

# Osteoarthritis In Chester County

Abdullah Almutairi

**Abstract:** The effects of OA on individuals and the society extend far beyond forced changes to their lifestyles. Currently, thirteen percent of all adults and thirty-three percent of those older than sixty-five years live with OA. This amounts to twenty-seven million Americans (CDC, 2015). In Chester County, twenty-six percent of adults have a certain form of arthritis, of which OA is most likely to be the most common variant (Pennsylvania Department of Health, 2011). These figures indicate that OA currently affects a sizeable portion of both the populations of the US and Chester County. There are risk factors identified, various issues related to an individual's society and culture contribute to the emergence of OA.

## Introduction:

Osteoarthritis is a serious health concern that significantly affects an individual's life, creating a burden on both the society and the economy. The condition is a degenerative joint disease that damages the cartilage around joints and most of the tissue surrounding them as well. The degeneration of the joints occurs when the repair of the tissue around it does not match its breakdown. When the condition emerges, individuals start to experience a range of debilitating chronic symptoms that significantly affect their quality of life (Litwic, Edwards, Dennison & Cooper, 2013). These symptoms include chronic joint pain, stiffness of the limbs, and limited mobility. If the disease progresses to an advanced stage, the affected joints could fail entirely and cease to function, disabling the individual (Litwic, Edwards, Dennison & Cooper, 2013). Through these symptoms and gradual effects, OA forces individuals to spend a lot of money on care and management, particularly on problems such as chronic pain. Eighty percent of all individuals with OA have limited movement, of which twenty-five percent require assistance in their daily living (CDC, 2015). Resultantly, OA does not just affect the lifestyle of the affected individual but that of his family and society as well. The effects of OA on individuals and the society extend far beyond forced changes to their lifestyles. Currently, thirteen percent of all adults and thirty-three percent of those older than sixty-five years live with OA. This amounts to twenty-seven million Americans (CDC, 2015). In Chester County, twenty-six percent of adults have a certain form of arthritis, of which OA is most likely to be the most common variant (Pennsylvania Department of Health, 2011). These figures indicate that OA currently affects a sizeable portion of both the populations of the US and Chester County. Research indicates that OA significantly affects an individual's morbidity and mortality. Currently, the risk of OA stands at twenty-five percent for hip joints and forty-five percent for knees. This high morbidity means that the disease is a major contributor to the majority of knee and hip replacement operations (Cooper & Arden, 2011). According to the CDC (2015), OA is associated with excess mortality. Individuals with the disease are sometimes twice as likely to die from cardiovascular and dementia-related reasons as their healthy counterparts are. Beyond these OA-related deaths, the condition is directly responsible for 0.3 deaths out of one hundred thousand people every year. This amounts to approximately five hundred deaths every year (CDC, 2105). OA therefore appears to be a major health concern for the US. There are numerous risk factors to OA. Perhaps the biggest risk factor of OA is obesity and other related metabolic diseases. Research associates obesity with the development of OA in hip and the knee. Significantly, this

correlation does not necessary lie with the weight problems, but actually regards the root cause of obesity itself. Litwic et al. (2013) argue that a common pathogenic mechanism may be the main cause of both conditions. Another major risk factor of OA is age. OA disproportionately affects older people, with the risk of developing the condition increasing significantly as an individual age. This correlation emerges because of various issues related to aging such as oxidative damage, weakening of the muscle, and a reduced resistance to joint injury in aging people (Litwic et al., 2013). A third notable risk factor for OA is sex. The likelihood of developing OA in joints such as the hips, hands, and knees is much higher in women than it is in men. Interestingly, this likelihood increases markedly after women reach menopause, further demonstrating the connection between aging and OA (Litwic et al., 2013). These three major risk factors substantially increase the likelihood of an individual developing OA. Beyond the risk factors identified above, various issues related to an individual's society and culture contribute to the emergence of OA. Social causes of OA relate to factors within an individual's society that can lead to the emergence of OA. One social cause of OA is the social perceptions of smoking. Individuals living in communities where people smoke are more likely to be smokers themselves, an issue that increases the risk of OA (CDC, 2015). In Chester County, smoking could be a contributing factor for twelve percent of the adult population (Pennsylvania Department of Health, 2013). Lastly, cultural issues can also cause OA. This effect occurs in the way that cultures affect people's diets, contributing to their obesity or sometimes preventing them from consuming foods that can prevent OA (CDC, 2015). This could be an issue for the twenty percent of adults in Chester County that are obese (Pennsylvania Department of Health, 2013). Given these socio-cultural issues related to OA, health promotion program should involve a variety of stakeholders beyond the people vulnerable to the condition. Key stakeholders in the program should include people with OA, people vulnerable to OA, the families of both people with the condition and at risk of the condition, and the county health department.

## Review of Health Promotion Program Literature

Past research has established the benefits of using a health promotion plan to counter the effects of OA and to prevent individuals who are at risk from contracting the condition. Given the difficulties that individual with OA face in their lives, health promotion plans therefore come across as one of the most efficient ways of dealing with the condition, particularly in a community such as Chester County where

the majority of people have access to vital resources. The majority of intervention programs aiming to prevent or manage OA focus on the use of physical activity to forestall the condition. In their study, Smith-Ray et al. (2013), combine physical activity with weight management in designing a program that can help individuals with OA in their lower extremities cope with the condition and live normal lives. The researchers designed this program because of the high incidence of obesity in the US, a condition that is a risk factor for OA. According to Smith-Ray et al. (2013), regular physical activity in the form of aerobic exercise and strength training can significantly reduce the pain that people with OA experience, while also delaying their disability. In dealing with these two concerns, the program would reduce the costs of treatment for people with OA, thereby minimizing the economic impact of the condition. The program by White et al. (2015), sought to deal with OA in a similar manner, by dealing with weight management and physical exercise. However, the key difference between this program and the aforementioned one concerned the stage at which it was initiated. In the previous study, the researchers used their intervention as a way of dealing with OA after it had developed in individuals, particularly as a way of reducing the dependency of people with the condition. Conversely, the program by White et al. (2015) focuses on prevention of the development of knee pain using weight loss and exercise. An additional benefit of this program is that it focused on individuals who were at high risk of developing knee pain later in their life, but were yet to start experiencing the problem. The researchers determined the high-risk of these individuals based on the fact that they already had type 2 diabetes and were obese. Notably, the second of those medical complications is a major risk factor for osteoarthritis. Through the study, White et al. (2015) determined that the use of an intensive lifestyle intervention that changed the individuals' diets and increased their exercise reduced the likelihood of knee pain developing in the short-term. As with the previous program, exercise and weight management come across as effective ways of preventing OA in individuals in interventions that effectively counter some of the condition's risk factors. Hootman, Helmick and Brady (2012) examine possible diabetes interventions from a public health perspective and stress the need for public health programs to focus on changing the lifestyles of elderly people at risk of developing the condition. Similar to the other programs, Hootman, Helmick and Brady (2012) acknowledge that physical activity is one of the best ways of both managing OA and preventing its emergence. Accordingly, the researchers insist that health promotion campaigns focusing on OA should emphasize the need for physical activity in old people. Hootman, Helmick and Brady (2012) identify activities such as walking, biking and swimming as safe exercises that elderly people can undertake to benefit their health at little risk of physical harm. Additionally, they identify five key issues that every health promotion program should stress. Firstly, elderly people should learn OA management strategies. They should also maintain their weight at a healthy level. Thirdly, it is important for elderly people to remain active even as they continue to age. Elderly people should also visit their physicians regularly to prevent OA. Lastly, it is vital for people at risk of OA to protect their joints from sustaining damage. In focusing on

these five issues, an OA health promotion campaign should succeed in ensuring the wellbeing of people at risk of developing the condition. The chronic and debilitating nature of OA makes it important for people with the condition to practice self-care. For individuals with the condition, chronic joint pain and a limited range of movement prevent them from engaging in daily tasks and soon even force them to rely on the care of others. Accordingly, Coleman et al. (2012) investigated how a program promoting self-management for people with OA in the knees can improve their capability to care for themselves and enable them to regain their independence. The self-management program that they advocate is implemented in a community setting, in which individuals attend classes together, during which they assist each other in learning the different ways they can care for themselves despite their OA (Coleman et al., 2012). The specific elements of the class include general information on the issues surrounding OA and basic anatomy, information on the management of OA through measures such as exercise and better diets, active encouragement to increase physical activity, lessons on pain management techniques and education on the types of education. The biggest advantage of the program that Coleman et al. (2012) advocate is that it comprises a holistic approach to care that focuses on lifestyle changes as well as pharmacological issues. Accordingly, the program is suitable for people at risk of OA as well as those in advanced stages of the condition. In a unique health promotion program, Lyu (2015) proposes the use of a staggered promotion program to deal with OA in knees using arthroplasties. This program lacks many of the aspects that others dwell on such as a community approach and a self-help model. Additionally, it does not apply for cases where people are yet to develop the condition but are at high risk of doing so. However, Ryu (2015) reported high success rates for each stage of the program indicating its viability as a solution to the problem that many people face with OA. The program presents its own advantages that others do not as well. For instance, individuals who seek to deal with their OA through surgery are far more likely to find a permanent solution to their problem. People who seek surgical solutions are also more likely to report being highly satisfied with the program (Ryu, 2015). While the affordability of the program might be an issue for poor people, the high-income levels of Chester County's residents means that the majority of them will be able to afford the procedure. Accordingly, Ryu's model comes across as a viable alternative to the use of the preferred measures of physical activity and dietary changes in response to the development of OA.

### **Conclusion:**

In Chester County, twenty-six percent of adults have a certain form of arthritis, of which OA is most likely to be the most common variant. Therefore, combining the best aspects of the programs above leads to the development of a comprehensive health promotion program for dealing with OA that should cater to the needs of Chester County's elderly people. The most important aspect of planning for the program is the target population. The most effective programs have a community-based approach and focus on improving public health. These programs also prefer to educate the population, rather than implement direct

interventions. Another important planning aspect of the program concerns the key areas of focus. Depending on the approach a program assumes, the area of focus will be either prevention or management. Some wider programs are capable of covering larger populations and therefore focus on a variety of areas. In focusing on these two planning issues, it will be possible to develop a comprehensive and effective program that fits Chester County.

## References

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