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ORIGINAL ARTICLE

The influence of GP advice on physical activity and health promotion in elderly patients – findings from a quantitative waiting room survey in Germany

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Abstract

Aim Physical activity can help maintain an independent and healthy life, especially at an older age. In view of the ageing population, the necessity for better prevention concepts is becoming evident. The present study has ascertained the importance and potential of primary care in the task of motivating patients to participate in exercise, fitness, and health programmes.

Subject and methods As part of a waiting room survey conducted between November 2022 and April 2023, a total of 1701 patients aged 70 and older were surveyed in 35 GP practices in the federal state of Hesse.

Results Half of those surveyed participate in sports activities on a regular basis. It is widely considered a problem that there is a lack of health and exercise programmes that match the (health) situation of individuals. Many of those questioned also have no overview of what courses are available in their vicinity. GPs enjoy an excellent reputation as highly trustworthy and reliable advisors for health and exercise programmes; 46% of respondents stated that their GP had already recommended an increase in physically activity, 38% stated that their GP had drawn their attention to specific sports, fitness, or health programmes. Of these, 84% decided to try out this recommendation. Ninety percent were in favour of a closer cooperation between GPs and health course providers.

Conclusion The results indicate that the primary care setting is in a particularly good position to introduce older people to exercise and health programmes and motivate them to take part. General practitioners should be encouraged to assume such an intermediary role with regard to prevention. For this purpose, it would appear that urgent action is necessary in local and municipal health promotion networks as well as relevant training of GPs and practice staff.

Keywords Exercise · Health promotion · Prevention · Sport · Course programmes · General practitioner · Primary care

Introduction

The importance of maintaining regular physical activity is well established for preventive care (Lee et al. 2012) and therapy (Pedersen and Saltin 2015). However, worldwide physical inactivity prevalence remains high (Guthold et al 2018; Guthold et al. 2020; WHO 2022). The critical role of health systems in the promotion of physical activity has been highlighted by the World Health Organization, with primary health-care services gaining more relevance particularly since 2016 (WHO 2013, 2016). Moreover, the WHO Global Action Plan for regular physical activity promotion 2018–2030 (WHO 2018) has established the development of promotion systems within health-care services as a priority action. This also and especially applies to the health promotion of older people.

Regular exercise at an older age makes a decisive contribution to long-term health care and maintaining everyday skills, e.g., by strengthening muscle power, balance and the cardiovascular system and reducing the risk of osteoarthritis, osteoporosis, and stroke (Bock 2014; Cardona et al. 2022; Gomes et al. 2017; Martinez-Gomez et al. 2017; Sattelmair et al. 2010; Schneider 2017). In addition, a physically active

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everyday life can be beneficial to subjective physical and mental well-being, and depression and dementia can be prevented (Becker et al. 2007; Cunningham and O'Sullivan 2021; Dapp et al. 2009; Heath et al. 2012).

The National Recommendations for Physical Activity and the Promotion of Physical Activity (Pfeifer and Rütten 2017) summarise a wide range of international recommendations for elderly adults aged 65 and older who are not chronically ill. At least 150 minutes of aerobic physical activity at moderate intensity or 75 minutes at higher intensity are recommended per week, preferably in forms of exercise such as walking, running, or cycling on at least 2 days per week. This should be supplemented by moderate strength training and activities that support mobility and balance (BMG 2018). Elderly adults are advised to consult a doctor or physiotherapist prior to training (Malik et al. 2014; Schroer et al. 2014).

General practitioners in particular are often considered suitable mediators for health and fitness programmes (Füzéki et al. 2020; Tulloch et al. 2006). GPs have often known their elderly patients and their personal or health situation for many years; there is a relationship of trust that makes it easier to address and follow recommendations for physical activity (Bücker et al. 2017; Hoebel et al. 2016; Kleinert et al. 2016; Lamming et al. 2017; Schers et al. 2005; Vogt et al. 2019). Years ago in Germany, there were already calls for measures to be taken to anchor the prevention aspect more firmly in the primary care setting as the "proactive prevention of health risks and promotion of health potential" (DGZMK 2015). Objectives have been formulated to bring general practitioners into the role of "prevention guides" who — more or less by means of a consistent expansion of Check-up 35 — increasingly identify and/or assess the health risks and burdens of their patients and proactively recommend health and exercise courses or other activities (Glieseke 2013). In addition, there have been and continue to be regional initiatives intended to establish the GP as a health coach for low-threshold prevention and therapy programmes (Banzer 2017; Krüger-Band 2011; Prüfer et al. 2015). Various studies attest to the great effectiveness of such a structured promotion of exercise in primary care settings (Lion et al. 2019; Sanchez et al. 2015; Williams et al. 2007).

So far, there are only a few reliable studies on the extent to which health promotion concepts are implemented in the reality of GP care or the way in which GPs play an active role in the mediation of fitness and health programmes for elderly patients in everyday practice (Prüfer et al. 2015; Gabrys et al. 2016). Isolated empirical findings indicate that although GPs generally have a positive attitude towards exercise programmes, they do seem to consider the longer-term benefits and their own self-effectiveness in terms of a permanent change in lifestyle of their patients as minor (Bücker et al. 2017). Similar results were determined in other areas of (primary) prevention, such as nutrition consultation (DocCheckResearch 2018). Therefore, further studies are needed to identify what needs patients have with regard to physical activity promotion by primary care physicians, and to determine what hurdles have to be overcome in order to achieve a more effective role for primary care.

The exploratory study had the primary goal of examining the importance and role of GPs in the physical activation of elderly patients. In addition, the aim was to identify the interests and conditions required to encourage participation in exercise programmes.

Methods

Study design and recruitment

The study was designed as a waiting-room survey and was conducted between November 2022 and April 2023 in 35 GP practices in the federal state of Hesse. The target group for the survey was patients aged 70 and older living independently in their own home who are not considered in need of care. These inclusion criteria were ensured by providing preliminary information to the practice personnel responsible for handing out the questionnaires. It was also clear from the cover letter that the survey was only addressing people living in their private household environment who were not in need of care.

A total of 2000 questionnaires were handed out to patients. The anonymised survey did not collect any sensitive patient data. Nevertheless, in the period leading up the study, the authors checked verbally with the ethics committee of the state of Rhineland-Palatinate that the study complied with the professional code of conduct for doctors.

Survey instrument

In addition to key data on the health situation and physical activity, the questionnaire collects information on experience with the GP in terms of the suggestion of physical activity and the recommendation of specific exercise, fitness, and health programmes. The relevance of GP advice for those questioned in the context of the services mentioned was also established. Against the background of the findings gained on the status quo of (primary) care, the ultimate question to be answered is the extent to which GP support in this area could be optimised.

In view of the target group and the often time-critical survey situation, the survey was limited to the absolute minimum necessary. Due to the widespread lack of reliable preliminary empirical studies dealing with status quo of physical activity promotion in primary care, the authors

were forced to rely on the development of an independent survey instrument. The development was based on a three-step process: a) extensive literature research, in the course of which a number of scoping reviews on the topic were used (Malik et al. 2014 Füzéki et al. 2020; Sanchez et al. 2015; Albert et al. 2020; Bowes et al. 2013; Hébert et al. 2012; Koeneman et al. 2011; Manta et al. 2022; van Alphen et al. 2016), b) preliminary dialogue with the management of a regional initiative in the federal state of Rhineland-Palatinate that offers health courses for the elderly, and c) preliminary dialogues with three GPs with a thematic affinity. The questionnaire (takes approximately 10 minutes to complete) consists of four content blocks: selected indicators on the health situation, physical activity in everyday life, interest in and involvement with health and exercise programmes, and experiences in the GP setting (importance of GP advice and reference to exercise programmes). A pre-test was carried out prior to field use.

Since this was a waiting-room survey, there was a need to ensure that the questionnaire could be answered intuitively and quickly. For this reason, four- to five-level ordinal scales were widely used.

Socio-demographics and data analysis

The socio-demographic characteristics collected were gender, age, highest level of education, and living environment. After cleansing the data set, the data was analysed using SPSS 23.0 for Windows.

Results

Of the 1728 questionnaires returned, 1701 were completed in full and included in the analysis; the data set was not adjusted. Table 1 shows the key socio-demographic data of the sample.

Health situation

Seventy-two percent of those questioned rate their state of health as (rather) good (45%) or fairly good (27%), and 28% as (rather) poor. Sevemty-six percent have no problems covering distances of up to 200 metres or walking up stairs. Just under half state they can walk (48%) or cycle (45%) distances of up to 2 kilometres. Despite this comparatively good mobility, 60% state that they occasionally suffer from pain that restricts their mobility. According to their own information, 42% have fallen at least once in the last 12 months, and 43% use an aid such as a walking stick or rollator in everyday life.

Table 1 Sample sociodemographics ($N = 1701$)

Age	Average: 73 years (median: 72)
Gender	Male: 49% (839)
	Female: 51% (862)
Level of education	Primary/general school: 23% (391)
	Entrance qualification for a university of applied sciences or higher: 25% (426)
	Other: 12% (204)
	No qualification: 9% (152)
	Not specified: 4% (68)
Place of residence	Rural or small towns: 48% (816)
	Large or medium-sized cities (20,000 inhabitants or more): 46% (782)
	Not specified: 6% (103)

Physical activity

Nevertheless, 55% go for a walk several times a week, and a further 20% at least once. In addition, 53% engage more or less regularly in various physical exercise activities. Of this group, 40% state that they go swimming, followed by a local course programme — e.g., at a sports club (32%) — and training at home (22%). Sixteen percent are registered at a fitness centre. Two-thirds of the people actively involved in sports (65%) state that they take advantage of the sports programme several times a week.

The older the respondents, the worse they rate their health and the less physically active they are. A gender comparison shows that men take part in sports programmes more often than women (71% to 40%). In comparison to men, women are also more interested in less strenuous sports such as yoga or endurance sports (78% to 53%) and team sports (38% to 24%).

Dealing with health and exercise programmes

The results show that just under half of those questioned (47%) frequently, occasionally, or rarely receive information about exercise, fitness, or health courses, or actively procure information about them. Fifty-five respondents living in urban areas receive information about such offers, while this applies to only 39% of respondents living in rural areas. The most common sources of information are friends (40%) and family members (34%), the adult education centre (33%) and the local weekly newspaper (31%); 32% name their GP as their source of information, and 26% the Internet.

Around half (52%) say they would like to do more for their own health or exercise more. However, 93% of this group state that they do not have a sufficient overview of suitable sports, fitness, or exercise programmes in their

area. Of the total random sample, one in two (51%) stated that, despite the wish to be more physically active, they had no knowledge of any programmes suitable for their own (health) situation.

Importance of GP advice and reference to exercise programmes

A comparison with other sources of information and advice on exercise, fitness, or health programmes shows that GPs enjoy considerable trustworthiness and reliability among patients (see Table 2). In addition, information from health insurance providers and other medical specialists such as orthopaedists are still considered comparatively trustworthy. Furthermore, in the course of identifying preferences and obstacles in participating in exercise programmes, 82% of those questioned stated that they were generally more interested in a health course if their GP recommended it.

Forty-six percent of respondents stated that their GP had already recommended an increase in physically activity once (28%) or several times (18%). This applies to a greater extent to respondents living in urban environments (53%) than to those living in rural areas (39%). The recommendation for physical activity was stated as being based on health reasons (45%), the prevention aspect (37%), or a mixture of both (14%); 4% can't remember. Beyond the general recommendation of more physical activity, 38% stated that their attention had been drawn to specific sports, fitness, or health programmes by their GP (19% once, 19% several times). Six percent of those to whom this applies stated that they had been referred to a specific programme by their GP. In most cases (66%), the GP mentioned the offer on his/her own initiative; in 19% of cases, the respondents asked for information themselves. There are considerable differences between urban and rural living environments. While respondents in urban regions were recommended a specific exercise programme by their GP at least once in 60% of cases, this figure was only 19% in rural areas.

From the point of view of 92% of respondents whose GP recommended a specific programme, this was basically of interest to them. Eighty-four percent decided to try it out. Thereupon, 75% decided to take up the programme recommended by their GP on a long-term basis after trying it out.

Forty-eight percent fully agree or agree to a certain extent with a predefined statement that their own GP considers it his/her job to ensure that they as patients stay fit and actively improve their health. In turn, 53% feel very well or fairly well supported by their GP in staying fit and getting enough exercise.

The results of the final question show how great the potential interest is in receiving tips and information about health programmes from their GP; 90% would like to see GPs working more closely with providers of health programmes (e.g., fitness studios, health insurance providers, adult education centres) in order to be able to refer patients to suitable courses more quickly or refer them to such programmes.

Discussion

Principal findings and comparison with prior work

Nowadays, elderly people are fitter and healthier than in previous generations (Becker et al. 2007). Many of the people in the survey aged 70 and older are still physically active. Basically, the majority of participants are interested in taking part in a programme that promotes physical activity, but this interest is not always fully utilised.

One reason identified during the course of the survey would appear to be that patients often lack sufficient orientation with regard to programmes specifically tailored to their personal situation. Another central problem is the question of a mediator who can effectively mediate exercise programmes that match the patient's health condition.

The results show that the reliability and trustworthiness of the source of information is decisive for patients' willingness to participate in exercise programmes, try them out, and continue them in the long term. GPs in particular enjoy a considerable level of trust, and are desired as mediators in

Table 2 Trustworthiness and reliability of various sources of information on sports, fitness or exercise programmes ($N = 1701$)

Question: *"Here there are various sources that provide information on sports, fitness or exercise courses. How trustworthy and reliable do you consider these sources as information on such course programmes?"*

My trust here is…	Very high	Rather high	Rather low	High Low	n/a
Weekly newspaper	7%	15%	48%	22%	8%
Recommendation of a friend	23%	19%	50%	5%	3%
Recommendation of a relative	23%	35%	33%	5%	4%
Information on the internet	11%	11%	52%	23%	3%
Information of your health insurance provider	10%	40%	36%	10%	4%
Your GP	57%	33%	4%	4%	2%
Another medical specialist (e.g. orthopaedist)	22%	35%	22%	17%	4%

the field of health promotion. For example, the survey participants place significantly more trust in GPs than in other sources of advice such as family members. This is substantiated by the result that 84% are more interested in an exercise programme if their GP recommends it.

However, only a part of those surveyed stated that their GP had ever recommended certain health programmes to increase their physical activity. If these recommendations were made, most respondents not only tried out the relevant offer, but even took part in it for a longer period of time.

Not only the present study, but also previous studies indicate that the GP can be a promising approach to contributing to the physical activation of elderly people, due to his personal knowledge and the strong doctor–patient relationship as a mediator of sports programmes (Gabrys et al. 2016; Peters et al. 2017). An example of this is the qualitative work of Prüfer et al., who see great potential in integrating preventive work by GPs into a communal health promotion system (Prüfer et al. 2015). It is useful to take into consideration specific issues such as the gender differences identified in this survey with regard to preferences for the types of exercise programmes (Hartmann-Tews 2017).

In view of demographic changes, the importance of health promotion in maintaining and improving the activity and independence of elderly people is increasing. In order to convince more elderly people of health and exercise programmes, it is initially necessary to develop local programmes oriented towards the sensitivities, needs, and interests of the elderly (Becker et al. 2007; Dapp et al. 2009; BMG 2018; Malik et al. 2014; Hoebel et al. 2016). It will also depend on the improvement of access to physical activity formats. As a result, there is often a lack of the possibility to obtain a comprehensive overview of local health and fitness programmes (Schneider 2017; Heath et al. 2012; Schroer et al. 2014).

A major deficiency here is often the lack of a body that is able to communicate health, exercise, and fitness programmes to elderly people in a targeted and tailored manner with a high level of credibility. The GP setting combines various advantages to motivate patients to take up and make long-term use of individually suitable exercise programmes (Bock 2014; Hartmann-Tews 2017; Gabrys et al. 2013). The high level of trust that patients have in their GPs as determined in the survey is favourable and may be valuable. GPs can make an effective contribution to increasing and maintaining the acceptance of sports activities among the elderly by means of providing relevant advice (Kleinert et al. 2016; Banzer 2017; Prüfer et al. 2015). However, in order to be able to fulfil this mediating role effectively, existing structures need to be adapted, especially in terms of communal health promotion.

On the one hand, it is important that GPs are more intensively involved in formal and informal networks at a local level in order to strengthen prevention and health promotion, so that they have an overview of existing programmes and can easily refer people to them and possibly mediate (Gabrys et al. 2016). There is also a need for the provision of high-quality, needs-based healthcare programmes for senior citizens. It would appear obvious that GPs cannot act alone here, but also need to cooperate with other healthcare professionals such as physiotherapists or trainers. In order to actually bring GPs into the role of health coaches (Glieseke 2013; Manta et al. 2022), Prüfer et al. have proposed a change in the political framework conditions, specifically a reduction in cooperation obstacles and a precise definition of the roles of the actors involved as well as sufficient resources (Prüfer et al. 2015). This includes the fact that it is also important to provide customised programmes at a local level, so that GPs are able to better implement the existing possibility of prescribing rehabilitation sport or functional training (KBV 2017). Firstly, model projects show positive effects with regard to physical activity on prescription (Curbach et al. 2018; Gubisch et al. 2014; Löllgen et al. 2013). The results of the present study indicate that the need for such bundled information, consultation, and referral concepts is greater in rural areas in particular, as survey participants less frequently report that they receive information about exercise or sports activities or are referred to such programmes by their GP.

Secondly, GPs should be encouraged to recognise that they can play a key role in maintaining and promoting the health of elderly people (Bücker et al. 2017; Lamming et al. 2017; Krüger-Band 2011). Targeted training courses for GPs to promote the physical activity of senior citizens have already been developed, which highlight approaches for a GP's role as a mediator (Peters et al. 2017). In view of the increasing shortage of doctors, especially in rural areas, and the resulting lack of time, it would appear important to assign a stronger role to GPs in health promotion in a way that is as resource- and time-efficient as possible. Occasions such as medical check-ups can be used systematically to emphasise the benefits of continuous physical activity and to provide specific recommendations (Glieseke 2013). Appropriately qualified practice staff can also help relieve the burden on GPs, provide patients with support specifically tailored to their needs and preferences, and give them targeted information on preventive healthcare (Banzer 2017; Peters et al. 2017). Last but not least, consideration should be given to adjusting the remuneration conditions for GP consultation services for health promotion by creating invoicing codes that adequately reflect the efforts.

In the light of various studies, however, it must be pointed out that despite great potential and conceivable approaches to how GPs can play a more important role in promoting health and physical activity, numerous (structural) barriers exist in practice. For example, a study conducted by Huy

et al. (2012), which determined the status quo of cardiovascular prevention in GP settings, points out that there appears to be a discrepancy between the potential and implementation of cardiovascular preventive measures in the GP setting. The biggest barriers to the use of prevention services were lack of patient adherence, inadequate remuneration, and lack of time. Like us, the authors come to the conclusion that special training for doctors and improved financial and organizational framework conditions could contribute to improving prevention services. Also very informative with regard to the question of barriers and obstacles is a large-scale survey by Brotons et al. (2005) among 2082 general practitioners in 11 European countries. Although GPs believe they should advise preventive and health promotion activities, in practice they are less likely to do so. About 56% of the GPs answered that carrying out prevention and health promotion activities are difficult. The two most important barriers reported were heavy workload/lack of time and lack of reimbursement. Associations between personal health behaviour and attitudes to health promotion or activities in prevention were found. Finally, qualitative studies such as those by Blakeman et al. (2006) have shown how challenging it can be for general practitioners to embed prevention more firmly. Although GPs valued increased patient involvement in their health care, this was in conflict with other values concerning professional responsibility. Furthermore, contextual factors also limited the degree to which they could assist in encouraging self-management. The authors conclude that providing GPs with training in consultation skills is required in order to encourage the delivery of effective self-management.

Despite different focus areas, the commonality between the studies mentioned and our work is that patients apparently see GPs as particularly suitable for supporting prevention. However, it is not always easy to establish this more firmly. Nevertheless, the studies mentioned advocate-promoting continuing education measures that are in line with GP practice and can help to address this aspect better and in a more practical way. At the same time, it will certainly also be important to make medical students more aware of issues of prevention and health promotion, for example in the field of promoting physical activity (Curbach et al. 2018; Gubisch et al. 2014; Löllgen et al. 2013).

A toolkit designed for primary care has been created, encompassing strategies developed to support countries implementing and strengthening systems of patients' physical activity assessment and counselling, as part of universal health care (WHO 2021). There are several types of intervention which are primarily intended for GP-related areas: physical activity screening/assessment (WHO 2021; Wald 2001); physical acitivity counselling/advice, comprising verbal encouragement and/or a verbal or written recommendation (Lamming et al. 2017; Lion et al. 2019; Sanchez et al. 2015; Abu-Omar et al. 2017; Campbell et al. 2015; Kallings et al. 2008; Silva et al. 2023); exercise prescription, comprising an initial assessment of the patients' physical and functional fitness (Lion et al. 2019; Sanchez et al. 2015; Campbell et al. 2015; Kallings et al. 2008; Silva et al. 2023); and exercise referral schemes, made by a primary care professional to a third-party service which is responsible to prescribe a tailored PA/exercise program to the patient (WHO 2021). These types of interventions have varying degrees of complexity, and sometimes require interaction with physical activity providers (Lamming et al. 2017; Abu-Omar et al. 2017). Despite efforts made, only 40% of countries reported having a national protocol in this regard in 2021 (WHO 2021).

Strengths and weaknesses

The survey is of an exploratory nature and cannot claim to be representative due to the limited number of cases and the regional focus of recruitment. The data should therefore be interpreted with caution. Attention was paid to including different practices (differentiated by type of practice, urban vs rural environment, practice size, etc.) within the district in which the recruitment took place. However, it is possible that these practices are not representative of the breadth of GP care with regard to the aspects analysed. The authors therefore consider the study as a first possible approach to placing more focus on the potential of GPs in the physical activation of elderly people. Although the study was able to prove that GP care offers a particular level of potential in terms of recommending and mediating exercise programmes, it is not possible to deduce from the data collected how great the influence of medical consultation is against potential obstacles (e.g., costs, distance, date commitment). This remains a required aspect of follow-up studies.

Conclusion

Regular physical activity can make a valuable contribution to preventive healthcare and maintaining an independent life, especially in higher age groups. However, it is not always easy for elderly people to find suitable exercise and health programmes. The GP setting is considered well suited to providing senior citizens with competent advice, providing information on suitable exercise programmes, and motivating them to participate in the long term. An exploratory survey of GP patients aged 70 and older investigated the relevance of GP advice for the willingness and motivation to participate in an exercise programme and the extent to which GPs play this mediating role. In order for GPs to be able to effectively refer or mediate patients to health, fitness, and exercise programmes in the surrounding area, it is important

to integrate the GP setting into a local network for prevention and health promotion.

Targeted training and further education can encourage the entire GP team to systematically make use of visits of elderly patients to the practice to underline the value of physical activity, provide information, and make specific recommendations.

In order to enhance the value of preventive healthcare in the GP setting, an adjustment to the remuneration system in this area would appear to be necessary.

Abbreviation *GP(s)*: General practitioner(s)

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Data availability All data generated or analysed during this study are included in this published article.

Declarations

Ethics approval During this study, no patient data was gathered or clinical tests performed. The Ethics Commission of the State of Rhineland-Palatinate, Germany, informed us that approval by an ethics committee was not necessary for a study that does not involve patient data.

Consent to participate Written informed consent for participation and the recording was obtained from all participants before the start of the study.

Consent for publication Not applicable.

Humans or animals rights This paper contains no data from tests conducted on humans or animals.

Competing interests The authors declare that they have no competing interests.

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