

The Experiences and Views of Pregnant Service users Accessing and Staff Delivering Stop Smoking Services in Wales

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Abstract: The problem of smoking in pregnancy has remained a challenge to both public health professionals and the Government of Wales with the low uptake of stop smoking services by pregnant women. Despite the evidence base for smoking cessation, services have neither been implemented consistently nor robustly across Wales. Hence the need to develop a service improvement project like 'Models for Access to Maternal Smoking Cessation Support' (MAMSS) to provide new ways of supporting pregnant women who smoke, alongside the current national Stop Smoking Services. The study was conducted to investigate and critically examine the experiences and views of service users accessing and staff delivering stop smoking services for pregnant women in Wales. A qualitative approach using semi-structured interviews was undertaken with twelve members of staff and five MAMSS service users within Public Health Wales and one health board in Wales. The need for suitable training was reported amongst staff members involved in smoking cessation for pregnant women. Most women wanted to reduce and not stop smoking; also available opportunities were important in determining the ability to access and deliver services, with the use of carbon monoxide (CO) monitors positively influencing the receptiveness of the pregnant women. Midwives were however reluctant to create an image enforcing smoking cessation and a holistic approach was advocated by some staff members to encourage health education and promotion. Overall, a specialist service such as that provided by the MAMSS project was viewed as need appropriate. In conclusion, staff members understood their roles and the advantages of the carbon monoxide CO monitors in encouraging quitting smoking in pregnancy. Specialist midwives made positive impacts on the pregnant smoker's receptiveness to smoking cessation support. Both staff and pregnant women acknowledged that accessibility and flexibility of service were key determinants of service delivery and service uptake, whilst incorporating an approach that is supportive rather than enforcing.

Keywords: Health Education, Health promotion, Healthcare Service Users, Smoking Cessation Services, Specialist Midwives.

I. INTRODUCTION

Pregnancy and Quitting Smoking

Pregnancy creates the opportunity to influence pregnant women to stop smoking. This may occur in two ways; women tend to reduce or quit smoking during pregnancy and exhibit an increased tendency to cease smoking over the longer term. Although it is currently unclear whether mothers that stop smoking in the perinatal period are more likely to stop in the long-term compared to those who do not, Lumley et al (2009) suggests that there is a difference in the experience of both groups. If they are, then pregnancy would be a unique window of opportunity for healthcare professionals to advise patients to quit smoking. (Cnattingius, 2004; Colman & Joyce, 2003; Rattan, 2012).

It has been reported that supporting pregnant women to stop smoking is a challenging area of public health. The number of pregnant women who smoke and access the National Health Service (NHS) Stop Smoking Services (SSS) for support is low at approximately 11% (National Institute for Health and Clinical Excellence (NICE), 2010, further a study from Scotland found that only 3.2% of identified pregnant smokers quit (Tappin, 2010). The importance of intervening concerning this public health problem is further highlighted by Lumley et al (2009) in their findings which concluded that reducing smoking in pregnancy has a significant impact on the newborn baby's short- and long-term health status.

In its guidance for stopping smoking in pregnancy and following childbirth, NICE (2010) reviewed the evidence on the effectiveness of smoking cessation interventions. This found high quality evidence on the effectiveness of

interventions for promoting smoking cessation in pregnancy, including the use of CO monitoring in the identification of smokers and supporting referral into NHS-SSS (NICE, 2010). The evidence indicates that the NHS-SSS are effective in supporting women to stop smoking, with a reduction in smoking in late pregnancy of 3-6% (Lumley et al, 2009). However, there is limited evidence on how and who should deliver stop smoking support to pregnant women (McGowan et al, 2010).

Moreover, qualitative studies describing barriers to pregnant women stopping smoking included: fear of damaging relationship by health professionals, staff perception of having limited time and skills & knowledge for effective delivery of intervention for staff. Whilst for the pregnant women, their perceptions of having limited time for lengthy sessions, making phone contact and arranging child care created barriers (Lumley et al, 2009; Tod & Tod, 2003; Taylor et al, 2008; Ussher et al, 2008). NICE recommends that home visits or alternative venues should be considered for those women who are reluctant to or find it difficult to attend the clinic (NICE, 2010).

II. LITERATURE REVIEW

The public health issue of smoking during pregnancy is one that continuously poses problems both for public health professionals and Governments. Methods of reducing current prevalence are being frequently sought to reduce the associated harm caused by smoking in pregnancy. Several projects and research such as Setting Universal Cessation Counselling Education and Screening Standards (SUCCESS), Community Action on Tobacco for Children's Health (CATCH), and BREATHE (Albrecht et al, 2011; Bryce et al, 2009) have been carried out to monitor the effectiveness of current services; and to find the most effective way to reduce the prevalence of smoking in pregnancy either by educating or engaging with young girls, younger & older women and current pregnant smokers. Health education and health promotion avenues need to be reviewed and refined consistently in order to ensure that all young girls and women are aware of the dangers of smoking in pregnancy and of the support available. Hence, it becomes important that services provided to support pregnant smokers are easily accessible with a mode of delivery that is flexible and appropriate to maximise the opportunities created to be in contact with, and engage pregnant women who smoke (Albrecht et al, 2011; McGowan et al, 2010).

A Cochrane review by Lumley et al (2009) suggests that continued smoking into late pregnancy can be reduced through the promotion of stop smoking interventions. Thus, effective evidence based SSS is required to increase the uptake of service by pregnant women, and bring about an eventual eradication of the public health problem of smoking in pregnancy (Herberts & Sykes, 2012).

Most studies on this subject are largely quantitative and are reliant on measuring effectiveness mainly by quit rates (Willemsen et al, 2008; Khan et al, 2012; Costello et al, 2011), a review of the literature has therefore brought forward the need for more qualitative research in order to understand how to reduce the problems inhibiting the success of access and delivery of smoking cessation interventions for pregnant women.

This section reviews the literature by addressing the referral process, engagement and accessibility available to staff and service users, whilst considering the delivery of specialist stop smoking support to pregnant women. The use of NRT will be indicated together with the pregnant women's choice of wanting to cut down rather than give up smoking, whilst highlighting the gap in current knowledge.

Carbon Monoxide Testing

Societal pressure not to smoke in pregnancy can inhibit pregnant smokers from admitting to smoking, making it difficult to seek smoking cessation support. One way of determining one's smoking status is by measuring the amount of expired carbon monoxide (CO) in their breath. It is a quick and non-invasive method as the result is known immediately (NICE, 2010). Midwives have been recommended by NICE to perform this test on all pregnant women at their first maternity appointment and on subsequent appointments for those who smoke (NICE, 2010). NICE recommends an expired CO level of 7 PPM or above as the cut-off for referral, however, there appears to be no universally agreed cut-off level in the literature so that women were being referred to SSS with varying measured levels.

This is problematic as the amount of expired CO may be affected by passive smoking, exposure to traffic fumes or gases from leaky appliances leading to falsely positive results and wrong assumptions and potentially wrong accusations by the service deliverer which then leads to a strain in the relationship with the client (Baha & Le Faou,

2009; McGowan et al, 2010). Bauld et al (2012) noted the problem with the varying levels of expired CO used for referrals to SSS and suggested using 4PPM as a cut-off for pregnant women instead of the 7PPM advocated by NICE and CO monitor manufacturers. This lack of standardised protocol also impinges on the delivery of smoking cessation services as noted in the study by Borland et al (2013) where the problem of pregnant women not always admitting to being smokers as a result of stigma was highlighted. It can therefore be inferred that some services do not routinely screen all pregnant women for CO. The use of CO testing in practise has been mentioned by various studies on its use in most parts of the UK, with NICE (2010) recommending the use of a low cut-off point to avoid missing any pregnant smoker needing help.

Specialist stops smoking support - Mode of delivery

Two modes of contact between the health provider and the patient for service delivery were identified from current literature as telephone and face to face contact (Ferguson et al, 2012; Baha & Le Faou, 2009). The use of motivational telephone interviewing to deliver smoking cessation support was not always found to be useful (Ferguson et al, 2012), this may be because pregnant smokers find it easier to connect with staff during face-to-face contact when receiving support for such a sensitive issue. Interventions such as the BREATHE intervention using telephone support to deliver SSS to pregnant women was based on evidence from non-pregnant smokers who did not have the added pressure of pregnancy which is one of the reasons that have been given for smoking in pregnancy (Baha & Le Faou, 2009).

Targeting stress factors

The current trend of tackling smoking cessation in pregnancy seems to focus on a holistic approach because stress from multiple sources appears to be a major hindrance to cessation. (Bull, 2007). Sources of stress include psychosocial factors relating to stigma, lack of social support and socio-economic pressure, it is therefore essential that methods of addressing these issues are considered when planning and delivering a SSS (Okolie et al, 2010; McGowan et al, 2010).

However, health professionals engaging with pregnant women felt better motivated to support pregnant smokers once they felt the women were ready to give up smoking and a multidisciplinary team was available to support the women's individual needs (Bull, 2007). There is an overall agreement that women who do not take up smoking cessation offers are generally not interested in giving up smoking (McGowan et al, 2010; Baha & Le Faou, 2009; Ussher et al, 2006; Borland et al, 2013) and are therefore less likely to access services available. Midwives and health visitors feel that the success of delivering SSS once accessed by pregnant smokers lie in the support received from evidence-based training, and professional support from senior colleagues relevant to pregnant smokers as well as family-friendly policies (Bull, 2007; Okolie et al, 2010).

Socio-economic Class

An unequal rate of access to SSS was found across social-economic classes with women from lower social classes more likely to smoke and not use to SSS (Lowry et al, 2004). Ruggiero et al (2003) found that even with intensive recruitment methods coupled with incentives, 384 of 958 (40%) eligible pregnant smokers from a low-income group refused to enrol in a smoking cessation programme.

In general, women from more affluent areas are more likely to successfully engage with SSS than those from deprived areas (Radley et al, 2013). Less affluent women are four times more likely to smoke just before pregnancy, twice as likely to be pregnant smokers and have higher possibilities of reverting back to smoking after having their babies (Bauld et al, 2012).

Because there is a certain demography of women who are more likely to be pregnant smokers such as those with mental health problems, teenagers and those of low income group; service uptake might improve if these women were targeted and services increased in areas with higher population of such demographics (Borland et al, 2013). This however might raise questions about inequitable service provision so that any such decisions will have to be carefully considered whilst factoring in issues of determinants of health, health needs assessments and cost effectiveness analysis. (Tappin et al, 2010; Radley et al, 2013).

Incentives

NICE (2010) has suggested that the effect of using incentives is encouraging and even in the absence of concrete effectiveness evidence, the idea of incentivising stop smoking services is largely promoted by recent studies (Mantzari et al, 2012; Radley et al, 2013). However, incentives may encourage engagement, but they do not guarantee compliance or quit rates as indicated in the result of the study by Radley et al (2013) which idealises SSS and incentive schemes as being mutually exclusive, that is unable to occur together. Moreover, studies like the comparative qualitative study by Mantzari et al (2012) found that motivation to stop smoking was the same in all pregnant women regardless of incentives. Incentives were more of an added bonus and not the main reason for trying to give up smoking in pregnancy.

Overall, regardless of incentives young women carrying their first pregnancy feel more pressure to give up smoking than other mothers or those who have already been pregnant before. This might be as a result of struggling to transition into motherhood (Herberts& Sykes, 2012).

Difficulties with engagement

Some women do not attend stop smoking appointments even after referral by a health professional; this is because services provided are viewed as an absolute stop smoking when they only feel ready to reduce the number of cigarettes. Some women already struggling with trying to give up other substances such as alcohol, cannabis and other drugs will be unlikely to take up SSS even if a 'perfect' model of access and delivery is made available (Baha & Le Faou, 2009). They may either agree to an intervention with for example their midwife due to social pressure or agree but lose motivation once back in an unsupportive home environment.

It is important to bear in mind that a 'stronger' public health message of the benefits of smoking cessation in pregnancy may not necessarily have as much impact as suggested by Bull (2007), especially with the study methodology used by studies such as that by Ussher et al (2006), which carried out internet based survey using two 10-questions questionnaires. An assumption was made that all who participated in filling the internet questionnaires were pregnant smokers, introducing response bias into their study. This had the potential to influence results of the analysis. Albeit, the study by Baha & Le Faou (2009) found that women not attending their stop smoking appointments after referral were likely to be in denial of the dangers of smoking which might support the relevance of 'stronger' public health messages on the benefits of smoking cessation in pregnant women. Moreover, Fendall et al (2012) reported the need for a prescriptive intervention after pregnant women during a focus group reported wanting to be told precisely the possible health outcome for themselves and the baby if they did not give up smoking.

Nicotine Replacement Therapy

The use of NRT has been advocated as a safe method of providing nicotine (the addictive but un-harmful substance in cigarettes) whilst avoiding exposure to the other harmful substances (NICE, 2013; Brose et al, 2013). The type of NRT reported to be helpful is the regimen which combines the use of a trans-dermal nicotine patch which is slow acting with the use of faster acting products such as gums, lozenges or inhalators (Stead et al 2012; NICE, 2013; NICE, 2010; Brose et al, 2013).

Research Questions

- What are the experiences and views of staff delivering stop-smoking services to pregnant women in Wales?
- What are the experiences and views of pregnant women accessing stop-smoking services in Wales?

III. MATERIALS & METHODS

Study Design

In order to explore and understand the experiences and views of service users accessing and staff involved in delivering SSS in one HB within Wales, a qualitative research method using semi-structured interview was used. A qualitative research was deemed appropriate as it "allows people to speak in their own voice, rather than

conforming to categories and terms imposed on them by others” (Sofaer, 1999, p1105). It is thus usually less obstructive in its investigative approach, recognising the different perspectives and diversity of participants (Flick, 2009). Qualitative research does not seek to steer a research setting but makes use of pre-existing knowledge for the exploration of a subject (Bowling, 2004).

Having assessed the alternative of using focus groups (Silverman, 2013), face-to-face and telephone semi-structured interviews in appropriate settings were chosen as the most suitable methods for this subject. The use of focus groups was rejected primarily because of research access as it would be difficult getting pregnant women together on such a sensitive subject. Moreover, semi-structured interviews are commonly the main source of data collection in a qualitative research project (Adams et al, 2002), set around a preconceived set of questions which are open-ended to allow the emergence of other questions from the dialogue (DiCicco-Bloom & Crabtree, 2006). Also, the individual in-depth semi-structured interview allows the interviewer to delve deeply into the subject matter under exploration (Chilban, 1996; Rubin & Rubin, 2005; DiCicco-Bloom & Crabtree, 2006). Whereas the group interview often known as focus groups, allows the examination of a wider range of experiences (DiCicco-Bloom & Crabtree, 2006). Focus groups usually consists of multiple participants sharing their knowledge or experience about a specific subject (Merton, 1956; Barbour & Kitzinger, 1999; Morgan, 1997; Owen, 2001), however the public nature of the process prevents the opportunity to delve as deeply into the individual (Chilban, 1996; Rubin & Rubin, 2005; DiCicco-Bloom & Crabtree, 2006).

Ethical Consideration

This research project was classed as a service evaluation. Consent to interview staff was sought from the Health Board involved. A participant information sheet and consent form were developed and approved. Informed consent either in writing or audio-recorded was obtained from participating service users and staff for their involvement (Rothera et al, 2008). An interview schedule was prepared following a review of the literature and consultation with an experienced qualitative researcher and guidance from a Public Health Registrar. There was an arrangement for professional emergency contacts who was the point of reference in the event of distress such as post-natal depression or should the researcher be asked questions or information that the researcher was unable to answer. Two service users and seven members of staff doubled as the pilot participants.

Information collected was kept securely in accordance with Data Protection laws with safe storage of anonymised transcript by PHW. All files were encrypted and stored on a password protected laptop.

Using a systematic, non-probabilistic mode of sampling, this project explored smoking cessation services of pregnant women in one of the seven HBs in Wales. The use of staff as gatekeepers allows the researcher to have access to participants through one or more individuals (Sanders, 2006).

The study was planned for fifteen participants but had a total of seventeen participants, at which point the researcher recognised that any new data no longer contributed to the main findings (Corbin & Strauss, 1998). Five were service users and twelve were members of staff. Once interest was indicated, the participants had a choice of a face-to-face or telephone audio-taped interview. Staff and service users were grouped into ‘usual care’ and ‘MAMSS project’.

Staff participants interviewed included; frontline staff dealing with pregnant women such as six midwives from areas implementing usual care and the new specialist service (MAMSS), four stop smoking advisors and two specialist stop smoking midwives, as well as five pregnant women accessing the MAMSS service. Staff interviewed was a combination of PHW staff and HB staff. Any other persons not included in the aforementioned groups were excluded as current first-hand experience was required in fulfilling the purpose of this project and all those included had the capacity to give their consent.

Data Collection

As an exploratory method, semi-structured interviews encourage a natural flow which makes room for new information during conversation (Hesse-Biber & Leavy, 2011). The interview entailed a one-to-one discussion with the participants with interviews lasting between 15 to 30 minutes. The researcher ensured that the questions asked were clear and understandable, covering all topical areas of interest (Hesse-Biber & Leavy, 2011). An atmosphere

was created whereby there was good rapport and cooperation during the interview process to put participants at ease and aid smooth flow of the conversation (Hesse-Biber & Leavy, 2011). All service users and ten members of staff had their data collected via semi-structured telephone interviews whilst two members of staff had their data collected via a face-to-face semi-structured interview.

Having the service user group and three health professionals' group of staff participants (midwives –all community midwives-, SSW advisors and specialist stop smoking midwives) added the breadth of experience across groups, providing a fuller picture of experience. The two options given for interviewing (face-to-face and telephone) enhanced the validity of this study and provided ease of accessing the researcher to increase its acceptability to participants.

Following interviews, the audio data were fully transcribed by the researcher after thorough reading. This was done with the recognition that the process of qualitative research is continuous and iterative, needing refinement and synthesizing with the availability of more data (Crinson & Leontowitsch, 2006).

Analysis followed the process outlined by Miles and Huberman (1994) who advocated three concurrent flows of activity including 'data reduction' which mainly refers to the process of selecting, focusing and transforming the data; 'data display' organises and compresses the data and 'conclusion drawing and verification' where whilst maintaining openness, regularities and patterns allow verified conclusions to be drawn.

A coding framework was developed and data were simplified into initial 'themes', which reflected participants' experiences. Similarities, patterns and inconsistencies were identified, the coding framework refined and developed, and the process repeated until no new themes emerge. The themes were then synthesised into broader conceptual 'categories' that helped account for participants' experiences and views of the services, from which lessons for future practices were taken (Rothera et al, 2008). The combination of emergent lessons and conclusions from relevant reviewed literatures formed the basis for the recommendations made from this work. Data coding was conducted by hand due to time requirements and researcher preference (Burnard et al, 2008). The coding framework was generated from both the interview schedule and the literature review to allow further understanding of the experiences and views of participants through analysis of data generated, to inform effective service provision.

IV.RESULT

Table 1. Demographic characteristics of service users

Pregnant women	5
Age range (years)	15-28
Most reported no of cigarettes smoked/day	20
Average age started smoking (years)	14-15
Highest educational qualification	College certificate
Living with partner	3
Living with parents	1
Living alone with child	1
Range of children already born	0-5
Employed	1

The above table shows that five pregnant women under the MAMSS project were interviewed with ages ranging from between 15 and 28 years, none reported having attended a higher institution with the highest qualification being a college certificate. Four of the women described themselves as being home-makers or unemployed with only one in employment. Most of the women (four) had previous pregnancies with zero to five children between them all. Three of the women lived with their partners, one lived at home with parents and one was lived alone with her children. On average, most of the women had begun smoking between the ages of 14-15 years with reports of starting off as social smokers or due to peer influence. All five women reported having smoked up to 20 cigarettes per day prior to their being supported by the MAMSS project. Only one woman actively tried seeking support to give up smoking prior to pregnancy and for her, support was sought from a private therapist. Two women reported giving up completely during past pregnancies and they both reverted back to smoking after their pregnancy. Two of

the women reported being offered SSS prior to their current pregnancy by their midwives and one by her General practitioner (GP), but all three women refused support. They stated ill health and their lack of readiness to quit as reasons for not accepting support.

Table 2. Demographic characteristics of staff

Pregnant women	5
Age range (years)	15-28
Most reported no of cigarettes smoked/day	20
Average age started smoking (years)	14-15
Highest educational qualification	College certificate
Living with partner	3
Living with parents	1
Living alone with child	1
Range of children already born	0-5
Employed	1

Table two shows that there were twelve staff participants in total. Six of whom were community midwives, two were specialist stop smoking midwives under the MAMSS project and four were SSW advisors.

All six participating midwives provided community-based care, with five of them reporting having previous hospital experience and three with prior nursing experience. Their midwifery experiences ranged from 10 to nearly 30 years, with most of them providing various levels of smoking cessation support all through their career. There was however a general consensus that the provision of smoking cessation support for pregnant smokers by midwives only became more active in ‘recent years.

There was a variation in the professional background of the smoking cessation advisors, none had a midwifery background but one advisor had a nursing background and she had the longest involvement with providing smoking cessation support. The total experience of the advisors ranged between 1 to 13 years with three of them having no more than 18 months of experience delivering smoking cessation support. The specialist smoking cessation midwives (specialist midwives) however had both nursing and midwifery background with experience of 9 to 19 years between them.

All specialist midwives and four of the other midwives reported supporting pregnant smokers in their current roles. Some experiences came in the form of previous job roles as nurses, but most experiences were through supporting their own family members, partners and parents of young pregnant smokers. All four advisors reported having more experiences with other members of the public outside the pregnant smoker group.

Staff Training

Only two of the midwives reported having any smoking cessation training prior to taking on the delivery of smoking cessation intervention to pregnant smokers. However, five had been trained to deliver BIs and use CO monitors since their involvement in smoking cessation. Four of the midwives received BI training from SSW only and one by both SSW and a Specialist midwife. One midwife was scheduled to be trained in the month following being interviewed. The two specialist midwives and four advisors reported having received the Brief Intervention Smoking Cessation Training (BISCT) and found it appropriate to the target audience, with report of feeling empowered to train other health professional on BISCT. Furthermore, both specialist midwives and SSW advisors had all undergone training by the National Centre for Smoking Cessation and Training (NCSCCT) who delivers online and face-to-face smoking cessation training which now includes a pregnancy module, and found it to be comprehensive.

Four of the midwives were happy to be trained and updated but only so that they could refer on to a specialist adviser as they did not view involvement with smoking cessation as part of their midwifery practise but rather as additional work. One midwife however expressed a total lack of interest in being involved with any form of smoking cessation intervention even if training was offered except in cases of hospital admitted pregnant smokers.

Suggested improvements

Two SSW advisors and one specialist midwife reported their experiences of job shadowing staff that had more experience of being involved with pregnant women as being an extremely valuable learning activity, and advocated its incorporation into training for all new members of staff. A lot of the training had been undertaken in recent times and two advisors felt that specialised smoking cessation training was required in relation to smoking cessation in pregnancy to enable all SSW advisors to better deliver services to pregnant smokers. The specialist midwives wanted support in dealing with women's queries regarding prescription dosage for women having NRT. In general, there was a consensus that there were needs for updates and that the communication of available training and updates needs to be improved together with agreements that intervals between updates were too long.

Motivation to Engage and Quit Attempts

Most of the pregnant women were in their second trimester and were all progressing well with no reported complications. There was a report of trying the electric cigarette which induced morning sickness and was therefore discontinued. There were also reports of lapses during stressful periods but none reported going back to the number of cigarettes smoked prior to current pregnancy.

Most of the women from the deprived areas reportedly showed more interest in any incentives in the pregnancy information pack than the actual information given, and motivation to give up smoking still varied even with the encouragement of possible savings from giving up.

Giving up without 'giving up'

Whilst all pregnant women in this research reported complete abstinence or an attempt to be abstinent, all staff interviewed with the exception of one midwife felt that most pregnant smokers were more focused on trying to cut down than giving up completely.

All the women reported they had been able to cut down the number of cigarettes smoked per day drastically with two reporting giving up completely in the couple of weeks leading to their interview. Four of the women found the use of free NRT helpful. With the preference for wanting to cut down rather than give up, two midwives found the best course of action during this period was to encourage cutting down before going on to completely giving up.

All the women reported only having being offered referral into the MAMSS project for their current pregnancy with a general consensus that being pregnant and having a specialist support from the MAMSS project has been the main motivator to trying to give up smoking. This was reported as being especially so, following past experiences of a disapproving attitude whilst being offered smoking cessation support with prior pregnancies.

Having a wider network that is supportive of smoking cessation was reported as part of the integral process of smoking cessation and both specialist and community midwives reported caring for a varied spectrum of women including many very young pregnant smokers having their first baby.

The majority of the women were reportedly from a low social class, a smoking family and were unemployed. There were few occasions where family members had shown support by being receptive to the advice of giving up smoking themselves. Although, some continued to smoke and require encouragement themselves if the pregnant smoker is to have a supportive home network.

The Service Provided and Carbon Monoxide Monitoring in Practise

The MAMSS project was reportedly preferred to any private therapeutic smoking cessation sessions by the one pregnant woman who had tried private sessions, and one of the reasons given for this was the lack of consistency with follow ups with the private sessions.

Table 3. Service users' descriptors of MAMSS project

<ul style="list-style-type: none"> • Supportive • Understanding • Non- patronising • Offers coping strategies • Accessible • Helpful • Reassuring • Non- criticizing • Facilitating free access to NRT

Table 3 above shows staff backgrounds as midwives, the flexibility and convenience of home visits by the MAMSS project team was found to strengthen the likelihood of uptake of the service with many using positive descriptive to report their experiences and views of the service.

Table 4. Staff involved in the referral process for pregnant smokers

<ul style="list-style-type: none"> • Midwives • Community midwives • General practitioners • Surgeons • Stop smoking advisers • Specialist smoking cessation advisers/midwives
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Most referrals for pregnant smokers to smoking cessation services were made through antenatal clinics although other health professionals were involved in the referral process as seen in table 4 above.

Midwives see women early in pregnancy and are therefore at an advantageous point to deliver smoking cessation intervention and report referring for further support from early on if readings are above 4 PPM on the CO monitor.

Both specialist midwives and one SSW advisor reported the use of CO monitors in their practise although all in this staff group mentioned being aware of its use as standard practise set by NICE guidance, with reports that a lot of women actively respond to the CO monitors.

Four of the community midwives did not mention the use of CO monitors being part of their routine practise, giving the impression that they were not using it. Those who did report using it found it a useful tool to demonstrate possible harm to the unborn child and therefore an effective 'shock tactic'.

There seemed to be some level of apprehension with the use of CO monitors by midwives especially on women from deprived areas, as some midwives were wary of damaging the midwife-pregnant woman relationship.

Some midwives therefore relied on the pregnant smokers to self-report her smoking habit however, self-reporting was perceived to be unreliable. Moreover, most staff interviewed felt that pregnant smokers will only report back what they think is expected of them in regards to their smoking habit, making it difficult to support such women.

One advisor questioned the effect of a high CO result on changing behaviour; but staff also felt that visual messages on the adverse effect of smoking on pregnancy outcome should be promoted albeit not to the point of creating fear.

Accessibility of Services Provided and Need for a ‘Specialist’ Service for Pregnant Women

The service provided by the specialist midwives allows them the opportunity to deliver smoking cessation support on a one-to-one basis during home visits, whilst advisors were likely to have more slots in their group sessions. Home visits were not provided within the remit of the SSW advisor’s role, this group of staff were therefore more likely to experience disengagement from clients prior to completing their full treatment programme and less likely to experience a positive change process in a pregnant smoker.

All women and midwives reported having had a positive experience using the MAMSS project for smoking cessation support (see Table 3), especially in terms of the flexibility, consistency of weekly visits, consistency of the same specialist midwife, the specialist midwives having a midwifery background and accessibility.

Even though SSW advisors were found to be willing to help and take details when accessible over the telephone, there were widely held beliefs amongst most midwives that the service was poor especially with some women experiencing long waiting times for contact or not being contacted at all after referral. Three SSW advisors and both specialist midwives felt that the SSW service needed adapting to pregnant smokers and reported hoping that the MAMSS project would inform how this could be done, especially as women who had previously declined referral to SSW were taking up offer of the specialist service offered by the MAMSS project.

The only negatives reported with the MAMSS project was the absence of some pregnant smokers from their homes at the scheduled time for home visits however this was often promptly rescheduled. Also specialist advisors had a huge influx of referrals therefore more hours are required to see women referred into the specialist service to avoid introducing any delay in contacting women as numbers referred continue to increase.

Two midwives reported finding it difficult to tell just how well any of the services provided (usual care and MAMSS) worked due to their reported lack of both statistical evidence and qualitative feedback from Stop Smoking staff and the pregnant smokers themselves. All members of staff mentioned motivation as the key to successfully giving up smoking even if not actively sought after by the women at the beginning of the support process. This is reflected by the report of pregnant smokers giving up after just four weeks under the MAMSS project.

Overall, specialist service provided by the MAMSS project was viewed as the best suited for pregnant smokers by all five pregnant women, all the midwives, the two specialist midwives and two of the advisors interviewed. They attributed this to the level of availability of one-to-one opportunities, use of CO as routine practise for midwives, accessibility and flexibility of the service with one of the women suggesting that the MAMSS service should be made compulsory for all pregnant smokers.

Barriers to Accessing Support and Quitting Smoking

Many barriers to service were reported by women, specialist & community midwives and SSW advisors. Some of which are seen in table 5.

Table 5. Some barriers to service

- Offers of group therapy as opposed to one-to one session
- Lack of childcare
- Stressful situations / lifestyle e.g. being homeless and having to live in a hostel
- Lack of family support/ support network
- Misconception about nicotine replacement therapy
- Misconception about the ease of giving up
- ‘Small baby’ ideology
- Societal stigma and personal perception
- Lack of transportation
- Some problems associated with deprived areas
- Lack of motivation
- Staff background e.g. preference for midwifery background

- Lack of time by community midwives
- Lack of flexibility by non-specialist services e.g. no home visit
- Lack of contact by staff
- Location / venue of appointment
- Staff viewed as 'strangers' in some locations/venues

One of the barriers listed in table 5 pertains to the offer of home visits as all pregnant smokers were less likely to attend sessions or be consistent in accessing continuous support if services were offered without home visits. All staff agreed that pregnant smokers were a challenging group to engage in smoking cessation for various reasons.

Other reasons given for lack of success with a lot of women were the use of cigarettes as a coping mechanism for their stressful lifestyles especially amongst pregnant women living in deprived areas.

One midwife in her experience of working with a diverse ethnic background reported that cultural and language barriers to service have been experienced in areas high with this population. Another midwife however felt that there were no barriers but that pregnant smokers needed gentle persuasion, especially if the pregnant smoker's trust was to be gained.

Health Education & Promotion

Four midwives felt that pregnant smokers needed more education, as there is a misconception by some of the women that they can give up smoking when the time comes, which is mostly not the case. In addition, two SSW advisors and four midwives also suggested using a more holistic approach to include teaching and encouraging other lifestyles such as healthy eating. The use of coloured posters to advertise risks and provide helpful contacts was also suggested as ways of health promotion. The specialist midwives also suggested that all health professionals involved in the care of pregnant women should be educated on advising and supporting these women.

One SSW advisor suggested that smoking cessation messages should start from primary schools as this has the potential to filter to parents and educate young girls especially as a lot of pregnant smokers have a history of being young mothers.

The participant groups of staff and service users were generally consistent in their experiences and views of the SSS with which they had or were currently engaged. There was a reported need for training amongst the midwives whilst the advisors reported the need for more practical experience with pregnant smokers. There was a general impetus to make a change to smoking habit as a result of the pregnancy by the women; this was done mainly by cutting down the number of cigarettes smoked daily. All women found the specialist service appropriate to their supportive needs whilst all midwives in the MAMSS area and pregnant smokers found the specialist service easily accessible because of the consistent home visits. Pregnant smokers were thought of as a difficult group to engage in smoking cessation and various service related barriers were reported. Overall, the education of all women about the dangers of smoking in pregnancy, the training of all staff involved in caring for pregnant women to deliver smoking cessation intervention was advocated as a contributing factor towards reducing the public health problem of smoking in pregnancy.

V. DISCUSSION

The motivation to engage and quit smoking were examined in details and all themes were discussed in relation to literatures searched and results from the semi-structured interviews, whilst also reviewing the strengths and weaknesses of this study.

Staff role in smoking cessation

Midwives are at an expedient point in the care process of pregnant women who smoke, making them the ideal health professionals to deliver opportunistic BI to this group of women, McGowan et al (2010) reported that women were likely to be responsive to such interventions when performed by health professionals. Specialist midwives were found to understand the remits of their roles as not including prescribing; however, support needs

to be provided on how to better handle pregnant smokers who have a preference for contacting the specialist midwives for dosage advice.

It was inferred from some staff (specialist midwives, SSW advisors and community midwives) interviewed that the invaluable experiences gained from neither having a background in nursing and midwifery could neither be replicated by training modules nor shadowing experiences. Moreover, midwives receive information on smoking in pregnancy as part of their pre-registration training although the content of this training can be different between midwifery schools (Lowry & Scammell, 2013), which may lead to differences in the level of competence to be involved in smoking cessation.

The SSW advisors and specialist midwives in this study found access to training and update easier than the community midwives, with reports that practical experiences were much more beneficial to supporting pregnant smokers. In line with this finding, Owen & Tasker (2002) in their 'Smoking Cessation Training Survey' found some of the suggested ways of improving training courses to include update sessions, more interactive workshops and role-play. This practical experience was required more for the advisors, especially those without a background in nursing and midwifery as found by this study. Pregnant smokers felt discouraged by an unhelpful attitude and advice from some health professionals which were deemed inappropriate such as discouraging the use of NRT in pregnancy, this study did not provide evidence as to the reason for this unhelpful attitude.

Midwives and Service Delivery

All midwives were perceived to be keen on promoting and maintaining a positive relationship with pregnant women and were reluctant to create an image of enforcing smoking cessation. A review of the literature found no disagreement with these points but rather agreements by several studies such as those by Ussher et al (2006), Borland et al (2013), Okolie et al (2010) and Bull (2007). Herbert & Sykes (2012) found midwives to be very cautious in handling their relationship with the pregnant woman. Hence, it was not surprising that one midwife interviewed will only adopt a gentle persuasion method even with the awareness that it may not be so effective for the majority of pregnant smokers.

Suitability of service

Women experience a vulnerable phase in their lives when pregnant; and the pregnant smoker has to cope with all the changes accompanying pregnancy, a possibly stressful lifestyle, societal stigma, personal perception of judgement, and other pressures of living (Glazier et al, 2004). Therefore, in as much as the specialist midwives' role was not necessarily to provide antenatal care, pregnant smokers were more likely to be open to the familiarity, consistency of home visits and professional background of the smoking cessation midwives. The pregnant smokers in this study were found to be receptive to smoking cessation advice and support from specialist midwives, which were attributed to their background in nursing and midwifery. This was with the perception that they were better understood by the specialist midwives. Studies by McGowan et al (2010) however made no conclusion as to the health professional best suited to support pregnant smokers.

This study has been able to ascertain through the interviews conducted that if usual care services provided are not adapted to fit the pregnant smoker, specialist midwives will be in a position to experience more positive smoking cessation behavioural changes with pregnant women. Therefore the usual care services should seek to increase the provision of a more flexible service that is able to better cater for the circumstances of the pregnant smoker.

Carbon monoxide testing: Stigma and motivation

Consideration of the results from this study led to agreeing that the use of CO monitors should be standard practice as set by NICE (2010). Comments from all the midwives and specialist midwives interviewed reflected on the success of its use as pertaining to pregnant women being able to visualise their level of CO on the CO monitor. This visual effect has the probability of bringing about consideration of change in behaviour as reflected by the social cognitive theories of behaviour where an intended act is influenced by beliefs surrounding the act such as what consequences is brought about by indulging in the behaviour (Webb et al, 2010; Beenstock et al, 2012). This study therefore concluded that the use of CO monitors by midwives and SSW advisors is a useful tool in demonstrating to the pregnant mother, the harmful effects of smoking to the baby.

This again brings to the forefront another advantage of home visits as the specialist midwives found they were able to assess the women in their home environment. This allowed an insight into their level of exposure to CO, either passively from family members or from the smell of the house in the case of single mothers not readily admitting to their habit due to societal stigma as reflected by one of the women interviewed. It is however imperative to bear in mind that such demonstrative tools like the CO monitor, will not influence positive change behaviour in every pregnant smoker as suggested by at least one of the staff in this study.

Methods of Health Promotion

Methods of health promotion such as the use of bright posters and visual messages on the adverse effect of smoking on pregnancy outcome were suggested by some staff as essential to further capture the attention of more pregnant smokers. Bull (2007) suggested that health promotion method used must not be used to instil fear but to promote a healthier lifestyle. Some participants during the interview suggested that health promotion about smoking can be carried out within a holistic programme of educating young girls of schools age and women about the dangers associated with smoking such as the dangers associated with low birth weight, possibility of still birth, misconceptions of an easier birth as a result of low birth weight and healthy eating. Some of the interviewed staff within this study emphasized that school health education programmes are particularly important as young mothers are likely to be pregnant smokers, and this trend has continued to increase. Health promotion was encouraged by Radley et al (2013) who advocated the use of the media for this. It is therefore important to mention that tobacco control policies should not only be targeted at women but should underpin a wider teenage prevention strategy.

Motivation to engage and quit smoking

The perception from the staff interviewed was that women with the preconceived idea of giving up prior to getting pregnant were more likely to succeed in giving up in pregnancy and Bull (2007) found that health professionals felt better able to support such women. Bull (2007) and Radley et al (2013) found that motivation from the pregnant smoker was a key element for successful engagement with the smoking cessation service provided which reflects one of the findings from this study. Furthermore, this study has shown that both staff and service users believe that motivation is tied into the two key elements of; the state of being pregnant and having an appropriate support system from both an appropriate health professional such as specialist midwives and the social network.

Overall, some women wanted to quit whilst others only wanted to cut down. Although the ultimate aim is to give up smoking completely, pregnant smokers can still be supported to reduce the amount smoked permanently or for a temporary period of abstinence. Baha & Le Faou (2009) agreed that a greater number of pregnant smokers are more interested in cutting down the number of cigarettes smoked per day and in pregnancy than in wanting to give up smoking completely.

Several studies have concluded that monetary incentives do not necessarily contribute to motivation in either deprived or affluent areas (Radley et al, 2013; Mantzari et al, 2012 & Bauld et al, 2012). In contradiction however, NICE guidelines suggest the use of incentives as promising in other countries therefore research will be required to see if this applies to the United Kingdom (NICE, 2010).

This study therefore reflects that care must be taken not to be accusatory but educative in approaching the issue, a reflection which is supported by Baha & Le Faou (2009) and McGowan et al (2010) who suggested that false accusation might lead to a strain in the health professional-pregnant woman relationship.

Pregnant women who smoke from low income or deprived areas are more likely to be surrounded by stressful circumstances as found in this study, they were also likely to be from a family of smokers or have no appropriate home support network. It is known that having a wider support network is integral to the smoking cessation success of the pregnant smoker and that parental smoking has a high influence on children; with children being seven times less likely to smoke if the habit is seen to be disapproved by their parents (Royal College of Physicians, 1992).

Strengths and weaknesses

This study was undertaken by only one researcher, which had the propensity to introduce bias into the data selection and data analysis process where the researcher's opinions may influence how the data was interpreted. To counter this, checks at each stage of the analysis were undertaken by one supervisor.

Only the specialist midwives helped recruit service users for interviews even though all staff were frontline staff and had been asked for help in recruiting pregnant smokers. No usual care service users were recruited, therefore all pregnant smokers recruited were those receiving specialist smoking cessation support from the MAMSS project which may have influenced their views on the suitability of this service as they would not be able to talk about usual care services. The sample size was appropriate for a qualitative study; no new data were added to the main findings with seventeen participants. A larger study would however be required to increase the generalizability of the findings from this research in combination with looking at outcomes such as successful quitting.

Because of the difficulty faced in recruiting participants for this study, the mode of interviewing was lent some flexibility by allowing the use of both face-to-face and telephone interviewing. Fifteen participants were interviewed over the phone and two staff members were interviewed face-to-face. The telephone interview option allowed staff the flexibility of planning available interview date and being interviewed from a location of their choice; and pregnant smokers the anonymity they may have wished to keep and the comfort on their preferred environment.

All interviews were audio-taped with some hand-written notes made at the time of interviewing. This allowed a replay of all interviews till the researcher was familiar with the data which helped throughout the process of data analysis. The appropriate use of qualitative methods in answering the research questions makes the experiences and views expressed by participants vulnerable to subjectivity than factuality.

The use of semi-structured interviews allowed the participants to express their experiences and views to the open ended questions whilst the researcher was able to build on points raised, carefully probed, and use motivating remarks such as 'you've made a good point' and 'that's fabulous' to encourage further expression of experiences and views of smoking cessation services. Care was taken not to lead participants during the interviews and sufficient time was given to allow participants to make their points whilst gently steering the participants away from digressing topics which were not in line with the research objectives.

Overall the discussion section identified that to experience improvement in smoking cessation service uptake by pregnant smokers, there had to be an appropriately tailored support service and self-motivation for pregnant smokers to access, engage and be successful at giving up smoking. Therefore, smoking cessation service provision for the pregnant smoker has to be adapted to suit the pregnant smoker, rather than attempting to accommodate the pregnant smoker into the service available.

VI. CONCLUSION

This study has successfully explored the research questions to determine the experiences and views of service users accessing and staff delivering SSS to pregnant women in Wales.

Although some of the limitations have been recognised, both the service users and some staff (five midwives, two advisors and two specialist midwives) reported that a specialist smoking cessation service for pregnant women was deemed most appropriate for supporting pregnant smokers than a non-specialist smoking cessation service, especially with the availability of home visits as part of service provided.

Recruiting pregnant smokers receiving existing SSW support for interviews proved difficult as no participants were recommended from the SSW service mainly due to poor clinic attendance. Therefore, all pregnant smokers in the study were receiving a specialised smoking cessation service and they all agreed feeling supported. The women felt that the specialist midwife's professional background allowed a better relationship with her as a supporting health professional and could provide a more flexible service. Midwives were seen as accessible especially in early pregnancy. However, not all the midwives in this study acknowledged smoking cessation support as being part of their role, this was explained to be as a result of lack of appropriate training and time required due to other commitments.

Carbon monoxide monitors were yet to be routinely used in practise by all midwives. Its potential and that of having specialists who are midwives, at influencing pregnant women who smoke to accept smoking cessation will need further research with a larger population sample.

Motivation was closely linked with being pregnant and having an appropriate support system. Moreover, pregnant smokers were more likely to be from deprived areas and generally prefer to cut down than give up smoking completely. Stress was reported as a major factor in the inability to give up smoking, with monetary incentives not necessarily contributing to the motivation to give up. Several barriers to smoking cessation were found and reported within this study with deprivation, a smoking background, personal perception of stigma, the possibility of attending group stop smoking sessions and lack of flexibility reported as some of the main reason for poor service uptake.

To conclude, members of staff were seen to understand their roles and were aware of training requirements to provide a better service. Although advisors recognised the barriers to service imposed by their job role because they were not specialist, majority of the barriers to service were characteristic of the usual care provided by SSW advisors. Both staff and pregnant women acknowledged that accessibility and flexibility of service were key determinants of service delivery and service uptake, with motivation and having a wider support network being integral to the success of service uptake and successful quitting. Overall, it is unlikely that the problem of smoking in pregnancy will come to an end with the intervention of specialised services only.

However, wider strategies can be directed at young school-aged girls to promote a non-smoking mind set from a young age by introducing health programmes into schools for girls across Wales, as well as the use of peer support by all pregnant smokers to further promote and support smoking cessation amongst this group of women. It should however be acknowledged that pregnant smokers needed to have a specialised service in order to provide a tailored smoking cessation service capable of improving service uptake and quit rates. Therefore a larger study involving more participants would be required to cover a wider geographical area over a longer time period, while incorporating the views of other health professionals delivering specialist smoking cessation for pregnant women such as a dedicated pregnancy advisor employed by SSW or a maternity support worker.

RECOMMENDATIONS

1. The Welsh Government should focus on wider tobacco control initiatives to reduce smoking, as well as providing smoking cessation services.
2. Training about supporting pregnant women that smoke should be provided and appropriately tailored to all health professionals involved in caring for pregnant women. This includes brief intervention training for health professionals in general and specialist training for those providing smoking cessation supports, to include job shadowing experience for new stop smoking advisors.
3. All midwives should practise the use of CO monitoring in accordance with NICE guidance, and NICE should provide guidance on the cut-off level of expired CO which is appropriate for referral into stop smoking services.
4. A specialised smoking cessation service model should be adopted for pregnant women in Wales; this should offer a more suitable service to support pregnant women.

FURTHER RESEARCH

1. A survey of pregnant women accessing Stop Smoking Services as above is recommended to determine client satisfaction in this group of women.
2. It is also recommended that a system is set up to allow midwives access to the pregnant woman's smoking status once referred to Stop Smoking Services such as the use of an 'engagement and quit status' form to update midwives.
3. A prospective cohort observational study of specialist services delivered by different health professional groups, using different approaches should be undertaken on the effectiveness of each at improving service uptake and quit rates.
4. Further research is advised to answer the question of 'Can peer support for smoking cessation in pregnancy contribute to reducing smoking in pregnancy, with a longer-term aim of avoiding relapse post-partum'. This should start off with a feasibility study in an area with high prevalence of pregnant smokers.

5. A specialised smoking cessation service model should be adopted for pregnant women in Wales; this should offer a more suitable service to support pregnant women.

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