

The effects of shift work on people's health and wellbeing



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The aim of this literature review is to investigate the effects that shift work has on a person's health and all the different health conditions it can lead to. This review is looking into if there is an association between rotating night shift work and the risk of nurses developing type 2 diabetes. Because this topic hasn't been researched very well in the past so this time the people conducting the research tried to make sure that there was a large population group and made sure that they collected as much information as possible so as they could get the best results.

Type 2 diabetes is a long term metabolic disorder that is characterized by high blood sugar levels, insulin resistance and relatively lacks insulin. It is estimated that 8.5% of the world's population has diabetes which is equivalent to 1 in 11 people will have it. From 1980 the amount of people across the world that has diabetes has risen from 108 million to 422 million in 2014. Out of all of the people around the world with diabetes approximately 90% of these people have type 2 diabetes and is largely caused by obesity and lack of physical activity. Approximately 2.4 million people worldwide work rotating shifts and this type of work has been linked with a metabolic syndrome and other health problems such as high blood pressure, high blood sugar levels, obesity and unhealthy cholesterol. Some variables that could possibly make the study not reliable is if some of the participant had certain chronic diseases such as heart disease, stroke, cancer, diabetes and a genetic predisposition. Other factors could be lifestyle factors such as a poor diet, inactivity and being overweight/ obese.

The experiment method that was used to undertake the study was a quantitative study, this is shown by the fact that they have used

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questionnaires to ask the nurses questions about lots of different things to receive the information that they need to gather the results for the research study. The data that was collected for this study was gathered from two different groups of female nurses. The first group was called NHS One and was established in 1976 and had a population of 121, 704 aged from 42 years to 67years and the second group was called NHS Two which was established in 1989 and had a population of 116, 677 aged from 25years to 47years and both of these groups were made up of nursing staff. Both groups were firstly given a questionnaire to gather information on the nurses about their lifestyle practices and to see if they had any chronic illnesses. Some of the nurses were then excluded from the study as they had illnesses such as diabetes, heart disease, stroke or cancer, this then changed the original population amounts amongst both groups to 69, 269 females for NHS Ones cohort and 107, 915 females for NHS Two cohort and this was the population that was used for the analyses.

Over the course of the experiment both groups were given more questionnaires every 3 or so years asking about how many years had they been working rotating night shifts for and how many night shifts, day shifts and evening shifts were completed in that month of work. Both groups members were given a supplementary questionnaire if they reported a diagnosis of diabetes, they had to answer questions on the symptoms they experienced, diagnostic tests and things to do with hypoglycaemic therapy, the case of type two diabetes was only confirmed if the person had at least one of the National Diabetes Data Group Criteria was mentioned on the questionnaire. Every two years both groups of nurses were given some

questions on their body weight, smoking habits, amount of physical activity, any family history of diabetes, menopausal status and hormone use. Dietary information was collected every 4 years using a semi quantitative food frequency so that they could record how much food they eat and what types of food they have and how much alcohol and water they also have. Further along in the study the amount of daily hours of sleep and snoring frequency for cohort NHS one were collected over approximately 16 years.

In June 30th, 2008 for NSH One and June 30th, 2007 for NHS Two each participant's years of being eligible for the study was added up. Getting diagnosed with type two diabetes, death or the end dates of the study was where the researchers added up to depending on what came first for each person and from this they used the time dependent cox proportional hazards model to estimate the level of risk for developing type two diabetes from rotating night shift work compared to women who did not state that they had a history of rotating night shift work.

Taking into account other external factors the researchers found that a large amount of the women from both groups were more likely to have a higher BMI and to be overweight and also would also be more likely to be a current smoker. From group NHS One female nurses that had experienced more years of rotating night shift work were more likely to be given a diagnosis of hypertension and to also experience regular snoring. During the study there was no noticeable changes done by the researches and at the end of the study it was found that from group NHS One 6, 165 women developed type 2 diabetes and from group NHS Two 3, 961 women developed type 2 diabetes.

In this experimentally study researchers found that in both groups the risk of developing type 2 diabetes compared to women who stated that they do not work rotating night shifts increased with the number of years they were working rotating shifts. It was also found that there is a strong association between rotating shift workers and having an increased risk of getting type two diabetes and having a higher body weight. I do think that this topic does need more research done into it as this study was conducted a long time ago and a lot of things have changed between nursing care and the way shift work is done today. I also think that it would be really beneficial for nurses and other people who do shift work to have more information on this so that they can be more aware of the heightened risk they have of getting type two diabetes and to learn of ways in which they can help to lower the risk of developing it in the long run.