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Promotion of Physical Activity in the Hospital Setting

Förderung körperlicher Aktivität im Krankenhaus

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ZUSAMMENFASSUNG

Erwartungsgemäß werden die Kosten für Volkskrankheiten in Zukunft weltweit weiter ansteigen. Der wissenschaftliche Beweis für die positiven Gesundheitseffekte regelmäßiger körperlicher Bewegung liegt vor. Das Rezept für Bewegung wurde entwickelt, um das Ausmaß der körperlichen Bewegung von Patienten zu steigern sowie klassische Risikofaktoren für Krankheiten positiv zu beeinflussen und die Lebensqualität zu verbessern. Dennoch wird von körperlicher Bewegung als Behandlungsinstrument in der Gesundheitsversorgung noch immer zu wenig Gebrauch gemacht, während der präventive Einsatz von körperlicher Bewegung anerkannter ist. Das Krankenhaus könnte der Schlüssel zur Implementierung von körperlicher Bewegung als Behandlungsoption im Gesundheitssystem sein. Einige Barrieren, darunter auch die Bildungsbarriere sowie logistische und administrative Barrieren, müssen angesprochen werden. Nicht nur die Motivation des Patienten, sondern auch die der Gesundheitsexperten, eine adäquate Empfehlung auszusprechen, ist von Bedeutung. Richtlinien und Erstattungsmodelle für den Einsatz von körperlicher Bewegung in Krankenhäuser werden außerdem gefordert. Nationale und internationale Vereinigungen zu Netzwerken, die relevante Organisationen beinhalten sollten, die sich auf verschiedene Weise der Steigerung von körperlicher Bewegung im Gesundheitswesen widmen, werden zukünftig eine entscheidende Rolle spielen.

Schlüsselwörter: körperliche Bewegung, Prävention, körperliche Bewegung auf Rezept, Volkskrankheit, Implementierung.

INTRODUCTION

The scientific evidence for the positive health effects of regular physical activity (PA) is now well established. Due to the increasing number of studies in this field, it is known that regular PA will decrease the risk for metabolic and cardiovascular disease (CVD) (2,15), as well as for cardiovascular and overall death (8). In addition, PA may have positive treatment/and or preventive effects on numerous other conditions such as asthma, depression, osteoarthritis, osteoporosis, cancer, neurological disease, risk of falls and quality of life (20,21,27). The health effect of PA seems to be dose-responsive, with the greatest benefits shown for improving a very low level of activity (18). Indeed, sedentary time has recently been found to be an independent risk factor for future mortality (14), highlighting the importance of avoiding unnecessary bedrest also in the hospital setting.

The effect on CVD is partly due to PA having preventive and/or treatment effects on many of the classical risk factors for CVD (30). In spite of this, the use of PA as treatment modality in health care is underutilized. For example, while physicians in general practice, do believe that advice on PA is important (7), only a minority of patients are given advice or counselling on PA in consultations

SUMMARY

Future costs to lifestyle related diseases are expected to multiply worldwide. The scientific evidence for the positive health effects of regular physical activity (PA) is well established. Also the evidence for the efficacy of different methods to increase the level of PA in patients, is increasing. Physical activity on prescription (PAP) has been shown to increase the level of PA in patients, as well as positively influence classical risk factors of disease and improve quality-of-life. However, PA is still underutilized as a treatment tool in health care, while the preventive use of PA is more recognized. The hospital setting could be the key to implementation of PA as a treatment option in health care system. Several barriers, including educational as well as logistical and administrative, have to be addressed. The motivation not only of the patient, but also of the health care professional, to give suitable advice on lifestyle change, is important. Guidelines and reimbursement models for the use of PA in the hospital setting, are also needed. National and international collaboration in networks, which should include relevant organizations devoted in different ways to increase the use of PA in the health care setting, may play a decisive future role.

Key Words: Physical activity, prevention, physical activity on prescription, lifestyle disease, implementation.

(1,5). This is in contrast to existing treatment recommendations (20,26,28), and in spite of patients stating that they want and also expect the health care system to provide guidance on lifestyle behaviour and PA (17). Furthermore, doctors in the hospital setting seems to be the least interested in talking about changing lifestyle behaviour or giving counselling on PA for their patients (9).

Thus, the future challenge remains to translate the known research findings on health benefits of PA to practical use in the health care system (prevention and treatment) (3). The hospital setting may be a key to achieve the goal of establishing PA as a regular treatment modality for many of the lifestyle related risk factors and disorders. For this to happen, we must know which methods will increase the level of PA, specifically in patients with established risk factors or disease. We must also consider the potential barriers to implementation, such as lack of motivation (both patient and health care personnel), structural deficiencies, tradition, and lack of education/knowledge.

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In this paper, based on a talk from the "1st Exercise is Medicine Congress" in Berlin, October 2012, I will discuss the evidence for different methods to increase the level of PA in patients, as well as address potential barriers to the implementation of PA in the hospital setting, as well as proposing possible steps of action.

METHODS TO INCREASE PHYSICAL ACTIVITY

Approaches to promote increased levels of PA for patients, vary from simple oral advice, "to be a little more active", to more structural advice, and also could involve the use of additional support, such as pedometers or PA-diaries. The most structured advice, uses established behavioral strategies to change the lifestyle behaviour of the individual. PA could also be delivered as part of an exercise referral scheme or "on prescription", but also as part of the in-hospital services, for example as part of cardiac rehabilitation.

While additional studies are needed in this field, there has been an emerging number of studies looking at these methods and their efficacy in increasing the level of PA. The Swedish Council on Technology Assessment in Health Care (SBU) report (25), concluded that general advice on PA, could increase the level of PA 12-50% at 6 months. So, it seems that simple advice, as has been used for centuries as part of a doctor's visit, do increase the level of PA, at least in the short term. However, this simple method is still underutilized in health care, with only 20% of consultations in the US resulting in PA advice, as shown by Anis (1).

More intense counselling, over a longer time period, could increase the level of PA further (25), and if the advice is supported by pedometers, written advice and/or follow-ups, the level of PA may increase a further 15-50% in 6 months time, according to the SBU-report (25). Unfortunately, only a minority of patients do seem to get additional support in addition to the traditional advice on PA (6).

The evidence for behavioral strategies, commonly using the Prohaska behavioral hypothesis (22), to increase the level of PA, have been scarce at best. The US Preventive Service Task Force concluded that there was insufficient evidence for the efficacy of behavioral strategies (28), and the Swedish SBU-report (25) and Smithermans extensive review (23), both concluded that there was only a modest positive effect.

Regarding more complex methods of increasing PA in health care, both exercise referral schemes and physical activity on prescription, have been studied in recent years. The system of exercise referrals, has been used in England and Denmark, with mixed results. The patient typically is referred to a specified centre, for a period of exercise counselling, and while the level of PA seem to increase in the short term, more studies are needed to confirm the efficacy of exercise referral schemes (24,32).

The method of physical activity on prescription (PAP), have been used in different countries (Sweden, Australia, New Zealand, Finland), but also may differ a lot. The counselling is provided by the health care professional in a structured way, resulting in an individualised prescription on activity, tailored to patients needs (which disorder to treat, barriers, contra-indications, concomitant diseases and medications, fitness level). However, the extent of the intervention varies greatly, as does who gives the advice (doctors, nurses, PTs), if the prescription is written or not, the type of activity prescribed as well as the (extent of) use of additional support.

The Swedish PAP method has been extensively reviewed in

several papers, in the last years. The method uses the Swedish reference book on "Physical activity in the prevention and treatment of disease (FYSS)" (27). In this book the available evidence on the indications, mode of action, suitable dosage (type of activity, intensity, frequency), side-effects as well as contra-indications for PA for different diseases, are collected. This book has recently been translated into English (27), as well as into Vietnamese, and more countries are showing an interest in translating the book and using it in the medical curriculum. The method have been found to increase the level of PA at 6 months time, in a mixed primary care population (10), as well as at 12 months (16). The self-reported adherence to the prescription was 65% at 6 months (11), which is similar to the compliance rate, traditionally reported for medications, by the WHO. In a randomised controlled study, PAP was also found to significantly affect body composition and cardiometabolic risk factors, compared to usual care (12). In Leijons studies, 28% of patients state that PA is the most important life-style factor to change in their lives "right now", compared to 24% saying "to loose weight", 16% "to eat healthier" and 6% to stop using tobacco (17). Interestingly, 76% of participants say that while the individual responsibility to being active is large, also the health care system has a responsibility to help patients increase their level of PA (17). Studies looking at the long-term effect of PAP are needed, and ongoing in Sweden.

At present, about 1/1000 health care visits results in a prescription of physical activity, in Sweden, and this figure is rising every year (13). This figure also shows that the method is still heavily under-utilized and not fully implemented in the health care setting.

BARRIERS TO PHYSICAL ACTIVITY IN THE HOSPITAL SETTING

A majority of treatments initiated in the hospital setting, will be continued when the patient are referred to further follow-up in the primary care setting, for example after a myocardial infarction. While the primary care physician will change medications when deemed necessary, the view of the cardiologist (or other relevant specialists) will most certainly be considered important. Thus, if PA will be prescribed also in the hospital setting, it could have a major effect on the continuation of PAP.

At present, very few of the PAPs are prescribed in the hospital setting. Why is this? The knowledge base for the efficacy of PAPs emanates from the Universities, which is closer to the (University) hospitals than primary care. So, hospital doctors should be at least as knowledgeable about the health effect of PA as primary care physicians. Disappointingly, it seems that hospital doctors still may be less inclined than primary care colleagues, to give patients advice on lifestyle behaviours, including PA (9).

The reason for this may be partly motivational. Traditionally hospital doctors "treat sick patients" and do not provide (or have the perceived time for) (7), giving advice on preventive measures ("this is not our problem"). This barrier to implementation of PA in the hospital setting, thus relies on the misconception that PA is only a preventive measure, when in fact it is also a treatment option for patients with established disease. Furthermore, the hospitals do have a preventive responsibility as well. Subsequently, the European Association for Cardiac Prevention and Rehabilitation (EACPR) recently addressed the problem of prevention/treatment by PA, by issuing a number of papers focusing on the importance of PA for the gene-

ral population (part I) (29), patients with traditional risk factors for CVD (part II) (30), and for patients with established CVD (part III) (31), showing the importance of PA in all these categories. So the lack of motivation could also be due to lack of knowledge of the potential role of PA for single or additional treatment (to medication), for patients with disease.

Here, lack of education at all levels could contribute. Very few hours during 5-6 years of Medical School is dedicated to the effects and implementation of lifestyle change and PA. In fact, Frank found in 2008, that medical school students were more positive to lifestyle behaviour change before they started medical school, than when they graduated (4).

The traditional barriers, including a lack of structural support, including allocated time, lack of reimbursement and of support from superiors, will also contribute to a low motivation of care givers (7,9). The working intensity of doctors make it difficult to have time for a 20 minutes talk to the patient and financial restrictions have the same negative effect. However, these factors may still be less important than the motivational barriers caused by the misconception that PA is only for prevention and not for treatment.

Other barriers, may include logistical problems (patients staying only a short time, lack of organized transfer of PAP from hospitals to follow-up in primary care etc) and the lack of fitness facilities for the patients in the hospital setting. Importantly, there is still a lack of high-quality studies on the efficacy of PAP in the hospital setting.

WHAT WOULD AID THE IMPLEMENTATION OF PHYSICAL ACTIVITY?

In spite of the evidence for the efficacy of PA to increase health, and for the efficacy of available methods to increase the individual PA level of patients, we still need to address other possible barriers to improve the implementation of PA as a regular treatment tool in the hospital setting.

We have to address the important question of what responsibility the hospitals have for changes in lifestyle behaviours of their patients. We know that the patients expect us to deliver lifestyle advice, and also consider it to be the responsibility of the health care system to help them be more physically active. Still many physicians and administrators believe lifestyle measures to be someone else's problem (society, schools, parents), focusing only on the preventive aspects of PA. There is clearly a need for national guidelines as a "pressure from above" on the health care system, to help the implementation of PA, also as a treatment method. The recent Swedish National Board of Health and Welfare guidelines on "disease prevention" (26) is a good example of how this may be achieved. Published in 2011, >30 000 papers were reviewed by a great number of Swedish experts. Methods for increasing PA (and affecting other lifestyle factors as diet, alcohol and tobacco) in patients with different risk factors/disorders (obesity, hypertension, hyperlipidemia, diabetes/prediabetes, coronary artery disease) were reviewed and evidence graded. One conclusion, was that "the health care system should offer advice with added written prescription or pedometer and individual follow-up, to persons being insufficiently physically active" (26). This means that the health care system must now implement the method of PAP in different settings, including the hospitals.

The Swedish Medical Society, now aids in the implementation of the national guidelines, by addressing the individual doctors atti-

tudes and consultation with his/her patient, through a national "the doctors consultation on lifestyle change"-campaign.

In recent years, the national Swedish network on "health promoting hospitals", centered on three perspectives; the patient level, the community level and the employees of health care, have adopted PAP as the main method to fulfil the patient perspective regarding PA. They have addressed many of the logistical and administrative barriers to the establishment of PAP, such as medical-record integration, reimbursements and logistics. Different reimbursement models have been applied in different part of Sweden, some regions reimbursing all prescriptions given, while others reimburse only followed-up prescriptions. For PA to be integrated into the hospital setting, similar national and local networks need to be maintained. Only when PAP is a part of the regular therapeutic alternatives in the hospital setting, the hospital may be considered as truly a "health promoting hospital".

At the educational level, PA and lifestyle changes, must have a more pronounced role in medical educations at different levels, from now on. As discussed in this paper, it is important to focus not only on the effects of PA on health, and on methods to increase PA, but also on logistical and administrative barriers to implementation.

FUTURE PERSPECTIVES

PA will play an increasing role as treatment of chronic non-communicable disease worldwide, especially as lifestyle related disease seems certain to further increase in the coming years (19,28). The efforts of many different specialities will be needed to tackle this problem. Patients being insufficiently physically active and who would benefit from an increased level of PA will be found in most specialities, not only in Sports Medicine, but also (and possibly even more) in primary care, cardiology, internal medicine, pain medicine, psychiatry, orthopedics, surgery etc. Looking at indications for different diseases, and the low mean level of physical activity in the population, a majority of patients seeking health care would theoretically benefit from an increased level of PA. So, the evidence is there to use PA as a regular treatment tool in health care, not least for health economical reasons. The hospital setting could be the key to the implementation of PA as treatment in health care.

International collaboration to stop the increasing problem of chronic non-communicable disease worldwide is needed. Many different international organizations today recognize the importance of PA for health, for example the Health promoting Physical activity (HEPA) organization, European Society of Cardiology/European Association for cardiac Prevention and rehabilitation (ESC/EACPR), the International Olympic Committee (IOC), the European Federation of Sports Medicine Associations (EFSMA), Exercise is Medicine (EIM), and the World Health Organization (WHO) and its network Health Promoting Hospitals (HPH), among others. These organizations focus on slightly different aspects organizing different competences and specialists, but together they complement each other, with a common goal "to increase PA to increase health". Collaboration between relevant organizations in this field, may be very fruitful.

To summarize, evidence for the effect of PA for health, as well as on methods to increase the level of PA in patients, is now solid. Future costs for lifestyle related diseases are expected to multiply worldwide. However, PA is still underutilized as a treatment tool in health care, while the preventive use of PA is more recognized. The

hospital setting could be the key to implementation of PA in health care. Several barriers, motivational, educational as well as logistical and administrative, have to be addressed. Guidelines and reimbursement schemes are also be needed. National and international collaboration in networks, including relevant organizations devoted in different ways to increase the use of PA in the health care setting, may play a decisive future role.

Conflict of interest

The author has no conflicts of interest.

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