Alcohol consumption during pregnancy

Health & Medicine, Drug Abuse

Introduction

The paper to be reviewed is an investigation by Duncan, Forbes-McKay and Henderson (2012)

into the application of the theory of planned behaviour (TPB, Ajzen, 1988, 1991) and its effectiveness in predicting intention to carry outhealthrelated behaviours. The TPB is a social cognition model, meaning that it seeks to predict intention to carry out a behaviour and to understand why individuals may fail to adhere to a behaviour to which they were once committed. The theory claims that three variables can be used to predict an individual's behaviour: the individual's attitude toward the behaviour, the attitude of significant others toward the behaviour and the individual's perceived control over a behaviour. Perceived control over behaviour is governed by both internal factors such as an individual's skills or available resources, and external factors such as actual opportunities to carry out the behaviour. Unlike the individual's attitude toward the behaviour and the attitude of others, perceived control over the behaviour is believed to influence both the intention to carry out the behaviour and the behaviour itself. In particular, the authors were investigating whether the TPB could be used to predict intention to consume alcohol during pregnancy. Previous research has found the TPB to be useful for predicting a range of other health related behaviours (Godin and Kok, 1996) and alcohol consumption behaviours in particular (Marcoux & Shope, 1997; McMillan & Conner, 2003). The authors focused on the role of TPB in being able to predict the consumption of alcohol during pregnancy. Drinking during pregnancy is a major health issue. It has been found to influence a number of outcomes for the child including maladaptive

behaviours (Sood et al., 2001) and weight at birth (Mariscal et al., 2006). Despite its relation to negative outcomes for the child, up to 54% of women in the UK have claimed to have consumed alcohol during their pregnancy (Bolling et al., 2007).

Study Description

130 women based in the Aberdeenshire area returned a questionnaire that was distributed to them at their 20-week pregnancy scan. Of these, analysis was carried out on 116 women. The questionnaire included questions designed to gather information on demographic details, past and present alcohol consumption, and TPB variables. The TPB variables included measuring the participants' intention to engage in the behaviour, their attitude toward the behaviour, their beliefs about the subjective norm and their perceived behavioural control. The study found that the majority of participants made changes to their drinking behaviour once they found out that they were pregnant, with these changes taking the form of a reduction in alcohol consumption. 64. 7% abstained from alcohol altogether during their pregnancy, 34. 5% continued to drink to some level and 0. 9% did not answer. Of those women who continued to drink during their pregnancy, 13. 4% were drinking above the recommended maximum levels whereas the rest were drinking one to two units between two and four times per month. It was also found that although most participants received information about drinking during their pregnancy, 12. 9% received no information.
In relation to the TPB theory, it was found that women who abstained from drinking after finding out they were pregnant had significantly higher scores

on the intention scale, suggesting that they had a significantly greater intention to quit alcohol consumption during pregnancy. Abstaining participants also had significantly higher scores on the subjective norm scale, indicating that they felt more pressure from what others thought about drinking during pregnancy. Abstainers were also found to have significantly lower scores on the attitude scale, suggesting a much less positive attitude toward the behaviour of drinking during pregnancy. In contrast,, the scale that measured perceived behaviour control did not show any significant differences between those women who abstained and those who continued to drink during their pregnancy.

Attitude toward the behaviour and the influence of what others thought of the behaviour were found to be strongly and significantly correlated with intention to carry out the behaviour of abstaining from alcohol during pregnancy. TPB was able to explain 59. 3% of variance in intention to drink during pregnancy. Furthermore, the theory was able to correctly classify 91. 8% of cases and as a result, was statistically able to distinguish between drinkers and abstainers. The authors concluded that as attitude was found to have the greatest statistically significant contribution to predicting intention and to contribute significantly to predicting actual behaviour, it would be an ideal candidate for intervention focus. As perceived behaviour control was the only TPB component found not to contribute, the authors suggest that the model without this component would be appropriate for predicting intention to consume alcohol during pregnancy.

Critical Review

The reviewed article addressed an important health issue, namely investigating how drinking alcohol during pregnancy could be reduced by understanding what drives or stops women from having the intention to carry out this behaviour. The finding that attitude toward drinking whilst pregnant has a significant impact on both intention to drink during pregnancy and actual drinking during pregnancy could have wider clinical and educational applications. Nevertheless, the authors are vague in how their findings could be applied in the real world and fail to make useful suggestions based on their data. The finding that some women were not provided with information pertaining to the consumption of alcohol during pregnancy is also an important one because it highlights that some health trusts are failing to help women make informed decisions about this subject. However, it is not touched upon in the discussion.

The study’s introduction is a little weak in that it does not make an overly convincing argument as to why their chosen topic is important and worth investigating. It makes only a brief reference to the negative impact that alcohol consumption can have on both mother and baby, and the literature to which it refers is quite outdated. This suggests that a thorough and recent literature review may not have been carried out. Furthermore, the study could present a much stronger argument as to why the TPB may be applicable to this health behaviour in particular. There is some justification in that the authors of the paper chose this particular theory on the premise that a socially-based theory such as TPB could highlight risk factors for the consumption of alcohol during pregnancy that could be more easily influenced than previous risk factors that have been identified such as

drinking habits before pregnancy and socioeconomic status (Stewart & Streiner, 1994; Yamamoto et al., 2008). Risk factors such as these cannot be easily changed. In contrast, risk factors based on attitudes toward a behaviour can be more easily altered throughеducationor government interventions. The discussion does not flow particularly well and the overall conclusions of the study are not entirely clear. An advantage of the TPB is its holistic approach. It attempts to understand the behaviour of an individual in the context of both an individual's attitude toward a behaviour, their perceived control over that behaviour and how they perceive others to judge the behaviour. However, our intentions to carry out a behaviour or not are the result of an incredibly complex process during which many variables are taken into account. Although the limitations of the study's methodology are touched upon in the discussion, the authors fail to explore the limitations of the TPB and how these may affect their findings. For example, McKeown (1979) argued that negative health behaviours are determined on the individual level by the choices we make to behave in a certain way. Therefore, the theory may place too much emphasis on the importance of what others think of a behaviour. Indeed, in the current study, individual attitudes toward a behaviour were found to be more influential than subjective norms.

One criticism of this study is its potential lack of representativeness, both culturally and geographically. Ethnic minorities made up only 6. 9% of the sample, meaning that the results may not be generalisable to ethnic minorities. Furthermore, the sample was collected from only one geographic area, although the authors argue that their findings are in keeping with

previous studies that used samples from a much wider geographical area (Anderson et al., 2007; Bolling et al., 2007). There may also have been a bias in the way in which participants were recruited. Women were approached by the researchers whilst awaiting their 20 week antenatal scans in hospital. The scans are designed to screen for any anomalies in the baby and to check that development is normal. These scans are not compulsory, potentially creating a bias in the sample. For example, Alderdice et al. (2007) found that women without qualifications or women from areas of high deprivation were significantly less likely to uptake an offer of a 20 week screen for Downs Syndrome than women from affluent areas or women with degree-level qualification. This suggests that the women who were approached by the researchers in the current study may have been under-representative of women from lower socio-economic backgrounds. Furthermore, the study does not provide detail on the demographic information of the women who responded to the questionnaire, which would have been useful in evaluating generalisability.

The measure used to ascertain TPB variables was developed using guidelines for the development of questionnaires designed to measure TPB behaviours (Francis et al., 2004). However, the measurement used was not a validated questionnaire. Furthermore, the authors do not provide examples of how they measured the three variables of intention, subjective norm and perceived behaviour control. This means that the measure cannot be opened up for scrutiny or re-used in later studies to assess its validity and reliability. Before the main study, a small pilot study was carried out with seven pregnant women to ensure that the questionnaire was easy to understand.

Pilot studies are essential for establishing a sound study design (van Teijilngen & Hundley, 2001). Although, it should be noted that the authors did not report the results of any reliability or validity tests. As part of the test battery, the study did use the Alcohol Use Disorders Identification Test, a reliable and valid measure for gathering information on alcohol consumption that was developed by the World Health Organisation (Saunders et al., 1993, Scottish Intercollegiate Guidelines Network, 2004). This measurement has been reported to be superior to other measures designed to collect data on the same subject (Reinert & Allen, 2002).

Self-report measures in themselves have a number of limitations. Firstly, they are subject to social desirability bias. Social desirability bias acknowledges that participants may report carrying out behaviours that are socially desirable or may cover up being involved in behaviours that are frowned on. Based on the finding that subjective norms had a significant impact on both intention and behaviour, social desirability bias may have affected the results of this study. If participants were so influenced by what others thought of alcohol consumption during pregnancy, then they may have been likely to cover up occasions on which they did drink during their pregnancy. This means that the number of participants who did drink during pregnancy may have been higher than the study reported.

Recommendations for Improvement and Future Research

If this study is to be replicated, it could be improved in a number of ways. Firstly, ethnic minorities must be better represented. Great Britain is now a multi-cultural country and research must reflect this. The authors must

provide more information or a copy of the questionnaire designed to measure TPB variables so that reliability and validity can be assessed. A useful future study would be to assess the impact of an intervention designed to change the attitude of women who do not perceive drinking alcohol during pregnancy to be an issue. As attitude was found to be the most important factor in intention to carry out this behaviour, the currently reviewed study would be strengthened if an intervention based around attitude was found to change behaviour.

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