

What works to improve cervical screening rates in diverse communities?

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Introduction

- While 99.8% of cervical cancer occurrences are preventable (Cancer Research UK, 2022), there are broad health disparities in screening rates.
- Ethnicity is the greatest predictor of low screening rates (NHS, 2014).
- Ethnic minority women face many barriers in accessing cervical screening services (Wearn and Shepherd, 2022).

30 studies were included in the literature review, and 10 interventions to improve cervical screening rates in ethnic minority groups were

Objective

The purpose of this study is to conduct a literature review on interventions that have worked to improve cervical screening rates in ethnically diverse communities across the world, in order to suggest evidence-based interventions which can be used to increase cervical screening rates within the Birmingham population

Methodology

Inclusion criteria

- studies with a target population of 25–64-year-olds with a cervix
- studies which focus on ethnic minority communities or participants
- Studies published both in Britain and internationally in English
- studies which include one or more interventions or strategies to improve cervical cancer screening rates
- Studies published between 1990-2022
- Exclusion criteria
- Studies which are not peer reviewed

- Studies which did not focus on cervical cancer screenings
- Studies which did not recommend evidence-based interventions
- Data extraction
- PubMed, Web of Science, Google Scholar, and JSTOR were searched
- Further studies were obtained through cross checking bibliographies and additional British grey literature
- The CASP checklist was used to evaluate the quality of the studies.
- 40 studies were found which met the inclusion-exclusion criteria. However, only 30 were included.

Analysis

This research focuses on studies with a high or medium applicability to Birmingham.

- High - studies based on the British Health system or similar, focus on similar studies as found in Birmingham or focus on interventions that could work within the British system
- medium - could possibly be useful
- low - would probably not be useful

Applicable interventions:

- Combined interventions are more effective than singular strategies
- Educational media campaigns can be useful to the Birmingham population as studies have suggested that increased knowledge of the significance of screenings could increase women from ethnic minority groups' screening rates (Jo's cervical cancer trust, 2011; Marlow et al., 2015).
- Telephone calls in the preferred language of patients who are limited English proficient could potentially limit the effect of language barriers on non-attendance (Marlow et al., 2015). Screening invitations are currently sent through mail (Public Health England, 2021). Sending invites using translated letters could make the screening process more accessible to those who are limited English proficient.

- 95% of the UK population use a mobile phone (Statista, 2022). Therefore, sending screening invites through text messages instead of or alongside mail invitations could be an effective intervention
- Extended appointment hours is a viable option as some GP's offer weekend and evening appointments under the extended access to general practice service (NHS, 2018).
- Low-income household across the UK still face barriers to accessing healthcare due to inadequate transportation provisions (Government Office for Science, 2019), so economic incentives through vouchers to assist in transportation costs could potentially increase cervical screening rates in low-income women.

limitations:

- The health systems and ethnic groups included in the studies differ from the Birmingham ethnic minority population and the British healthcare system.
- Many studies only reported the short-term impact of the interventions.
- Many of the studies did not highlight the barriers to implementing the proposed interventions. Most articles did not declare the cost of the strategies they proposed.
- The majority of studies used self-reporting to measure the effectiveness of the intervention strategies instead of verifying the claim using claims data.

Results/Findings

Media Campaigns

- Educational media campaigns were found to be ineffective in increasing screening rates amongst Vietnamese-American participants (Jenkins et al., 1999).

Telephone calls

- 3 studies found that the use of telephone support increased minority women's screening rates (Beach et al., 2007; Dietrich et al., 2006; Oyegbite et al., 2021).

Translated letters

- An English GP found that translated letters did not attract a notable number of women (Oyegbite et al., 2021).

Personalised letters

- Jibaja-Weiss et al. (2003) found that those who received a personalised form letter were more likely to attend a screening.

Text messages

- Oyegbite et al. (2021) and Lee et al. (2015) found that, for continuously unresponsive women, text message invitation with a video linked was very effective. This intervention saw a large increase of young adults receiving a screening test (Lee et al., 2015).

Extended appointment hours

- Oyegbite et al. (2021) found that 6 out of 7 women offered flexible timings attended the screening appointment.

Economic incentives

- 4 studies trialled economic incentives to increase screening rates (Erwin et al., 2019; Mehrota et al., 2014; Okeke et al., 2013; Stone et al., 2002). However, screening only increased by under 20%

Outreach interventions

- Chalapati and Chumworathayi (2007) suggest that there is little critical evidence to suggest that outreach interventions are effective among Thai women, while Thompson et al. (2007), Taylor et al. (2002a), Taylor et al. (2002b) and McAvoy and Raza (1991) suggest that outreach interventions are efficient.

Community centred education

- Community centred education initiatives have been proven to be ineffective in increasing screening rates amongst Asian-American women (Maxwell et al., 2003; Moskowitz et al., 2007).

Culturally sensitive strategies

Conclusion

- There is not a lot of directly applicable research on interventions which could increase South Asian and Black women's screening rates in the UK. However, the findings can be applied to the Birmingham population.
- Interventions which include telephone calls, translated letters, educational media campaigns, economic incentives and extended appointment hours are the most applicable interventions to the Birmingham context.
- With more research, these interventions could increase cervical screening rates in diverse communities in Birmingham

Recommendations

- Further studies on interventions that specifically aim to improve the low screening rates of Black British people with a cervix are needed.
- More research on interventions which attempt to overcome direct barriers to cervical screening rates that ethnic minorities in the UK is required.
- Further research on the short and long-term impact of using telephone calls, translated letters, educational media campaigns and extended appointment hours as interventions to increase women from ethnic minority backgrounds' cervical screening rates is necessary.

Reference table

Research	Intervention	Applicability to Birmingham
Jenkins et al. (1999)	Media campaigns	Medium -Vietnamese women in US
Beach et al.(2007)	Telephone calls	High - non English speaking women in the US
Dietrich et al. (2006)	Telephone calls	Medium - low income women in the US
Oyegbite et al.(2021)	Telephone calls, translated letters, text messages, extended appointment hours	High - British system
Jibaja-Weiss et al. (2003)	Personalised letters	Medium - US based
Lee et al. (2015)	Text messages	Medium - Korean women in the American US
Mehrota et al. (2014)	Economic incentives	Low - privatised care in South Africa
Okeke et al. (2013)	Economic incentives	Medium - Nigerian women in Nigeria
Stone et al. (2002)	Economic incentives	Medium
Erwin et al. (2019)	Economic incentives	Low - Arusha and Kilimanjaro regions of Tanzania
Chalapati and Chumworathayi (2007)	Outreach interventions	Medium - Thailand
Thompson et al.(2007)	Outreach interventions	Medium - Chinese women in US
Taylor et al.(2002a)	Outreach interventions	Medium - Chinese women in US
Taylor et al.(2002b)	Outreach interventions	Medium - Cambodian women in US
McAvoy and Raza (1991)	Outreach interventions	High - Indian women in new zealand
Maxwell et al.(2003)	Community centred education	Medium - Filipino women in US
Moskowitz et al. (2007)	Community centred education	Medium - Korean American
Love and Tanjasiri (2012)	Culturally sensitive strategies	Medium - Thailand

Valdez et al.(2018)	Culturally sensitive strategies	Medium - Latina women in US
Sossauer et al.(2014)	Culturally sensitive strategies	Medium - Cameroon
Mock et al. (2007)	Media based education with education through lay workers	Medium -Vietnamese women in US
Wang et al. (2010)	Education with patient navigation	Medium - Chinese women in US
Bird et al. (1998)	Education through dayworkers with culturally sensitive print materials and media campaigns	Medium -Vietnamese women in US
Paskett et al.(1999)	Community outreach interventions with in reach interventions	High - African-American women
Whitman et al. (1994)	Community outreach interventions with in reach interventions	High - African-American women
Thompson et al. (2006)	Community organisation interventions	Medium - hispanic women in the US
Suarez et al. (1997)	Peer interventions with role models in the media	Medium - Mexican women in the US
Hou (2005)	follow-up telephone calls with printed materials and personalised letters	Medium - Taiwan based