

Why Do At-Risk Mothers Fail To Reach Referral Level? Barriers Beyond Distance and Cost

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ABSTRACT

In southern Tanzania, few high-risk pregnancies are channeled through antenatal care to the referral level. We studied the influences that make pregnant women heed or reject referral advice. Semi-structured interviews with sixty mothers-to-be, twenty-six health workers and six key-informants to identify barriers to use of referral level were conducted. Expert-defined risk-status was found to have little influence on a woman's decision to seek hospital care. Besides well known geographical and financial barriers, we found that pregnant women have different perceptions and interpretations of danger signs. Furthermore, rural women avoid the hospital because they fear discrimination. We conclude that a more individualised antenatal consultation could be provided by taking into account women's perception of risk and their explanatory models. Hospital services should be reorganised to address rural women's feelings of fear and insecurity. (*Afr J Reprod Health* 2000; 4 [1]:100-109)

RÉSUMÉ

Pourquoi les femmes à risque n'arrivent-elles pas chez le spécialiste? Obstacles qui dépassent la distance et le coût. Au sud de la Tanzanie quelques grossesses à haut risque ont été canalisées à travers l'hygiène de la grossesse jusqu'au niveau du spécialiste. L'étude était concentrée sur les raisons qui influencent l'acceptation ou le rejet du conseil du service spécialisé par les femmes enceintes. Des interviews semi-structurées ont été recueillies auprès des soixante femmes enceintes, vingt-six membres du personnel médical et des informateurs clef pour identifier les obstacles à l'utilisation du service du spécialiste. Il s'est trouvé que l'état de risque comme le définissent les experts a eu peu d'influence sur la décision de la femme de se procurer les soins hospitaliers. Malgré les obstacles financiers et géographiques bien connus, nous avons découvert que les femmes enceintes perçoivent et interprètent les signes de danger de manières différentes. En plus, les femmes rurales évitent l'hôpital parce qu'elles craignent la discrimination. Nous tirons la conclusion qu'une consultation anténatale plus individualisée peut être assurée en tenant compte de la perception du risque chez les femmes ainsi que de leurs modèles explicatifs. Les services hospitaliers doivent être reorganisés afin de chercher à résoudre les problèmes des sentiments de crainte et d'insécurité qu'éprouvent les femmes rurales. (*Rev Afr Santé Reprod* 2000; 4[1]:100-109)

KEY WORDS: *Antenatal care, risk concept, community perception, health seeking behaviour, Tanzania*

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Introduction

Maternal mortality is the health indicator that shows the greatest disparity between developed and developing countries. Out of 595,000 maternal deaths worldwide each year, 99% occur in developing countries.¹ In addition, about 5.6 million perinatal deaths occur each year, mostly in developing countries due to complications during pregnancy and delivery. Antenatal and essential obstetric care have been identified as key interventions needed to reduce morbidity and mortality related to pregnancy and childbirth in developing countries.²

One strategy to reduce maternal and perinatal mortality is based on the risk approach.³ According to this approach, screening in antenatal care should lead to identification of pregnancies likely to develop complications, and refer them in time to a level of care where the necessary expertise and equipment is available to prevent or minimise the anticipated adverse pregnancy outcome.

In Tanzania, the issue is of particular interest because of two conditions: first, the coverage of antenatal care is almost complete (96%)⁴ with an average of five visits per pregnancy, and the country has a dense network of health facilities. Second, since 1977, an action-oriented antenatal card with clear referral criteria (stating 32 risk factors) has been introduced.⁵

However, the objective of antenatal care is not limited. Risk selection directed to the referral hospital is limited. Two-thirds of women use the referral level because of general considerations of safety and not because of specific risk factors or health problems. Only the case of previous caesarean section and first pregnancy lead to considerable risk selection. Most risk factors (general findings, e.g., short stature, young age; findings related to pregnancy, e.g., breech presentation, twin pregnancy) have a similar prevalence among women delivering in hospital, as that among pregnant women in general. Other risk factors (multiparity, older age) were actually associated with a lower attendance to the reference hospital.⁶

The apparent gap between professionally defined need and actual use of obstetric care lead to the study question: which factors influence pregnant women's decision whether or not to seek modern maternity care? The objectives were:

1. to investigate the immediate causes for the low utilisation of obstetric care; and

2. to identify the underlying reasons for accepting or rejecting modern obstetric care.

This qualitative study was part of a larger study conducted in Mtwara Region. The quantitative part studied the prevalence of risk factors in pregnant women in general and those delivering at hospital. The results have been reported elsewhere.⁶

Materials and Methods

Study Area/Setting

The study was carried out in two districts, Mtwara Urban and Rural, of Mtwara Region in southeast Tanzania. This region is among the least developed in Tanzania. The transport situation in the region is difficult. There is only one tarmac road, and the majority of the population lives at a considerable distance from roads and public transport. Average per capita income is below one-third of Tanzania's national average of only US\$100 per year.⁷

Forty-nine health facilities (one per 5,600 population) provide first level care to the 274,325 inhabitants of the two districts.⁸ Obstetric care at first level facilities is limited to medical treatment with antibiotics, ergotamine and diazepam. The only hospital and only provider of essential obstetric care⁹ is the regional hospital in Mtwara town. In case of advised referral, the health care providers were rarely in a position to provide transport or to play an active role in the referral of a patient. With a crude birth rate of 43/10,000, we expect 11,796 deliveries per year. Antenatal care covers 99% of pregnancies (slightly above the national average⁴), and comprises on average 5 visits to antenatal clinic per pregnant woman.¹⁰ In 1995 the majority of deliveries were home deliveries (61%), 21% were conducted in the hospital (39% of those in Mtwara Urban, and 13% of those in Mtwara Rural), and 18% in dispensaries or health centres. Twelve per cent of pregnant women attending antenatal clinic received referral advice related to specific medical conditions, but only one in four of them complied with the referral advice.¹¹

Study Population

Data were collected at 10 randomly selected antenatal clinics or dispensaries and health centres (located at 3 to 65km distance from the hospital), and the purposively chosen maternity ward and ante-

natal clinic of the referral hospital during a three-month period (May–July 1996). The study population consisted of all first or second time attendees of antenatal consultation in the selected health facilities on a randomly chosen day (n = 60, 28 individual and 7 group interviews with 2–8 participants). Interviews with pregnant women were complemented by interviews with health workers (n = 26) on the same day and at the same clinics. Key-informants (n = 6) (3 senior health officials, 1 teaching staff, 2 traditional midwives) were identified by a snowball principle, following suggestions of previous informants.

Data Collection

Semi-structured interviews with pregnant women were held after antenatal consultation. After obtaining consent, a semi-structured interview guide was employed. The interview focused on:

1. the women's ideas about barriers to using obstetric care;
2. determinants of unfavourable pregnancy outcomes, and women's perception of a set of professionally defined risk factors used in the antenatal card; and
3. the underlying reasons for unfavourable pregnancy outcomes and treatment options.

Interviews with health workers and key-informants probed their understanding of risk factors and their idea of barriers to pregnant women for use of referral level care.

All but four interviews were held and recorded in Kiswahili with the help of two local interviewers and later translated into English. Information obtained from pregnant women was crosschecked with statements from health workers and key-informant interviews.

Data Analysis

Transcripts of the interviews with mothers-to-be, health workers, and key informants were reviewed together. The statements in the interviews were categorised and analysed according to frequency in general, frequency in each different group of interview, controversial discussion of the statement and emotional involvement of the interview participants. Typical statements were marked and used for later citation.

Limitations

Biases may have been introduced by translation. To control this effect, interviews by different interviewers were checked for consistency. A limitation can be seen in the affiliation of researcher and interview setting to the medical service. The details of traditional concepts, thus, might not have been revealed in depth. In the antenatal clinic of the hospital, privacy for interviews was sometimes not guaranteed, thus influencing answers towards modern medicine. However, the information given at different interview sites by different sources show a strong consistency.

Results

Barriers to Using Referral Level Care

The following paragraphs elucidate the community perception of barriers to using referral level care. The main obstacles, as reported by mothers-to-be attending health services, fall into the following categories: (1) geographical and financial accessibility; (2) traditional family structures and poverty; (3) perception of care and fear of the hospital environment; and (4) community perception of severity and causes of pregnancy-related problems.

Geographical and Financial Barriers

Geographical accessibility and financial constraints were unanimously mentioned as the main obstacles for compliance with referral advice by all informants. The transport situation is generally perceived as difficult.

... the place is far away from the hospital, also from the main road, where you can get a car.

The rural population also pointed out the financial problem of transport.

I was at the farm, far away from the hospital, and we had no money for transport cost.

Opportunity cost and financial problems related to the situation of being far from home (extra money for food, shelter and clothes) are a main concern of the rural population.

Traditional Family Structures and Poverty

Women are often dependent on the consent of family elders and husbands to comply with a referral advice and depend on their financial support.

... other women are controlled with those local customs, whereby a woman can make no decision herself, until the husband has decided.

... most of the women they have problem of money, because they can't manage to find money themselves until they have been given it by their husband ...

Another reason for not attending health services is described by some pregnant women as the lack of proper clothes, which is seen as the ultimate sign of poverty. It triggers the fear of discrimination.

... others they don't have even nice and clean clothes to wear at hospital, so they just stay home or go to the local doctors.

Differences in the Perception of Care

There was a stark difference in the perception of hospital service depending on women's place of residence, whether urban or rural. Urban women in general appreciate and use hospital service whilst rural women are much more critical and try to avoid it. Almost 40% of urban women deliver in the regional hospital, according to our antenatal interview-partners.

... because all investigations can be done at the hospital and not anywhere else, (the intended place of delivery is) ... the hospital, because in case any problem occurs, it can be easily solved, and the hospital is very near to the place where I live.

On the other hand, only 13% of rural women deliver there. They are critical of the health workers' attitude; "bad speech", feeling of being neglected and not being welcome were mentioned as reasons for non-compliance with referral advice.

... if there is nobody who knows you among the health workers ... at hospital, even if you come seriously sick ... but nobody who cares if there is a patient waiting for help ...

In group discussions, this barrier for hospital attendance was mentioned frequently and it raised emotions. Their impression was that health workers at the hospital were biased against the rural population and treatment was preferentially given to people from the town, who were more influential.

... drugs are for those with power, money, rich people ...

First level health workers in rural areas share this impression. The age of caregivers was also a criti-

cal issue; professional health workers were often of younger age. This is acceptable to rural women for antenatal care, but not for delivery.

... the health workers are very young compared to us, so I can never be naked in front of those child-health workers, I will just deliver at home.

Both groups (urban and rural) complain about the non-availability of drugs and long waiting times. The technical qualification of health workers is generally acknowledged. However, it was also mentioned that sometimes they do not recognise the seriousness of a condition.

... you go to the hospital seriously ill and ... you're just given aspirin ... and told to return home.

Fear of the Urban Environment

Women of rural origin fear the unknown urban environment. The following reasons have been highlighted for this: unfamiliar surrounding, lack of social support ("no relatives at Mtwara..."), fear of sudden medical complications, but also fear of loss of dignity and face, loss of power over decisions, being at the mercy of an unknown person ("... you come seriously ill... but you can't see the doctor and this leads to lots of deaths at the hospital.") and fear of an operation (caesarean section) ("treatment at hospital, they are not so bad, but one thing is, that they never wait to see whether you can deliver normally, but they hurry in doing an operation on you"). This perception of caesarean sections being performed too early is not supported by the actual practice at the hospital, where the decision for an operation takes considerable time, and is perceived by medical staff as being too long. With a rate of caesarean sections as low as 5.5% (1995) it can also be assumed that unnecessary interventions are rarely made.

Danger Signs and their Interpretation

Table 1 summarises danger signs spontaneously mentioned in antenatal groups and individual interviews. It shows that events related to the reproductive history are perceived as being much less worrisome than events related to the ongoing pregnancy. The dangers mentioned by the women can be categorised as anamnestic/obstetric problems, illness in pregnancy, and psychological problems. Frequently, problems are perceived to be due to supernatural interference.

Table 1 Pregnant Women's Statements about Perceived Risk Factors, Separated into Anamnestic Risks and Symptoms/Findings Related to the Present Pregnancy

	Mentioned frequently	Mentioned less frequently	Mentioned rarely	Mentioned never
Anamnestic risk factors	<ul style="list-style-type: none"> • Previous caesarean section 	<ul style="list-style-type: none"> • First pregnancy • "Many children" • Previous stillbirth • Older age • Previous abortion 	<ul style="list-style-type: none"> • Bleeding in previous pregnancy • Short stature 	<ul style="list-style-type: none"> • Limping (pelvic deformity)
Findings related to the present pregnancy	<ul style="list-style-type: none"> • Pain • Dizziness • Headache • Acute bleeding • "Lack of blood" • "Swollen legs" • "Wrong lie" • Fever/malaria • Child does not move" 	<ul style="list-style-type: none"> • "Fast heartbeat" • PV leaking 	<ul style="list-style-type: none"> • Multiple pregnancy (twins) • Cough • Intestinal upset • Trouble of vision • Symptoms of venereal disease, e.g., sores, itching 	<ul style="list-style-type: none"> • Mismatch gestation age/uterine size

Anamnestic/obstetric problems

The history of previous caesarean section is strongly perceived as a predictor for adverse pregnancy outcome. Caesarean section is thought to be mostly due to:

... male body shape, her bones are not smooth so even in the present pregnancy she could have an operation.

"Wrong lie of the child" (meaning breech presentation) is perceived as a mechanical problem for normal delivery, carrying a strong potential danger of perinatal and even maternal death.

Short stature was acknowledged to cause some problems when pushing during delivery, but not considered to be very serious.

Pregnant women do not perceive limping (used as indicator for pelvic deformity in the antenatal card) as dangerous. The experience of friends and neighbours, who are limping but have delivered several times without any problem, discards this risk factor.

No, even my neighbour has got the same problem (limping), but she has about five children and she has delivered in normal way, so it's not a problem.

Also, mismatch between uterine size and gestational age is no risk factor according to pregnant women. Big or small is only seen in comparison to the size of the women.

... it depends on ..., how the body is built.

Oedema, but not a big uterine size is interpreted as a sign for twin pregnancy, even though twin pregnancies are relatively frequent in the community (3.4%¹²). Twin pregnancy and delivery has rarely been mentioned as dangerous but the difficulty of raising twins has been emphasised.

Interestingly, the risks of recurrence of an adverse pregnancy outcome, e.g., abortion and previous stillbirth, are not related to physical characteristics of the women but seen as consequences of supernatural interference. Abortion or stillbirth is due to:

... those water spirits, which need to be treated by 'kumbe' before conceiving again.

They cause an illness in the mother. In either case a traditional treatment is necessary before conceiving again and to avoid problems in the next pregnancy. Also, problems of delivery like prolonged and ob-

structed labour, retained placenta and postpartum haemorrhage are attributed to supernatural power.

Illness in pregnancy

The most often mentioned predictors for adverse pregnancy outcome are pain especially abdominal pain, headache and dizziness. Additionally widely acknowledged and accepted danger signs include anaemia (called "lack of blood", "white eyes") and oedema ("swollen feet"). "Swollen legs" (oedema) lead to weakness, and the woman fails to deliver normally. "Swollen legs" are also perceived as a signal for twin pregnancy, but in this case not as a danger sign. "Lack of blood" is seen to be a danger because it causes weakness in mother and child, therefore, both can die.

... the child comes out with much tiredness and can't stay long.

... the child can die, even the mother can die.

"Lack of blood" is seen as the immediate cause or the result of several other problems (abortion, stillbirth, bleeding), and is often related to supernatural interference.

Abortion is due to anaemia that is also caused by those water spirits.

Both headache and dizziness are also perceived as being provoked by supernatural influence in many African and Asian cultures. For the Mtwara people, they are reasons to refrain from hospital attendance.

Controversy exists around the role of fever. For some of the women it is a normal event during pregnancy ("...of those with first pregnancy, they usually have fever..."), whereas for others fever is seen as a reason for stillbirth, premature delivery, small-for-date babies, etc.

Psychological problems

The first pregnancy is perceived to be a problem because of the psychological situation.

... because you are caught with fear, you don't know whether you can deliver normally.

Multiparity ("already delivered many children") and older age are associated with tiredness and weakness by pregnant women, so that strength for deliv-

ery is low. Caesarean section can be the result; the woman might even die. But "home responsibilities" like care of other children and sometimes income generating activities, especially in multipara, do not allow their absence for longer time.

... going to the hospital leaves a lot of responsibilities at home.

Interpretation of risk factors and health seeking behaviour

The main reason that women give for using antenatal care is for reassurance that everything is well. Other utilisations of health services are few. It depends strongly on the community's perception of dangers for pregnancy and delivery. Even if the community accepts expert defined risk factors, this does not automatically imply that the underlying biomedical rationale is also shared. Based on this observation, we have developed a model on the relation between biomedical risk factors and perceived danger signs of the community. This model comprises four categories at three levels of agreement. Table 2 illustrates how differences in the perception of risks and their causes can lead to different treatment options suggested by modern medicine versus the community. Whereas complete agreement (level 1) between modern medicine and community risk definition leads to high acceptance of modern medical care, levels 2 and 3 show a diversity of health-seeking behaviour in the population. The perception of a supernatural aetiology will primarily lead to traditional treatment. Double treatment (modern and traditional), self-treatment and no treatment at all are other options.

Complete Agreement on Risk Factors and Causes

Such agreement between the community and experts on risk factors and the aetiology exists only for previous caesarean section, acute bleeding, breech presentation, persistent fever and severe anaemia. In these cases, most women accept the need for hospital care. Anaemia is not a straightforward reason because some informants attributed it to supernatural powers requiring primarily traditional treatment. However, anaemia is strongly feared because of its perceived deadly threat to mother and child and, if severe, it constitutes a reason for hospital attendance.

Agreement on risk factors but not on cause

While women and experts accept a risk factor, the underlying rationale is often not agreed upon (level 2). This partial agreement is found for many medical history risk factors (first pregnancy, multiparity, short stature, older age, history of stillbirth and previous abortion) and partly for findings related to pregnancy such as oedema, anaemia, bleeding, the absence of fetal movement and obstructed labour. The care-seeking behaviour in this category is not uniform. Emergencies like obstructed or prolonged labour would lead to hospital attendance. Others are seen as potential dangers, but as they are often attributed to supernatural causes, traditional treatment is frequent. This refers especially to all dangers with the risk of recurrence like previous stillbirth and previous abortion.

No agreement between community and experts

Some danger signs perceived by pregnant women are not considered as biomedical risk factors. They include common and unspecified symptoms such as headache, dizziness, fatigue and abdominal pain. They top the list of perceived danger signs, and pain is the most frequent reason to seek referral level care. Although these symptoms may be signs of pre-eclampsia or other pathological conditions, and eventually trigger further investigations, they are not regarded as serious by professionals unless accompanied by other signs such as hypertension or proteinuria. Some women attribute these problems to supernatural interference. Self-treatment with traditional or modern medicine is common. More often, no specific intervention but physical rest of the pregnant woman is perceived as being the adequate treatment.

Table 2 The Levels and Categories of Agreement between Biomedical and Pregnant Women's Risk Perceptions and the Etiologic Explanations for Different Risk Factors

Level of agreement	Category of agreement
I: Complete	Agreement between biomedical risk assignment and pregnant women's perception of danger signs <i>and</i> agreement on etiologic explanation. <i>Observed for:</i> Previous caesarean section, acute PV bleeding, breech presentation, persistent fever and severe anaemia
II: Partial	Agreement between biomedical risk assignment and pregnant women's perception of danger signs but different etiologic explanation. <i>Observed for:</i> Anaemia, PV bleeding in previous pregnancy, previous stillbirth, previous abortion, multigravidity, old age and primigravidity
III: None	(a) Biomedical risk factors of the antenatal card not perceived as danger signs by pregnant women <i>Observed for:</i> Mismatch uterine size — gestation age, limping (pelvic deformity) (b) Danger signs perceived by pregnant women <i>not</i> specified as biomedical risk factors in the antenatal card <i>Observed for:</i> Pain, headache, dizziness and fatigue

Members of the community do not acknowledge some biomedical risk factors. For example, a mismatch between uterine size and gestational age has been shown to be a risk factor for abnormal fetal growth and multiple pregnancy.¹³ Women see this differently; for them, uterine size is a maternal and not a fetal characteristic, and it is not related to an adverse pregnancy outcome.

Limping as an indicator for pelvic deformation is discarded on grounds of frequent observations from neighbours and friends who suffer sequelae of polio but who delivered their children without problems. To biomedical understanding, these women should deliver at least under professional supervision.

Treatment cascade

As shown above, only relatively few risk factors are regarded as reasons for hospital admission by the community. Thus, the most frequent response to the presence of pregnancy-related risks is primarily self-treatment. This can be traditional or modern. Self-treatment by using modern medicine is partly due to the chronic lack of drugs at hospitals. To get drugs at the drug shop saves a lot of time and embarrassment.

So to avoid coming to the hospital and returning home with no medicine, we just buy medicine at the medical store, which is near to our living place.

Traditional treatment is preferred if a condition is explained by a supernatural aetiology.

Generally, hospital admission is seriously considered after failure of self-treatment, especially traditional treatment. Here, health workers emphasised anaemia where traditional treatment often leads to a considerable delay of modern treatment. If a condition is considered to be very serious, and in cases of life-threatening emergencies like acute bleeding, severe anaemia or persistent fever, hospital admission is sought. These situations are perceived as “*beyond those local doctors (traditional healers), beyond those health workers at dispensary*”. The potential of modern medicine to treat these conditions is appreciated by the community even though the underlying reason might not be solved by the treatment. Therefore, inter-linking somatic care from modern medicine and spiritual care from traditional healers is possible and not mutually exclusive.

Discussion and Conclusions

Two important issues emerge from our study: first, barriers to obstetric referral level care go far beyond distance and costs and are to a large extent attributable to (and can be remedied by) health services themselves. Secondly, a risk approach, solely based on epidemiologically defined risk factors without consideration of women's perception, does not benefit at-risk mothers.

Large differences between the proportion of pregnant women being identified as “at risk” and those who actually attend referral level care have been found not only in our study in southern Tanzania⁶, but also in many other developing countries.¹⁴⁻¹⁶ As in other settings,¹⁶⁻²² geographical and financial accessibility were the most frequently mentioned reasons for non-compliance with referral advice. In addition, we found that divergent etiological concepts and perceived quality of hospital care are important determinants for the use of obstetric care in Mtwara, as has been shown for other western and eastern African countries.^{15,17,21,23,24}

Little attention has been given so far to the wide gap in the perception of the quality of obstetric services between urban and rural women and the role of local perceptions of danger signs and their interpretation.²⁵ Therefore, the discussion will concentrate on these issues.

Rural/Urban Disparities in the Perception of Health Services

Considerations of safety and security lead to opposite preferences in the urban compared with rural population, with more urban women preferring hospital delivery and a rural preference for home delivery.

It is difficult to judge the extent to which the fear of rural women of receiving second class treatment at the hospital or a feeling of insecurity and vulnerability in the urban hospital setting is based on experience. In any case, added to distance and financial constraints, the perceived negative attitude of health workers towards village people further reduces their readiness to seek care at referral level. From a service point of view, it is extremely important to know and consider this barrier and work towards overcoming it. Contrary to improving the area's infrastructure, a reorientation of services towards the specific needs of rural

women is within the scope of existing health services.

Interpretation of Danger Signs: Strong Determinant of Care-Seeking Behaviour

The different stages of decision making are rather hierarchical. First, there must be an agreement that the obstetric care offered is appropriate, then logistic issues follow and people usually try hard to overcome these barriers if they consider the effort worthwhile.^{21,22}

The high level of agreement on hospital admission for previous caesarean section is a good example. The special psychological state of primigravidae makes the first pregnancy different from later pregnancies and it results also in a high proportion of hospital deliveries in Mtwara. Similar observations made by van Ginneken,²⁶ Maklouf Obermeyer²⁷ and Maine²⁸ suggest higher educational levels in younger women and the modernisation process, in general, as additional explanations.

A particular dilemma is apparent for multiparous women; the community perceives them to be vulnerable because of fatigue and being overburdened with household duties. However, the very causes of their vulnerability also prevent them from receiving adequate care in pregnancy. Neither families nor health services appear to have a feasible solution to this challenge.

A traditional concept dominates whenever recurrence of complications of previous pregnancies is possible. Similarly, Oosterbaan and Barreto da Costa¹⁷ report that women know about the danger of recurrence, but they regard treatment by traditional healers as the only appropriate action. This may explain the low number of hospitalised women with the risk factor of previous perinatal death. From a biomedical point of view, this is regrettable, because previous perinatal death is one of the few risk factors with a high predictive value for an adverse outcome of the next pregnancy.¹⁵

Implications for Maternity Services

Without denying the need for infrastructural improvements, we want to emphasise that barriers related to the mismatch of community and professional risk perceptions, the perceived quality of

care and perceived discrimination are equally important. As a first step to increasing the acceptability of referral care to rural women, hospital health workers should be aware of their specific psychological vulnerability. Interventions to be tested through further studies could include preferential admission for referred/rural women, allowing a person of the woman's choice to accompany her during delivery, and training of interpersonal skills of health workers.

The minor influence of biomedically defined risk status on the actual use of referral level care found in Mtwara and other settings^{20,26,29} highlights a general problem of the risk approach in antenatal care. Its schematic and ritualistic application leads to a high proportion of pregnancies labelled as being at risk and frequent referral advice, which is often not accepted. Predictive values for most risk factors are low for fetal and maternal outcomes. While the improvement of the maternal health outcomes through antenatal care based on the risk approach has been challenged as lacking scientific evidence,^{14,30,31} our study emphasises another weakness; the lack of orientation towards the community's perceptions and preferences. Much more attention should be given to the individual situation of a pregnant woman and her family. Banerji³² emphasised the identification of overlapping areas between professional and community perception of health needs as most important, because interventions in the overlapping area are much more likely to be accepted and to succeed. In this context, the identification of community perceived dangers in pregnancy and childbirth gains importance and provides the starting point for the development of appropriate individual delivery plans as suggested in the mother-baby package of WHO.¹

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