Epidemiology Studies And Risk Factors

Running head: Epidemiology studies and risk factors 1

The three epidemiology reports that I chose were reports that dealt with disease and/or disorders that are commonly found in the human population (such as cancer, diabetes, and epilepsy) as well as reports that clearly used either case study or cohort studies.

I also, chose the three reports that were used because they were from trusted sites that are familiar and well known and respected in the medical community. The three reports that I used for my project also, were studies carried out by researchers in the medical field.

Risk factors are factors or things that exist in a person's life and they increase your chance of developing a disease or a health condition. Understanding your health risk factors will help in learning how to control them (the ones that are within your control) and will lead to having better health and possibly being able to avoid developing disease or a health condition. Still having an understanding and having knowledge of the health risk factors you don't have control over can still help you to be able to handle better and be better prepared for the health condition and disease you may develop. The health risk factors that you don't have control over are things such as sex and/or gender, ancestry (especially for those of us who are African American or any other minority). The risk factors that you can control are diet, physical activity, use of alcohol, and use of illegal drugs.

The three reports/studies that I am using in my paper are diabetes, epilepsy, and cancer and these are health conditions that have risk factors that can be controlled that if done correctly can/will prevent these conditions. These risk factors are getting enough physical activity and diet (a good healthy well balanced one) help keep the body and its organs and hormones working properly which prevents diabetes, epilepsy, and even cancer (to a certain degree). Other controlled risk factors such as refraining from the use of illegal drugs and alcohol can keep you healthy and from obtaining health conditions such as diabetes. Unfortunately, you can also develop cancer, epilepsy, and diabetes from health risk factors that can't be controlled, and this is where ancestry and family health history come into concern. When it comes to epilepsy this is a medical condition that is inherited so family health history and ancestry come into concern here, but it is inherited when present or history of condition is in both parents not just one (Baker, J. n.d.)

In the report that was chosen for diabetes the study design used was the cohort study design. What classified the study design as cohort is because they used a large population or group of people in their study, but they also were able to assess multiple or more than one disease. The second disease assessed in this cohort study was both diabetes but also vascular disease. In the cohort study design for diabetes the study can be or show prospective as far as how the future progression of diabetes will look if health risk factors aren't properly addressed or if the risk factors are addressed and taken care of by the study subject.

Lastly, because a direct risk can be established, and diabetes is a commonly found health condition makes it a prime candidate for being studied through a cohort study design.

Researchers will not have a problem finding candidates to have enter their cohort study for research which is why diabetes is good for a cohort study and because the patients or research subjects can be studied in real time and studied while exposed to different risk factors they can be observed with direct risks that each risk factor contributes to their health condition. All these different reasons as listed is why the research on diabetes is proper for using a cohort study design (Sawar, N., Gao, P., Seshasai, S.R.K., Gobin, R., Kaptoge, S., … Danesh, J. 2010, June 26).

In the report for cancer the study design that was used and is best used is case control study. In case control study a singular disease or outcome can be effectively studied, and, in this report, it is cancer. Another point is that a case control study is not just easier but quicker as far as amount of time it takes to conduct the research. This amount of time works well for research done in a case control study but works against a cohort study design. The amount of time taken to conduct the research is important in a disease like cancer because it affects every patient different and there is no set amount of time that is guaranteed that each or a large quantity of patients will live or survive until the end of the research.

Lastly, what makes the report or research on cancer work in a case control study is that this type of study design is effective for finding different and multiple exposure risks. In a case control study, the researcher can find if the case group which is the people who have the disease have been exposed to multiple risk factors to why they developed the condition or disease. It also can establish in the case control study if those who fall into the control group or those without the disease (cancer in this case) are or were exposed to less health risks than those in the case group.

In the report that researched cancer yes, a case control study design was used but a cohort study design can also be used in this case. The reason that a cohort study design can be used is due to the fact that cancer is a disease that in some patients can take time or a lengthy amount of time to develop and before symptoms can be observed which would make it great for use in a cohort study design. This taking time to develop and before symptoms can be observed can give researchers time to be able to track the progress of the disease as well as track the time that health risk factors were exposed towards the client in the research. The length of time for the develop and progression also allows those in the control group or those who don’t have the disease to be tracked on length of time they were exposed to health risk factors as well.

Besides being just a cohort study design the research report on cancer can also fall into two subgroups of the cohort study design. The research on cancer falls into both a retrospective and a prospective cohort study design.

A retrospective cohort study design is one that looks backwards and to the present which means a retrospective cohort study would look to the past as to view the (past) medical records and/or notes of the participants in the study. Due to participants having exposures to health risk factors in the past and the progression of the disease developing and then presenting itself after a progression of time in the present this makes retrospective cohort study designs worth using in research. The exposure to health risks in the past will be described and noted for researchers to study and align with how the disease or health condition has progressed with (amount of time) exposure to health risks on the participant.

What makes this research study on cancer prospective cohort study design is that the research

is based on both groups the case and control group being exposed to health risk factors in the present and the progression of the disease developing in the future. Prospective cohort study design also is tracking how health risk exposures can cause the study participants to possibly or eventually develop the disease or health concern in the future. This study design is dealing with future study of a disease because prospective is in the future which is the opposite of retrospective cohort study design.

Both a prospective and retrospective cohort study design was discussed for research on cancer and both study designs can be used in this research but if there is one that is still best suited for this research it is in my opinion retrospective cohort study design. Retrospective cohort study design is better suited for this research because of it starting in the past and research going into the present time. The risk of losing research participants is lower with this study design versus the risk of hoping to have participants in the future in case they don't survive treatment or are lost to the research.

Also, with retrospective cohort study medical notes, forms, and history documented from the past will be on hand to be viewed and the participant there to be able to observe the present outcome from past exposure to health risks. Last, you will also, be able to observe how participants in the control group (those without the disease or health concern) were exposed to health risk factors in the past and the amount of time if any for them to develop the disease or health concern and which health risk factors that they were exposed to caused them to develop the disease or health concern. The reasons as described is why in my opinion a retrospective cohort study design would be more beneficial to use in the research for cancer (Epidemiologic Studies. 2012, March 29).

The study design that would be best used in the research for epilepsy would be cohort study and then as the subgroup would be a retrospective cohort study. The reason for this being chosen is that in the research the data came from participants medical files and the files were scanned looking for data on past outcomes and then how the researchers can get these participants into present treatment or checkups with physicians and Doctors. By the researchers viewing data from exposures and outcomes that have already happened and taken place this qualifies this research to be done using the retrospect cohort study design.

One last note on what also, helps to qualify the research for a retrospective cohort study design is that in this research being studied is epilepsy but at the same time including research on a rare form of epilepsy.

A pro of using cohort study designs is the ability to be able to assess multiple condition of interest(s) which in this case is epilepsy and the rare form of epilepsy. Since a rare form of epilepsy is mentioned in the research report that is another advantage and area of when to use cohort study design. Cohort study design is good for and works for rare exposures when it comes to conditions of interest. These reasons as listed here are why the cohort retrospective study design is what works with the research for epilepsy and including rare epilepsy (CDC-Funded Epilepsy Epidemiologic Research Projects. 2019, January 25).

The determinant risk factors that are associated with the health problems that were researched in the three reports used in this project are as follows: With diabetes the determinant risk factors are genetic risk factors which mean having a family health history of diabetes or people on both sides (of parents) having diabetes puts that person at risk of developing the disease or

developing and passing it on to their children in the future. Gender is another risk factor that can contribute to a person developing diabetes. Both men and women are capable of developing diabetes, but men are more likely to develop diabetes as women are more likely to have a regular physician and see their physician on a more regular basis.

One last determinant health risk associated with diabetes is age. With age you have some who are exposed to risk factors for periods of time such as high in sugar drinks and foods as well as fatty foods or the wrong diet and sedentary lifestyle for years and without taking care or regular physician visits develop diseases and health conditions later in their late adult life. On the other hand, you have people who are exposed frequently and at an early age who go into adulthood (early) and develop diseases and health concerns who then develop early on conditions such as diabetes. These are examples of some determinant risk factors of diabetes.

Determinant risk factors of cancer are genetics or family health history. If cancer is in a person's family again on both parent's side, it can increase the chance of that person or even their children developing cancer in the future. Another determinant risk factor is environment. What this means is exposure to cancer causing substances or carcinogens such as chemicals, radiation, (excessive) sunlight (not being protected), tobacco, or even some man-made chemicals or those used in construction and in factories.

Even being exposed to pathogens or infectious agents can cause in some people cancers of different types. Examples of this is HIV which can cause HIV or AIDS related cancer, HPV which in some can cause cervical cancer, and Hepatitis B/C which can cause in some liver cancer. These determinant risk factors described are just a few examples of what can possibly cause cancer if exposed to.

Determinant risk factors for a person developing epilepsy are Cerebral palsy, Alzheimer's disease, and Autism spectrum disorders. Other risk factors are being born small or underweight for a newborn are medical history risk factors that could cause a person to develop epilepsy as well as having seizures when young/at an early age whether they are from fever related, a family history of them, posttraumatic seizures, or long episodes of /repeated seizures they can and are capable of causing epilepsy to develop.

Health conditions for example a brain tumor, inflammation of the brain, meningitis or any infection of the brain, bleeding in the brain, a serious injury to the brain, and anything that can cause oxygen to not be able to reach your brain (receiving a lack of) can be a concern and can cause epilepsy.

Just as there are determinant risk factors that can cause a person to develop epilepsy a person could also not experience or suffer from any of the conditions or diseases listed above and still end up with epilepsy so health or natural conditions aren't always a result of epilepsy. However, the examples that are listed previous are and can be causes of epilepsy (RN, P.O.S., n.d.).

Medical or natural reasons for diabetes, cancer, and epilepsy were giving as determinant risk factors for those diseases and medical conditions but some others are also, age (as people get older being exposed to risk factors affect them differently than when exposed young). And if exposed to a health risk factor for multiple years into late age that constant exposure can cause disease or health concerns to arise.

Another health risk factor that can negatively affect health is income. Income a lack of or even not enough income can be the difference between being able to afford to go see a physician and the difference between buying prescription needed or not being able to afford the cost. Those who are of the lower income level or who work jobs that they don't make enough income can't afford health insurance and can't afford the cost of buying prescriptions or the co-pay from going to see a physician. Not having the income, they don't go on a regular basis to see a physician and don't go for treatment of preventive care for diseases or illnesses.

A last determinant risk factor for health is demographic factors. These are things such as education level, income level, occupation and marital status. These factors are important and relate because education level or if you have a diploma versus a college education determine the type of job a person can have which relates to income and if health insurance will be affordable or capable. Marital status is a factor because a single person household is bringing in less monies than if it was a two (married or in a couple) person household.

Now that I was able to describe the study group design that were used in the research papers for the three reports used in my paper and also, being able to describe the determinant health risk factors that can contribute to cancer, diabetes, and epilepsy on the health condition of epilepsy this completes my paper for my week three project for Introduction to Public Health.

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