

Investigating the Disjoint Between Education and Health Policy for Infant Feeding Among Teenage Mothers in South Africa: A Qualitative Study

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Abstract

Background

Many low-and-middle-income countries, including South Africa (SA), have high rates of teenage pregnancy. Following the World Health Organisation recommendations, SA health policy on infant feeding promotes exclusive breast-feeding until six months of age, with gradual weaning. At the same time, SA's education department, in the interest of learners, promotes teenagers' return to school post-partum. Yet infant feeding at school is currently not perceived as a realistic option.

Methods

This article explores practice among policy makers and implementers in the education and health sectors in Cape Town, SA. We interviewed health and education officials, managers and policy makers, as well as school principals and nursing staff, who manage adolescent mothers and their babies.

Results

Participants expressed discomfort at pregnant learners remaining in school late in pregnancy. There was uncertainty about policy regarding when to return to school and how long to breast-feed. Educators reported that new mothers typically returned to school within a fortnight after delivery and that breast-feeding was not common. While health professionals highlighted the benefits of extended breast-feeding for infants and mothers, there was recognition of the potential conflict between the need for the mother to return to school and the recommendation for longer breast-feeding. Additionally, the need for ongoing support of young mothers and their families was highlighted.

Conclusions

Our findings suggest educators should actively encourage school attendance in a healthy pregnant adolescent until delivery with later return to school, and health providers should focus attention on breast-feeding for the initial 4-6 weeks postpartum, followed by guided support of formula-feeding. We encourage the active engagement of adolescents' mothers and extended families who are often involved in infant feeding and care decisions. Education and health departments must engage in intersectoral work to focus on systems that facilitate the interests of both the mother and infant – some exclusive infant feeding together with a supported return to school for the teen mother.

Introduction

The 'first 1000 days of life'—the time from conception to a child's second birthday—is the critical window of opportunity for the optimal development of children (1).

Country policies, social contexts and interventions that promote the well-being of mothers also promote child health (2). Infant feeding practices impact on the health and wellbeing of both infants and mothers. For adolescent mothers, the educational needs of young mothers may be in tension with their infant's nutritional needs. In this article, we explore the policies that impact on adolescent breastfeeding, from the perspective of key informants from both the health and education sectors. Our goal is to consider ways that educational and health policy could take into account both the needs of young mothers and their babies.

Following WHO and UNICEF recommendations (3), in South Africa (SA), exclusive breast-feeding is advocated until six months of age, with gradual weaning (4), regardless of HIV status and age. Despite this policy, breast-feeding rates in SA are low among both HIV positive and negative women of all ages (5, 6). For adolescent mothers, questions of infant feeding have an additional layer of complexity due to their educational needs.

In low- and middle-income countries (LMICs), 95% of an estimated 16 million adolescent girls globally give birth each year (7). Although there are initiatives to reduce teenage pregnancy, such as postponing sexual debut (8), SA has high levels of teenage pregnancy. A 2009 study reported that 30% of 13–19 year old girls were ever pregnant (9), and in 2017, 109 births per 1000 were born to women aged 10–19 (10).

Adolescent antenatal care requires special attention, to ensure the health of both mother and infant, as pregnancy in adolescence is associated with greater health risk to the mother and newborn—including anemia, mortality, stillbirths and prematurity. Adolescent women are two to five times more likely to die from pregnancy-related causes than women aged 20–29 years. In addition, their newborns have a 50% increased risk of being stillborn or dying in the neonatal period, as well as being born preterm, having a low birth and suffering asphyxia (11).

Additionally, babies of adolescents face the highest risk of infant and child mortality, as well as other health problems, such as stunting, diarrhoea and anemia (12). This is in part because young mothers may be undernourished or may not have completed physical development, and in part because younger mothers are more likely to live in disadvantaged circumstances (13).

Child-bearing often prevents adolescent women from attending school and thus perpetuates the cycle of poverty. In LMICs, adolescent pregnancy is a severe impediment to development, and can lead to a number of challenges, including abandonment by their partners, school dropout and lost productivity, which ultimately limits young women's future social and economic opportunities, leading to intergenerational transmission of poverty (14).

Post-apartheid SA education policy recognizes the phenomenon of teenage pregnancy, and the 2007 policy required pregnant learners to immediately inform a designated educator, who in turn should inform the learner that “there are no medical staff to handle the delivery of babies at school”. The learner could not return to school in the year she delivers, and up to two years absence was contemplated for learners to exercise “full responsibility for parenting” (15). The onus was on the learner to prove that she had made arrangements for the care of the infant, and she should understand that “members of the school community may not readily accept and be supportive ... because of ... value systems”. This policy was widely criticised as being discriminatory, reinforcing negative stereotypes (16). Following a successful legal challenge to the two year clause, the Department of Basic Education asserted that learners “return [to school] as soon after giving birth as is appropriate” (17). The later 2018 draft policy (18), updates these provisions, identifying learners' right to education and reintegration into school post-delivery. However, there are many bureaucratic hurdles for learners to overcome. They must submit medical certificates to the school indicating estimated delivery dates, as well as certification that “it is safe for her to continue with her schooling if she wishes to stay in school beyond 30 weeks (8 months) of pregnancy”(18). She may be asked to take leave of absence until she provides this information. Again the draft policy was critiqued by human rights groups as failing to ensure pregnant pupils' access to education prior to and post-delivery (19), and has not yet been finalized. It intends to facilitate young mothers' continued learning and encourages a return to school to complete secondary school education (20), provision for academic and psychological support, but is silent about care of her infant.

Surveys conducted in SA demonstrate that over 50% of adolescent mothers return to school post-delivery, with a high proportion returning within two months (21). Early return to school would impact on infant-feeding practice. Indeed, SA studies show that breast-feeding amongst teenage mothers is low (22), and a recent qualitative study showed that teenage mothers who return to school are less likely to exclusively breast-feed (23). Other SA studies have reported that mothers introduced complementary foods or fluids earlier than recommended if returning to work or school (24, 25).

There is a need to develop health policy and implement proven interventions promoting good infant nutrition in LMIC settings with a higher burden of undernutrition and food insecurity (26). A focus on adolescent women's nutrition is important, not only to improve their health status but also to ensure optimal fetal growth and development, which can prevent the cycle of intergenerational transmission of undernutrition. The WHO advocates for women in “difficult circumstances” to be offered “practical support” for feeding options, preferably breast-feeding. This includes adolescents, in addition to malnourished women and infants, and HIV-infected women where diarrhoea and malnutrition are prevalent (27).

Our previous research with young women living in low-socioeconomic peri-urban areas of Cape Town, SA focused on perceptions and experiences of infant feeding. We found that adolescents appreciated the need to complete schooling, but felt that this largely precluded exclusive breast-feeding. Yet they understood the advantages of breast-feeding (2).

This accords with SA's educational policies that are framed to advance the interests of the pregnant adolescent—namely to return to school to complete schooling (20). On the other hand, health policy is framed to advance the interest of the child—to be exclusively breast-fed for six months, thus promoting HIV-free survival and optimal growth (4).

Our study, reported here, among policy makers and implementers in the education and health sectors in the Western Cape Province in SA, explored the seeming contradiction between health policies that promote exclusive breast-feeding and education policies that promote the completion of schooling for young women post-partum.

Methods

We conducted a qualitative study to explore the implementation of the 'exclusive breast-feeding to six months' and 'return to school' policies among provincial policy-makers and implementers, and academics supporting health and education services, in Cape Town, SA. Through semi-structured interviews, which are well suited to explore the complex phenomena in this study, we explored the seeming contradiction of health and educational policy, obstacles and facilitators to implementation, and ways that contradictions could be overcome. We carried out purposive sampling of implementers from diverse geographically disadvantaged neighbourhoods, and identified key stakeholders who could provide rich information about the history of this policy, its current formulation and implementation. The 24 stakeholders included ten participants from the health sector (five programme managers, four nursing staff and one specialist physician); and 14 from the educator sector (six provincial officials, four school principals, and four staff from academic institutions supporting schools). No informants were known to the interviewer.

Potential informants were emailed to inform them about the study, and interviews were then set up telephonically. After written consent for participation and audio-recording that assured participants' anonymity, all interviews were conducted face-to-face in English. All were one-on-one, except one education interview with six informants, and one health interview with two programme managers. Field notes were taken by the one researcher who conducted all the interviews. All recordings were transcribed verbatim by one professional transcriber. Data were analyzed inductively by hand following immersion in the material, drawing out what best described the varied knowledge, perceptions and experiences of participants, identifying key themes, and relationships between themes. Ethics approval was obtained from the University of Cape Town's Human Research Ethics Committee (Ref 416/2018).

Results

In this section we will outline dominant sentiments among participants around four key issues regarding adolescent breastfeeding. The first two were largely central to educational professionals, whereas the third and fourth were concerns for both health and education professionals. The first issue revolved around how long pregnant learners should remain in school. The second centered on when such learners should return to school after giving birth. A third concern centered on perceptions of how teenage mothers approached breast-feeding, and challenges they faced regarding breast-feeding. The final focus looked at possible support for breast-feeding young women.

School before birth

The first approach centred around when pregnant learners should stop going to school, and could be construed as broadly bureaucratic, concerned particularly with the potential liability presented by a pregnant learner. Especially among educators, there was discussion about the management of pregnant learners in the school context. Some participants indicated that the Learner Pregnancy Policy required that pregnant learners needed to obtain a medical certificate about their condition, regarding how long to stay in the classroom before giving birth, which was determined in discussion with the learner and her parent/s:

if the learner finds out that she's pregnant, then it is requested that the learner must produce a medical certificate to say whether it's advisable to remain at school or withdraw from school. I don't think the policy says much about timing. But what it does say is that ... the decision-making must be taken by professionals. And there should be guidance from the psychological services, psychologists. The principal has to get involved and ... so the policy I don't think is very prescriptive on time [coughs] Because every situation is relative. Right? [Education]

We set up a meeting with them. We discuss how we're going to handle the pregnancy, till what time will they come to school, and then when would they be coming back to school ... [Education]

There was a sentiment, also shared by some in the health sector, that pregnant learners should not stay at school too far into the pregnancy, as the school could not ensure their safety, deal with any problems that might arise in the pregnancy, nor a delivery on

school grounds. School work could then rather be supplied for her to work on at home, in the form of learning materials, or even Saturday classes:

They don't usually write exams with other learners, especially if they're close to the time, ... because what if they give birth, know what I mean, at school, which would be a very tricky situation. Because we don't have nurses and some sort of backup for that type of thing. So a lot of the time, they're at home just before. When I say just before, I mean maybe a month before? [Education]

So we shouldn't discriminate against a learner who becomes pregnant. We should try and work, so that a solution is found, so that they can continue their schooling. And we can just ... be accommodating in that regard. I also believe that ... the learner can attend school ... as late into the pregnancy as possible. I personally am very scared about that, because I think after seven months, anything can happen. And that would actually be to the disadvantage of the learner, because we're not trained to deal with any emergencies. [Education]

They get supported by the school with ... an academic information package, or whatever's being done in class textbook-wise. [Education]

Thus, even amongst educators who wanted learners to continue in school until late into pregnancy, their perspective on "late pregnancy" was well before a learner's due date. Informants felt that there were few guidelines available to assist in making a decision.

When to return to school?

The second issue of adolescent pregnancy in relation to infant feeding centred on their return to school. A key point of discussion for mostly educational key informants was when the learner should return to school after delivery. There were a range of opinions about what the Department of Education's policy was. Some participants were themselves uncertain as to what the policy was, or thought that principals did not know what the policy was. Others believed there was no explicit policy about this:

Principals, or the people that manages the school, sometimes ... don't know the content of ... the Learner Pregnancy Policy. [Education]

I don't know if schools actually chase kids away [laughs] but we don't have that policy, we accepted her back to start because you know, they ... deserve a chance, they deserve ... some relief. [Education]

In practice, some education interviewees indicated that girls returned to school very soon after they had given birth, as early as one or two weeks. In many instances the timing of return to school was decided at a meeting with the principal, learner and her parents. In some cases, principals were strong advocates of an early return to school. In other cases, the early return was the result of pressure from the family, who would then look after the baby, so that the learner would not lose too much school work, and this would make it easier for her to adjust to school again:

It's actually as soon as you can come back. And the parents, I suppose the families, advocate for that because they don't want them to miss school. ... Just on my side, I don't know of children who stay away more than a week maybe two weeks after they gave birth. [Education]

And most of the times it's the mother that will just take the baby as her own child, and let the young mother be free. It's like the grandmother. So the young mother is free to be a learner at the school again. [Education]

On the other hand, most participants from both sectors suggested that learners should stay home for longer. They identified a minimum of four to six weeks for breast-feeding, or up to three to six months and longer, so that they had time to recover:

So in my opinion, I think the six-week rule should apply for school, for the learner ... But concessions should be made for that learner to receive the work and not to fall too far behind with schoolwork, so that she's able to catch up. [Health]

OK, so three months is a really good time, because I know it flies by very quickly. And you need to connect with your child ... because it means life-long relationship attachment. And without that there are consequences for that child in the future ... It would be nice to get

a three-month sort of timeframe. But I don't think with the schooling context, that might be possible. But I would still say at least a month. [Education]

I, myself, advise the parents to allow the learner to at least take care of her child for up to six months, one year, then come back to school. [Education]

A strong sentiment among education interviewees was that it should be up to the learner and her family to decide when it was appropriate for her to return to school. Cases needed to be considered individually, and flexibility was needed:

The family made the decision they needed to go back to school, whether they [the teen mother] wanted to or not. So they had to get back for the start of school term. The longest was two weeks before the school term restarted. And the child would've gone onto formula. [Education]

I see a danger if we prescribe a timeframe. I think each case must be judged on its merits. I know that we are very different. [... For] a particular learner maybe a week might be sufficient. [Education]

Yes, I would say that it's possible to go back to school and to continue breast-feeding. But you must understand our main core mandate as the Department of Education is to provide education to the learner. That is our constitutional mandate. But our policy is also very flexible, so caters for situations where the female learner wants to continue breast-feeding. Such a request may be made to the school. [Education]

It appears, therefore, that although participants from both sectors considered that time was needed after delivery for the mother to bond and breastfeed her newborn, in practice these young women returned to school very soon after the baby was born. Once again, clear policy in this regard was thought to be lacking.

Approaches to breast-feeding for learners

The third issue generated wide-ranging discussion among both education and health participants regarding teenage mothers' approach to feeding their infants, as well as the challenges they faced regarding breast-feeding at school. Some participants felt that young mothers enjoyed breast-feeding, although many thought that they did not, and also did not understand the importance of breast feeding:

And your mention about breast-feeding, with these ones I knew fairly intimately, about five, they all wanted to breast-feed, actually. And they all did, and it was a very precious thing that they did. And even though ... they only managed to breast-feed for maybe a week or two, but from a health perspective, even a week or two is fantastic [Education]

You will find, sometimes you will find they are saying, "I can't breast-feed, my breasts are so painful", or "I can't breast-feed, my nipples are cracked". They come up with stories. Then we check them, let them sit down ... You will find that the baby is latching very well, so what were you saying? No, it is just that I don't like breast-feeding. So that is why, my friends told me to say this. [Health]

There's a negativity about it [breast-feeding] [Health]

Others thought that these mothers were concerned about their breasts leaking and sagging, that they found breast-feeding to be time-consuming, and that if they breastfed they would be judged by their friends:

They also don't want to have the leaking breasts at school ... I suppose you're still a teenager at the end of the day, and it's not something that's talked about or supported enough to be cool. [laughs] [Education]

I think, if I give my own opinion, ... breast-feeding is time-consuming. You constantly have to sit with this child. And they want to be on the go, they want to ... interact [Health]

However, there was a strong sentiment among some participants that breast-feeding was the right thing to do for young mothers; that it was healthier for both the infant and the mother; that it was cheaper; and, that it promoted bonding between mother and infant:

I think they need to breast-feed. Breastmilk is very important to the baby ... There is a big difference between the baby that is breastfed and the baby that is getting formula milk. [Health]

I also read that breast-feeding is much better for children to make them stronger, and their immune systems are much stronger than bottle-fed baby. So in principle, ... it is better for a mother to breast-feed her child. [Education]

... but also the bonding, the social benefits that goes with breast-feeding. So they clearly don't understand the interactions that happens during breast-feeding, the act of feeding at the breast, or the act of providing breastmilk to that child. [Health]

Nevertheless, among educators the sense was that learners preferred to formula-feed their babies:

Definitely formula-feeding. Very few breast-feed. [Education]

So it normally takes a week ... They tell me that during that week, they just don't breast-feed so that it gives them that time to allow the breasts to dry. So that's what they do. [Education]

Moreover, there was pressure from friends and particularly their families to formula-feed, especially if they wanted to return to school. Thus, even if the mother was breast-feeding, the parents or extended family who cared for the infant during the day would use formula, with the result that mixed feeding was common:

The family made the decision they needed to go back to school whether they wanted to or not. And so they had to get back for the start of school term. So the longest was two weeks before the school term restarted and the child would've gone onto formula. [Education]

Some are at school. So during the day, whoever is staying with the baby will give the baby milk formula. And then she will come back and breast-feed. [Health]

Even if they express, but you will find the mother or grand-mama gave something else at home [Health]

A further consideration was that although it was preferable for these girls to breast-feed, expressing milk was not widely known about, or common in local communities. The practical challenges of doing this in the school context were also raised:

To be honest with you, the idea of expressing is not a very well-known idea. I know it should be, but it's actually not ... And a teenager and her parents might not even know that you can express. Or they know but it's ... a bit strange. [Education]

The only places she will have is actually the girls' toilets, that's the only place. And then maybe they would have this little room here on the side, maybe they could take it for them. I mean, it can be made possible, I mean, there is little bits of space. But you'll really have to plan it quite well. [Education]

Considerations raised by informants highlighted that the practice of infant feeding for young school age mothers is complex and fluid. Interventions require an appreciation of costs and benefits from the perspective of the infant, the mother and her family.

While HIV was not raised as a key concern in discussions around breast-feeding, some health participants highlighted research into the value of exclusive breast-feeding for HIV positive mothers, together with adherence to ARV therapy. There was consensus that six months was the recommended time period for breast-feeding in the context of HIV. It, however, needed to be normalised, especially as some young HIV positive mothers were scared to breast-feed. There were also misconceptions about the risk posed by mixed feeding in the context of HIV-infection:

The holy grail is six months exclusive breast-feeding, no doubt about it. But realities dictate that some mixed-feeding happens. Mixed-feeding is better than exclusive formula-feeding, you know, because the benefits of breast-feeding are dose related. [Health]

South Africa subscribes to WHO guidelines of six months exclusive breast-feeding. First six months exclusive breast-feeding, and thereafter continue breast-feeding while introducing a mixed diet for two years or more. That now is the same in the HIV context, except with the added bit that the moms need to be adhering to their ARV. [Health]

In most cases, they've just recently found out that they're HIV positive, so then that becomes a problem. So they actually need more counselling to teach them ... more about HIV and breast-feeding, [Health]

Support for breast-feeding young mothers

Given the many challenges, there was recognition of the need for support for breast-feeding with these young mother-learners. Informants reported that local maternity services supported young mothers breast-feeding by teaching them how to express milk while they were still in hospital/clinic, and by having breast-feeding counsellors at some facilities. However, once the mother was discharged it was difficult to monitor their progress with feeding. They perceived that family influenced choices about ongoing feeding:

They leave the health facility being fully equipped to breast-feed, with knowledge and skill, but they come back into the system having changed the feeding options ... When we ask them why, it's the influence, from the grannies, or the aunts, or the neighbours, or whoever is an influence on that child's life. [Health]

In most cases ... you're giving them health education here at the clinic and there is a breast-feeding counsellor that is educating them. They will understand everything ... When they go home then the parents are telling them something different. [Health]

Suggestions to manage adherence to breast-feeding included home visits by breast-feeding counsellors and establishing support groups. Additionally, it was stressed that it is the extended family, like the learner's mother and grandmother, who are involved in childcare – especially once the new mother returns to school. Thus, they should be involved in follow-up support around breast-feeding:

The other avenue of support is ... where we link the mother either to community-based services, or to a support group in the community. We employ breast-feeding counsellors who run support groups in the community. So we'll link them with those. [Health]

If they can come with the mummy, the grandma. If they can come with the grandma to the clinic so that they can also be educated on the importance of exclusively breast-feeding ... So they can also go to the breast-feeding counsellors specifically for that health education. [Health]

Also, suggestions were made to use technology like a 'WhatsApp' group and videos to provide ongoing support. Some, however, recognized that this might not be financially feasible:

We do have WhatsApp systems where some of the teachers are on WhatsApp with the learner ... Via WhatsApp she can ... pose those questions to the educator and get some answers for that. [Education]

They can't really access WhatsApp easily, and on top of that, they can't afford the data costs. [Health]

In addition to issues around breast-feeding at school, there were considerations about further support for mother-learners. Some interviewees, especially educators, highlighted the need for academic support for the new mother, starting while she is at home after delivery. A designated friend could bring schoolwork home for her. However, once back at school, the new mother would need extra classes to catch up what she had missed while at home:

There could be, you know, a support structure at the peer level ... I'm sure some of the girls in the class would be interested in seeing the baby. They could bring the schoolwork and they can chat around the baby, and chat around schoolwork. [Health]

What prudent schools do is ... they provide lost education during the examination period, or ... post-delivery ... When the child comes back, they provide that lost tuition, that lost assessment. [Education]

A further concern raised by all participants was that new mothers could experience emotional and adjustment problems. Some thought that post-natal depression was quite common. However, there was generally little effort to identify and manage such issues:

But a big thing is around mental health and psychological support. I think the Health Department really can do a lot, because she would be very vulnerable. We know that the rate of post-partum depression is even higher in teenagers. Be very aware of potential

depression, mental health issues that could occur, screening them ... early, making sure that there's access to mental health support [Health]

I don't think there's specific support for that learner because there's just so many learners ... It's not like you're going to be like 'oh she was pregnant, she probably needs a little more attention'. So you know, you won't get it. So if you survive it, then you're one of the resilient ones. [Education]

Others in the education sector indicated that counsellors, psychologists and social workers were available in some instances:

Our policy is very clear about ... post-delivery. There should be counselling, there should be support measures to support the learner ... If the Department of Education cannot assist, we have a referral system whereby we cooperate with the Department of Social Development. [Education]

For these girls, I think there should definitely be support for counselling ... by a[n] equipped person. Not by a teacher who's done a two-month counselling skills course, because that is absolutely nothing. So to have access to a qualified counsellor for that learner [Health]

From the above, it is clear that participants from both sectors were cognisant of the need for both practical and emotional support for young mothers.

Discussion

Our previous research with adolescent girls living in two low-income peri-urban neighbourhoods found that breast-feeding was seen as important. However, they were unsure how young mothers would manage to simultaneously breast-feed and return to school (2).

In this set of interviews, the experiences of health care providers and educators highlighted the disjuncture between broad policy guidance and the lived experience of implementing that policy in local contexts. Our goal in this discussion is to highlight and connect the perspectives of health care providers and policy makers, educators and education officials, and local and international policy.

Both education and health policy emphasize the prevention of teenage pregnancy. Operating in silos, neither speak to the comprehensive care of the pregnant learner. Education policy focuses on the educational needs of the mother and is preoccupied with the risk of labour and delivery of an infant at school. Consequently, pregnant learners are advised to leave school at 30 weeks (18), and the return to school policy is unclear. On the other hand, health policy focuses on the needs of the infant – particularly their nutritional needs, as well as the mother's reproductive needs (4). Both policies are limited, and revised health and education policies must prioritise the needs of both the learner-mother and infant, within their family and community.

Informants from both the education and health sector recognized the conundrum faced by the learner-mother about infant-feeding. They felt that exclusive breast-feeding for six months was an unrealistic expectation, but agreed that some period of breast-feeding was desirable. Following their recommendations, we propose both health workers and educators should promote breast-feeding and offer support to adolescents in community settings. Consequently, health worker training around infant feeding must be sufficiently nuanced to address the varied settings of mothers.

Once the learner returns to school, breast-feeding, particularly exclusive breast-feeding, would largely cease, as there are few options for infant feeding at school or breastmilk expression at school. Informants agreed that an early return to school is in the learner-mothers' interest, and that this needs to be arranged in advance with the girl's parents. They perceived that she was dependent on her immediate family, who made decisions about her infant's care. All highlighted learner-mothers' vulnerability to mental health and academic problems.

Our findings suggest the need for policy that empowers school officials to make choices that better serve the interests of adolescent mothers and their children. Consequently, revised guidelines on the management of scholars late in their pregnancy are required, which together with health services support, would enable school attendance of the pregnant learner until as late in the pregnancy as possible. These guidelines should articulate the necessity for a well-defined recovery and bonding time postpartum, so that educators are well informed when discussing return to school with the learner and her parents. Supporting this, findings suggest the opportunity

for clinics and community health care workers to assume roles supporting exclusive breast-feeding for 4-6 weeks immediately after birth, and thereafter, an important supporting role in correct mixed-feeding (for HIV uninfected women) or formula-feeding. Finally, the importance of active participation of the teen-mother's female family members in pregnancy and feeding choices was apparent. This highlights the importance of designing health policies that recognize adolescents' status as dependents within a household, while supporting them in their role as mothers.

Informants' concerns around school attendance of pregnant learners, particularly during later pregnancy, should be carefully examined. Continued school-attendance is in learners' interest. This implies policy that addresses educators' fears about risk of delivery, schools' liability and enlisting health service support. It is unclear what the source of this fear is, but it results in pregnant learners staying home for up to 10 weeks before delivery. Health policy does not support this approach. Rather, it is important to support pregnant adolescents to remain in school for as long as possible. Should the adolescent go into labour, it is unlikely that a primigravida woman with a normal pregnancy would deliver before being transported to a maternity facility in most settings.

Education and mental health support for adolescent mothers seemed to vary and be informal. There should be structured academic and mental health support that entails public acknowledgement and formalization of policy related to pregnant learners. Mental health screening of pregnant and particularly post-partum learners would be key to detecting mental health disorders, obtaining timely treatment and support, and reducing the impact of mental health problems on academic outcomes.

There was notable silence around the role (or lack) of fathers, as well as other men, both in our prior research with adolescents, as well as among our education and health informants. This highlights the burden of pregnancy and infant care placed on adolescents and female family members.

Policy support for infant feeding

Policy support for exclusive breast-feeding is strong, given the harmonization of recommendations for six months of exclusive breast-feeding for both HIV infected and uninfected mothers. These recommendations are set against a backdrop of very low rates of exclusive breast-feeding in South Africa (6).

While health care providers and policy makers knew that exclusive breast-feeding was important, the motivation for recommending exclusive breast-feeding was less well understood. This made it less adaptable, and providers were unable to problem solve in cases where a full six months of breast-feeding was impossible.

Other researchers propose that adolescent mothers stay home for six months to facilitate six months exclusive breast feeding (21). In the face of lived experience, we argue that a more nuanced policy may be beneficial. For example, the benefits of *any* breast-feeding could apply to HIV negative women, in the interest of the infant, and potentially also the mother (28). In particular, during the six-week postpartum recovery period, active support for breast-feeding may be most valuable, and allow for bonding with, and health benefits for the baby. Thereafter, recognizing that the return to school will make breast-feeding unlikely, clinics should first support breast-feeding during the period immediately postpartum, followed by supporting a transition to formula or mixed-feeding, depending on the HIV status of the mother. Moreover, health care workers and community health workers should be explicitly educated on formula-feeding (29). This should include education around safe and correct formula-feeding, managing wasted constituted formula, and decision-making about financial resources. Adolescent mothers need hands-on support during the early months postpartum. While in our research, formula-feeding appeared to be the norm, the process of correct, hygienic formula-feeding is not discussed in clinical settings. Our work suggests that a transition to formula-feeding needs to be recognized and supported.

Policy promoting support groups and roles of extended family

The importance of the infants' grandmothers in shaping feeding decisions has been previously described in various contexts (30-32). Most recently, Doherty et al. highlight the role of grandmothers in shaping feeding decisions in SA, particularly the potential confusion in situations where grandmothers' feeding recommendations differ from clinic recommendations (33). Acknowledging the caring role of extended female family members, our research suggests that policy should support direct engagement of extended family throughout the pregnancy and postpartum period. Additionally, local support groups for young mothers initiated and run by health

providers and educationalists promotes problem solving for learners. Dialogue and collaboration between these two sectors are in the interest of learner-mothers and their infants.

While we focused on policy-level interventions which engage the current reality, we also acknowledge the broader context in which policies are formulated. A longer-term vision is required that engages a broader engagement with the upstream determinants of infant-feeding, and of adolescent pregnancy. This should address issues related to poverty, food security and policy, cultural norms, and gender.

Limitations

As a qualitative study with a limited set of questions, it is difficult to interpret silences unless explicitly discussed. Our findings are not necessarily representative of broader experiences. Rather, they reveal frontline education and health staff's observations and perspectives on learner-mothers' infant feeding options, demonstrate the ways in which sets of experiences interact, and highlight the lived experience of policy implementation. Our work was also geographically specific, and our findings were shaped by the political, educational and health realities in Cape Town.

Conclusion

While the global focus on the first 1000 days of life highlights the needs of infants, it acknowledges social determinants of infants' health, including the well-being of mothers. A mother's well-being encompasses her ability to feed, nurture and bond with her infant, as well as fulfilling her aspirations to become an autonomous functional adult.

In order to address the needs of adolescent mothers, written policy should speak to the implementers of policy – health care providers and educators. It must acknowledge the lived experience of multiple players, translating these into implementable guidelines. In this case, where educational and health policy are potentially in conflict, all stakeholders should negotiate on the implementation and translation of lived experience into practical guidelines. In particular, breast-feeding policy for school-goers should focus on the period in which breast-feeding is feasible, and actively support a transition to formula-feeding, in order for adolescent mothers to return to school. On the other hand, the educational policy to return to school soon after birth should not be at the expense of the mother or baby. Rather, defining the potential period of absence may help adolescents to attend school until closer to delivery, and provide a longer period for learners to recover, bond with and breast-feed their child after the birth.

Declarations

Ethics approval and consent to participate

The research was approved by the University of Cape Town Human Research Ethics Committee (HREC: 416/2018). All informants signed consent prior to being interviewed.

Consent for publication

No informants personal information is included in the publication

Availability of data and materials

The datasets generated and analysed during the current study are not publicly available due as these qualitative data were drawn from interviews and identity could be inferred. Additionally, consent to share data was not obtained. However the interview guide is available and is attached.

Competing interests

The authors declare that they have no competing interests

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Authors' contributions

VZ wrote the proposal, obtained the institutional permissions for the research, drafted and edited the final report

AS contributed to the proposal, analysed the data and drafted the results section of the report, and edited the final version.

JC conducted the field work

JA contributed to the proposal, drafted the introduction and discussion and edited the final report

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