 72.7% of the women interviewed reported they have been subjected to at least one of the following procedures: AROM (32%), episiotomy (34.7%), continuous foetal cardiac monitoring (45.2%), Kristeller manoeuvre (22.3%), oxytocin administration (22.3%), while a small proportion of women, 14.2%, stated they did not know whether forceps or ventouse were used (4.3%) (13).

We should consider how these interventions carried out during labour, especially unscheduled caesarean sections and oxytocin administration would interfere on the mother / child dyad well-being and their consequences on future fertility.

It has, in fact, been demonstrated that the perception of stress secondary to an urgent caesarean section is associated with a feeling of anxiety about future pregnancies (14).

Our attention must be focused on midwives and obstetricians, since a correct management of interventions is strikingly important in maintaining the experience of labour and birth as normal as possible (4, 15).

We want to investigate how much operators are aware of the diagnosis of dystocia in labour and

which management strategies they put in place, in order to understand if their culture can influence their clinical decisions.

For “Awareness of dystocia diagnosis” we mean that operators are able to clearly distinguish between clinical decisions based on subjective diagnostic criteria (influenced by culture) and those based on objective criteria, so that they can provide the right etiologic therapies and avoid unnecessary and dangerous accelerating interventions during labour.

Last but not least, we want to consider how we should manage a prolonged labour in order to make more appropriate and scientific evidence-oriented clinical choices.

## MATERIALS AND METHODS

To achieve the objectives set, we chose to conduct a survey among health professionals.

For practical reasons, and because one of our survey aims is discerning whether further research on this subject could be useful, we chose to use a voluntary sample of convenience. The survey was carried out on midwives contacted both personally and via social networks. Moreover, in order to increase participation, we asked for collaboration of different scientific associations, submitting the investigation to their members.

After analysing scientific literature on the scope of the investigation, we decided to use *ad hoc* questionnaire as a data collection tool.

The questionnaire was made up of three sections: socio-demographic information, a clinical case with decision questions and a final questionnaire. 22 questions with multiple answers were edited, with requirement to answer, along with two open-ended questions with no obligation to answer. A presentation letter regarding aim and methods of the research was attached to the questionnaire, in order to motivate participants to answer accurately; it was also specified that the questionnaire was anonymous, and participants could manifest or not their consent.

To reduce the time required to collect data, we created a questionnaire using online survey software (Google Modules) which allowed us to spread the questionnaire, to collect data and process them quickly.

Using this computer system administration, participants were able to easily complete the questionnaire on their electronic devices (smartphone, tablets).

A database was then created to collect all the answers from the questionnaires received using a computerized Excel program.

A descriptive analysis and a graphical representation were carried out to summarize the data.

The graphs used to illustrate the data are pie charts and bar charts.

## RESULTS

The survey was carried out from 31<sup>st</sup> January 2018 to 07<sup>th</sup> February 2018, and 300 professionals chose to participate voluntarily.

In analysing data we decided to exclude the 11 professionals with a medical degree, given their small number (3.7%), not representative of the category. We therefore analysed data coming from questionnaires filled out by the midwives, in order to focus the investigation on management of dystocia by a sample of Italian midwives. The total sample that we referred to for the analysis is made up of 289 midwives.

All participants gave their consent to take part in the research.

### *Socio-demographic information*

Socio-demographic information show that the most represented age in the sample of midwives is less than 30 in 70.2% of cases, 27% is between 30 and 50, while only 2.8% is over 50 years. 98.3% of the sample population is female. 48.8%, the largest share has 5 years of work experience, 24.2% have never worked, but experienced internships or voluntary attendance, 13.8% have between 5 and 10 years of professional experience, 10% have between 10 and 20 years, and 3.1% have more than 20 years of service.

### *Clinical case with multiple-choice answers*

With regard to the second part of the questionnaire, the results will be presented by citing the proposed clinical case and graphically reporting the responses of the sample population to decision-making questions (**figures 1, 2, 3, 4, 5**).

Retrospectively, 14.7% of the midwives would make different clinical choices.

Regarding the clinical case, 96.9% of the sample would not resolve dystocia with a caesarean section, in contrast to 3.1% that would perform it.

M.B., 29 years old, Caucasian, G1 P0, at 40 + 3 weeks of gestation, uneventful pregnancy, and normal foetal growth. M.B. had contractions every 10 minutes throughout the night, at 8:00 am contractions were every 5 minutes, so she went to the hospital. At 8:30 am she had an obstetric examination: cervix was central, soft, shortened 80%, 4 cm dilated, intact membranes, baby was cephalic with presented part level -3. No information regarding position of foetal head were given. Frequency of contractions was 2 every 10 min. Foetal heart rate was regular. The woman was admitted into hospital.

**Which clinical decision do you think is most appropriate now?**

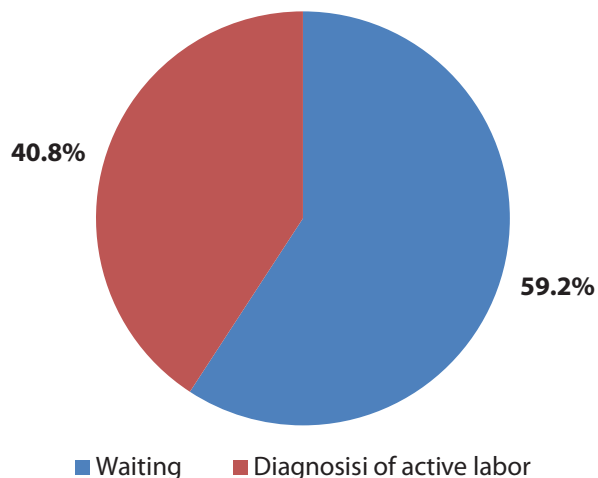


Figure 1. Description of clinical case. First question.

At obstetric triage prodromal labour was diagnosed and the woman was taken to the ward. At 10 am, because of intensification of contractions and pain, an obstetric examination was repeated: uterine cervix was central, fully effaced, 6 cm dilation, presented part -3, intact membranes, frequency of contractions 3 every 10 min. Foetal heart rate was regular. Diagnosis of active labour was made, and the woman was taken to delivery room.

**What management would you adopt now?**

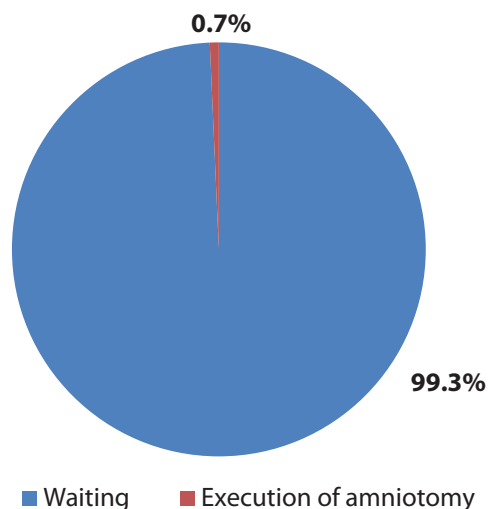


Figure 2. Description of clinical case. Second question.

M.B. reported increased lumbosacral pain so the midwife proposed immersion in the birth pool for an hour, with benefit. Afterwards M.B. got a back massage by her husband. At 2 pm M.B. was examined by the midwife of the afternoon shift. The result was unchanged, frequency of contractions 2 every 10 minutes. Foetal heart rate was still normal on CTG.

**What care choice would you make now?**

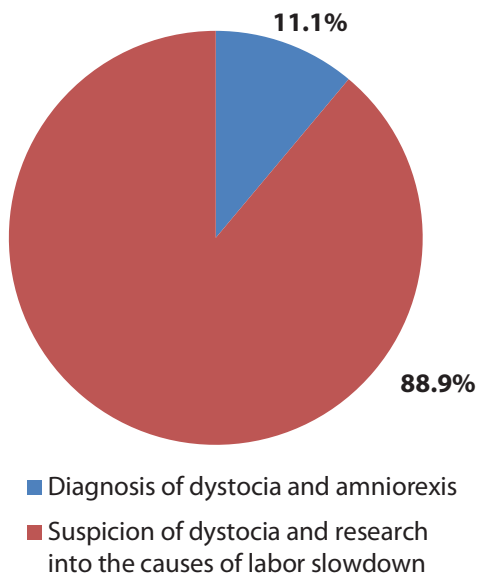


Figure 3. Description of clinical case. Third question.

The midwife reported this examination to the doctor and together they decided to better investigate foetal head position, not reported previously. Foetal back was posterior at palpation, maximum intensity of foetal heartbeat was picked up in the left lateral quadrant, presented part was mobile and not engaged. At vaginal examination, a slightly deflected, left posterior occipital position was diagnosed, which was also confirmed by ultrasound. The midwife encouraged the woman to move and to alternate different positions in order to favour flexion and rotation of the foetal head. She also suggested back massage and sterile water injection to reduce the pain. At 4 pm, vaginal examination was carried out: dilation was 7 cm, foetal head position was still occiput posterior, but now well flexed, level -3, frequency of contractions 3 in 10 min. Regular foetal heartbeat.

**What choice would you make now?**

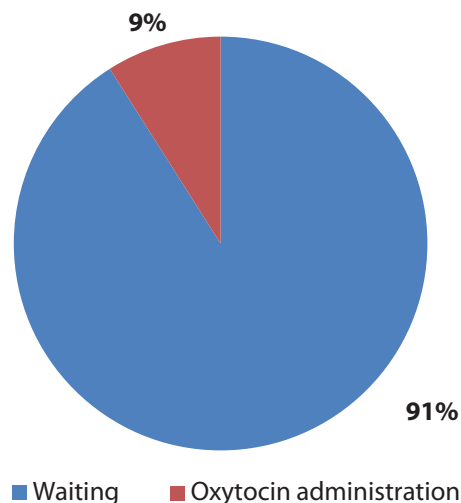
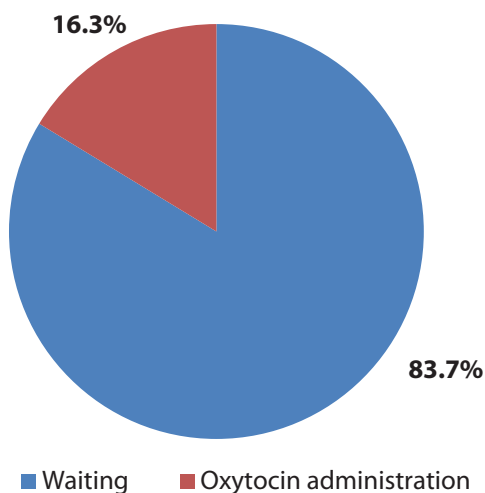


Figure 4. Description of clinical case. Fourth question.

Considering labour progression, the midwife and the obstetrician decided to adopt a conservative management without intervening. Lumbosacral pain increased and M.B. starting feeling urge to push. The midwife suggested again immersion in the birth pool and afterwards the urge to push decreased. At 6 pm vaginal examination was carried out: cervix was 8 cm dilated, presenting part -2 in left posterior occipital position. At that point, exhausted after several hours in labour and excruciating back pain, M.B. requested an epidural. After the first bolus M.B. felt immediate pain relief, positioning herself alternatively on her left side and all-fours. At 9 pm she had spontaneous rupture of membranes: amniotic fluid was clear and foetal heartbeat regular on CTG. New staff took on patient's management and M.B. was examined again: dilatation was now complete, foetal head in left transverse occipital position, level -1. Frequency of contractions was 2 every 10 min.

**How would it proceed now?**



Operators respected for an hour and a half the physiological period of pause in contractions. Active second stage of labour began at 10.30 pm and at 00.30 there was spontaneous birth of a female newborn, Apgar 9-10 at first and fifth minute respectively, blood loss 400 ml.

Figure 5. Description of clinical case. Fifth question.

**Final part of the questionnaire**

Moving on to the final part of the questionnaire, it appears that almost all operators investigated (96.5%) reflect upon cases of dystocia faced during their professional experience; 69.9% would do it by themselves, 61.2% discussing cases with other operators and only 12.8% with structured clinical audits.

Table I. Answers at question number 3 of final part of the questionnaire.

What are the sources of your knowledges that you use in the daily clinical practice?		
Answers	N	%
National and international guidelines	251	86.8
University knowledge	206	71.3
Scientific papers	86	29.7
Opinion of experts	75	25.9

The knowledge on which participants base their clinical practice is based on national and international guidelines in 86.8% of cases, on university knowledge in 71.3%, on scientific papers in 29.7% and on opinion of experts in 25.9% of cases (table I).

76.8% of midwives investigated agree there is currently no unambiguous definition of labour dystocia, 12.1% would define dystocia as a lack of cervical dilation for more than two hours and finally, 11.1% think that dystocia occurs when labour proceeds at less than 1.2 cm/hour in nulliparous women.

The sample population was then asked which therapeutic treatments they most frequently use in clinical practice when they deal with a dystocic labour (table II).

The three most frequent choices are maternal movement (71.6%), change of maternal posture (81%) and emotional support (40.5%).

To the question: "How would you define latent phase of labour?" 80.3% of participants answered that it begins at complete dilation and ends when the patient feels the need to push, 17% defined this phase as the time between the appearance of regular contractions and acceleration of cervical dilation; finally, 2.8% stated that latent phase is the interval between beginning of labour and complete dilation.

The different protocols of oxytocin administration in labour were then investigated. 58.8% of midwives believe that timing of oxytocin administration depends on foetal position and on clinical context, 28% think it is better to start oxytocin with ruptured membranes, 11.4% with intact membranes and, for 1.7%, the method is irrelevant.

Table II. Answers at question number 5 of final part of the questionnaire.

Which therapeutic treatments most frequently do you use in clinical practice when do you deal with a dystocic labour?		
Answers	N	%
Oxytocin	71	24.6
AROM	85	29.4
Analgesia	32	11.1
Maternal movement	207	71.6
Change of maternal posture	234	81
Emotional support	117	40.5
Massage	51	17.6
Use of hot water	89	30.8
Acupuncture	0	0
Supporting by Hand	10	3.5
Chromotherapy	0	0

Participants were also asked whether or not they follow specific protocols for the administration of oxytocin, whether or not they use an infusion pump to administer it and how they monitor foetal well-being (**table III**). 87.8% report to use oxytocin in labour with a specific protocol, while 8.3% without. 65.4% of midwives investigated always administer oxytocin using an infusion pump, 12.8% only in certain circumstances, and 7.9% never use an infusion pump.

Last but not least, during oxytocin perfusion, foetal heart rate is monitored through continuous cardiotocography in 96.5% of cases, and with intermittent auscultation in 0.7% of cases.

The propensity of midwives towards spontaneous delivery was then investigated, asking them which percentage of primiparous women at term in spontaneous labour with foetal cephalic presentation could deliver vaginally, without resorting to caesarean section. 76.8% of the sample answered that every woman can deliver vaginally, 19% think that 50% of this category of women needs a caesarean section to be delivered and 2.4%, 1% and 0.7% respectively believes that only 3-7%, 13-20% and 20-30% can give birth without caesarean section.

Finally, investigating the causes of inadequate diagnosis and management of prolonged labour and the consequent increase in iatrogenic interventions emerged that the most important causal factors among those proposed were the culture of medicalization of birth (77.5%), errors in the diagnosis of active labour (74%) and inadequate knowledge and/or failure to update (53.3%).

## DISCUSSION

The majority of the examined sample is women, very young, 70.2% under 30, and with little work

experience (48.8% worked less than 5 years and 24.2% had never worked at all and had only experienced post-graduate training and/or voluntary attendance).

Despite the short period of administration of the questionnaire, detecting an important participation by midwives, especially young ones, who represent the future of this profession, is expression of interest in the issue we address.

Moving on to non-personal data, let us take a look at how midwives managed the clinical case we proposed.

The most notable points we wanted to investigate were diagnosis of active labour, diagnosis of dystocia and interventions performed during labour.

With regard to diagnosis of active labour, more than half of midwives (59.2%) would not have made diagnosis of active labour before 4 cm of dilation and in the absence of valid contractile activity (**figure 1**). This reflects the current scientific evidence that shifts the beginning of active labour, hence a phase of acceleration of cervical dilation rate, from 4 to 6 cm. Zhang *et al.* in fact revolutionized the diagnosis of active labour and the way to manage labour duration, leading to new definitions of latent phase and active phase (16).

40.8% of midwives who, instead of waiting, would make diagnosis of active labour at 4 cm dilation (**figure 1**), probably refer to the old definitions dictated by Friedman, resumed, and partly modified, by authoritative scientific institutes such as NICE and WHO (3, 17).

Regarding the timing when dystocia is diagnosed, it is interesting to note that in the presence of an unchanged finding 4 hours apart (6 cm dilation, PP-3 level, regular contractions) 88.9% of operators would opt for a wait-and-see management and investigate causes of labour slowdown, while only 11.1% of midwives would diagnose dystocia at this point and proceed with rupture of the membranes (**figure 3**).

Again, most of the interviewees were oriented to act according to recent scientific evidence, which considers the progression pattern of labour unique for every single woman instead of trying to standardize it (18). There is a clear need to investigate causes when a slowdown in labour progression is suspected and there is a need for operators to adopt other methods to correct anomalies, thus limiting interventions such as rupture of membranes, oxytocin administration and caesarean sections, that can be associated to negative consequences.

**Table III.** Answers at question number 8 of final part of the questionnaire.

How do you use Oxytocin for labour augmentation?		
Answers	N	%
We follow a specific protocols	245	87.8
We have not a specific protocols	24	8.3
We use always an infusion pump	189	65.4
We use sometimes an infusion pump	37	12.8
We never use an infusion pump	23	7.9
We use CTG to BCF monitoring	279	96.5
We use intermittent auscultation to BCF monitoring	2	0.7

In this perspective, the hyperbolic curve deriving from cervical dilation /time ratio becomes a screening tool and no longer a diagnostic tool to decide when to intervene with medical procedures (6, 19).

11.1% of midwives who would intervene with artificial rupture of membranes at the diagnosis of dystocia, probably, as indicated by a comment on the questionnaire, would do it in accordance with NICE indications, that support rupturing the membranes at the time of delay in cervical dilation after 4 hours of unchanged finding (**figure 3**).

We believe that at the base of this management there is not only the intention to follow the guidelines but also the belief, of cultural derivation, that the genesis of dystocia is a hypo-valid contractile activity and that accelerating labour always brings advantages.

In conclusion, with regard to the management of the clinical case proposed and in contrast to what we expected, it emerged that our midwives would prefer a wait-and-see approach and respect physiology. With regard to a prolonged labour, due to a foetal head malposition, midwives declare they would rather wait than perform rupture of membranes or administer oxytocin. Finally, consistently with the wait-and-see attitude adopted during the clinical case, only 3.1% of midwives decided to perform a caesarean section. The fact that among objectives for care provision in labour there is a strong determination to maintain labour as normal as possible, reducing disturbing interventions, is a sign that a cultural change can and must be implemented.

Interviewees were then asked to reconsider the choices made regarding the clinical case: 14.9% of them, looking back, stated they would change the decisions taken. Many would change the time they diagnosed active labour, others would avoid oxytocin administration and rupture of membranes, others would try more to look for underlying causes of dystocia, rather than labelling right away that labour as abnormal and deciding to intervene.

One reply in particular highlighted an aspect that characterizes many Italian hospitals.

It is very interesting to understand how the work context, the workload, the education everyone received, and the work experience can influence operators who often do not operate as they would like, but on the basis of what is dictated from the culture that surrounds them (20).

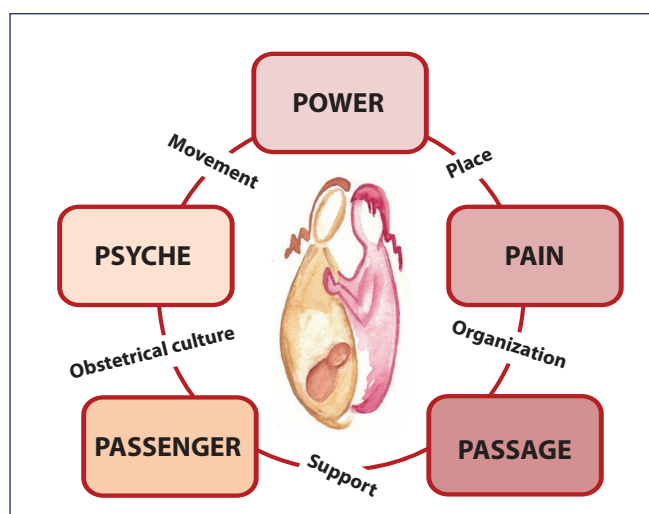
Moving on to the final part of the questionnaire, it is very interesting that there is debate on cases

of dystocia faced during professional experience (96.5% of midwives), but that the discussion is rarely coordinated in a structured context (audit is performed only in 12.8% of cases). Clinical audits compared to individual revision of clinical cases alone or to unstructured meetings between operators, are certainly more productive. Audits represent indeed tools able to identify problems that occurred and to relate them to the best scientific evidence, but also an opportunity for updating, for professional growth and to make new proposals in order to improve clinical practice and not to repeat the same mistakes.

It is very relevant that, probably due to the recent Gelli-Bianco law (Law 24/2017) on medical responsibility and liability, in 86.8% of the sample the sources of knowledge are based on national and international guidelines (**table I**).

But what we ask is: "Can we understand clinical reality just reading guidelines?". We can certainly learn something, but a deep analysis is needed starting from the context in which we operate, personalizing assistance and relating with all operators in a "team work" perspective.

We were pleased to find that, to the question "What is dystocia?" 76.8% of operators answered that there is no single definition, a sign that this knowledge has spread among Italian midwives. Dystocia is a complex syndrome, rather than a single disease attributable merely to a single cause (**figure 6**) (6). Consistent with the decision to adopt a wait-and-see management, in case of prolonged labour, operators interviewed used mainly these three interventions: change of maternal posture, movement and emotional support rather than intervening au-



**Figure 6.** *The complexity of childbirth.*

tomatically with rupture of membranes and oxytocin administration (**table II**).

The systematic review by Lawrence *et al.* (2013) highlights a clear benefit from maternal movement and especially from vertical posture, in terms of reduction of first stage of labour, of epidural request and of caesarean sections performed for labour dystocia. At the same time maternal and neonatal well-being is greater (21).

In addition to physical well-being, it is essential that also psychological and emotional well-being of the woman are respected, since a neuro-endocrine system imbalance is one of the causes of prolonged labour (9).

It is very interesting to observe how almost all of midwives (80.7%) gave a wrong definition of latent phase, mostly confusing it with transition phase. Ignoring latent phase or considering it part of active labour could contribute to a wrong diagnosis of dystocia and consequently lead to early and unnecessary medical interventions. Knowing how to recognize latent phase of the first stage and knowing how to distinguish it from the active phase leads to a decrease in interventions during labour (22).

In addition to confusion over definition of latent phase, it is interesting to highlight how 58.8% of the sample evaluate and take into account foetal position before artificial rupture of membrane or oxytocin administration. In literature there is no clear indication about which of the two interventions should precede the other. Different studies report that early or late oxytocin administration after rupture of membranes reduce labour duration, thus favouring vaginal delivery (23). Other studies established there is no real difference in clinical outcomes between oxytocin administration with ruptured or intact membranes (24). In a 2013 RTC Tan *et al.* concluded that the choice between the two options should take into account local resources and the woman preference (25).

Regarding oxytocin administration, the majority of midwives use it following specific protocols (87.8%), always giving it through an infusion pump (65.4%) and monitoring foetal heart rate and contractile activity continuously (96.5%) (**table III**). What is surprising is that despite oxytocin is a potentially dangerous drug, there are still hospitals where the infusion pump is not used at all (7.9% of the sample) or only in certain circumstances (12.8%) and without specific protocols (8.3%) (**table III**). In its document "Managing Complications in Pregnancy

and Childbirth: A guide for midwives and doctors", in the section dedicated to augmentation of labour, WHO reports how oxytocin should be correctly administered, therefore dosage, infusion rate and the maximum frequency and intensity of contractions achieved. It is also indicated that during oxytocin infusion foetal heart rate should be monitored in continuous and one-to-one care should be provided, since it's greater the likelihood of developing complications such as uterine hyper-stimulation or pathological CTG (26).

The question about which percentage of women (primiparous in spontaneous labour, at term with cephalic foetus) can give birth spontaneously is put deliberately in a incorrect manner, but helps to explore the propensity of midwives to be positive or not. In fact, 76.8% replied that all women in this category can give birth vaginally, which is obviously impossible, but this answer shows that the majority of midwives have a positive attitude to the possibility that women can give birth spontaneously.

At the end of our study, we investigated what midwives think could be the causes of inadequate diagnosis and management of prolonged labour, with the consequent increase in iatrogenic interventions. The most significant reasons detected were a culture of medicalisation of birth event (77.5%), errors in diagnosis of active stage of labour (74%), willingness to adapt to the "habits" of the workplace (46.7%) and inadequate knowledge and/or failure to update (53.3%). Data collected by this survey let us understand which are the most relevant problems to be addressed and in which direction to work to improve assistance. It is certainly clear the need for a better training for doctors and midwives, and a greater dissemination of knowledge of obstetric semeiotics and of maternal postures in labour. It is therefore important to respect times of different stages of labour. Furthermore, dissemination of shared protocols on the criteria to diagnose active stage of labour and so then, possible dystocia, together with respect for women and their own individual times in labour, will certainly improve maternal and neonatal outcomes.

One of the limits of our research is that the sampling was carried out with non-probabilistic methods, therefore not offering all the population the same possibility to become part of the research, so the sample is not representative of the population itself. Another limit that can be taken into account is the distortion caused by incomplete answers, even if



they represent a very small number. In fact, incomplete answers concern only one question of the questionnaire and involve 16.3% of total sample. Lastly, we consider a limit of our research the fact that the sample is composed only of midwives. In fact, analysing our results, we could only assess the point of view of the category of midwives who, however, are not the only operators to interface with women and to manage their labour.

## CONCLUSIONS

In conclusion, our investigation performed on a sample of Italian midwives, revealed that labour dystocia is certainly a topic that is discussed and that arouses interest. We observed that the majority of midwives interviewed have a propensity to respect physiology of birth.

There are also gaps to be filled in knowledge and barriers to be overcome concerning cultural aspects, but the fact that there is a strong will to maintain labour as normal as possible, limiting any disturbing intervention, is already a signal that cultural change can and must be implemented.

Strategies that can be put in place to deal with the problems encountered are:

- investing more in training midwives and doctors;
- organizing structured meetings such as clinical audits in order to collegially discuss clinical cases;

- spreading scientific evidence on dystocia and disseminating a new concept of dystocia;
- defining it as a syndrome and not just as a slow progression of labour.

It would be interesting, in the future, to extend this survey to a greater number of obstetricians and midwives working together as a team to better define the culture of labour ward operators and to help them to do appropriate clinical choices in order to reduce as much as possible iatrogenic interventions in labour and guarantee women a positive birth experience (4).

## ACKNOWLEDGEMENTS

We would like to thank the Associazione Italiana di Ostetricia (AIO - <https://associazioneitalianaostetricia.it/web>) for their active collaboration during the data collection.

We would like to thank Dr. Caterina De Luca and Prof. Elisa Anna Erriquez for the creation of the figure 6.

## CONFLICT OF INTERESTS

The authors declare that they have no conflict of interests.

## REFERENCES

1. American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine. Obstetric care consensus no. 1: safe prevention of the primary cesarean delivery. *Obstet Gynecol* 2014;123(3):693-711.
2. Gori G. Cesarei in aumento: occorre riaddestrare gli operatori. *Epicentro*. Istituto Superiore di Sanità. Available at: <https://www.epicentro.iss.it/percorso-nascita/gori> Accessed: 01/03/2021.
3. NICE. Intrapartum care for healthy women and babies, clinical guideline 2017.
4. WHO recommendations: Intrapartum care for a positive childbirth experience. Geneva: World Health Organization 2018.
5. Neal JL, Ryan SL, Lowe NK, Schorn MN, Buxton M, Holley SL, *et al.* Labor Dystocia: Uses of Related Nomenclature. *J Midwifery Womens Health* 2015;60(5):485-98.
6. Ragusa A, Gizzo S, Noventa M, Ferrazzi E, Deiana S, Svelato A. Prevention of primary cesarean delivery: comprehensive management of dystocia in nulliparous patients at term. *Arch Gynecol Obstet* 2016;294(4):753-61.
7. Tracy SK, Sullivan E, Wang YA, Black D, Tracy M. Birth outcomes associated with interventions in labour amongst low risk women: a population-based study. *Women Birth J Aust Coll Midwives* 2007;20(2):41-8.
8. Algovik M. Genetic and Epidemiological Studies of Dystocia – Difficult labour. Stockholm: Karolinska institutet 2009.
9. Ragusa A, Svelato A. Oxytocin and customization of assistance in labor. *J Pediatr Neonatal Individ Med* 2014;3(1):e030123.
10. Svelato A, Ragusa A, Alimondi P, *et al.* Occiput-spine relationship: shoulders are more important than head. *Eur Rev Med Pharmacol Sci* 2017;21(6):1178-83.
11. Lavender T, Hart A, Smyth RMD. Effect of partogram use on outcomes for women in spontaneous labour at term. *Cochrane Database Syst Rev* 2013;(7):CD005461.
12. Bugg GJ, Siddiqui F, Thornton JG. Oxytocin versus no treatment or delayed treatment for slow progress in the first stage of spontaneous labour. *Cochrane Database Syst Rev* 2013;(6):CD007123.
13. ISTAT. Report ISTAT anno 2013 “Gravidanza, parto e allattamento al seno” 2014. Available at: <https://www.istat.it/it/files//2014/12/gravidanza.pdf>. Accessed: 01/03/2021.
14. Fenwick S, Holloway I, Alexander J. Achieving normality: the key to status passage to motherhood after a caesarean section. *Midwifery* 2009;25(5):554-63.
15. Fenaroli V, Molgora S, Dodaro S, *et al.* The childbirth experience: obstetric and psychological predictors in Italian primiparous women. *BMC Pregnancy Childbirth* 2019;19(1):419.
16. Zhang J, Landy HJ, Branch DW, *et al.* Contemporary patterns of spontaneous labor with normal neonatal outcomes. *Obstet Gynecol* 2010;116(6):1281-7.
17. WHO Recommendations for Augmentation of Labour. Geneva: World Health Organization; 2014:57.
18. Ferrazzi E, Milani S, Cirillo F, *et al.* Progression of cervical dilatation in normal human labor is unpredictable. *Acta Obstet Gynecol Scand* 2015;94(10):1136-44.
19. Svelato A, Ragusa A, Manfredi P. General methods for measuring and comparing medical interventions in childbirth: a framework. *BMC Pregnancy Childbirth* 2020;20(1):279.
20. Svelato A, Di Tommaso M, Spinoso R, Ragusa A. The reduction of first cesarean sections: a cultural issue. *Acta Obstet Gynecol Scand* 2016;95(11):1319.
21. Lawrence A, Lewis L, Hofmeyr GJ, Styles C. Maternal positions and mobility during first stage labour. *Cochrane Database Syst Rev* 2013;(10):CD003934.
22. Hemminki E, Simukka R. The timing of hospital admission and progress of labour. *Eur J Obstet Gynecol Reprod Biol* 1986;22(1-2):85-94.
23. Selo-Ojeme DO, Pisal P, Lawal O, Rogers C, Shah A, Sinha S. A randomised controlled trial of amniotomy and immediate oxytocin infusion versus amniotomy and delayed oxytocin infusion for induction of labour at term. *Arch Gynecol Obstet* 2009;279(6):813-20.
24. Mamdouh Shaaban O. Amniotomy and Oxytocin for Augmentation of Labour (AOAL) [Internet] 2015. Available at: <https://clinicaltrials.gov/ct2/show/NCT02318121>. Accessed: 01/03/2021.
25. Tan PC, Soe MZ, Sulaiman S, Omar SZ. Immediate compared with delayed oxytocin after amniotomy labor induction in parous women: a randomized controlled trial. *Obstet Gynecol* 2013;121(2 Pt 1):253-9.
26. Unicef. Managing complications in pregnancy and childbirth: a guide for midwives and doctors. Geneva: World Health Organization 2017.