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Are you more concerned about or relieved by medicines? An explorative randomized study of the impact of telephone counseling by pharmacists on patients' beliefs regarding medicines and blood pressure control

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ABSTRACT

Objectives: The aim was to determine the impact of a telephone counseling service, provided bi-monthly by pharmacist, on patients' beliefs about antihypertensive medicines and blood pressure (BP) control.
Methods: Either hypertensive patients were randomly assigned to a control group (CG, usual care) or an intervention group (IG). All patients had BP values registered and filled in the Italian version of the Belief Medicine Questionnaire (BMQ). After 12 months, patients filled in the BMQ again and had their self-reported BP registered. The intervention consisted of an educational/counseling session based on patients' needs assessment provided bi-monthly by a pharmacist for one year via telephone.
Results: 80 CG and 84 IG patients were recruited. After 12 months, there were significant differences between IG and CG for both BMQ's Necessity and Concern score ($p<0.001$; $p<0.001$ respectively) and a significant reduction in BP values in IG ($p<0.001$).
Conclusions: The intervention improves BP control by modifying patients' perception about treatments and involving patients as participants in the management of their health.
Practice implications: This paper could serve as a guideline for other studies to confirm the effectiveness of this intervention in modifying health behavior, and the role of hospital pharmacist.

1. Introduction

Patients behavior towards medications and lifestyle recommendations is affected by the way patients judge their personal need for the treatment relative to their concerns about potential adverse effects. Beliefs and attitudes influence patient's adherence to treatment and lifestyle modifications. Patients holding a negative belief as regards treatment, such as concerns about the adverse effects or dependency on medications, are more likely to be non-adherent. On the contrary, patients feeling that treatments are essential to their health are more likely to be adherent [1,2]. Several studies have suggested a relationship between patients' beliefs about their diseases and therapies and medication adherence [3,4]. According to a patient- centered care approach, the patients' perspective and perception as regards the management of their illness have to be taken into consideration when planning a care strategy for them and with them, especially in chronic diseases [5]. This approach considers the patient as an active part of the care process [2]. Long-term conditions require daily attention. The leading chronic diseases, including cardiovascular diseases, cancers, chronic respiratory diseases, diabetes and neurological diseases, [6], share common risk factors such as

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smoking, inactivity, poor diet, environmental exposures and poor patient adherence to drug therapy. The common theme is that these conditions require a complex response over an extended time period that involves coordinated inputs from a wide range of health professionals and access to essential medicines and monitoring systems, all of which need to be optimally embedded within a system that promotes patient empowerment [7]. Pharmacists working as part of the multidisciplinary team have a significant role in improving clinical outcomes by providing educational intervention and support concerning the management of medicines or a combination of both [8–11]. They are the experts as regards drug therapy; they are able to provide information and monitor patients' experiences and adherence since they are easily accessible health-care professionals with frequent contact with patients. Providing patients with information about their treatments promotes an appropriate use of medicines and facilitates understanding of the benefits and risks [12,13]. Evidence exists which shows that counseling patients on medication and lifestyle modifications improves adherence resulting in improved treatment outcomes, enhanced quality of life and better use of health care resources [14–17].

Although there is an increasing volume of scientific evidence concerning the importance of pharmaceutical care defined as "the pharmacist's contribution to the care of individuals in order to optimise medicines use and improve health outcomes" [18–20] all over the world, Italy still lacks experience of this kind.

The aim of the study was to determine the impact of a telephone counseling service, provided bi-monthly by pharmacist, on patients' beliefs about antihypertensive medications and blood pressure(BP) control.

2. Material and methods

2.1. Study design

This study was an explorative randomized open-label study. The study consisted of an educational/counseling session based on patients' needs assessment and administered bi-monthly by a hospital pharmacist for one year by telephone.

2.2. Setting

The study was a pilot developed within the framework of the multidisciplinary Health Care Team (GOIP) working in the Centre for the Diagnosis and Therapy of Arterial Hypertension of Cardarelli Hospital (Southern Italy). The team consisted of health professionals from different disciplines (specialists, pharmacists, nurses) each providing specific services to the patient. The aim of the GOIP is to implement the quality of care provided to patients, to promote best practice and to improve clinical outcomes by optimizing resources and facilitating patients' access to the services. Ethical committee of Cardarelli hospital approved the study.

2.3. Participants and eligible criteria

Eligible participants were all adults aged 18 or over with an established medical diagnosis of arterial hypertension and with uncontrolled BP (SBP > 140 mmHg; DPB > 90 mmHg without diabetes or chronic kidney disease (CKD); SBP > 130 mmHg; DPB > 80 mmHg with diabetes or CKD) according to the 2013 *Guidelines for the Management of Arterial Hypertension* published by The Task Force for the Management of Arterial Hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC) [21]. Furthermore, all included patients had been on established antihypertensive medications for at least 6 months. Exclusion criteria were dementia, pregnancy and breastfeeding.

Over a period of two months, subjects attending the Centre for the Diagnosis and Therapy of Arterial Hypertension of Cardarelli Hospital were invited to participate in the study. Participants were randomly assigned to either control or intervention group with a 1:1 allocation as per a computer generated list of random numbers. The participants were enrolled and evaluated by enclosing their data into opaque, sealed envelopes. The computer generated the allocation sequence and a researcher with no clinical involvement in the trial prepared the envelopes. Written informed consent was obtained from all participants before their recruitment to the study. Given the nature of the study design, it was impossible for the pharmacist to be blinded to the group assignment. On the other hand, researchers involved in the data analysis were blinded to the group assignment. The duration of the study was 1 year. According to the time of recruitment the pharmacist perfomed about 2 telephone calls a day in order to provide the service every two months for each patient in the IG group.

2.4. Interventions

The intervention group (IG) received educational support and the Control group (CG) received the usual care. The usual care consisted of the routine care provided by GOIP for treatment of hypertension, including face-to-face meetings with the pharmacist who discussed drug therapy as prescribed by the physician during the visit and lifestyle modifications with the patients In addition to the usual care, during the face-to-face meeting with the pharmacist, IG patients received detailed information about the study, gave their contact information, primary and alternative telephone numbers and established guidelines for follow-up calls. IG participants were allowed to choose their best form of contact, home, work, mobile, and time. The protocol allotted up to 10 attempts per telephone call.

2.5. Description of pharmacist intervention

The telephone service focused on the perceived risk of hypertension and knowledge about it, adverse effects of drug therapy, memory, weight, exercise, diet, smoking, and alcohol use. Issues were chosen according to data from the literature on hypertension and data from personal electronic patient records [22,23].

The service consisted of telephone calls/interviews that occurred approximately every 2 months for 1 year. At the recruitment pharmacist had a face to face interview with the patients. During this first contact patient and pharmacist established and prioritized issues to be discussed during the telephone counseling service. If the patient, for instance, forgot to take medications, memory was one of the issue discussed; if patient was overweight, weight loss was discussed during the phone call.

In general, during each telephone call, two issues were constantly addressed: the pharmacist reviewed the patient's currently prescribed blood pressure medications, assessing if patients were aware of the purpose of their hypertensive drug therapy and if changes in medications had occurred. At the same time, he queried them as to any specific hypertension medication side effects they might have encountered. If a patient was having a hypertension-medication related adverse effect, the pharmacist examined the problem with the patient and explored possible solutions. The pharmacist discussed how high blood pressure may make the patient feel, how it may affect the patient's body and why it is important to treat high blood pressure.

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