The Physiological Implications of Cigarette Smoking Perception in Pregnancy among Young Adult Aged 16-25 in England: A Critical Literature Review

By

[Terence Dona]

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Signature: _____

Date: _____

DECLARATION

I, (your name), would like to declare that all the material of this study is solely my own work that has been performed without any aid. This work had not been submitted previously at any academic or professional level. The views represented in this study are my own and not those associated with other university.

Signed _____ Date _____

Abstract

The prevalence of tobacco smoking among adults aged 20-34 years is considerably high with prevalence of 28% among those aged 20-24 years. Department of Health affirms that the rate of smoking during pregnancy in England will be reduced to 11% or less by the end of year 2015. The topic is of interest due to the extensive pervasiveness of the smoking behaviour among young adults in the UK. Severe neonatal outcomes have also been reported due to maternal smoking during pregnancy. The aim of this study is to explore the physiological implications of perceptions of adults aged 16-25 in London, England regarding cigarette smoking during pregnancy. This study involves a secondary research design based on critical review of the literature. JSTOR, MEDLINE and PsycINFO electronic databases were searched to obtain important information. Individuals belonging to low socio-economic background have relatively increased risk of smoking in comparison to those belonging to high socio-economic status. Pre-term birth and low birth weight are common among infants born to smoker mothers. Interventions should be directed towards development of policies and laws that promote elimination of smoking menace from the society.

Keywords: Smoking Interventions, Smoking in teenage mothers, Smoking Attitudes and Behaviours, Smoking consequences and Smoking statistics.

Abbreviations

UTI Urinary Tract Infection

DH Department of Health

IFS Infant Feeding Survey

BMI Body Mass Index

NICE National Institute for Health and Care Excellence

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CHAPTER 1- INTRODUCTION

Background of the research formulating core understanding of the topic is demonstrated in this section. Rationale for selection of topic is presented as well as the aim and objectives underpinning the research. Moreover, a comprehensive discussion of theoretical framework of the study is presented as well as the current context of the topic based on the policies and prior research.

1.1 Background

An increased concern and interest has been developed in reproductive health during the recent years. According to the estimates of Health and Social Care Information Centre (2013), the highest prevalence of tobacco smoking was reported among adults aged 20-34 years with prevalence of 28% among those aged 20-24 years. Similarly, the percentage of women smoking during pregnancy was also reported to be high as observed by the IFS, which is conducted after every five years in the UK. Based on these estimates of 2010, 20% of the women in England smoked during pregnancy or between 12 months of pregnancy. Young pregnant women aged less than 20 years were less likely to have given up smoking during or before pregnancy accounting for 38%.

Department of Health (2011) has suggested in their document *Healthy Lives, Healthy People: A Tobacco Control Plan for England,* that the rate of smoking during pregnancy in England will be reduced to 11% or less by the end of year 2015. Severe health problems related to pregnancy can be caused as a consequence of smoking during pregnancy. It encompass complications during labour along with an elevated risk of low-birth weight, still birth, premature birth, miscarriage, and sudden unanticipated mortality in infancy. There is also 40% increase in the risk of infant mortality due to smoking during pregnancy. It also aims at reducing adult smoking prevalence in England to 18.5% by the end of 2015. The

primary action in this regard is increasing the cost of tobacco so that it becomes less affordable for pregnant adults from lower socio-economic status. It is based on the policy of taxation on tobacco for increasing the price of tobacco, making it difficult for the buyers to abide the expenses (Department of Health, 2011).

Preventive interventions for reducing and quitting smoking have been widely supported. The present measures of smoking among pregnant adults are not adequate to provide reliable and valid findings. Additionally, access is not provided to pregnant adults for cessation therapies and smoking services. Midwives being the first contact for pregnant adults in the healthcare facilities should serve as the primary healthcare professionals providing proper smoking cessation advice and referrals to pregnant smokers. Evidence-based guidelines should be developed for supporting and encouraging pregnant adults to cease smoking (Action on Smoking and Health, 2008). NICE (2010) recommends identification of women at increased risk of smoking during pregnancy. These women should be referred to Stop Smoking Services of the NHS. According to NICE (2010), pregnant women aged less than 20 years are five times more probable of continuing smoking during pregnancy in contrast to pregnant women aged 35 and above. The likelihood of smoking during pregnancy is increased if pregnant adults belong to low socio-economic status. Additionally, quitting smoking was more among pregnant adults who received advice for ceasing smoking contrary to those receiving advice for cutting down smoking.

1.2 Rationale

The topic is of interest due to the extensive pervasiveness of the smoking behaviour among young adults in the UK. A new phenomenon of female adolescent smoking has emerged recently in the developed countries for instance, the UK. Consequently, there are an increased number of girls who are smoking in contrast to boys who are smokers. Socio-

economic changes have been considered as the major cause of elevating rates of smoking among females. A limitation of cultural and social constraints that used to prevent several adults from smoking is perhaps the major factor persuading adults to smoke (Sieminska & Jassem, 2014). Furthermore, the consequences of maternal smoking during pregnancy are adverse for the neonatal health throughout the course of development. It also results in long-term psychiatric and behavioural disorders. Negative neuro-developmental outcomes have been reported through maternal smoking during pregnancy. Placental vasculature is impacted by nicotine in the cigarette smoke. Therefore, it is important that pregnant adults are counselled about the negative effects of smoking. Moreover, they should be abstained from smoking to promote healthy development of the foetus (Shea & Steiner, 2008).

Severe neonatal outcomes have also been reported due to maternal smoking during pregnancy. It increases the risk of preterm birth besides UTI. Adverse perinatal outcomes are also associated with smoking during pregnancy (Hodyl et al, 2013). Therefore, it is crucial to explore the perceptions of young adults in the UK about smoking during pregnancy and physiological implications associated with it. Office for National Statistics (2013) reported that 7% of the pregnant adults continued smoking during pregnancy. However, this survey suggested that the prevalence of smoking during pregnancy was low among pregnant women aged 16-49 years. However, the report of smoking was considered to be less likely among these pregnant women was based on the discrimination experienced by these women.

1.3 Theoretical Framework

The theoretical framework selected for this study is the social cognitive theoretical framework which has been extensively used previously in the literature for promoting reduction of smoking among pregnant women (Patten, 2012). According to Bartholomew (2011), psychosocial interventions have incorporated theoretical frameworks for assisting

women in abandoning smoking during pregnancy by influencing their behaviour. Behaviour change theories have been applied for to identify adaptable determinants (Webb, 2010). There are numerous behaviour theories providing a summary of the constructs, processes, and techniques as well as presentation of hypothesised associations or causal pathways influencing behaviour (Michie, 2012). This theoretical framework is based on the social cognitive theory of Bandura that presented an alternative description related to the necessary basis of behaviour change. An imperative constituent of the afterwards behaviour change is self-efficacy, defined as the perceptions of an individual regarding their personal competencies in a specific situation. Increased likelihood of behavioural change is predicted for individuals considering them capable of altering their behaviour (Romanowich, Mintz, & Lamb, 2009).

1.4 Aims and objectives

The aim of this study is to explore the physiological implications of perceptions of adults aged 16-25 in London, England regarding cigarette smoking during pregnancy. It also discusses the immediate and long-term health consequences of cigarette smoking.

The objectives of this study encompass the following:

1. To discuss the perceptions of young adults in the UK regarding cigarette smoking during pregnancy.
2. To assess the physiological implications of cigarette smoking during pregnancy.
3. To converse about the interventions and strategies for reducing the rate of cigarette smoking during pregnancy and its outcomes.

1.5 Research questions

The research questions of this study include the following:

1. What factors are responsible for the prevalence of cigarette smoking among youth?
2. Why do teenage mothers continue smoking despite the knowledge of its negative consequences?

1.6 Current context

An immense amount of literature exists with regards to the adverse consequences of smoking during pregnancy on both maternal and neonatal health outcomes. Mamun et al (2012) reported that smoking during pregnancy is related with an elevated risk of neonatal obesity. They found that offspring of mothers with higher rate of smoking during pregnancy had elevated risk of being obese and had greater BMI in comparison to those born to non-smoker mothers. Giving up smoking during pregnancy reduced the risk of obesity among neonates. Hakonsen, Ernst, and Ramlau-Hansen (2014) affirmed that smoking has been the most extensively spread exposure among some of the populations, with rapid variations occurring in both the intensity and prevalence over time. There are numerous known impacts of smoking on developing foetus; with one of the widely documented impact being the negative effects on foetal growth and complications during pregnancy.

According to Baeza-Loya et al (2014), the use of electronic cigarette has recently become more popular among the younger generation, subsequently increasing smoking trend within this group. Use of these cigarettes is more among young individuals in comparison to the older people. Moreover, the perceptions of adverse impact of e-cigarettes on maternal health are in general less negative when compared to those related with the use of tobacco cigarette. Hence, the perceptions that these cigarettes are safer for pregnant women can induce free use of e-cigarette. Nicotine from these cigarettes can cause foetal harm because their use is more prevalent and frequent among young pregnant women. Wiehe et al (2010) argued that stigmatisation and discrimination experienced by adolescent pregnant girls can

lead to excessive smoking during pregnancy. Moreover, gender based prejudice also predicts increased smoking among pregnant females. O'Callaghan et al (2009) contended that smoking among mothers during pregnancy predicts smoking behaviour among their children. Adolescents having mothers who had given up during pregnancy were considerably more likely to withdraw from smoking at 21 years of age in comparison to adolescents whose mothers continued smoking in pregnancy. Hence, mothers should cease smoking during pregnancy to improve the enduring health outcomes for their children.

Bennett et al (2010) supported the association of discrimination for pregnant women as a determinant of smoking behaviour during pregnancy. Discrimination is experienced by majority of the young pregnant women due to which they indulge in smoking. According to Petersen et al (2010), interventions targeted at reduction of smoking during pregnancy have improved the attitude of women related to smoking behaviour and its cessation during pregnancy. The initiation of process was related with the understanding of reality leading to embracing change and decision for holding back from smoking. It resulted in the development of feelings of hopelessness into proficiency. Interventions for reducing smoking among young adolescents are important overcome the negative outcomes related with smoking by pregnant youngsters on their infants.

CHAPTER 2- METHODOLOGY

This study involves a secondary research design based on critical review of the literature. Search was performed to access pertinent articles. Electronic library of The University of East London academic resources system (Athens) was searched for accessing the articles. JSTOR, MEDLINE and PsycINFO electronic databases were searched. Keywords used included Smoking Interventions, Smoking in teenage mothers, Smoking Attitudes and Behaviours, Smoking consequences and Smoking statistics. Relevant material was chosen from government reports, Health survey for England reports, Office for National Statistics reports, and Google scholar search engine.

Some superficial and inappropriate material is often yielded by the literature search. Efficient searching of the literature must make certain that demarcation of the irrelevant and pertinent literature is performed by specifying the inclusion and exclusion criteria. Therefore, before making any decision about the articles, the researcher is required to make decision regarding the articles that have to be included in the review. This demands the elimination of those articles from the review that does not meet the criteria set for inclusion of articles. This review has included both the quantitative and qualitative studies that are full-text and from the peer-reviewed journals.

The inclusion criteria for the selection of relevant articles included thorough screening of the literature to include those studies that were published during the year 2000-2014 to obtain recent information regarding perceptions of cigarette smoking during pregnancy among adults in the UK. The studies that are in languages other than English language were excluded. Most of the articles were excluded because they did not address the topic being studied. It resulted in the inclusion of 6 studies that were explicitly from the UK and provided information pertaining to perceptions of young adults in UK about smoking during pregnancy and the strategies for reducing smoking in this population.

Several limitations were encountered in this research related to various aspects of the study process. Being a novice researcher, the intent of the researcher pertaining to the recognition, critique, and compilation of the literature might have not been as comprehensive as that of a researcher with more experience. Other limitations related to this study were the scarcity of time and resources. Restraints of time were experienced during the process of this study because pressure was created, as the researcher was required to meet the deadline. Another limitation was associated with the small number of articles that were included in the review as only 6 articles were included.

CHAPTER 3- FINDINGS

This chapter presents the findings of this study based on the critical review of the literature. Three main themes have emerged from the literature that includes perceptions of young adults in the UK about smoking during pregnancy and its physiological implications, factors associated with smoking during pregnancy, and prevention of smoking during pregnancy. These identified themes mentioned above are discussed below:

3.1 Perceptions of young adults in the UK about smoking during pregnancy and its physiological implications

Mallia and Hamilton-West (2010) conducted a study to determine the perceptions and behaviours of smoking during pregnancy among young adults in the UK. The topic was clearly presented focusing on the population and research question. The article of this study comprehensively portrays the context of research. The topic of the article is apparently presented in the introduction predicting its association with tobacco smoking based on the rates of smoking and interventions developed for its reduction. Facts have been correctly presented through appropriate interpretations. Discussion of the article is relevant proposing that findings of this study are consistent with that of the previous literature suggesting an association between social norms and rate as well as perceptions of smoking among different populations. The methodology of this research was appropriate as it compared the perceptions and rates of smoking among the UK and Maltese university students. Survey used in this study was appropriate method for performing this kind of research (Creswell, 2014). Sample size of this study entailed similar number of the British and Maltese nationals. Survey questionnaire was completed by the participants and statistical analysis was performed to obtain results. The findings of the study are presented unambiguously reporting an increased prevalence of smoking among Maltese adolescents (46%) in contrast to the

British adolescents (25%). This significant variation was related with the perceptions among students about smoking as the British adolescents had more societal pressure to cease smoking due to which they had more positive attitudes towards smoking cessation. Presence of other smokers in the surroundings was associated with increased prevalence of smoking among the Maltese students in contrast to the British students. Hence, the author was clear about the observations that variations exist among prevalence of smoking and perceptions of its behaviour among young adults in different countries. Therefore, the research methodology is apt and can be easily replicated (Mallia & Hamilton-West, 2010).

Flower et al (2013) conducted a study evaluating the impact of pregnancy planning on neonatal outcomes. The title of study is relatively non-predictive of the actual objective of research. Though the abstract makes an effort to unveil all the crucial components of research, background of the research has ascertained that purpose of the article is in coherence with the research aim. Therefore, the information cited in the article is relevant without overemphasising any significant information. The presentation of the manuscript is appropriate including apt discussion related to the topic. The methodology of this research is replicable as data has been taken from the Millennium Cohort Study predicting planned pregnancy or inverse with smoking behaviour. Majority of the pregnancies were unplanned accounting for 43%. Reduced smoking just before pregnancy was reported by 34% of the participants. Smoking was reduced among mothers with planned or unplanned pregnancy, but the rate was high among pregnant women with planned pregnancies. The odds of premature birth or low birth weight were higher among unplanned pregnancies as compared to planned pregnancies. There was one third reduction in the risk of low birth weight through decrease or cessation of smoking during pregnancy. The methodology can be imitated as the data is established. The assumptions of author regarding definite percentage of reduction in low birth weight and premature birth are however overemphasised (Flower et al, 2013).

3.2 Factors associated with smoking during pregnancy

Hawkins, Law, and Graham (2009) evaluated the impact of domestic trajectories and life-course factors on smoking behaviour among ethnic minority women prior to and after pregnancy. The topic of this article was comprehensible and the abstract evidently encompassed all the critical aspects of the research. Introduction provides considerable information and consequences of smoking on related to pregnancy with regards to neonatal outcomes. The references cited by the author are relevant to the discussion and topic due to which they are pertinent. All the sections of manuscript are adequate and do not necessitate either omission or expansion. The topic under discussion has been actually briefly described by the author. Additionally, the methodology is appropriate because data has been analysed form the UK Millennium Cohort Study representing data of women from various ethnic backgrounds. Information was collected with regards to the smoking attitude of women at various intervals of pregnancy and postpartum. Moreover, the socio-demographic characteristics of pregnant women were also gathered to consider the social trajectories predicting their smoking behaviour. According to assumptions of the author, social disadvantages are an important cause of increased rate of smoking among pregnant women belonging to different ethnic groups. Based on the findings of this study, pregnant women were more likely to smoke if their age at first pregnancy was 14-19 years. Smoking was more probable among women from different ethnic minorities if they were socio-economically disadvantaged across the course of life (Hawkins, Law, & Graham, 2009).

Waylen et al (2011) argued that depiction of smoking in the society is also an important factor determining the attitudes of young generation towards smoking. Portrayal of smoking in the films was assessed by the author in this article and the title is consistent with the topic. Abstract of the article aptly presents the objectives, methods, and findings of the study. Moreover, the introduction is thriving in presenting the purpose of research related

with the exploration of association of smoking depiction in films and smoking behaviour in youth. The discussion of the article has contrasted findings from others countries to create a foundation for understanding the context of research. Information referred in the article is pertinent to the topic and considerable amount of emphasis has been given to the cited data. The methodology of the study is based on cohort of 5166 adolescents in the UK. Responses were collected through computer assisted interviews about exposure to films depicting smoking and smoking behaviour of these adolescents. Meta-analysis of the studies revolving around the same topic was also performed. The outcomes of this article suggested an increased association between smoking illustrations in films with elevated risk behaviour of smoking among young adolescents. It was evident that portrayal of smoking in films increases the likelihood of smoking among adolescents at an early age. These findings contrasted with the results of meta-analysis suggesting an increased prevalence of smoking as a consequence of smoking depiction in films. Hence, the findings of the article are apt and methodology can be replicated (Waylen et al, 2011).

3.3 Prevention of smoking during pregnancy

Hardy et al (2014) assessed an advice delivered to pregnant women who have been smoking during pregnancy and the maternal characteristics of these women. There is no ambiguousness in the title of this study as it clearly articulates the actual objective of the study. The abstract of article precisely demonstrate the background, methods, results, and conclusion of the study. The facts have been properly interpreted with background of the research presenting prevalence rates of smoking among pregnant women and the policies as well as guidelines developed for deliverance of advice to these women for smoking cessation. Most of the discussion presented in this article is relevant to the topic that accurately describes the role of healthcare professionals in the provision of information and guidance to

pregnant women who are smokers. The author has correctly cited the references as most of them deals with current guidelines related to the promotion of smoking cessation among pregnant women in the UK. Furthermore, the addition of guidelines for encouraging healthcare professionals to provide support to pregnant women for giving up smoking are also conversed by the author. The ideas of the study have neither been overemphasised nor underemphasised. The manuscript of the study properly presents all the relevant information. Methodology of this research is based on statistical analysis of data from the Health Improvement Network database for the year 2000 to 2009 with regards to the advice for cessation of smoking delivered to pregnant women in the UK. An increase was reported in the delivery of advice to pregnant women to cease smoking following the introduction of guideline based programme for smoking cessation. Young pregnant smokers aged 15-19 were more probable to receive this advice in contrast to those aged 25-29. Presence of comorbidities also increased the probability of receiving smoking cessation advice during pregnancy (Hardy et al, 2014).

Koshy et al (2010) conducted a study to predict the association and impact of assistance by partners, family, and friends to pregnant quitters and non-quitters of smoking on their smoking-related behaviour. The title of this article is itself an illustration of the research objective and the abstract provides comprehensive description of various aspects of the study. Introduction of the article deals with different phases of pregnant and experiences of pregnant women during these stages with regards to support provided by their partners, family, and friends. Hence, the purpose of research is clearly articulated in the introduction. Facts presented in the article are deduced properly. Discussion is based on the interventions adopted for the promotion of smoking cessation among pregnant women by targeting their behaviour. It compares the research findings with that of the previous studies. All the references are appropriately cited with emphasis given to the pertinent information. The

thoughts presented in the manuscript are brief, focusing on the suitable material and maintaining clarity of the statements. Methodology of this research is apt for exploring this topic as the researcher has conducted interviews with pregnant women. Interviews were performed in two groups that included pregnant women who quitted smoking and the other group that included non-quitter pregnant women. Number of participants in both the groups was same to obtain reliable results. The findings of this article are indistinct as further researcher is required to clarify the understanding of role played by significant relationships in smoking cessation among pregnant women. Receipt of more encouragement by close relationships was related with increased rate of quitting among pregnant women. Therefore, the methodology of this study can be easily replicated; however, the findings might differ (Koshy et al, 2010).

CHAPTER 4- DISCUSSION AND CONCLUSIONS

This chapter discuss the findings of literature review and their comparison with the previous literature. Conclusion of the study is presented based on the physiological implications of smoking during pregnancy as perceived by young adults in the UK. Recommendations for further research and implications for development of policies and guidelines to reduce rates of smoking among young adults in the UK are also demonstrated.

4.1 Discussion

The findings of this review suggest that perceptions of youth in the UK are appropriate regarding smoking during pregnancy as they are aware of adverse consequences associated with smoking. These perceptions have steered their behaviour towards smoking by reducing smoking during pregnancy in comparison to other populations. Society is a vital predictor of smoking behaviour among youth as societal pressure can cause reduction in smoking (Mallia & Hamilton-West, 2010). This important factor has also been previously illustrated by the literature suggesting a close association between socio-economic factors and smoking attitude among young adults (NICE, 2010).

Similarly, this review also found influence of socio-economic factors on smoking attitude of pregnant young adults. Prospect of continuing smoking is increased if pregnant women belong to low socio-economic status (Hawkins, Law & Graham, 2009). Relevance of societal characteristics and influence on smoking attitudes of young adults can also be determined through the finding of previous research. Children born to smoker mothers are more likely to be involved in the same behaviour related to smoking. Young adults having mothers who gave up smoking during pregnancy have greater prospect of quitting smoking at reaching maturity in comparison to young adults whose mothers continued smoking during pregnancy (O'Callaghan et al, 2009).

Adverse neonatal outcomes have been predicted by maternal smoking. Pre-term birth and low birth weight are common among infants born to a smoker mother. Moreover, the likelihood of these outcomes is elevated if pregnancy is unplanned, preventing adoption of smoking reduction or cessation among pregnant women (Flower et al, 2013). Ethnic minorities are more disposed to smoking and experiencing adverse neonatal outcomes because this group face disparities in receiving healthcare interventions, including smoking cessation guidelines and laws (Hawkins, Law, & Graham, 2009). Depiction of smoking in the society is an important predictor of smoking trend and attitudes of the youngsters. It is related with the development of perceptions of young adults and crafts their attitudes towards smoking (Waylen et al, 2011).

Considering the severe impact of smoking on neonatal outcomes, it is essential that measures are taken for promoting reduction of smoking among pregnant women. Majority of these interventions are targeted at behaviours of pregnant women. Significant outcomes are achieved through delivery of appropriate information to pregnant women about cessation of smoking during pregnancy. A large number of pregnant women have reported smoking cessation following the receipt of advice to quit smoking. Programmes based on policies for cessation of smoking have shown considerable reduction in smoking rates among pregnant women following the implementation of these programmes (Hardy et al, 2014). An important role can be played by family members and other close relatives of pregnant women in providing assistance to stop smoking (Koshy et al, 2010). Besides family and friends, healthcare professionals can also promote smoking cessation among pregnant women (Action on Smoking and Health, 2008). Hence, it is clear from the literature review that perceptions of young adults in the UK regarding smoking are based on their socio-demographic factors. Neonatal outcomes related with smoking among young adult pregnant adolescents are

adverse, necessitating interventions for reducing the burden of smoking among young adults in the UK.

4.2 Conclusion

The perceptions of young adults about smoking during pregnancy are related with their socio-economic backgrounds. Individuals belonging to low socio-economic background have relatively increased risk of smoking in comparison to those belonging to high socio-economic status. Furthermore, it is an important factor determining increased prevalence of smoking among young adults in the UK. Societal norms are associated with smoking related behaviour among the youth. Young adults guided to give up smoking and provided support, as well as appraisal in these regards are more likely to cease smoking. These attitudes are also representative of neonatal outcomes among pregnant women who continued smoking during pregnancy. Pre-term birth and low birth weight are common among infants born to smoker mothers. Hence, the attitude of pregnant women towards smoking before, during, and after pregnancy predicts health outcomes of their infants. Interventions should be directed towards development of policies and laws that promote elimination of menace of smoking from the society. Programmes should be created for providing information to pregnant young adults about the adverse consequences of smoking during pregnancy (NICE, 2010).

4.3 Recommendations

The review of literature has suggested that social factors play an important role in predicting smoking behaviour of young adults in the UK; consequently, it becomes necessary that socio-economic background of young adults is considered when providing them advice about smoking cessation. Further research is necessitated to elucidate the interventions that

can be taken for reducing smoking rates among young pregnant adults and factors responsible for increased smoking among young adults in the UK.

4.4 Implications

Healthcare professionals should focus on promoting cessation of smoking among young adults, particularly pregnant adolescents and girls. Family and friends of pregnant young adults can serve a critical part in this process by providing them support and appraisal during their efforts to give up smoking. Policies should be designed by the government for instance, increasing tax on cigarette and tobacco to reduce smoking among low socio-economic group. Laws must be developed and implemented to decrease smoking rates in the UK.

References

Action on Smoking and Health (2008) *Beyond Smoking Kills: Protecting Children, Reducing Inequalities*. Retrieved from: http://www.ash.org.uk/beyondsmokingkills

Baeza-Loya, S., Viswanath, H., Carter, A., Molfese, D. L., Velasquez, K. M., Baldwin, P. R., ... & Salas, R. (2014). Perceptions about e-cigarette safety may lead to e-smoking during pregnancy. *Bulletin of the Menninger Clinic*, *78*(3), pp. 243-252. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/25247743

Bartholomew, L. K., Parcel, G. S., Kok, G., Gottlieb, N. H., & Fernandez, M. E. (2011). *Planning health promotion programs: an intervention mapping approach*.3rd edition. John Wiley & Sons.

Bennett, I. M., Culhane, J. F., Webb, D. A., Coyne, J. C., Hogan, V., Mathew, L., & Elo, I. T. (2010). Perceived Discrimination and Depressive Symptoms, Smoking, and Recent Alcohol Use in Pregnancy. *Birth (Berkeley, Calif.)*, *37*(2), pp. 90–97. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3627361/

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* SAGE publications. Pp. 1-273. Retrieved from: http://www.amazon.com/Research-Design-Qualitative-Quantitative-Approaches/dp/1452226105

Department of Health (2011) *Healthy Lives, Healthy People: A Tobacco Control Plan for England*. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/213757/dh_124960.pdf

Flower, A., Shawe, J., Stephenson, J., & Doyle, P. (2013). Pregnancy planning, smoking behaviour during pregnancy, and neonatal outcome: UK millennium cohort

study. *BMC pregnancy and childbirth*, *13*(1), pp. 238. Retrieved from: http://www.biomedcentral.com/1471-Waylen, A. E., Leary, S. D., Ness, A. R., Tanski, S. E., & Sargent, J. D. (2011). Cross-sectional association between smoking depictions in films and adolescent tobacco use nested in a British cohort study. *Thorax*, *66*(10), 856-861. Retrieved from: http://thorax.bmj.com/content/66/10/856.short

Håkonsen, L. B., Ernst, A., & Ramlau-Hansen, C. H. (2014). Maternal cigarette smoking during pregnancy and reproductive health in children: a review of epidemiological studies. *Asian Journal of Andrology*, *16*(1), -pp. 39–49. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3901880/

Hardy, B., Szatkowski, L., Tata, L. J., Coleman, T., & Dhalwani, N. N. (2014). Smoking cessation advice recorded during pregnancy in United Kingdom primary care. *BMC family practice*, *15*(1), pp. 21. Retrieved from: http://www.biomedcentral.com/1471-2296/15/21/

Hawkins, S. S., Law, C., & Graham, H. (2009). Lifecourse influences on maternal smoking before pregnancy and postpartum among women from ethnic minority groups. *The European Journal of Public Health*, pp. ckp170. Retrieved from: eurpub.oxfordjournals.org/content/early/2009/11/02/eurpub.ckp170.short

Health and Social Care Information Centre (2013) *Statistics on Smoking: England, 2013*. Retrieved from: http://www.hscic.gov.uk/catalogue/PUB11454/smok-eng-2013-rep.pdf

Hodyl, N. A., Stark, M. J., Scheil, W., Grzeskowiak, L. E., & Clifton, V. L. (2013). Perinatal outcomes following maternal asthma and cigarette smoking during pregnancy. *European Respiratory Journal*, pp. erj00549-2013. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/23900987

Koshy, P., Mackenzie, M., Tappin, D., & Bauld, L. (2010). Smoking cessation during pregnancy: the influence of partners, family and friends on quitters and non-quitters. *Health & social care in the community*, *18*(5), pp. 500-510.Retrieved from: http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2524.2010.00926.x/full

Mallia, C., & Hamilton-West, K. (2010). Smoking-related attitudes and perceptions among young adults in Malta and the UK. *Psychology, health & medicine*, *15*(3), pp. 347-356. Retrieved from: www.tandfonline.com/doi/abs/10.1080/13548501003653200

Mamun, A. A., O'Callaghan, M. J., Williams, G. M., & Najman, J. M. (2012). Maternal smoking during pregnancy predicts adult offspring cardiovascular risk factors–evidence from a community-based large birth cohort study. *PloS one*, *7*(7), pp. e41106. . Retrieved from: http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0041106#pone.0041106-Nafstad1

Michie, S., & Johnston, M. (2012). Theories and techniques of behaviour change: Developing a cumulative science of behaviour change. *Health Psychology Review*, *6*(1), pp. 1-6. Retrieved from: www.tandfonline.com/doi/full/10.1080/17437199.2012.654964

NICE (2010) *Quitting smoking in pregnancy and following childbirth.* NICE public health guidance 26.

Retrieved from: http://www.nice.org.uk/guidance/ph26/resources/guidance-quitting-smoking-in-pregnancy-and-following-childbirth-pdf

O'Callaghan, F. V., Al Mamun, A., O'Callaghan, M., Alati, R., Najman, J. M., Williams, G. M., & Bor, W. (2009). Maternal smoking during pregnancy predicts nicotine disorder (dependence or withdrawal) in young adults–a birth cohort study. *Australian and New Zealand journal of public health*, *33*(4), pp. 371-377. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/19689599

Office for National Statistics (2013) *Opinions and Lifestyle Survey, Smoking Habits Amongst Adults, 2012*.

Retrieved from: http://www.ons.gov.uk/ons/dcp171776_328041.pdf

Patten, C. A. (2012). Tobacco Cessation Intervention During Pregnancy Among Alaska Native Women. *Journal of Cancer Education : the Official Journal of the American Association for Cancer Education*, *27*(0 1), pp. S86–S90. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3922823/

Petersen, Z., Steyn, K., Everett-Murphy, K., & Emmelin, M. (2010). Pregnant women's responses to a tailored smoking cessation intervention: turning hopelessness into competence. *Global Health Action*, *3*, pp. 10.3402/gha.v3i0.5379. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3002877/

Romanowich, P., Mintz, J., & Lamb, R. J. (2009). The Relationship Between Self-Efficacy and Reductions in Smoking in a Contingency Management Procedure. *Experimental and Clinical Psychopharmacology*, *17*(3), pp. 139–145. . Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3105444/

Shea, A. K., & Steiner, M. (2008). Cigarette smoking during pregnancy. *Nicotine & Tobacco Research*, *10*(2), pp. 267-278. Retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/18236291

Sieminska, A., & Jassem, E. (2014). The many faces of tobacco use among women.*Medical Science Monitor : International Medical Journal of Experimental and Clinical Research*, *20*, pp. 153–162. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3915001/

Webb, T. L., Sniehotta, F. F., & Michie, S. (2010). Using theories of behaviour change to inform interventions for addictive behaviours. *Addiction*, *105*(11), pp. 1879-1892. Retrieved from: onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2010.03028.x/full

Wiehe, S. E., Aalsma, M. C., Liu, G. C., & Fortenberry, J. D. (2010). Gender Differences in the Association Between Perceived Discrimination and Adolescent Smoking. *American Journal of Public Health*, *100*(3), pp. 510–516. Retrieved from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2820048/#bib24