How to Provide Tailored Medication Counselling to Hematology Patients? A Pilot Project

Damien S.E. Broekharst[1]* | Diana Bervoets[2] | Lamyae Maanach[3] | Sjaak Bloem[1]

*Correspondence: Damien S.E. Broekharst

Address: [1]Center for Marketing & Supply Chain Management, Nyenrode Business University, 3621 BG, Breukelen, the Netherlands; [2]Outpatient pharmacy, Albert Schweitzer Hospital, 3318 AT, Dordrecht, the Netherlands; [3]Outpatient pharmacy, Haga Hospital, 2545 AA, Den Haag, the Netherlands

E-mail ✉: d.broekharst@nyenrode.nl

ABSTRACT

Hematological diseases are characterized by ample variance in disease trajectories requiring the delivery of tailored medication counselling. However, the one size fits all approach to providing medication counselling still seems pervasive in hospitals. Therefore, the outpatient pharmacy of the Albert Schweitzer hospital in the Netherlands implemented a pilot project concerning tailored allocation of medication counselling among hematology patients through structural assessment of their needs. The 124 included hematology patients were provided with tailored medication counselling by trained pharmacy assistants for 12 months. The tailored medication counselling provided to the hematology patients was based on the assessments of their needs using the Bloem & Stalpers segmentation model. This model constitutes four segments each describing a medication counselling profile based on the perceived acceptance and control of patients. The evaluation of this pilot project shows that subjective health experience, satisfaction with medication information and medication compliance among included patients improved.

Keywords: *Medication Counselling, Hematology, Hematology Patients, Subjective Health Experience, Satisfaction with Medication Information, Medication Compliance*

Introduction

Over the last years a rather conspicuous increase in the incidence and prevalence of hematological diseases can be observed in the Netherlands as well as other countries around the world. These hematological diseases are characterized by ample variance in disease trajectories and symptoms requiring a tailored approach to the delivery of medication counselling (Zhang *et al.*, 2023). Medication counselling may be described as the oral or written disclosure of medication information to patients or their representatives on proper medication usage, side effects, storage, diet and lifestyle modifications. However, despite the necessity for tailored medication counselling among hematology patients, the one size fits all approach to providing medication counselling still seems a pervasive, ubiquitous and common practice in hospitals around the world (Showande and Laniyan, 2022). Providing tailored medication

Cite this article: *Broekharst DSE et al.*, How to Provide Tailored Medication Counselling to Hematology Patients? A Pilot Project. *Front Med Case Rep* 2023; 4(6): 1-06.

1

counselling to hematology patients could reduce disease burden and mortality as it positively impacts medication adherence and lifestyle factors (Keykhaei *et al*., 2021). Therefore, the outpatient pharmacy of the Albert Schweitzer hospital in the Netherlands collaborated with other hospital stakeholders to develop and implement an innovative pilot project concerning the tailored allocation of medication counselling among hematology patients through the structural assessment of their needs and preferences. This article aims at (1) describing the core tenets of this pilot project, (2) presenting a preliminary evaluation of this pilot project, and (3) reflecting on important lessons learned during this pilot project. This information might be valuable to pharmacists, healthcare professionals, policymakers and administrators within hospitals around the world, who would like to establish tailored medication counselling for hematology patients or even other patient groups.

Methods

Participants

This pilot project, conceived in 2019, was officially launched on February 1st 2020 and ran its course until December 31st 2022. Although this pilot project faced a temporal setback amid the COVID-19 pandemic, a total of 124 hematology patients were ultimately enrolled. The hematology patients enrolled in this pilot project were recruited by their attending physician upon diagnosis of a chronic hematological disease and subsequent prescription of oral oncolytic medication. Moreover, each participating hematology patient provided their informed consent as a requisite part of the inclusion process.

Intervention

After inclusion the hematology patients are provided with tailored medication counselling by specifically trained pharmacy assistants for a period of 12 months. The tailored medication counselling provided to the hematology patients is based on the assessments of their needs and preferences using the Bloem & Stalpers segmentation model (Fig. 1). This segmentation model constitutes four segments that each describe a particular medication counselling profile based on the acceptance and control patients perceive regarding their health state. Acceptance and control are each measured using a three-item questionnaire accompanied with a 7-point Likert-scale of which the cut-off score is 5. Patients within segment 1 can reconcile with their health state and try to proactively manage it reflecting a combination of high acceptance and high control. These patients often need comprehensive medication information, detailed answers to possible medication questions, and a focus on self-administration of medication. Patients within segment 2 can adjust to their health state, but tend to ascribe control over it externally reflecting a combination of high acceptance and low control. These patients often need a clear medication

schedule, involvement of significant others in medication administration, and medication protocols on paper. Patients within segment 3 have control over their health state, but find it challenging to come to terms with it reflecting a combination of low acceptance and high control. These patients often need sympathy and comfort, detailed attention to manifest and latent questions, additional professional and peer support, and follow-up if desirable. Patients within segment 4 find it difficult to accept their health state and are not able or willing to exert control over it reflecting a combination of low acceptance and low control (Bloem *et al.*, 2020; Broekharst *et al.*, 2022). These patients often need clear guidance and hope, only basic medication information to avoid confusion, reassurance regarding the objective and effectiveness of medication, and regular follow-up. In the first, fifth, and eleventh month after inclusion the segments in which hematology patients resided were reassessed to adjust the tailored medication counselling to the contemporary needs and preferences of each hematology patient.
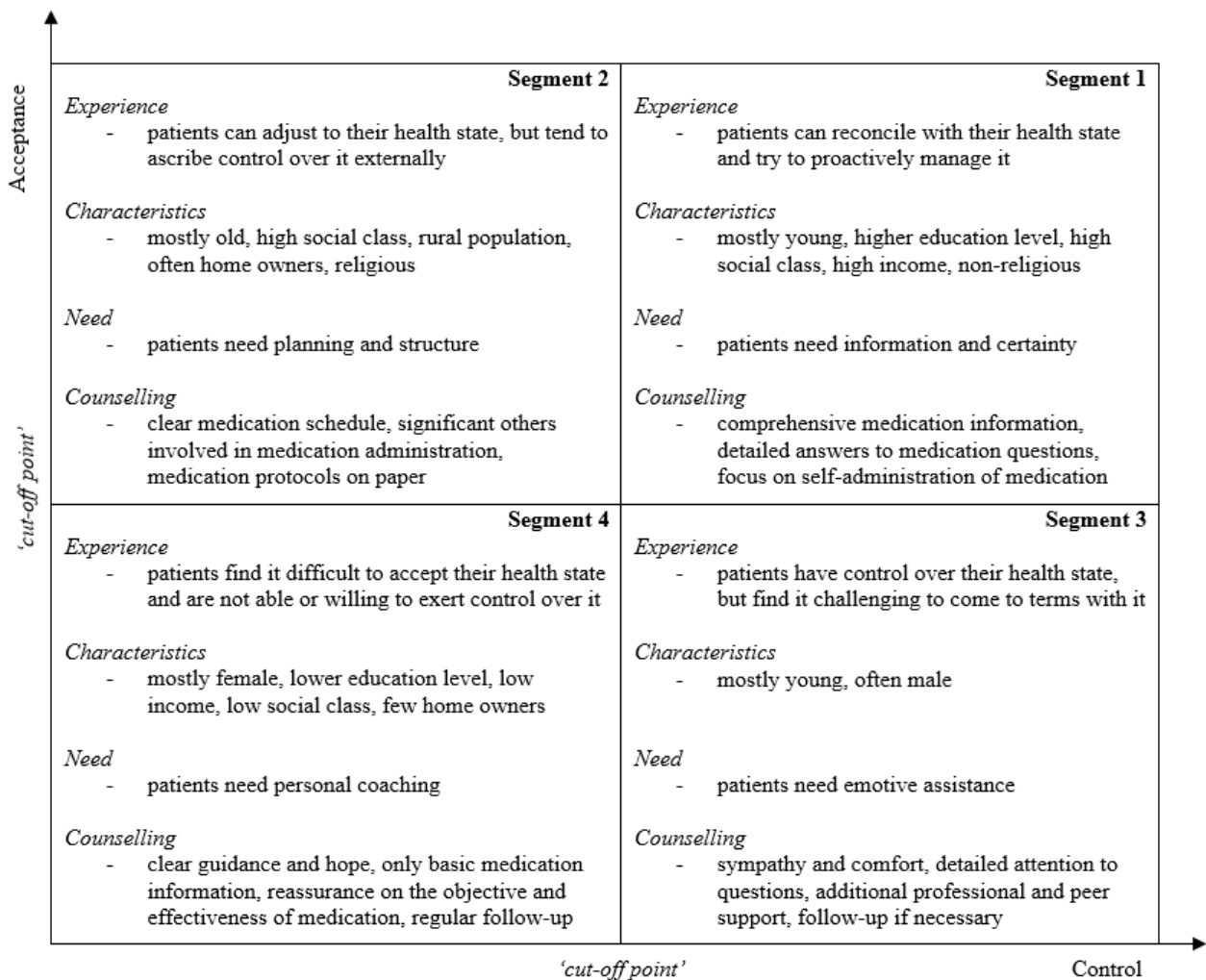

Figure 1. The Bloem & Stalpers segmentation model for medication counselling

Evaluation

In the first, fifth, and eleventh month after inclusion the subjective health experience, satisfaction with medication information, and medication compliance of included hematology patients were evaluated. In order to evaluate subjective health experience hematology patients indicated one of 11 levels on the subjective health experience (SHE) ladder. Level 0 constituted the worst day of the previous month and level 11 constituted the best day of the previous month (Bloem *et al.*, 2020; Broekharst *et al.*, 2022). In order to evaluate satisfaction with medication information hematology patients completed the Satisfaction with Information about Medicines Scale (SIMS) consisting of 17 items measured on a dichotomous scale. Scores range from an overall score of 0 indicating no medication information to a score of 17 indicating complete medication information (Horne *et al.*, 2001). In order to evaluate medication compliance hematology patients completed the Medication Adherence Report Scale (MARS) consisting of 5 items measured on a 5-point Likert scale. Scores below a sum score of 21 suggest no medication adherence and a sum score exceeding 21 indicates medication adherence (Chan *et al.*, 2020).

Results

This study shows that in the first month 26.1% of hematology patients resided in segment 1, 16.3% resided in segment 2, 6.5% resided in segment 3, and 51.1% resided in segment 4, while in the fifth month 27.3% of hematology patients resided in segment 1, 24.7% resided in segment 2, 5.2% resided in segment 3, and 42.9% resided in segment 4, and in the eleventh month 29.4% of hematology patients resided in segment 1, 17.6% resided in segment 2, 17.6% resided in segment 3, and 35.3% resided in segment 4. The outcomes also suggest that the hematology patients gradually occupy a higher position on the SHE ladder as they achieve a mean score of 5.8 during the first month, a mean score of 5.9 during the fifth month, and a mean score of 6.4 during the eleventh month. The results subsequently suggest that the hematology patients indicate a rather high baseline satisfaction that increased between each timepoint as they obtained an overall score of 13.9 during the first month, an overall score of 14.2 during the fifth month, and an overall score of 15.5 during the eleventh month. The outcomes further suggest that that the hematology patients increasingly comply with their medication regime as 94.0% of patients complies during the first month, 96.3% of patients complies during the fifth month, and 97.3% of patients complies during the eleventh month. Although this explorative evaluation was of great pragmatic value during the pilot project, it would be undue to infer absolute levels of significance and causality from these preliminary results at this stage.

Discussion

Although several attempts have been made in order to provide patient-centred, value-based or otherwise tailored healthcare to hematology patients (Shah *et al.*, 2018; Efficace *et al.*, 2017; Tzelepis *et al.*, 2018), none of these focussed on medication counselling or utilized segmentation models and strategies making this pilot project rather useful and unique. Nevertheless, some important lessons can be drawn from the experiences with and evaluation of this particular pilot project. First, one might infer from the preliminary results that subjective health experience, satisfaction with medication information and medication compliance of included hematology patients increased during the pilot project. Second, it may also be plausible to assume that a certain learning effect occurs in the trained pharmacy assistants during the pilot project as included hematology patients become gradually more satisfied with the medication information. Third, the SHE ladder and the SIMS proved to be appropriate measurement instrument for evaluating this pilot project, while the MARS might be somewhat restrictive due to its rather strong focus on medication compliance instead of medication adherence. Fourth, it would certainly be advisable to not administer too much measurement instruments at too many time points as this might cause research fatigue and non-response. Fifth, it seems paramount to deploy only one user-friendly administrative system or application and one comprehensive set of instructions for all involved hospital stakeholders in order to effectively coordinate and conduct this type of project. Sixth, it should be remarked that if this pilot project is selected for broader implementation it might be recommendable to further study the actual effects of this project for which a randomized controlled trial might be a suitable study design.

Conclusion

The pilot project presented in this article introduces a unique method for providing tailored medication counselling. Although this pilot project initially focussed on hematology patients, the described method can be easily and readily extended to almost all patients groups in multiple healthcare settings as the Bloem & Stalpers segmentation model can be considered diagnosis and disease independent. Therefore, we would like to invite pharmacists, healthcare professionals, policymakers, administrators and others to adopt this method and implement it in order to provide different patients from different patient groups with the medication counselling that suits them most in hopes of further enhancing public health around the world.

Ethical Approval: This study was approved by the Medical Research Ethics Committee of the Albert Schweitzer hospital. Written informed consent was obtained from all participants. All methods were carried out in accordance with relevant guidelines and regulations.

References

Bloem S, Stalpers J, Groenland EAG, van Montfort K, van Raaij WF, de Rooij K. Segmentation of health-care consumers: psychological determinants of subjective health and other person-related variables. *BMC Health Serv Res* 2020; 20: 726.

Broekharst DSE, Bloem S, Groenland EAG, van Raaij WF, van Agthoven M. Differences between expert reported and patient reported burden of disease rankings. *Sci Rep* 2022; 12: 895.

Chan AHY, Horne R, Hankins M, Chisari C. The Medication Adherence Report Scale: A measurement tool for eliciting patients' reports of nonadherence. *Br J Clin Pharmacol* 2020; 86: 1281-1288.

Efficace F, Gaidano G, Lo-Coco F. Patient-reported outcomes in hematology: is it time to focus more on them in clinical trials and hematology practice? *Blood* 2017; 130: 859–866.

Horne R, Hankins M, Jenkins R. The Satisfaction with Information about Medicines Scale (SIMS): a new measurement tool for audit and research. *Qual Health Care* 2001; 10: 135-140.

Keykhaei M, Masinaei M, Mohammadi E, Azadnajafabad S, Rezaei N, Saeedi Moghaddam S, Rezaei N, Nasserinejad M, Abbasi-Kangevari M, Malekpour MR, Ghamari SH, Haghshenas R, Koliji K, Kompani F, Farzadfar F. A global, regional, and national survey on burden and Quality of Care Index (QCI) of hematologic malignancies; global burden of disease systematic analysis 1990-2017. *Exp Hematol Oncol* 2021; 10: 11.

Shah GL, Majhail N, Khera N, Giralt S. Value-Based Care in Hematopoietic Cell Transplantation and Cellular Therapy: Challenges and Opportunities. *Curr Hematol Malig Rep* 2018; 13: 125-134.

Showande SJ, Laniyan MW. Patient medication counselling in community pharmacy: evaluation of the quality and content. *J Pharm Policy Pract* 2022; 15: 103.

Tzelepis F, Clinton-McHarg T, Paul CL, Sanson-Fisher RW, Joshua D, Carey ML. Quality of Patient-Centered Care Provided to Patients Attending Hematological Cancer Treatment Centers. *Int J Environ Res Public Health* 2018 Mar 19;15(3):549.

Zhang N, Wu J, Wang Q, Liang Y, Li X, Chen G, Ma L, Liu X, Zhou F. Global burden of hematologic malignancies and evolution patterns over the past 30 years. *Blood Cancer J* 2023; 13: 82.